NORTH DAKOTA ADMINISTRATIVE CODE

VOLUME 1

Supplements 146 through 151

August 1991
September 1991
October 1991
November 1991
December 1991
January 1992

Prepared by the Legislative Council staff
for the
Administrative Rules Committee

TABLE OF CONTENTS

TITLE 4.5

Addiction Counseling Examiners, Board of

AUGUST 1991

4.5-01-01-01. Organization of board of addiction counseling examiners.

1. **History.** The 1987 legislative assembly passed legislation establishing the state board of addiction counseling examiners, codified as North Dakota Century Code chapter 43-45. The board of addiction counseling examiners license addiction counselors.

2. **Board membership.** The board consists of seven members appointed by the governor. Four members are licensed practicing addiction counselors, two members are laypersons, and one member is a director or coordinator of an addiction counselor training program. Each board member serves a term of three years. No member may serve more than two successive terms on the board.

3. **Board officers.** The board annually elects from its membership a chairperson, vice chairperson, and a treasurer. The board may hire a secretary at its discretion.

4. **Inquiries.** Inquiries regarding the board may be addressed to:

   Board of Addiction Counseling Examiners
   1406 2nd ~~Avenue~~ Street NW
   Mandan, ND 58554

History: Effective August 1, 1988; amended effective August 1, 1991.
General Authority: NDCC 28-32-02.1~~, 43-45-04~~
Law Implemented: NDCC 43-45-03, 43-45-04

4.5-02-01-01. Licensure application. An application for a license to practice addiction ~~counsel~~ counseling must be made to the

state board of addiction counseling examiners on forms approved by the board upon request. Each application for a license must be accompanied by each of the following:

1. ~~A~~ The required fee.

2. An official transcript verifying academic requirements.

3. An official document verifying practicum requirements.

4. Documentation verifying completion of a minimum one-year full-time internship.

5. Documentation verifying a passing score on the prescribed examinations ~~or, if applicable, documentation of participation into an existing training program as of July 1, 1987. Such program must have been approved by the department of human services~~.

History: Effective August 1, 1988; amended effective August 1, 1991.
General Authority: NDCC ~~43-45-04~~ 28-32-02.1
Law Implemented: NDCC 43-45-04, 43-45-06

4.5-02-01-02. Licensure renewal. Licenses are renewable annually providing that each of the following conditions have been met:

1. Proof of completion of required continuing education units is submitted by December first of renewal year.

2. License is not in suspension or revocation.

3. Renewal application form is completed and submitted prior to December first of each year.

4. Renewal application fee is submitted.

History: Effective August 1, 1988; amended effective August 1, 1991.
General Authority: NDCC ~~43-45-04~~ 28-32-02.1
Law Implemented: NDCC 43-45-04, 43-45-07

4.5-02-01-03. Fees. The board has adopted the following fee payment schedule:

1.	Initial license fee:	~~$100.00~~ $150.00
2.	~~Renewal~~ Annual renewal of license fee:	~~$ 50.00~~ $ 75.00

History: Effective August 1, 1988; amended effective August 1, 1991.
General Authority: NDCC ~~43-45-04~~ 28-32-02.1
Law Implemented: NDCC 43-45-04

4.5-02-01-04. Academic requirements. Academic requirements related to the licensing of addiction counselors must be completed at an accredited college or university. A bachelors degree is required after January 1, 1992. The following academic courses are also required~~:~~. One semester hour is equivalent to fifteen contact hours.

1. Psychopathology, the equivalent to a ~~three quarter hour~~ two-semester credit (thirty contact hours) course in abnormal psychology from the upper division level.

2. Theories of personality, the equivalent to a ~~three quarter hour~~ two-semester credit course from an upper division level.

3. Theories in practice of psychotherapy, the equivalent to a ~~three quarter hour~~ two-semester credit course from an upper division level.

4. Pharmacology, the equivalent to a ~~three quarter hour~~ two-semester credit course from an upper division level, focusing on the physiological and pathological effects of mood altering drugs.

5. Introduction to group counseling, the equivalent to a ~~three quarter hour~~ two-semester credit course from an upper division level.

6. Introduction to individual counseling, the equivalent to a ~~three quarter hour~~ two-semester credit course from an upper division level.

7. Advanced counseling ~~or marriage and family counseling, or both~~, the equivalent to a ~~three quarter hour~~ two-semester credit course from an upper division level.

8. Dynamics of addiction, the equivalent to a ~~three quarter hour~~ two-semester credit course from an upper division level.

9. Professional ethics, the equivalent to a ~~one quarter hour~~ one-semester credit course~~, including confidentiality laws, commitment laws, counselor code of ethics, patient rights, and referral procedures~~ with content including: legal issues, client welfare as primary concern, professional competence, supervision and development, financial issues, personal wellness, and relationships to other counselors and institutions.

10. Marriage and the family, the equivalent to a ~~three quarter hour~~ two-semester credit course from an upper division level.

11. Child psychology or development, the equivalent to a ~~three quarter hour~~ two-semester credit course from an upper division level.

12. Adolescent psychology or development, the equivalent to a ~~three quarter hour~~ two-semester credit course from an upper division level.

History: Effective August 1, 1988; amended effective August 1, 1991.
General Authority: NDCC ~~43-45-04~~ 28-32-02.1
Law Implemented: NDCC 43-45-04, 43-45-06

4.5-02-01-05. Practicum requirements. A practicum is successful completion of a full-time ~~nonsalaried~~ training experience in a board-approved training program. Completion of this requirement must be verified by the training program or consortium. The practicum is a minimum of nine months (one thousand four hundred hours) of clinical training and must be a combination of inpatient and outpatient treatment. Each component must be a minimum of three months (four hundred eighty hours). Each component must be completed in a separate facility unless ~~specially~~ specifically approved by the board. The full-time clinical experience may include a maximum of six academic credits exclusive of credits for the practicum during the nine-month period. If additional academic work is taken during the clinical experience, a minimum of twelve months of clinical training is required.

The areas of addiction counseling to be covered, known as the "twelve core functions" include:

1. Screening;

2. Intake;

3. Orientation;

4. Assessment;

5. Treatment planning;

6. Counseling (individual, group, and significant others);

7. Case management;

8. Crisis intervention;

9. Client education;

10. Referral;

11. Reports and recordkeeping; and

12. Consultation.

The clinical practicum may be extended due to additional supervisory recommendations, individual circumstances, health circumstances, or other personal matters. Extension of the clinical portion of training is the responsibility of the director of the training program.

History: Effective August 1, 1988; amended effective August 1, 1991.
General Authority: NDCC ~~43-45-04~~ 28-32-02.1
Law Implemented: NDCC 43-45-04, 43-45-06

4.5-02-01-06. Internship. The internship is a minimum of a twelve-month full-time (two thousand hours) addiction counseling professional experience or employment under the supervision of an approved clinical supervisor in a licensed addiction treatment facility approved by the board for internship training. Completion of the internship is documented by an evaluation from the intern's supervisor or the clinical director~~, or both,~~ of the program, or both. An individual may remain an intern for a maximum of two years before completion of all examinations is required.

History: Effective August 1, 1988; amended effective August 1, 1991.
General Authority: NDCC ~~43-45-04~~ 28-32-02.1
Law Implemented: NDCC 43-45-04, 43-45-06

4.5-02-01-07. Examinations. Two levels of examinations occur in the licensing process:

1. A written examination consisting of a knowledge-based objective test.

2. An oral examination using a performance-based case presentation method.

The written examination may be taken when offered any time ~~in the clinical training process~~ after the completion of the required academic coursework. Successful completion of the written examination is required before an individual is eligible to take the case presentation method of examination. Only individuals who have completed their clinical training and successfully completed the written examination will be considered eligible for the case presentation method oral examination.

In the case of an applicant certified as having passed the case presentation method in another state, the applicant would be required to have successfully completed the North Dakota written examination before being considered for the addiction counselor license.

Applicants may take the examination when offered. The individual will be responsible for fee payment with each examination. An individual may remain an intern for only two years or for longer than

two years by special provision of the board before being required to be licensed in North Dakota.

History: Effective August 1, 1988; amended effective August 1, 1991.
General Authority: NDCC ~~43-45-04~~ 28-32-02.1
Law Implemented: NDCC 43-45-04, 43-45-06

4.5-02-01-08. Reciprocity. Out-of-state applicants who have completed training in addiction counseling in another state or in a work or training setting which has not been approved by the board of addiction counseling examiners must document equivalencies in all areas of training including academic coursework, clinical training, and work experience and must also satisfactorily complete the written and performance examinations if required by the board. A person need not reside in the state or be employed in the state to make application or be licensed in North Dakota.

~~Related clinical~~ Clinical professional applicants who have related clinical proficiencies must document equivalencies in all areas of training including the academic coursework, clinical training, and work experience and must satisfactorily complete the written and performance examinations ~~as prescribed~~ if required by the board.

History: Effective August 1, 1988; amended effective August 1, 1991.
General Authority: NDCC ~~43-45-04~~ 28-32-02.1
Law Implemented: NDCC 43-45-04, 43-45-06

4.5-02-01-09. Approved training program.

1. Each training program or consortium for addiction counseling training must be approved ~~biannually~~ biennially by the board of addiction counseling examiners. The training program or consortium must provide at a minimum, an application which must include documentation of the academic and clinical training experiences, proposed training methods, conditions, and schedules for supervision; syllabi of academic courses or other evidence of the academic quality of those courses; evidence of licensure of addiction treatment facilities; evidence of certification of academic institutions involved, clinical supervisors' credentials, and other information requested by the board. ~~There must be a minimum of one clinical supervisor per trainee in residence.~~

   An approved training program or consortium must meet the following conditions:

   a. Practicum training experiences must meet a combination of inpatient and outpatient addiction treatment experience in an approved addiction training program. The inpatient and outpatient experience must be provided in separate

facilities unless ~~specially~~ specifically approved by the board.

b. The areas of addiction counseling to be covered must include the "twelve core functions".

c. Each program may establish the length of the practicum with a nine-month minimum requirement.

~~c.~~ d. Academic instructor and clinical training supervisors must be board approved to perform their teaching and clinical supervisory function.

2. ~~Training programs must have clinical supervisors that meet the following criteria:~~

~~a. Have two years experience as a certified or licensed addiction counselor; and~~

~~b. Be approved by the board as a clinical supervisor.~~

Training programs must have one board-approved clinical supervisor for each trainee in residence. In order to receive approval as a clinical supervisor, the following qualifications and conditions must be met:

a. Complete and submit the required application.

b. Have two years experience as a licensed addiction counselor.

c. Be approved by the board of addiction counseling examiners.

3. Academic instructors of training programs must have an appropriate academic degree and otherwise be qualified in the specific field of instruction, and be a member of a college or university academic staff in order to be approved.

4. Individualized training proposals may be board approved when they are submitted by and under the auspices of an approved training program or consortium~~; and are approved by the board providing information as required by the board~~. Each plan must designate the board-approved clinical supervisors responsible for the training and also provide additional information as required by the board.

History: Effective August 1, 1988; amended effective August 1, 1991.
General Authority: NDCC ~~43-45-04~~ 28-32-02.1
Law Implemented: NDCC 43-45-04, 43-45-06

4.5-02-01-10. Internship sites. Facilities ~~may~~ must apply biennially to the board for approval as an internship site by providing the following information:

1. Completed application form.

2. Names of approved clinical supervisors within the facility who are responsible for supervising interns.

3. Plan of supervision. This plan must be approved by the board on an individual site basis.

4. Evidence of licensure as an addiction treatment facility.

An individualized internship plan may be approved when it is submitted by and under the auspices of an approved internship site. Each intern must have a board-approved clinical supervisor in a licensed facility and the internship site must provide additional information as required by the board.

All individuals working in the state as addiction counselors and who are not either licensed or in an approved training program or consortium as an addiction counselor trainee must be in or supervised by an approved internship site.

History: Effective August 1, 1988; amended effective August 1, 1991.
General Authority: NDCC ~~43-45-04~~ 28-32-02.1
Law Implemented: NDCC 43-45-04, 43-45-06

4.5-02-01-11. Continuing education. Continuing education credit is an award given to a participant of a workshop or seminar. All licensed addiction counselors are required to complete sixty hours of continuing education in a three-year period beginning January first of the year following the counselor's original ~~certification or~~ licensure.

All persons wishing approval must submit a request to the licensing board for approval of continuing education credits. Continuing education, workshops, and seminars must be related to the practice of addiction counseling and have the potential to increase the attendees proficiency in addiction counseling.

History: Effective August 1, 1988; amended effective August 1, 1991.
General Authority: NDCC ~~43-45-04~~ 28-32-02.1
Law Implemented: NDCC 43-45-04, 43-45-07

4.5-02-02-01. Code of professional conduct. The board has adopted and incorporated into this title a code of professional conduct for addiction counselors. The following constitutes unacceptable professional conduct for an addiction counselor and shall subject the counselor ~~or~~, training ~~program~~ consortium, training program, or internship site, or any combination thereof, to sanction.

1. Exploiting relationships with clients such as participating in or soliciting sexual relationships during the time of services and for twelve months following the termination of services.

2. Taking financial advantage of client, or using one's position within an agency to enhance one's private practice or the private practice of others for personal gain.

3. Entering into any illegal acts with a client.

4. Participating in, condoning, or being an accessory to dishonesty, fraud, deceit, or misrepresentation in the practice of addiction counseling.

5. Not providing clients with accurate and complete information regarding the extent and nature of the services available to them.

6. Convicted of a criminal act which affects the practice of the profession. (North Dakota Century Code section 12.1-33-02.1)

7. Violating the federal or state confidentiality client care regulation statutes.

8. Violating the federal or state discrimination statutes or regulations.

9. Refusal to seek and follow through with adequate and appropriate treatment for any illness or disorder which interferes with professional functioning or ability to perform the basic expected functions, or both, of an addiction counselor.

10. Using misrepresentation in the procurement of licensing as an addiction counselor or knowingly assisting another in the procurement of licensing through misrepresentation. Misrepresentation of professional qualifications, certifications, accreditations, affiliation, and employment experiences.

11. ~~Failure to report through the proper channels the incompetent, unethical, or illegal practice of any licensed addiction counselor who is providing addiction counseling~~ Any licensed addiction counselor or person subject to regulation by the board, having knowledge that another counselor or regulated person has violated the law or rules or whose knowledge of that counselor's incompetent, unethical, illegal, or impaired behavior raises a substantial question as to that counselor's fitness to be a member of the addiction counseling profession who fails to report that knowledge to the board.

12. Failure to act in a manner which meets the generally accepted standards of practice, including performing services outside individual's area of training, experience, or competence.

13. Failure to properly supervise trainees and interns practicing addiction counseling under the licensee's supervision in a board-approved training program or internship site.

14. Accepting as a client someone with whom the counselor already has another relationship. Examples include, but are not limited to, employee, supervisee, twelve-step sponsorship, or relative.

History: Effective August 1, 1988; amended effective August 1, 1991.
General Authority: NDCC ~~43-45-04~~ 28-32-02.1
Law Implemented: NDCC 43-45-04, 43-45-07

TITLE 13

Banking and Financial Institutions, Department of

AUGUST 1991

STAFF COMMENT: Chapter 13-02-12 contains all new material but is not underscored so as to improve readability.

CHAPTER 13-02-12
INTERSTATE BANKING

13-02-12-01. Scope. To establish requirements for a reciprocating state bank holding company making an application to acquire or organize a North Dakota state or national bank and demonstrating how they will meet the credit needs for business expansion of the local community or trade area in which the bank and any facilities, stations, or banking houses are located.

History: Effective August 1, 1991.
General Authority: NDCC 6-01-04, 6-08.3-02
Law Implemented: NDCC 6-08.3

13-02-12-02. Definitions.

1. "Family farm" means agricultural real estate operated and owned or leased by a farmer, or other organization authorized

to own or lease land used for farming or ranching under North Dakota Century Code chapter 10-06, where the majority of the labor necessary to operate the farm is performed by the farmer and the farmer's family, if any.

2. "Farmer" means a resident of North Dakota whose principal occupation is or will be the production of an agricultural commodity or livestock on a family farm if granted a loan.

3. "Investments in community development" means equity and debt instruments of corporations or projects designed primarily to promote community welfare such as economic rehabilitation and development of low income areas.

4. "Low and moderate income housing" means housing defined under section 8 of the United States Housing Act of 1937, and the regulations adopted under the Act.

5. "Student education loans" means those loans made to individuals under federal or state guidelines and direct loans for the purposes of financing education.

History: Effective August 1, 1991.
General Authority: NDCC 6-01-04, 6-08.3-02
Law Implemented: NDCC 6-08.3

13-02-12-03. Developmental loans. Developmental loans include loans or investments made to residents of North Dakota in the Bank's trade area for the following purposes:

1. Operating loans for farmers and family farms;

2. Loans made to create or expand farm and nonfarm businesses;

3. Loans guaranteed by the small business administration or farmers home administration;

4. Investments in community development corporations or projects;

5. Low or moderate income housing loans;

6. Student education loans;

7. Loans made in distressed areas;

8. Loans made under the Bank of North Dakota's agricultural loan programs, including family farm loans, farm operating loans, conservation reserve program enhancement loans, and the rural rehabilitation corporation loan fund; and

9. Loans made under the Bank of North Dakota's commercial loan programs, including business development loans, small business

concern loans, microbusiness loans, tourism and recreation investment program, oil and gas development loans, match loans, partnership in assisting community expansion loans, and agriculture partnership in assisting community expansion loans.

The board may designate distressed areas. The determination of a distressed area will be made on the area's unemployment rate, economic conditions, and credit needs.

History: Effective August 1, 1991.
General Authority: NDCC 6-01-04, 6-08.3-02
Law Implemented: NDCC 6-08.3-02

13-02-12-04. Application. The application by the reciprocating bank holding company must contain a statement demonstrating a commitment to meet credit needs of the existing or proposed trade area. The applicant's statement must include a commitment for a level of developmental loans by number and amount, and a commitment to provide annual reports of developmental loans. Failure to set forth a plan to establish a percentage of developmental loans to total loans at a level no less than the percentage of developmental loans to total loans of the applicant's consolidated statement with all of its banking subsidiaries may constitute grounds for disapproval under subsection 5 of North Dakota Century Code section 6-08.3-03. The description of developmental loans must be filed on an annual basis together with the description of net new funds.

History: Effective August 1, 1991.
General Authority: NDCC 6-01-04, 6-08.3-02
Law Implemented: NDCC 6-08.3-02

13-02-12-05. Application content. In addition to the information required by North Dakota Century Code section 6-08.3-02, the application must contain the following:

1. List of existing shareholders of the bank to be acquired;
2. List of proposed shareholders of the bank to be acquired;
3. Copy of stock purchase agreement;
4. List of shareholders who own or control more than ten percent or more of the stock of the applicant;
5. List of shareholders who own or control more than ten percent or more of the stock of the North Dakota bank holding company;
6. Proposed buy sell agreements of acquirers, if any;
7. Proposed members of the board of directors for the bank to be acquired;

8. Proposed executive officers of the bank to be acquired;

9. Pro forma balance sheet of the bank holding company;

10. If any debt is to be incurred by the applicant or the bank holding company to be acquired, statements of annual financial projections of the holding company to the date the debt is fully amortized;

11. Three annual pro forma financial statements of the bank to be acquired;

12. Proposed tax allocation agreements;

13. Proposed trade area;

14. Three most recent annual federal reserve Y-6 or Y-9 reports of the reciprocating state bank holding company;

15. Proposed organizational chart for the bank holding company and all its subsidiaries after acquisition; and

16. Dollar amount of developmental loans by classification and total loans held by each of the applicant's subsidiaries.

The board or the commissioner may return an application whenever it is determined that the application fails to address in a prima facie manner the requirements of North Dakota Century Code section 6-08.3-02 and this chapter. When an application is so returned by the board or the commissioner, it does not constitute a filing of an application for the purposes of North Dakota Century Code section 6-08.3-10.

Any information requested by the board or commissioner under North Dakota Century Code section 6-08.3-02 must be submitted to the board no later than ten days after the date that the information is requested unless an extension of time is granted by the board or the commissioner.

History: Effective August 1, 1991.
General Authority: NDCC 6-01-04, 6-08.3-02
Law Implemented: NDCC 6-08.3-02

13-02-12-06. Confidential material. Information provided to the public as requested under North Dakota Century Code section 6-08.3-10 must be made available to the public in a manner consistent with North Dakota Century Code section 6-01-07.1 and federal law.

History: Effective August 1, 1991.
General Authority: NDCC 6-01-04, 6-08.3-10
Law Implemented: NDCC 6-08.3-10

13-02-12-07. Notice and publication.

1. **Notice.** The applicant shall cause to be published a notice of the proposed acquisition or organization of a bank. The notice must include the following:

   a. Name of reciprocating state bank holding company proposing to acquire or organize a North Dakota bank;

   b. Name and address of bank to be acquired or organized;

   c. Notice that opportunity for public comment may be directed to the state banking board;

   d. Notice of the availability of obtaining a copy of the application and where copies of the application can be obtained.

   e. Date public comments are to be submitted by;

   f. Description of the number of shares to be acquired in relation to the outstanding shares; and

   g. Any other information deemed by the board or commissioner as necessary to provide adequate notice.

2. **Publication.** Upon filing an application, the applicant shall cause the notice to be published for two successive weeks in the official newspaper of the county where the proposed acquisition and any of its stations or banking houses are located or where the proposed organization of the bank is to be located. The applicant shall also send by certified mail a copy of the notice to all commercial banks doing business within those counties.

History: Effective August 1, 1991.
General Authority: NDCC 6-01-04, 6-08.3-10
Law Implemented: NDCC 6-08.3-10

13-02-12-08. Divestiture. Failure to maintain the required level and percentage of developmental loans may constitute grounds for divestiture or cease and desist proceedings under North Dakota Century Code section 6-08.3-07.

History: Effective August 1, 1991.
General Authority: NDCC 6-01-04
Law Implemented: NDCC 6-08.3-07

13-01.1-01-12. Facsimile transmission. Any paper may be filed with the department or board by facsimile transmission. Filing must be deemed complete at the time that the facsimile transmission is received and the filed facsimile has the same force and effect as the original. The facsimile must be legible or it will not be deemed as being received. Within five days after the department or board has received the transmission, the party filing the document shall forward the original signed document and the applicable filing fee, if any.

History: Effective October 1, 1991.
General Authority: NDCC 28-32-02
Law Implemented: NDCC 6-01-04

13-02-06-01. Authorization of electronic funds transfer centers. The ~~state banking board authorizes~~ commissioner shall authorize the establishment of customer electronic funds transfer centers by state-chartered banks.

History: Amended effective October 1, 1991.
General Authority: NDCC 6-01-04, 6-03-02(8)
Law Implemented: NDCC 6-03-02(8)

13-02-06-04. Application for electronic funds transfer center to ~~banking board~~ commissioner required - Contents of application. A customer electronic funds transfer center may not be established, used, or shared by a bank until thirty days after the bank has sent to the ~~state banking board~~ commissioner written application for the proposed establishment or use of such center. The application shall describe with regard to such center:

1. The location.

2. A general description of the area where located, e.g., shopping center, supermarket, department store, etc., and the manner of installation at that location.

3. The manner of operation, including whether the center is on direct line, or indirect by other procedures, and describing such procedures.

4. The kinds of transactions that will be performed.

5. Whether the center will be manned, and if so, by whose employee.

6. The manufacturer of the equipment to be used and, if owned, the purchase price or, if leased, the lease terms and payments and the name of the lessor.

7. Consumer protection procedures, including the disclosure of rights and liabilities of consumers and protection against wrongful or accidental disclosure of confidential information.

8. The distance from the nearest banking house, paying and receiving station, or facility, and from the nearest similar center of the applicant bank.

9. The distance from the nearest banking house, paying and receiving station, or facility, and the nearest similar center of another bank, and the name of such other bank or banks within the city or town in which the center is to be established.

10. Insurance and the security provisions protecting the center and its users.

History: Amended effective October 1, 1991.
General Authority: NDCC 6-01-04, 6-03-02(8)
Law Implemented: NDCC 6-03-02(8)

13-02-06-06. Approval by ~~banking board~~ commissioner required - Investigation. Before establishing a customer electronic funds transfer center, the establishing bank must receive the approval of the ~~state banking board~~ commissioner. The ~~state banking board's~~ commissioner's investigation upon an application to establish a customer electronic funds transfer center shall include a review of the applicant bank's capital structure.

History: Amended effective October 1, 1991.
General Authority: NDCC 6-01-04, 6-03-02(8)
Law Implemented: NDCC 6-03-02(8)

13-02-06-07. Notice of change in operations. Written notice must be given to the ~~state banking board~~ commissioner and to all sharing banks thirty days before changing any of the operations described in an application previously submitted pursuant to section 13-02-06-04.

History: Amended effective October 1, 1991.
General Authority: NDCC 6-01-04, 6-03-02(8)
Law Implemented: NDCC 6-03-02(8)

13-02-06-08. Joint application - Reporting procedures. A corporation organized by banks or contracting with banks or one or more banks sharing one or more centers may make a joint application to the ~~state banking board~~ commissioner, provided that the application includes the information listed in sections 13-02-06-04 and 13-02-06-05. The ~~state banking board~~ commissioner reserves the right to adopt different reporting procedures as warranted by the circumstances of a particular network of centers.

History: Amended effective October 1, 1991.
General Authority: NDCC 6-01-04, 6-03-02(8)
Law Implemented: NDCC 6-03-02(8)

13-02-06-13. Pro rata cost sharing criteria and requirements. In order to further facilitate sharing of customer electronic funds transfer centers, the following requirements and criteria shall apply:

1. The establishing bank shall file a report with the ~~state banking board~~ commissioner of all costs of establishing the center and the projected costs of operation.

2. ~~Any bank which has received authority to operate, and is operating, such center or centers shall annually supply the state banking board with records of income and operational costs of such centers.~~

~~3.~~ The establishing bank shall be prohibited from requiring that other participating banks maintain an account with the establishing bank in order to share the customer electronic funds transfer center.

~~4.~~ 3. Any bank may apply to join an existing customer electronic funds transfer center at anytime upon compliance with the provisions of this chapter.

~~5.~~ 4. The pro rata costs of the initial installation and the first year of operation of a customer electronic funds transfer center shall be determined by the respective sizes of the participating banks, based upon deposits at the end of the prior fiscal year. The pro rata costs for subsequent years shall be determined by the relative number of transactions handled for each bank sharing the center.

History: Amended effective October 1, 1991.
General Authority: NDCC 6-01-04, 6-03-02(8)
Law Implemented: NDCC 6-03-02(8)

13-02-10-01. ~~Authorization~~ Investment in securities. The state banking board authorizes state banks to invest in investment securities or instruments in accordance with investment authorizations issued for national banks by the comptroller of the currency, subject to the same limitations or restrictions, if any.

History: Effective February 1, 1988; amended effective October 1, 1991.
General Authority: NDCC 6-01-04
Law Implemented: NDCC 6-03-38, 6-03-47.3

13-02-10-02. Effective date of authority to invest. The authority for state banks to invest in investment securities or instruments ~~shall~~ must be the date the investments are effective for national banks unless the state banking board shall otherwise direct within ninety days of the state banking board receiving notification of proposed adjustments.

History: Effective February 1, 1988; amended effective October 1, 1991.
General Authority: NDCC 6-01-04
Law Implemented: NDCC 6-03-38, 6-03-47.3

STAFF COMMENT: Chapter 13-02-13 contains all new material but is not underscored so as to improve readability.

CHAPTER 13-02-13
BANKING AND SAVINGS AND LOAN ASSOCIATIONS

Section
13-02-13-01 Consolidation or Merger
13-02-13-02 Application
13-02-13-03 Publication
13-02-13-04 Criteria for State Banking Board Consideration for Approval
13-02-13-05 Hearing

13-02-13-01. Consolidation or merger. Any two or more banking institutions may consolidate or merge upon making application and subject to approval by the state bank board. An application to consolidate or merge is not required when a state-chartered banking institution is not the survivor. A banking institution proposing to purchase assets and assume the liabilities of another banking institution must be considered a consolidation or merger and subject to an application under this chapter.

History: Effective October 1, 1991.
General Authority: NDCC 6-01-04, 6-03-11
Law Implemented: NDCC 6-03-11

13-02-13-02. Application. An original and ten copies of the application to consolidate or merge must be filed with the board. In lieu of an original application, the state banking board will accept a copy of the application submitted to the federal deposit insurance corporation. An application must contain the following.

1. Plan of reorganization or merger;
2. Copy of notice of shareholder meeting to ratify merger or consolidation;
3. Copy of shareholders' minutes showing ratification of merger by the shareholders who own at least wto-thirds of the outstanding capital stock;
4. Pro forma balance sheet of the resultant bank;
5. Any proposed changes of executive officers;
6. Description of any proposed changes to the bank's business plan, hours of operation, fees, terms for deposit and loan accounts, board of directors;and
7. Any other information determined by the commissioner or board to be necessary.

The board or commissioner may return an application whenever it is determined that the application fails to address in a prima facie manner the requirements of North Dakota Century Code sections 6-03-11 and 6-03-14.1 or this section. When an application is so returned by the board or commissioner, it does not constitute a filing of an application.

History: Effective October 1, 1991.
General Authority: NDCC 6-01-04, 6-03-11
Law Implemented: NDCC 6-03-11

13-02-13-03. Publication. Upon filing a completed application, the secretary of the board shall cause to be published notice of application for two successive weeks in the official newspaper of the county where the proposed consolidated or merged banking institutions are located including the locations of any paying the receiving stations, or banking houses or offices. The notice of application must also be sent by certified mail by the secretary of the board to all banks located within the trade area of the banking institutions proposed to be consolidated or merged. Within ten days of the final notice provided under this section, any bank or party may submit to the board

written comments concerning the application or a written request for an opportunity to be heard before the board, or both. In the case where a failing banking institution is to be consolidated or merged, the board or commissioner may waive the notice of application requirements.

History: Effective October 1, 1991.
General Authority: NDCC 6-01-04, 6-03-11
Law Implemented: NDCC 6-03-11

13-02-13-04. Criteria for state banking board consideration for approval. When deciding whether to approve an application to consolidate or merge, the board shall examine and consider all relevant factors including:

1. Whether proper notification has been given to all shareholders;

2. Whether at least two-thirds of the shareholders have ratified the plan of reorganization or merger;

3. Whether the resultant bank has adequate capital;

4. Whether the needs of the community to be served will still be met; and

5. The adequacy and competence of management.

When a hearing has not been conducted and the board denies the application to consolidate or merge, the applicant may, within fifteen days after receipt of disapproval, petition the board for a hearing. Unless the board determines that the application to consolidate or merge is frivolous or incomplete, the petition for hearing must be granted. After the hearing is conducted, the board shall issue an order to approve or disapprove the application on the basis of the record made at the hearing.

History: Effective October 1, 1991.
General Authority: NDCC 6-01-04, 6-03-11
Law Implemented: NDCC 6-03-11

13-02-13-05. Hearing. A public hearing by the board may be required on applications to merge or consolidate whenever the board or commissioner determines that it is in the public interest to hold such a hearing or whenever a bank or party's request for an opportunity to be heard is granted. Notice of hearing on an application will, if required, be issued at least thirty days prior to the hearing on the application. The notice of hearing must be published by the secretary of the board for two successive weeks in the official newspaper of the county where the proposed consolidated or merged banking institutions are located, including the locations of any paying and receiving stations, or banking houses or offices. The notice of hearing must also

be sent by certified mail by the secretary of the board to all banks located within the trade area of the banking institutions proposed to be consolidated or merged.

History: Effective October 1, 1991.
General Authority: NDCC 6-01-04, 6-03-11
Law Implemented: NDCC 6-03-11

TITLE 18.5

Credit Review Board

JANUARY 1992

18.5-01-01-01. History.

1. The provisions of North Dakota Century Code chapter 6-09.10 were established in 1985, setting up a credit review board to deal with the matter of ever increasing farm foreclosures. The board was given authority to negotiate with lenders on behalf of farmers and to provide interest subsidies to eligible farmers for eligible purchases, refinancing, or redemptions of the farmer's home-quarter.

2. In 1987, North Dakota Century Code chapter 6-09.10 was amended to consolidate the negotiations undertaken by the board and the department of agriculture's farm credit counseling program. North Dakota Century Code sections 4-01-19.2 and 4-01-19.3 were repealed.

3. In 1987, North Dakota Century Code sections 6-09.10-08.1 through 6-09.10-08.6 were added to North Dakota Century Code chapter 6-09.10 to provide further assistance to financially distressed farmers and small businesses in the form of legal and tax assistance. Two hundred thousand dollars were appropriated to the board to provide such assistance under the administration and supervision of the commissioner of agriculture and the board.

4. In 1989, North Dakota Century Code chapter 6-09.10 was further amended. The farm credit counseling program was renamed the agricultural mediation service. The commissioner of agriculture was given additional authority to contract with mediators to mediate between a farmer and a farmer's creditors.

5. In 1991, North Dakota Century Code chapter 6-09.10 was amended, authorizing the agricultural mediation service to negotiate and resolve any farmer-related problems.

History: Effective January 1, 1988; amended effective December 1, 1989; January 1, 1992.
General Authority: NDCC 28-32-02.1
Law Implemented: NDCC 28-32-02.1

18.5-01-01-02. Coordination of farm assistance programs. The credit review board is charged with responsibility in providing assistance to eligible farmers and ~~small businesses~~ other persons pursuant to the provisions of North Dakota Century Code chapter 6-09.10. The responsibility of coordination, supervision, and administration is shared with the commissioner.

1. The responsibilities and duties under North Dakota Century Code chapter 6-09.10 belonging solely to the board are as follows:

   a. Adopting written policies governing negotiators, mediators, and staff.

   b. Approving interest rate buydowns as authorized by North Dakota Century Code sections 6-09.10-05, 6-09.10-07, and 6-09.10-08.

   c. Charging reasonable fees to farmers and ~~their creditors~~ other persons for any assistance provided pursuant to North Dakota Century Code chapter 6-09.10. Mediation fees must be twenty-five dollars per hour for the farmer and for each creditor of the farmer attending mediation meetings to whom the farmer owes ten thousand dollars or more. For noncredit-related disputes, parties must be charged twenty-five dollars per hour for attending mediation meetings. The board may waive the payment of all or a portion of mediation fees for anyone that the administrator certifies is unable to pay such fees. Fees must be ten dollars per hour per farmer for providing negotiating assistance. However, no farmer may be charged for the first ten hours of negotiating assistance provided by a negotiator. The board may waive payment of all or a portion of the fees to be paid for providing negotiating assistance for any farmer that the administrator certifies is unable to pay such fees.

   d. Making all decisions on deferral, restructure, or waiver of payment, or other reasonable loan servicing options, for assistance provided under the provisions of North Dakota Century Code chapter 6-09.10.

e. Adopting rules implementing any of the provisions of North Dakota Century Code chapter 6-09.10.

2. The responsibilities and duties belonging solely to the commissioner under North Dakota Century Code chapter 6-09.10 are as follows:

   a. Establishing and administering the agricultural mediation service.

   b. Appointing the administrator of the service.

   c. Hiring staff and hiring or contracting with mediators and negotiators to mediate between eligible farmers and ~~their creditors~~ other persons.

3. The commissioner and the board shall have joint responsibility and duty under North Dakota Century Code chapter 6-09.10 as follows:

   a. Implementing and administering legal and tax assistance to eligible farmers and small businesses as authorized by North Dakota Century Code sections 6-09.10-08.1 through 6-09.10-08.5.

   b. Selecting appropriate cases for assistance to be made pursuant to North Dakota Century Code sections 6-09.10-08.1 through 6-09.10-08.5 among eligible farmers and small business persons.

   c. Administering payment for assistance to any farmer or small business who receives assistance under North Dakota Century Code sections 6-09.10-08.1 through 6-09.10-08.5.

History: Effective January 1, 1988; amended effective December 1, 1989; January 1, 1992.
General Authority: NDCC 6-09.10-09, 28-32-02.1
Law Implemented: NDCC 6-09.10-03, 6-09.10-05, 6-09.10-06, 6-09.10-07, 6-09.10-08, 6-09.10-08.1, 6-09.10-08.2, 6-09.10-08.3, 6-09.10-08.4, 6-09.10-08.5, 28-32-02.1

18.5-01-01-03. Board members. There are three members of the board. One member shall serve as the ~~chairman~~ chair, one as the treasurer, and one as the member at large in charge of personnel.

History: Effective January 1, 1988; amended effective January 1, 1992.
General Authority: NDCC 6-09.10-09, 28-32-02.1
Law Implemented: NDCC 28-32-02.1

18.5-01-01-04. Meetings. The board shall meet at the call of the ~~chairman~~ chair.

History: Effective January 1, 1988; amended effective January 1, 1992.
General Authority: NDCC 6-09.10-09, 28-32-02.1
Law Implemented: NDCC 28-32-02.1

18.5-01-01-05. Inquiries.

1. Any inquiries concerning assistance to be provided by the agricultural mediation service through its negotiators and mediators should be addressed to:

   Administrator
   Agricultural Mediation Service
   Department of Agriculture
   State Capitol
   600 East Boulevard Avenue
   Bismarck, North Dakota 58505

2. Any inquiries concerning the board or laws administered by the board should be addressed to:

   ~~Administrative Assistant~~ Administrator
   ~~Credit Review Board~~ Agricultural Mediation Service
   Department of Agriculture
   State Capitol
   600 East Boulevard Avenue
   Bismarck, North Dakota 58505

3. Any inquiries concerning legal or tax assistance to be provided under the supervision and administration of the commissioner and the board should be addressed to the same person as in subsection ~~2~~ 1.

History: Effective January 1, 1988; amended effective December 1, 1989; January 1, 1992.
General Authority: NDCC 28-32-02.1
Law Implemented: NDCC 28-32-02.1

18.5-02-01-00.1. Definitions. In title 18.5, unless the context or subject matter otherwise requires:

1. "Administrator" means the administrator of the agricultural mediation service, appointed by the commissioner to administer the service.

2. "Commissioner" means the commissioner of the state department of agriculture.

3. "Formal mediation" means the process of formal meetings between a farmer and ~~a farmer's creditors~~ another person, initiated by request of either the farmer or ~~one or more of~~

~~the farmer's creditors~~ another person. Formal mediation meetings must be held with the objective of obtaining a voluntary settlement of the farmer's ~~credit and financial~~ problems and providing for the future conduct of financial relations between the ~~farmer and the farmer's creditors~~ parties. Settlement must be satisfactory to ~~the farmer and the farmer's creditors~~ all parties and must have a goal of permitting the farmer to reside in the farm residence and to continue to produce agricultural commodities. Formal mediation must always result in issuance of a mediation report. A negotiator may be assigned to assist a farmer in formal mediation.

4. "Informal mediation" means the process of assisting a farmer to obtain settlement ~~with the farmer's creditors~~. The administrator shall assign a negotiator to assist an eligible farmer in informal mediation. The negotiator will provide negotiation assistance and information to the farmer regarding ~~farm credit~~ problems.

5. "Initiating creditor" means a creditor that has notified the farmer of the availability of mediation.

6. "Mediator" means a person hired by or contracting with the commissioner to do formal mediation work as directed by the administrator.

7. "Negotiator" means a person hired by or contracting with the commissioner to do the negotiating work of informal and formal mediation as directed by the administrator.

7.1. "Party" means the following:

a. For the purposes of chapters 18.5-02-03 and 18.5-02-03.1, any person notified of or attending a formal mediation meeting.

b. For the purposes of chapter 18.5-02-02, any person as determined by the administrator based upon a review of the file and interviews with the negotiator and farmer, if necessary. Parties include persons who provided to or discussed with the negotiator information ordinarily deemed confidential, such as financial, mental health, and similar personal information.

7.2. "Person" means a person as defined in subsection 5 of North Dakota Century Code section 6-09.10-01.

8. "Requesting creditor" means a creditor that has requested mediation.

9. "Service" means the agricultural mediation service established by the commissioner to disseminate information to farmers

concerning farm ~~credit~~ problems, to assist in resolving ~~farm credit~~ problems, to provide negotiators to negotiate ~~with creditors~~ on behalf of the farmer, and to provide mediators to mediate between ~~farmers~~ a farmer and ~~their creditors~~ any other person.

10. "Staff" means a person or those persons hired by the commissioner, who are not mediators or negotiators, but who work directly under the supervision of the administrator to assist in administering the service or to assist the credit review board in its responsibilities and duties.

History: Effective January 1, 1988; amended effective December 1, 1989; January 1, 1992.
General Authority: NDCC 6-09.10-09
Law Implemented: NDCC 6-09.10-03, 6-09.10-04

18.5-02-01-01. Eligibility for interest subsidy.

1. Applicants for assistance in the form of an interest subsidy provided by the board pursuant to North Dakota Century Code sections 6-09.10-05, 6-09.10-07, and 6-09.10-08 shall submit or have a negotiator submit on their behalf:

   a. A signed written petition requiring assistance;

   b. A completed application form;

   c. Financial statements as required by the board; and

   d. Any other information required by the board to determine eligibility or necessary to provide an interest subsidy.

2. An applicant for an interest subsidy provided by the board must be a farmer as defined in subsection ~~3~~ 2 of North Dakota Century Code section 6-09.10-01 and otherwise meet the requirements of North Dakota Century Code chapter 6-09.10 and rules adopted pursuant to it.

3. Any person whose right of redemption has expired by the filing of a sheriff's deed prior to submitting an application form or petition is ineligible for assistance in the form of an interest subsidy provided under the provisions of North Dakota Century Code chapter 6-09.10.

History: Effective September 17, 1985; amended effective January 1, 1988; January 1, 1992.
General Authority: NDCC 6-09.10-09
Law Implemented: NDCC 6-09.10-01, 6-09.10-03, 6-09.10-04

18.5-02-02-01. Eligibility for informal mediation. The board may require that an applicant for the assistance of a negotiator in informal mediation make written application on such a form as may be required by the board. To be eligible for assistance in informal mediation pursuant to North Dakota Century Code chapter 6-09.10, a farmer must be a farmer ~~under the two-pronged test of time devoted to farming activities and annual net income from farming activities in paragraph 2 of subdivision b of subsection 15 of North Dakota Century Code section 57-02-08 (hereinafter referred to as "paragraph 2"), as further defined in this section. "Normally" means a majority of years over a period of time. However, an individual is not disqualified from being a farmer for assistance under chapter 6-09.10 if the individual engages in the farming activities listed in paragraph 2 and has been farming for six years or less, but does not otherwise meet the requirements of paragraph 2 as further defined in this section~~ as defined in subsection 2 of North Dakota Century Code section 6-09.10-01.

History: Effective January 13, 1989; amended effective December 1, 1989; January 1, 1992.
General Authority: NDCC 6-09.10-09
Law Implemented: NDCC 6-09.10-01, 6-09.10-03, 6-09.10-04, 57-02-08

18.5-02-02-02. Informal mediation proceedings.

1. Upon receipt of the application or request and a determination that the person is eligible for assistance, the administrator shall assign a negotiator to assist in the informal mediation of a settlement between the farmer and ~~the creditors of the farmer~~ another person that accomplishes the objectives of the informal mediation process.

2. The objectives of the informal mediation process are to assist the farmer in obtaining a settlement that will permit the farmer to reside in the farm residence and to continue to produce agricultural commodities, as well as to provide negotiation assistance and information regarding farm ~~credit~~ problems. If the negotiator is unable to effect a settlement of the farmer's debt or other resolution of the farmer's ~~credit~~ problems, the negotiator may, upon written application by the farmer to the board, work with the lender and the farmer to negotiate a purchase, repurchase, refinancing, or redemption of the farmer's home-quarter.

3. The negotiator is an authorized agent of the service and the board who shall report to and be responsible to the administrator ~~and the board~~ in the informal mediation process. At the conclusion of the informal mediation, the negotiator shall report to the administrator ~~and the board~~ the outcome of the negotiations and any settlement that may have been accomplished.

4. Because each farmer's situation is fact specific, the negotiator shall have broad discretion to work out a financial settlement as appropriate and as approved by the farmer.

History: Effective January 13, 1989; amended effective December 1, 1989; January 1, 1992.
General Authority: NDCC 6-09.10-09
Law Implemented: NDCC 6-09.10-03, 6-09.10-04

18.5-02-02-03. Duties of a negotiator. During the informal mediation process, the negotiator shall:

1. Assist the farmer in compiling information about the farm operation and its financing and organizing that information into a useful format.

2. Assist the farmer in mediating a settlement ~~with creditors of the farmer~~ so as to achieve the objectives of the informal mediation process.

3. Advise the farmer of the various alternatives that may be open to the farmer in negotiating a settlement or other resolution ~~with the farmer's creditors~~.

4. Where legal or tax issues are involved, advise the farmer of the necessity of seeking competent legal and tax advice from qualified professionals before entering into any binding agreement regarding the settlement or other resolution of the farmer's ~~credit~~ problems. The negotiator should make it clear to the farmer that the negotiator is not qualified to give legal or tax advice and cannot be held responsible for decisions regarding legal or tax issues, defenses, or counterclaims.

History: Effective January 13, 1989; amended effective January 1, 1992.
General Authority: NDCC 6-09.10-09
Law Implemented: NDCC 6-09.10-03, 6-09.10-04

18.5-02-03-00.1. Eligibility for formal mediation for secured debts.

1. To be eligible for assistance pursuant to North Dakota Century Code chapter 6-09.10, a farmer must be a farmer ~~under the two-pronged test of time devoted to farming activities and annual net income from farming activities in paragraph 2 of subdivision b of subsection 15 of North Dakota Century Code section 57-02-08 (hereinafter referred to as "paragraph 2"), as further defined in this section. "Normally" means a majority of years over a period of time. However, an individual is not disqualified from being a farmer for assistance under chapter 6-09.10 if the individual engages in~~

~~the farming activities listed in paragraph 2 and has been farming for six years or less, but does not otherwise meet the requirements of paragraph 2 as further defined in this section~~ as defined in subsection 2 of North Dakota Century Code section 6-09.10-01.

2. To be eligible for formal mediation, the farmer must have a loan secured by agricultural property in default.

3. Any creditor of a farmer who is eligible for assistance pursuant to North Dakota Century Code chapter 6-09.10 and this section is eligible to request formal mediation.

History: Effective December 1, 1989; amended effective January 1, 1992.
General Authority: NDCC 6-09.10-09
Law Implemented: NDCC 6-09.10-01, 6-09.10-03, 6-09.10-04, 57-02-08

18.5-02-03-05. Confidentiality of mediation proceedings. As a condition for participation in mediation and except as otherwise provided in this section, all parties shall agree to keep confidential (1) the financial information and records of the debtor and the creditors presented in the mediation proceedings and (2) the substance of all discussions conducted during the course of mediation. The parties may disclose confidential information only ~~when necessary in the course of litigation involving matters that were the subject of the mediation proceeding~~ as permitted by North Dakota Century Code section 6-09.10-10.

History: Effective January 13, 1989; amended effective January 1, 1992.
General Authority: NDCC 6-09.10-09
Law Implemented: NDCC 6-09.10-03, 6-09.10-04

18.5-02-03-06. Good faith participation. All participants in mediation shall participate and act in good faith. Because mediation is an attempt to reach a voluntary settlement, the fact that the parties cannot reach agreement to resolve the farmer's farm credit problems is not, standing alone, evidence of bad faith. Any party to formal mediation may request a declaration from the mediator that another party is not participating in good faith. A mediator shall issue a declaration, including the reasons for the declaration, when the mediator determines that the party against whom the declaration is sought:

1. Has failed to attend any meeting called by the mediator without good cause;

2. Has, after January 13, 1989, and before completion of formal mediation proceedings, taken steps to initiate legal action against a participating party or to enforce the obligation of a party, including the sending of any notices required to be

sent as a necessary prerequisite for commencing legal action, foreclosure, or repossession;

3. Has failed to produce, at the request of the mediator, within a reasonable time after requested, any relevant information within the party's possession;

4. Has failed to respond within ten business days to any proposal made by the farmer or any creditor; or

5. Has engaged in other behavior that evidences an intention not to honestly and sincerely participate in the effort to resolve the farmer's credit problems.

No declaration from a mediator that a party is not participating in good faith may be based upon any actions of the party prior to January 13, 1989. If a mediator determines that a party is not participating in good faith, ~~and~~ an affidavit to that effect may be filed by the mediator with the administrator indicating the reasons for the determination. If the mediator finds that any party is not participating in good faith, the mediator may terminate the mediation proceedings and issue the mediation report or continue or reopen the mediation proceedings for up to an additional sixty days to attempt to find an acceptable solution to the farmer's credit problems.

History: Effective January 13, 1989; amended effective December 1, 1989; January 1, 1992.
General Authority: NDCC 6-09.10-09
Law Implemented: NDCC 6-09.10-03, 6-09.10-04

STAFF COMMENT: Chapter 18.5-02-04 contains all new material but is not underscored so as to improve readability.

CHAPTER 18.5-02-04
OTHER FORMAL MEDIATION

18.5-02-04-01. Eligibility for formal mediation.

1. Parties not eligible for formal mediation for secured debts under chapter 18.5-02-03 may request formal mediation under this chapter.

2. To be eligible for assistance pursuant to North Dakota Century Code chapter 6-09.10, a farmer must be a farmer as defined in subsection 2 of North Dakota Century Code section 6-09.10-01.

3. Any creditor required to participate in mediation pursuant to 7 U.S.C. 5101 et seq., Pub. L. 100-233, title V, January 6, 1988, 101 Stat. 1663, may not be required to participate in mediation under this chapter.

History: Effective January 1, 1992.
General Authority: NDCC 6-09.10-09
Law Implemented: NDCC 6-09.10-01, 6-09.10-03, 6-09.10-04

18.5-02-04-02. Request for formal mediation. A farmer or other person may request formal mediation by filing a request for formal mediation with the administrator. The request for formal mediation must be in writing and on forms provided by the administrator. The request for formal mediation must be deemed filed on the date it is received by the administrator. A farmer or other person may request formal mediation proceedings even though the farmer has previously participated in informal mediation proceedings or has previously participated in secured debt formal mediation. The request for formal mediation may be filed by mailing it by first class, or by delivering to:

Administrator
Agricultural Mediation Service
Department of Agriculture
State Capitol
600 East Boulevard Avenue
Bismarck, North Dakota 58505

History: Effective January 1, 1992.
General Authority: NDCC 6-09.10-09
Law Implemented: NDCC 6-09.10-03

18.5-02-04-03. Formal mediation proceedings.

1. Upon receipt of a request for formal mediation, the administrator may assign a mediator to conduct formal mediation proceedings. If a farmer requests assistance, the administrator may assign a negotiator to assist the farmer in preparing for formal mediation and to negotiate on behalf of the farmer during the mediation.

2. When any other person requests formal mediation, the administrator shall notify the farmer of the request, by first-class mail, and obtain the farmer's signed statement consenting to formal mediation and a list of other potential parties to the mediation.

a. If the farmer refuses to consent to formal mediation, the administrator shall dismiss the formal mediation and give notice of the dismissal to the other party requesting mediation. After dismissal of the formal mediation, the other person may proceed to enforce any claims against the farmer.

b. If the farmer consents to formal mediation, the farmer shall provide to the administrator a list of all potential parties to the mediation. Upon consent of the farmer to formal mediation, the administrator shall send a meeting notice to the farmer and all other persons. The notice must set forth the time and place for an initial mediation meeting among the farmer and other persons. The initial mediation meeting must be held within forty-five days after the filing of the request for mediation, unless the farmer or other person requests and receives, for good cause, an extension from the administrator.

3. When a farmer requests formal mediation, the farmer shall provide a list of all potential parties to the mediation to the administrator. The administrator shall send a meeting notice to the farmer and all other potential parties. The notice must set forth the time and place for an initial mediation meeting among the farmer, other persons, and the mediator. The initial meeting must be held within forty-five days after the filing of the request for mediation unless the farmer or other person requests and receives, for good cause, an extension from the administrator. The administrator may dismiss the mediation if the farmer fails to furnish a list of potential parties within fifteen days of the request for formal mediation.

4. The mediator may call additional meetings among the farmer and other persons or between the farmer and any party to the mediation, as the mediator deems appropriate, following the initial mediation meeting and before the filing of the final mediation report.

History: Effective January 1, 1992.
General Authority: NDCC 6-09.10-09
Law Implemented: NDCC 6-09.10-03, 6-09.10-04

18.5-02-04-04. Mediation report. Within seventy-five days after the filing of the request for formal mediation, the mediator shall prepare and file with the administrator a mediation report summarizing the outcome of the formal mediation. If additional mediation meetings are held either before or after the seventy-five-day period following the filing of the request for formal mediation, so that the mediator is unable to prepare and file the mediation report within the seventy-five-day period, the mediator shall prepare and file the mediation report within ten days of the conclusion of those additional

mediation meetings. The administrator shall send a copy of the mediation report to the farmer and other participating parties. If mediation results in an impasse between the farmer and other persons, the mediation report must contain a discharge from formal mediation and the parties may proceed to enforce any claims against each other. Once the mediation report is filed with the administrator the formal mediation meetings are closed, unless a declaration of not participating in good faith is issued by the mediator, in which case mediation proceedings may be reopened pursuant to section 18.5-02-04-07. If mediation proceedings are reopened, the mediator may file an amended mediation report, if necessary. Otherwise, formal mediation by the same participants may only begin again pursuant to a new request for mediation.

History: Effective January 1, 1992.
General Authority: NDCC 6-09.10-09
Law Implemented: NDCC 6-09.10-03, 6-09.10-04

18.5-02-04-05. Duties of the mediator. During the mediation process, the mediator shall:

1. Listen to the farmer and other persons desiring to be heard.
2. Attempt to mediate between the farmer and the other persons.
3. Advise the farmer and other persons as to the existence of available assistance programs.
4. Determine what other parties should be involved in the mediation.
5. Advise, counsel, and assist the farmer and other persons in attempting to arrive at an agreement for the future conduct of relations among them.
6. State, at the beginning of the mediation process, that the mediator's role is that of a facilitator and not a negotiator for either party.

History: Effective January 1, 1992.
General Authority: NDCC 6-09.10-09
Law Implemented: NDCC 6-09.10-03, 6-09.10-04

18.5-02-04-06. Confidentiality of mediation proceedings. As a condition for participation in mediation and except as otherwise provided in this section, all parties shall agree to keep confidential the substance of all discussions conducted during the course of mediation. The parties may disclose confidential information only as permitted by North Dakota Century Code section 6-09.10-10.

History: Effective January 1, 1992.

General Authority: NDCC 6-09.10-09
Law Implemented: NDCC 6-09.10-03, 6-09.10-04

18.5-02-04-07. Good faith participation. All participants in mediation shall participate and act in good faith. Because mediation is an attempt to reach a voluntary settlement, the fact that the parties cannot reach an agreement to resolve the farmer's problems is not, standing alone, evidence of bad faith. Any party to formal mediation may request a declaration from the mediator that another party is not participating in good faith. A mediator shall issue a declaration, including the reasons for the declaration, when the mediator determines that the party against whom the declaration is sought:

1. Has failed to attend any meeting called by the mediator without good cause;

2. Has taken steps to initiate legal action against a participating party or to enforce the obligation of a party during the formal mediation proceedings;

3. Has failed to produce, at the request of the mediator, within a reasonable time after requested, any relevant information within the party's possession;

4. Has failed to respond within ten business days to any proposal; or

5. Has engaged in other behavior that evidences an intention not to honestly and sincerely participate in the effort to resolve the farmer's problems.

If a mediator determines that a party is not participating in good faith, an affidavit to that effect may be filed by the mediator with the administrator indicating the reasons for the determination. If the mediator finds that any party is not participating in good faith, the mediator may terminate the mediation proceedings and issue the mediation report or continue or reopen the mediation proceeding for up to an additional sixty days to attempt to find an acceptable solution to the farmer's problems.

History: Effective January 1, 1992.
General Authority: NDCC 6-09.10-09
Law Implemented: NDCC 6-09.10-03, 6-09.10-04

TITLE 30

Game and Fish Department

OCTOBER 1991

30-02-01-02. Permit may be issued. A permit to use an aircraft in the hunting of predatory animals may be issued to any person who complies with this chapter, upon determination by the director of the game and fish ~~commissioner~~ department that such a permit is necessary for the protection of livestock, domesticated animals, wildlife, or human life, and that aircraft hunting is the preferred method of predatory animal control under the circumstances involved.

History: Amended effective October 1, 1991.
General Authority: NDCC 20.1-02-05(15)
Law Implemented: NDCC 20.1-02-05(15)

30-02-01-03. Permit conditions. The permit shall only be valid for taking a specified number and species from a specified permit area, for a specified period of time~~, and with specified gunners~~.

History: Amended effective October 1, 1991.
General Authority: NDCC 20.1-02-05(15)
Law Implemented: NDCC 20.1-02-05(15)

30-02-01-06. Report of kill required. The permittee shall, within one week of the end of the term of the permit, file a complete report ~~of the species, sex, estimated age, and approximate location of kill for each animal taken~~ that includes information deemed necessary by the director. Failure to so report shall make the permittee ineligible to receive another permit for one year.

History: Amended effective October 1, 1991.
General Authority: NDCC 20.1-02-05(15)
Law Implemented: NDCC 20.1-02-05(15)

30-02-01-07. ~~No hunting months~~ Hunting dates. ~~No aircraft hunting permits will be issued during the months of October, November, December, or January~~ The days and months of hunting will be determined by the director and included in the permit.

History: Amended effective October 1, 1991.
General Authority: NDCC 20.1-02-05(15)
Law Implemented: NDCC 20.1-02-05(15)

OBJECTION

THE LEGISLATIVE COUNCIL'S COMMITTEE ON ADMINISTRATIVE RULES OBJECTS TO THAT PART OF NORTH DAKOTA ADMINISTRATIVE CODE SECTION 30-03-01-06 THAT ESTABLISHES A PENALTY OF $250 FOR AN EQUIPMENT VIOLATION.

The committee objects to this rule because:

1. Vendors must use appropriate equipment for maintaining live bait.

2. If that equipment is not adequate to maintain the bait in a healthy and lively condition, it is unlikely that customers will continue to buy the bait.

3. The appropriate penalty for inadequate equipment violations would be loss of the business due to an inferior product. Therefore, the two hundred fifty dollar fine is excessive and probably unnecessary.

Section 28-32-03.3 provides that after the filing of a committee objection, the burden of persuasion is upon the agency in any action for judicial review or for enforcement of the rule to establish that the whole or portion thereof objected to is within the procedural and substantive authority delegated to the agency. If the agency fails to meet its burden of persuasion, the court shall declare the whole or portion of the rule objected to invalid and judgment shall be rendered against the agency for court costs.

History: Effective August 9, 1991.
General Authority: NDCC 28-32-03.3

30-03-02-04. Species authorized. ~~Species of fish which may be authorized by the game and fish commissioner for raising or holding in a licensed private fish hatchery shall be limited to tilapia, trout, largemouth bass, walleye, northern pike, crappie, and bluegills~~ The game and fish director will publish a list of fish species that may be authorized for raising or holding in a licensed fish hatchery. Such list may be amended from time to time at the discretion of the game and fish director.

History: Amended effective September 1, 1989; November 1, 1990; October 1, 1991.
General Authority: NDCC 20.1-06-12
Law Implemented: NDCC 20.1-06-12

JANUARY 1992

30-05-01-05. Accident reports. If a collision, accident, or other casualty involving a vessel results in death or injury to a person or damage to property in excess of ~~two~~ five hundred dollars, or a person disappears from such vessel under circumstances that indicate death or injury, the operator thereof shall complete and submit a complete boating accident report, CG-3865 form, or revision thereof, in duplicate to the game and fish department, within forty-eight hours in cases involving death or injury, within five days in all other cases. Any person who violates this section is guilty of a noncriminal offense and shall pay a fifty dollar fee.

History: Amended effective December 1, 1982; April 1, 1986; January 1, 1992.
General Authority: NDCC 20.1-13-12
Law Implemented: NDCC 20.1-13-08

30-05-03-21. Sweet Briar Dam. ~~Boats powered by motors of more than ten horsepower are prohibited on the waters of Sweet Briar Dam in Morton County.~~ Repealed effective January 1, 1992.

History: ~~Effective November 1, 1983.~~
General Authority: ~~NDCC 20.1-13-12~~
Law Implemented: ~~NDCC 20.1-13-12~~

30-05-03-25. Casselton Reservoir. Boats powered by gas, gasohol, diesel, or other internal combustion motors are prohibited on the waters of Casselton Reservoir in Cass County.

History: Effective January 1, 1992.
General Authority: NDCC 20.1-13-12, 20.1-13-14
Law Implemented: NDCC 20.1-13-12

30-05-03-26. Missouri River. Motorboat operators in marked areas at the mouth of the Heart River, Marina Bay, and the mouth of Square Butte Creek, all along the Missouri River, must operate their boats at idle speed only. "Idle speed" is defined as operating the motorboat at the slowest possible speed necessary to maintain steerage. Idle speed areas are designated with signs along the shore or with buoys in the water.

History: Effective January 1, 1992.
General Authority: NDCC 20.1-13-12, 20.1-13-14
Law Implemented: NDCC 20.1-13-12

TITLE 33

Health and Consolidated Laboratories, Department of

33-03-24-31. Waiver provision. ~~For facilities operating as a basic care facility on December 1, 1990, the~~ The health officer may ~~grandfather~~ waive building requirements for basic care facilities with respect to these rules for ~~a~~ specified ~~period~~ periods of time in specific instances, provided compliance with the requirement would result in an unreasonable hardship upon the facility and lack of compliance does not adversely affect the health ~~and~~ or safety of the residents.

History: Effective December 1, 1990; amended effective August 1, 1991.
General Authority: NDCC 23-09.3-19
Law Implemented: NDCC 23-09.3-09

33-07-03.1-20.1. Waiver process for required nursing care. Required nursing services include twenty-four hour licensed nurse coverage with a registered nurse for at least eight consecutive hours a day, seven days per week. Nursing facilities requesting a waiver from the department specific to required nursing services and coverage must be located in a rural area and the supply of skilled nursing services in the area is not sufficient to meet the needs of individuals residing in the area and meet the following requirements:

1. Provide the department with evidence of recruitment efforts, including copies of advertisements in which the facility has advertised, salary and benefits being offered, responses received from applicants and reasons applicant was not offered a position or declined offer of employment, and any incentives being offered for recruitment of licensed nurses.

2. The facility must supply written evidence of contacts with the state board of nursing for information regarding nurses who are licensed and reside in the area. Efforts of recruitment

of these individuals must be submitted, including reasons position was not offered or why they have declined employment.

3. Prior to being granted a waiver for required nursing services, a facility must provide written assurance from the attending physician for each resident, verifying they do not require licensed nurse services. This information must also be included in the medical record for each resident.

4. Salary information submitted by facilities will be reviewed based upon state average licensed nurse wages as determined by job service North Dakota.

5. Facilities must submit actual staffing levels for the past three months as well as resident information necessary to determine acuity levels.

6. Facilities shall notify all current residents and families, the state ombudsman, and protection and advocacy services, in writing informing them of the conditions resulting in the need for the facility to request a nursing waiver. The facility shall provide written notification to individuals seeking admission to the facility prior to admission that the facility has a nursing waiver in place.

7. If a licensed nurse waiver is granted to a facility, the department shall publish a notice in the local newspaper in the area of the facility to notify the public that the facility has received a licensed nurse waiver, the conditions specific to the waiver, and the length of time for which the waiver has been granted.

8. During the time period for which the waiver is granted, the facility shall have available a licensed registered nurse or a physician who is obligated to respond immediately to telephone calls from the facility. During the period of a waiver, the facility shall submit to the department monthly time schedules for actual licensed nurse staffing hours, and the department may require the facility to submit copies of any minimum data sets completed on new admissions or on residents as a result of substantial condition changes resulting in increasing care needs.

9. Facilities who have had within the last twenty-four months or who currently have a nurse waiver in excess of the forty-eight hour weekend waiver are not eligible to operate a state-approved nurse aide training program.

10. If granted, the waiver will be for a period not to exceed one year. If the facility has not alleviated the need for this licensed nurse waiver when it expires, the facility will be required to repeat the process for requesting a licensed nurse waiver.

History: Effective August 1, 1991.
General Authority: NDCC 23-01-03, 28-32-02
Law Implemented: NDCC 23-16-01

33-07-03.1-24. Complaint appeals process for nurse aides on the state registry.

~~1. Nurse aides against whom allegations of abuse, neglect, or theft of resident funds or property are made must be:~~

~~a. Informed by the department of the allegations;~~

~~b. Informed of the investigation results; and~~

~~c. Provided the opportunity to request a hearing to rebut the charges.~~

~~2. If a hearing is requested, the department will apply to the North Dakota attorney general's office for appointment of a hearing officer. The department will notify the complainant and the accused of the date set for the hearing. If no hearing is requested, the department will submit information specific to validated allegations to the registry.~~

~~3. The hearing officer will conduct the hearing and prepare recommended findings of fact and conclusions of law, as well as a recommended order. If, through the department's investigation process, there is evidence abuse, neglect, or theft of resident funds or property has occurred, the department shall notify appropriate law enforcement officials.~~

~~4. Allegations validated by the department or through the hearing process of abuse, neglect, or theft of resident funds or property by a nurse aide, must:~~

~~a. Be identified in the nurse aide registry within thirty days of the finding, and~~

~~b. Remain in the registry for a minimum of five years.~~

~~5. The department shall provide the nurse aid against whom an allegation has been validated, with a copy of all information which will be maintained in the registry within thirty days following the addition of the information to the registry.~~

~~6. Within thirty days of mailing the notification of a finding adverse to a nurse aide, the nurse aide may contact the department and correct any misstatements or inaccuracies in the information being maintained by the registry on that individual.~~

~~7. Any medicare or medicaid participating nursing facility, home health agency, hospital, ombudsman, or any other~~

~~representative of an official agency with a need to know may receive information contained in the registry by making a written request.~~ Repealed effective August 1, 1991.

History: ~~Effective January 1, 1991.~~
General Authority: ~~NDCC 28-32-02(1)~~
Law Implemented: ~~NDCC 23-01-03~~

33-07-03.1-24.1. Nurse aide training, competency evaluation, and registry - General provision - Definitions.

1. "Certified nurse aide" means an individual who has successfully completed the requirements for the department-approved nurse aide training program and competency evaluation, or department-approved competency evaluation and is entered on the registry.

2. "Facility" means skilled nursing facility or nursing facility licensed by the department and does not include any institution that is for the care and treatment of mental diseases or for the mentally retarded or persons with related conditions.

3. "Home health agency" means a public or private agency, organization, facility, or subdivision thereof, engaged in providing home health services to individuals and families where they are presently residing for the purpose of preventing disease and promoting, maintaining, or restoring health or minimizing the effects of illness or disability, licensed to operate by the state department of health and consolidated laboratories.

4. "Nurse aide" means any individual providing nursing or nursing-related services to individuals in nursing facilities through home health agencies or other health care facilities.

5. "Nurse aide competency evaluation" means a department-approved testing mechanism consistent with federal regulations and consisting of both a written or oral and a manual skills component, testing the necessary knowledge needed by a nurse aid in order to provide safe care in a nursing facility or home health agency or other health care facility.

6. "Nurse aide registry" means a listing of all persons who have completed a department-approved nurse aide training program and satisfactorily completed a department-approved competency evaluation or a department-approved competency evaluation, and submitted the required initial or renewal information for inclusion on the registry.

7. "Nurse aide training program" means a program to train nurse aides offered by a public or private organization that has been approved by the department.

8. "Qualified instructor" for nursing facility nurse aides means a registered nurse with a minimum of two years of nursing experience, at least one year of which must be in the provision of long-term care facility services. For nurse aides employed by home health agencies, the instructor must be a registered nurse who possesses a minimum of two years of nursing experience, at least one of which must be in the provision of home health care and who has supervised home health aid services for at least six months or a licensed nurse under the supervision of a qualified instructor. Other professionals such as dietitians or physical therapists may assist with portions of the program other than supervised practical training.

9. "Significant requirements" means federal certification or state licensure requirements which have a large impact on the health and safety of the resident, and have been determined to be out of compliance. Significant licensure requirements will be determined based on the following considerations: seriousness of the noncompliance issue, extent of the noncompliance issue, and history of prior noncompliance issues.

10. "Supervised practical skills training" means manual skills instruction provided through a department approved program by a qualified instructor or a licensed nurse under the general supervision of a qualified instructor.

History: Effective August 1, 1991.
General Authority: NDCC 23-01-03, 28-32-02
Law Implemented: NDCC 23-16-01, 23-17.3-08

33-07-03.1-25. General authority for nurse aide training, competency evaluation, and registry. For purposes of this chapter, department refers to the state department of health and consolidated laboratories or an entity contracted by the department to carry out the responsibilities of the department.

History: Effective August 1, 1991.
General Authority: NDCC 23-01-03, 28-32-02
Law Implemented: NDCC 23-16-01

33-07-03.1-26. Nurse aide training.

1. Any nurse aide employed by a nursing facility or pursuing nurse aide certification and entry on the nurse aide registry must complete a department-approved training program

consisting of a minimum of seventy-five hours, including both manual skills and theory components and a department-approved competency evaluation or a department-approved competency evaluation.

2. Noncertified nurse aides employed by nursing facilities or pursuing nurse aide certification must complete a minimum of sixteen hours of supervised practical skills training from an approved program prior to any hands-on contact with residents or patients. The remainder of the seventy-five hour approved training course and competency evaluation must be completed within four months of the date of first employment.

3. Noncertified nurse aides pursuing certification and employed by home health agencies must complete a minimum of seventy-five hours of training and competency evaluation from a department-approved program prior to hands-on contact with patients. At least sixteen hours of training must be devoted to supervised practical training under the direct supervision of a licensed nurse. Sixteen hours of classroom training must be completed before beginning the supervised practical training if they are pursuing certification and entry on the nurse aide registry.

4. Nurse aides must not perform tasks for which competence has not been determined unless under the direct supervision of a licensed nurse.

History: Effective August 1, 1991.
General Authority: NDCC 23-01-03, 28-32-02
Law Implemented: NDCC 23-16-01, 23-17.3-08

33-07-03.1-27. Competency evaluation.

1. The competency evaluation must allow a nurse aide, at the nurse aide's option, to establish competency through written or oral and manual skills examination.

2. The examination must address all areas required in the department-approved training program.

3. The examination must be developed from a pool of test questions, only a portion of which may be utilized in any one examination.

4. The competency evaluation process must provide for a system that prevents disclosure of both pool questions and the individual competency evaluations.

History: Effective August 1, 1991.
General Authority: NDCC 23-01-03, 28-32-02
Law Implemented: NDCC 23-16-01, 23-17.3-08

33-07-03.1-28. Demonstration of skills. The competency evaluation must include a demonstration of the tasks the individual will be expected to perform as part of the individual's function as a nurse aide.

History: Effective August 1, 1991.
General Authority: NDCC 23-01-03, 28-32-02
Law Implemented: NDCC 23-16-01, 23-17.3-08

33-07-03.1-29. Administration of competency evaluation.

1. The competency evaluation must be administered by the department or a department-approved entity which is neither a licensed nursing facility or a home health agency.

2. The skills demonstration portion of the test must be administered in the facility, patient's home, or laboratory setting comparable to the setting in which the nurse aide will function.

3. The skills demonstration portion of the test must be administered and evaluated by a registered nurse with at least one year of experience in providing care for the elderly or chronically ill resident or patient of any age.

4. The department may permit the written examination to be proctored by facility or agency personnel if the department determines that the procedure adopted assures the competency evaluation is:

   a. Secure from tampering.

   b. Standardized and scored by a testing, educational, or other organization approved by the department.

   c. Exempt from any scoring by facility or agency personnel.

5. Facility or agency personnel may not proctor the skills demonstration portion of the examination.

6. The department shall retract the right to proctor nurse aide competency evaluations from facilities or agencies in which the department finds any evidence of impropriety, including tampering by facility or agency staff.

History: Effective August 1, 1991.
General Authority: NDCC 23-01-03, 28-32-02
Law Implemented: NDCC 23-16-01, 23-17.3-08

33-07-03.1-30. Facility requirements.

1. Nursing facilities shall employ only nurse aides who are currently enrolled in a department-approved training and competency evaluation program or who have successfully completed a department-approved competency evaluation.

2. No nurse aide employed by a nursing facility may be charged for any portion of a nurse aide training or competency evaluation program, including any fees for textbooks or other required course materials.

3. Cases of alleged abuse, neglect, or misappropriation of resident funds by nurse aides employed in nursing facilities or home health agencies must be reported to the department.

History: Effective August 1, 1991.
General Authority: NDCC 23-01-03, 28-32-02
Law Implemented: NDCC 23-16-01

33-07-03.1-31. Withdrawal and approval of training program status.

1. The department shall withdraw approval of a facility or agency-based program when a determination has been made that the facility or agency has been found to be out of compliance with significant federal certification or state licensure requirements. The approval, once withdrawn, cannot be reinstated for a period of twenty-four months provided the facility or agency remains in compliance with significant requirements.

2. The department shall withdraw approval of a nurse aide training and competency evaluation program if the entity providing the program refuses to permit unannounced visits by the department to ascertain compliance with program requirements.

3. Approval of a nurse aide training and competency evaluation program must be granted by the department for a period not to exceed two years.

4. The department may approve only nurse aide training and competency evaluations meeting at least the following criteria:

   a. Consists of no less than seventy-five hours of training.

   b. Includes training in at least the following subject areas:

      (1) Infection control.

      (2) Safety and emergency procedures.

(3) Promoting resident and patient independence.

(4) Respecting resident rights.

(5) Basic nursing skills.

(6) Personal care skills.

(7) Mental health and social service needs.

(8) Care of cognitively impaired residents or patients.

(9) Basic restorative services.

(10) Resident or patient rights.

History: Effective August 1, 1991.
General Authority: NDCC 23-01-03, 28-32-02
Law Implemented: NDCC 23-16-01, 23-17.3-08

33-07-03.1-32. Completion of the competency evaluation program.

1. To complete the competency evaluation successfully the individual must, at a minimum, successfully demonstrate competence in the areas listed under subdivision b of subsection 4 of section 33-07-03.1-31, personal care skills, and any others the nurse aide would be permitted to perform in the facility or through the agency.

2. A record of successful completion of the competency evaluation for nurse aides seeking certification must be included in the nurse aide registry within thirty days of the date the individual was found to be competent.

3. If the individual fails to complete the evaluation satisfactorily, the facility or agency must advise the individual of the areas in which the individual was inadequate, and that the individual has not more than three opportunities to take the examination.

4. If the individual seeking certification fails the examination on the third attempt, the individual must be enrolled in a department-approved training program to be completed within four months of the third failure date or cease hands-on provision of resident or patient care.

History: Effective August 1, 1991.
General Authority: NDCC 23-01-03, 28-32-02
Law Implemented: NDCC 23-16-01, 23-17.3-08

33-07-03.1-33. Registry information.

1. The department is responsible for the entering of individual names on the nurse aide registry upon receipt of information verifying completion of a department-approved training and competency evaluation program or a department-approved competency evaluation.

2. Information included on the registry must include name, address, social security number, birth date, program provider for the training program, if applicable, and the sponsor for the competency evaluation, as well as the place of employment.

3. The registry must include documentation of abuse, neglect, or misappropriation of resident funds by the nurse aide when validated by the department.

4. Applicants for the nurse aide registry who submit proof of meeting the requirements of another jurisdiction will be granted reciprocity and entered on the nurse aide registry and may use the title "certified nurse aide". The individual must meet North Dakota requirements for active registry status.

5. Nurse aides meeting the waiver provisions of twenty-four months of continuous employment as a nurse aide prior to December 19, 1989, granted by the department will be listed on the registry with a special designation. This designation will signify the nurse aide has been waived from training and testing requirements but is not certified.

History: Effective August 1, 1991.
General Authority: NDCC 23-01-03, 28-32-02
Law Implemented: NDCC 23-16-01, 23-17.3-08

33-07-03.1-34. Disclosure of information.

1. Information contained in the registry will be disclosable to any medicare or medicaid participating facility, nursing facility, home health agency, hospital, ombudsman, or other representative of an official agency, upon request.

2. Specific detailed investigative information regarding validated cases of abuse, neglect, or misappropriation of resident funds is disclosable only upon written request.

History: Effective August 1, 1991.
General Authority: NDCC 23-01-03, 28-32-02
Law Implemented: NDCC 23-16-01

33-07-03.1-35. Registry renewal.

1. Registry status is limited to twenty-four months. Within four months prior to the expiration date of the registry status,

the department shall send notice to the nurse aide at the address listed on the registry for the nurse aide regarding application for renewal. Upon receipt of a completed renewal application, and verification of employment within that past twenty-four months, the certified nurse aide will be issued a renewal certificate indicating current status.

2. An individual who has not performed at least one hundred sixty hours of nursing or nursing related services for pay within a continuous twenty-four-month period shall complete a department-approved training and competency evaluation program or a department-approved competency evaluation to obtain current registry status.

History: Effective August 1, 1991.
General Authority: NDCC 23-01-03, 28-32-02
Law Implemented: NDCC 23-16-01, 23-17.3-08

33-07-03.1-36. Complaint appeals process for nurse aides on the state registry.

1. Nurse aides against whom allegations of abuse, neglect, or theft of resident funds or property are made must be:

   a. Informed by the department of the allegations;

   b. Informed of the investigation results; and

   c. Provided the opportunity to request a hearing to rebut the charges.

2. If a hearing is requested, the department will apply to the North Dakota attorney general's office for appointment of a hearing officer. The department will notify the complainant and the accused of the date set for the hearing. If no hearing is requested, the department will submit information specific to validated allegations to the registry.

3. The hearing officer will conduct the hearing and prepare recommended findings of fact and conclusions of law, as well as a recommended order. If, through the department's investigation process, there is evidence abuse, neglect, or theft of resident funds or property has occurred, the department shall notify appropriate law enforcement officials.

4. Allegations validated by the department or through the hearing process of abuse, neglect, or theft of resident funds or property by a nurse aide, must:

   a. Be identified in the nurse aide registry within thirty days of the finding; and

b. Remain in the registry for a minimum of five years.

5. The department shall provide the nurse aid against whom an allegation has been validated, with a copy of all information which will be maintained in the registry within thirty days following the addition of the information to the registry.

6. Within thirty days of mailing the notification of a finding adverse to a nurse aide, the nurse aide may contact the department and correct any misstatements or inaccuracies in the information being maintained by the registry on that individual.

7. Any medicare or medicaid participating nursing facility, home health agency, hospital, ombudsman, or any other representative of an official agency with a need to know may receive information contained in the registry by making a written request.

History: Effective August 1, 1991.
General Authority: NDCC 28-32-02(1)
Law Implemented: NDCC 23-01-03

33-07-04.1-06. Nursing unit.

1. Resident rooms. Each resident room must include the following:

   a. Grade level. No resident room may be located on a floor unless a portion of it is at or above grade level and no resident room may have any part of its floor more than thirty inches [76.2 centimeters] below the adjacent grade.

   b. Resident rooms must have adequate space to conveniently house necessary furniture and equipment to provide for efficient resident care and to provide for convenient movement of stretchers and for the transfer of residents to and from beds. See subdivision b of subsection 3 of section 33-07-03.1-01.

   c. Multibed rooms must be designed to permit no more than two beds side-by-side parallel to the window wall nor more than four beds per room. Floor area must be consistent with space requirements established by definitions. See subdivision b of subsection 3 of section 33-07-03.1-01.

   d. Window. Sill may not be higher than three feet [0.91 meters] above the floor and must be above grade. Each resident's room must be an outside room with a satisfactory amount of natural light. The area of the glazing material in the windows must be not less than one-tenth of the floor area of the room served by them.

e. Nurses' calling stations must be at each resident sleeping location.

f. Lavatory. In single and two-bed rooms, the lavatory may be located in a private toilet room.

g. Wardrobe or closet for each resident. Minimum clear dimensions: one foot ten inches [0.56 meters] deep by one foot eight inches [0.51 meters] wide with full-length hanging space; provide clothes rod, and shelf or drawers.

h. Cubicle curtains, or equivalent built-in devices, for privacy for each resident in multibed rooms.

i. No resident room may be located more than one hundred twenty feet [36.58 meters] from the nurses' station, the clean workroom, and the soiled workroom.

2. Service areas in each nursing unit. The size of each service area will depend on the number and types of beds within the unit. Although identifiable spaces are required for each of the indicated functions, consideration will be given to multiple-use design solutions which provide equal areas. Details of such proposals must be submitted for prior approval. Service areas may be arranged and located to serve more than one nursing unit, but at least one such service area must be provided on each nursing floor unless otherwise noted. A nursing unit may not exceed sixty beds and must include the following:

a. Nurses' station. For nurses' charting, doctors' charting, communications, storage for supplies, handwashing facilities, and chart racks.

b. Nurses' toilet room. Convenient to nurses' station.

c. Clean workroom. For storage and assembly of supplies for nursing procedures; must contain work counter, storage cabinets, and sink. Provide adequate circulation space.

d. Soiled workroom. Must contain clinical sink, two compartment sink, work counter, two waste receptacles, and soiled linen receptacles. Provide adequate circulation space.

e. Drug distribution station. Provision must be made for prompt, twenty-four hour availability of medicine for residents. <u>This may be done in a medicine preparation room, from a self-contained medicine dispensing unit, or other approved systems.</u>

(1) ~~This may be done in a medicine preparation room, from a self-contained medicine dispensing unit, or other~~

~~approved systems.~~ If used, the medicine preparation room must be a separate lockable room located for control from the nurses' station. It must contain a work counter with sink, refrigerator, and locked storage for controlled drugs, and must have a minimum area of fifty square feet [4.65 square meters].

(2) A medicine dispensing unit, if used, may be located at the nurses' station in the clean workroom, in an alcove, or in other space convenient for staff control. It must be adequately secured to preclude unauthorized removal. A medicine dispensing unit must contain all the characteristics of a medicine preparation room.

f. Clean linen storage. A separate closet, or designated area, within the clean workroom must be provided. Exception: if a closed cart system is used, storage may be in a separate room where staff control can be assured.

g. Nourishment station. For serving nourishments between meals, it must contain a refrigerator, food heating device, storage cabinets, and a sink. Ice for residents' consumption must be provided by icemaker/dispenser units. The nourishment station must provide space for trays and dishes used in nonscheduled meal service.

h. Equipment storage room. For storage of air mattresses, walkers, and similar bulky equipment.

i. Resident bathing facilities. Provide a minimum of one bathing fixture for each fifteen beds not served by bathing facilities at resident rooms. Provide at least one bathing fixture on each floor. Each bathtub or shower must be in an individual room or enclosure (cubicle curtains) which provide space for private use of the bathing fixture. Provide at least one shower at least four feet [1.22 meters] square without curbs designed for use by wheelchair residents and arranged to accommodate assistance by staff. Provide a water closet in the central bath area.

j. Stretcher and wheelchair parking area or alcove.

k. Janitor's closet. Size and location to be determined by the design of the facility. Floor receptors must be provided for each closet.

l. Visiting room. Appropriately furnished, where residents may visit privately with relatives, clergy, etc.

m. Examination room. This may be omitted if all resident rooms are single bedrooms. It must have a minimum floor

area of one hundred twenty square feet [11.15 square meters]. It must contain a lavatory or sink equipped for handwashing, a work counter, storage facilities, and a desk, counter, or shelf for writing. The examination room may be in a central location to serve more than one floor or nursing unit, or both.

n. Lockers or compartments. In or near the nurses' station for the safekeeping of staff personal effects, such as handbags and other valuables.

o. Bedpan cleaning and sanitizing facilities. In addition to the facilities provided in the resident toilet room, bedpan cleaning and sanitizing facilities must be provided for each nursing floor. This may be located in the soiled workroom. Type and installation must minimize acoustical disturbance to residents.

3. Resident toilet rooms. A toilet room must be directly accessible from each resident room without going through the general corridor. One toilet room may serve two resident rooms but not more than four beds. (The lavatory may be omitted from the toilet room if one is provided in each resident room.)

a. The minimum dimensions for any room containing only a water closet must be three feet [0.91 meters] by six feet [1.83 meters].

b. Water closets must be usable by wheelchair residents; grab bars must be provided at all water closets.

c. Doors to toilet rooms must have a minimum width of two feet ten inches [0.86 meters] to admit a wheelchair.

d. At least one room must be provided for toilet training. This must be accessible from the nursing corridor and may serve the bathing area and must provide at least three feet [0.91 meters] clearance at the front and ~~sides~~ each side of the water closet.

History: Effective December 1, 1986; amended effective August 1, 1991.
General Authority: NDCC 23-01-03, 28-32-02
Law Implemented: NDCC 23-16-01, 28-32-02

33-07-04.1-18. Mechanical requirements.

1. Incinerators must comply with chapter 33-15-14 and must be designed for type four wastes.

2. Steam and hot water systems.

a. Boilers must have the capacity, based upon the published steel boiler institute or institute of boiler and radiator manufacturers' net ratings, to supply the normal requirements of all systems and equipment. The number and arrangement of boilers must be such that when one boiler breaks down or when routine maintenance requires that one boiler be temporarily taken out of service, the capacity of the remaining boiler or boilers must be seventy percent of the total required capacity.

b. Boiler accessories. Boiler feed pumps, condensate return pumps, fuel oil pumps, and circulating pumps must be connected and installed to provide standby service when any pump breaks down.

c. Valves. Supply and return mains and risers of space heating and process steam systems must be valved to isolate the various sections of each system. Each piece of equipment must be valved at the supply and return end, except condensate lines.

d. Boilers must be constructed and installed in accordance with boiler law, the rules adopted and enforced by the North Dakota workers compensation bureau pursuant to North Dakota Century Code sections 28-32-02 and 28-32-03. Boilers must also comply with chapter 33-15-14.

3. Insulation.

a. Insulation, including finishes and adhesives on the exterior surfaces of ducts and equipment, must have a flame spread rating of twenty-five or less and a smoke developed rating of fifty or less as determined by an independent testing laboratory in accordance with NFPA 258. The smoke development rating for pipe insulation may not exceed one hundred fifty.

b. Linings in air ducts and equipment must meet the erosion test method described in underwriters laboratories, inc., publication number 181. These linings, including coatings, adhesives, and insulation on exterior surfaces of pipes and ducts and building spaces used as air supply plenums, must have a flame spread rating of twenty-five or less and a smoke developed rating of fifty or less as determined by an independent testing laboratory in accordance with NFPA 258.

c. Asbestos insulation may not be used. Insulation of soft-type, spray-on, etc., may not be used where it is subject to air or mechanical erosion or where loose particles may create a maintenance problem.

d. Existing insulation of facilities to be modernized must be inspected, repaired, and replaced as appropriate.

4. Air-conditioning, heating, and ventilating systems. Air-conditioning in long-term care facilities is optional.

a. A minimum temperature of seventy-five degrees Fahrenheit [23.89 degrees Celsius] must be provided for all occupied areas at winter design conditions.

b. All air supply and air exhaust systems must be mechanically operated. Exception: gravity exhaust may be used in nonresident areas and in areas not normally occupied by staff such as boilerrooms.

c. All fans serving exhaust systems must be located at or near the point of discharge from the building. A ceiling exhaust fan may be used to ventilate a single isolated toilet room in an existing facility when a central exhaust system is not readily available.

d. Outdoor ventilation air intakes, other than for individual room units, must be located as far away as practicable but not less than twenty-five feet [7.62 meters] from the exhausts from any ventilating system, vent, or combustion equipment. The bottom of outdoor intakes serving central air systems shall be located as high as possible, but not less than six feet [1.83 meters] above the ground level or, if installed through the roof, three feet [.91 meters] above roof level.

e. The ventilation systems must be designed and balanced to provide the general pressure relationship to adjacent areas shown in the ventilation table.

f. Room supply air inlets, recirculation, and exhaust air outlets must be located not less than three inches [76.20 millimeters] above the floor.

g. Corridors may not be used to supply air to or exhaust air from any room, except that exhaust air from corridors may be used to ventilate rooms such as bathrooms, toilet rooms, or janitor's closets which open directly on corridors.

h. Access for maintenance must be provided at all dampers. Smoke dampers must be equipped with remote control reset devices. However, manual reopening will be permitted where dampers are located for convenient access.

i. Boilerrooms must be provided with sufficient outdoor air to maintain equipment combustion rates and to limit work station temperatures to an effective temperature.

j. Number of air changes may be reduced when the room is unoccupied if provisions are made to ensure that the required number of air changes indicated is reestablished at any time the space is being utilized, and that required air pressure relationships are being maintained.

k. Unit ventilators may be used to ventilate individual rooms in existing facilities, and in additions to existing facilities not to exceed six beds. Such ventilators may only be used when a central ventilation system is unaccessible. Unit ventilators must be equipped with a filter having an efficiency of at least thirty percent.

5. Filters.

a. All central ventilation or air-conditioning systems must be equipped with filters having efficiencies no less than those specified in the following table:

TABLE 1

Area Designation	Minimum Number of Filter Beds	Filter Efficiencies (Percent) Main Filter Bed
Resident care, treatment, diagnostic, and related areas	1	~~30~~ 80
Food preparation areas and laundries	1	~~30~~ 25
Administrative, bulk storage and soiled holding areas	1	25

b. The filter must be located upstream of the air-conditioning equipment, unless a prefilter is employed. In this case, the prefilter must be upstream of the equipment, and the main filter bed may be located further downstream.

c. All filter efficiencies must be average atmospheric dust spot efficiencies tested in accordance with ASHRAE standard 52-76.

d. Filter frames must be durable and carefully dimensioned and must provide an airtight fit with the enclosing ductwork. All joints between filter segments and the

enclosing ductwork must be gasketed or sealed to provide a positive seal against air leakage.

e. A manometer must be installed across each filter bed serving central air systems.

6. Exhaust hoods.

a. Exhaust hoods in food preparation center must have an exhaust rate of not less than fifty cubic feet [1.41 cubic meters] per minute per square foot of face area. Face area is defined for this purpose of the open area from the exposed perimeter of the hood to the average perimeter of the cooking surfaces. Cleanout openings must be provided every twenty feet [6.10 meters] in horizontal ducts exhausting kitchen hoods.

b. All hoods over cooking ranges must be equipped with grease filters, fire extinguishing systems, and heat actuated fan controls.

TABLE 2

PRESSURE RELATIONSHIPS AND VENTILATION OF CERTAIN AREAS OF LONG-TERM CARE FACILITIES

Area Designation	Pressure Relationship To Adjacent Areas	Minimum Air Changes of Outdoor Air Per Hour Supplied to Room	Minimum Total Air Changes Per Hour Supplied to Room	All Air Exhausted Directly to Outdoors
Resident room	E	2	2	Optional
Resident dining	E	2	2	Optional
Resident activities	E	2	2	Optional
Resident area corr.	E	Optional	2	Optional
Examination and treatment room	E	2	4	Optional
Physical therapy	N	2	4	Optional
Occupational				

therapy	E	2	4	Optional
Soiled workroom or soiled holding	N	2	6	Yes
Clean workroom or clean holding	P	2	4	Optional
Toilet room	N	Optional	10	Yes
Bathroom	N	Optional	10	Yes
Janitor's closet(s)	N	Optional	10	Yes
Sterilizer equipment room	N	Optional	10	Yes
Linen trash and chute room	N	Optional	10	Yes
Food preparation center	E	2	10	Optional
Warewashing room	N	Optional	10	Yes
Dietary day storage	V	Optional	2	Optional
Laundry, general	V	2	10	Yes
Soiled linen sorting and storage	N	Optional	10	Yes
Clean linen storage	P	Optional	2	Optional

All long-term care facilities built after December 1, 1986, must install central ventilating systems.

P = Positive N = Negative E = Equal V = Variable

---

7. Plumbing and other piping systems.

   a. Plumbing and piping systems must comply with the North Dakota state plumbing code.

   b. Systems must be designed to supply water to the fixtures and equipment on the upper floors at a minimum pressure of

fifteen pounds per square inch [6.80 kilograms per 6.45 square centimeters] during maximum demand periods.

c. Each water service main, branch main, riser, and branch to a group of fixtures must be valved. Stop valves must be provided at each fixture. Removable panels must be provided at all valves for access.

d. Hot water distribution systems must be arranged to provide hot water at each fixture at all times.

e. The hot water heating equipment must have sufficient capacity to supply the water at the temperatures and amounts indicated below:

TABLE 3

	Clinical	Dietary	Laundry
Gallons/hour/bed	3	3	3
Maximum temperatures	125° F	---	---
~~Maximum~~ Minimum temperatures	---	180° F	160° F

f. Dishwashing machines which rely on hot water for sanitizing must have final rinse water at one hundred eighty degrees Fahrenheit [82.22 degrees Celsius]. Machines which use chemicals for sanitizing are permitted, provided the temperature of the wash water must be at least one hundred twenty degrees Fahrenheit [48.89 degrees Celsius]; however, one hundred forty to one hundred sixty degrees Fahrenheit [60 to 71.11 degrees Celsius] is recommended. Utensils and equipment must be exposed to final chemical sanitizing rinse in accordance with the manufacturers' specifications for time and concentration.

g. Storage tank or tanks must be provided and must be fabricated of corrosion-resistant materials.

h. Building sewers must discharge into a community sewage system. Where such a system is not available, a facility providing sewage treatment which conforms to applicable local and department regulations is required.

i. All piping including heating, ventilation, gas, vacuum, and air-conditioning, except control line tubing must be color coded or otherwise marked for an easy identification. All valves must be tagged. Color and

valve schedules must be provided to the facility for permanent record and reference.

8. Plumbing fixtures and trim.

   a. The material used for plumbing fixtures must be nonabsorptive acid-resistant material.

   b. All lavatories and sinks required in resident care areas shall have the water supply spout mounted so that its discharge point is a minimum distance of five inches [12.7 centimeters] above the rim of fixtures. All fixtures must be trimmed with valves which can be operated without the use of hands. Where blade handles are used for this purpose, they may not exceed four and one-half inches [11.43 centimeters] in length, except that handles on clinical sinks may be not less than six inches long [15.24 centimeters].

   c. Clinical sinks must have an integral trap in which the upper portion of a visible trap seal provides a water surface.

   d. Backflow preventers (vacuum breakers) must be installed on hose bibs and on all fixtures to which hoses or tubing can be attached such as janitor's sinks and bedpan flushing attachments.

   e. Flush valves installed on plumbing fixtures must be of a quiet operating type, equipped with silencers.

   f. In skilled nursing facilities, bedpan flushing devices must be provided in not less than half of the resident toilet rooms and in the soiled workroom. Rough-in plumbing for bedpan flushing devices in the remaining resident toilet rooms are required.

   g. In intermediate care facilities, bedpan flushing devices must be provided in not less than twenty-five percent of all resident toilet rooms. Plumbing rough-in for bedpan flushing devices in the remaining resident toilet rooms is required.

   h. Showers and tubs must have nonslip surfaces for residents.

   i. All showers must include pressure balancing valves.

History: Effective December 1, 1986; amended effective August 1, 1991.
General Authority: NDCC 23-01-03, 28-32-02
Law Implemented: NDCC 23-16-01, 28-32-02

33-17-01-02. Definitions. For the purpose of this chapter the following definitions shall apply:

1. "Best available technology" or "BAT" means the best technology, treatment techniques, or other means which the department finds, after examination for efficacy under field conditions and not solely under laboratory conditions, are available (taking cost into consideration). For the purposes of setting maximum contaminant levels for synthetic organic chemicals, any best available technology must be at least as effective as granular activated carbon.

2. "Community water system" means a public water system which serves at least fifteen service connections used by year-round residents or regularly serves at least twenty-five year-round residents.

3. "Confluent growth" means a continuous bacterial growth covering the entire filtration area of a membrane filter, or a portion thereof, in which bacterial colonies are not discrete.

4. "Contaminant" means any physical, chemical, biological, or radiological substance or matter in water.

5. "Cross connection" means any connection or arrangement between two otherwise separate piping systems, one of which contains potable water and the other either water of unknown or questionable safety or steam, gas, or chemical whereby there may be a flow from one system to the other, the direction of flow depending on the pressure differential between the two systems.

6. "Department" means the North Dakota state department of health and consolidated laboratories.

7. "Disinfectant" means any oxidant, including, but not limited to, chlorine, chlorine dioxide, chloramines, and ozone added to water in any part of the treatment or distribution process, that is intended to kill or inactivate pathogenic ~~micro-organisms~~ microorganisms.

8. "Domestic or other nondistribution system plumbing problem" means a coliform contamination problem in a public water system with more than one service connection that is limited to the specific service connection from which the coliform-positive sample was taken.

9. "Ground water under the direct influence of surface water" means any water beneath the surface of the ground with significant occurrence of insects or other macroorganisms, algae, or large-diameter pathogens such as ~~Giarda~~ Giardia lamblia, or significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity,

or pH which closely correlate to climatological or surface water conditions.

10. "Gross alpha particle activity" means the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample.

11. "Halogen" means one of the chemical elements chlorine, bromine, or iodine.

12. "Maximum contaminant level" means the maximum permissible level of a contaminant in water which is delivered to the free flowing outlet of the ultimate user of a public water system, except in the case of turbidity where the maximum permissible level is measured at the point of entry to the distribution system. Contaminants added to the water under circumstances controlled by the user except those resulting from corrosion of piping and plumbing caused by water quality are excluded from this definition.

13. "Maximum total trihalomethane potential" means the maximum concentration of total trihalomethanes produced in a given water containing a disinfectant residual after seven days at a temperature of twenty-five degrees Celsius [77 degrees Fahrenheit] or above.

14. "Near the first service connection" means at one of the twenty percent of all service connections in the entire system that are nearest the water supply treatment facility as measured by water transport time within the distribution system.

15. "Noncommunity water system" means a public water system that is not a community system and primarily provides service to transients.

16. "Nontransient noncommunity water system" means a public water system that is not a community water system and that regularly serves at least twenty-five of the same persons over six months per year.

17. "Person" means an individual, corporation, company, association, partnership, municipality, or any other entity.

18. "Potable water" means water free from impurities in amounts sufficient to cause disease or harmful physiological effects, with the physical, chemical, biological, or radiological quality conforming to applicable maximum permissible contaminant levels.

19. "Public water system" means a system for the provision to the public of piped water for human consumption, if such system has at least fifteen service connections or regularly serves at least twenty-five individuals. A public water system is

either a "community", a "nontransient noncommunity", or a "noncommunity" water system.

20. "Sampling schedule" means the frequency required for submitting drinking water samples to a certified laboratory for examination.

21. "Sanitary survey" means an onsite review of the water source, facilities, equipment, operation, and maintenance of a public water system for the purpose of evaluating the adequacy of such source, facilities, equipment, operation, and maintenance for producing and distributing safe drinking water.

22. "Supplier of water" means any person who owns or operates a public water system.

23. "System with a single service connection" means a system which supplies drinking water to consumers with a single service line.

24. "Too numerous to count" means that the total number of bacterial colonies exceeds two hundred on a forty-seven millimeter membrane filter used for coliform detection.

25. "Total trihalomethanes" means the sum of the concentration in milligrams per liter of the trihalomethane compounds (trichloromethane [chloroform], dibromochloromethane, bromodichloromethane and tribromomethane [bromoform]), rounded to two significant figures.

26. "Trihalomethane" means one of the family of organic compounds, named as derivatives of methane, wherein three of the four hydrogen atoms in methane are each substituted by a halogen atom in the molecular structure.

27. "Water system" means all sources of water and their surroundings and shall include all structures, conducts, and appurtenances by means of which the water is collected, treated, stored, or delivered.

History: Amended effective December 1, 1982; July 1, 1988; December 1, 1990; August 1, 1991.
General Authority: NDCC 61-28.1-03
Law Implemented: NDCC 61-28.1-02, 61-28.1-03

33-17-01-11. Microbiological sampling and monitoring requirements.

1. Routine monitoring.

   a. General. Suppliers of water for public water systems shall collect routine samples for total coliform bacteria

analysis at sites which are representative of the water throughout the distribution system according to a written sample siting plan. The plan is subject to department review and revision.

The routine samples must be collected at regular time intervals throughout the month except that systems using ground water not under the direct influence of surface water, as determined by the department, serving four thousand nine hundred people or less may collect all of the required samples on a single day if the samples are collected from different sites.

At the discretion of the department, systems that use surface water or ground water under the direct influence of surface water that do not filter in compliance with title 40, Code of Federal Regulations, part 141, subpart H, shall collect at least one sample for total coliform bacteria analysis each day that the turbidity level of the source water exceeds one ~~nephlelometric~~ nephelometric turbidity unit. The sample must be collected near the first service connection within twenty-four hours of the first exceedance unless the department determines that the system, due to logistical or other problems beyond its control, cannot have the sample analyzed within thirty hours of collection. The sample results must be included in determining compliance with the maximum contaminant levels for total coliform bacteria.

b. Community water systems. Suppliers of water for community water systems shall sample for total coliform bacteria at a frequency established by the department. The number of samples required must be determined by the population served by the system and in no event may the frequency be less than that set forth below. The population range of twenty-five to one thousand includes public water systems which have at least fifteen service connections but that serve less than twenty-five persons.

POPULATION SERVED	MINIMUM NUMBER OF SAMPLES PER MONTH
25 to 1,000	1
1,001 to 2,500	2
2,501 to 3,300	3
3,301 to 4,100	4
4,101 to 4,900	5
4,901 to 5,800	6
5,801 to 6,700	7
6,701 to 7,600	8
7,601 to 8,500	9
8,501 to 12,900	10

12,901	to 17,200	15
17,201	to 21,500	20
21,501	to 25,000	25
25,001	to 33,000	30
33,001	to 41,000	40
41,001	to 50,000	50
50,001	to 59,000	60
59,001	to 70,000	70
70,001	to 83,000	80
83,001	to 96,000	90
96,001	to 130,000	100

Community water systems using a ground water source serving twenty-five to one thousand persons may, with written permission from the department, reduce this sampling frequency to one sample per quarter provided that:

(1) The system has no history of total coliform contamination in its current configuration; and

(2) A sanitary survey conducted by the department in the past five years shows that the system is supplied solely by a protected ground water source that is free of sanitary defects.

c. Noncommunity water systems. Suppliers of water for noncommunity water systems using only ground water, and not ground water under the direct influence of surface water, serving one thousand people or less shall sample for total coliform bacteria in each calendar quarter that the system provides water to the public. The department may, in writing, reduce this routine monitoring frequency to no less than once per year based on sanitary survey results, accumulated analytical data, or the existence of additional safeguards such as a protective and enforced well code, disinfection, or an approved wellhead protection program. The frequency must be confirmed or changed based on subsequent sanitary surveys or data. The frequency may not be reduced until:

(1) A sanitary survey conducted by the department shows that the system is free of sanitary defects; and

(2) The system has performed at least one total coliform bacteria analysis of its drinking water and is in compliance with the microbiological maximum contaminant levels.

Suppliers of water for noncommunity water systems using only ground water, and not ground water under the direct influence of surface water, serving more than one thousand people during any month, shall sample for total coliform

bacteria at the same frequency as like-sized community water systems. With written permission from the department, noncommunity water systems may reduce this monitoring frequency for any quarter that one thousand people or less are served. The reduced frequency must be one total coliform bacteria sample in each calendar quarter that water is provided to the public.

Suppliers of water for noncommunity water systems using ground water under the direct influence of surface water shall sample for total coliform bacteria at the same frequency as like-sized community water systems. Monitoring must begin within six months after the department determines that the ground water is under the direct influence of surface water.

Suppliers of water for noncommunity water systems using surface water, in total or in part, shall sample for total coliform bacteria at the same frequency as like-sized community water systems regardless of the number of people served.

2. Repeat monitoring.

a. General. Suppliers of water for public water systems shall collect a set of repeat samples for total coliform bacteria analysis for each total coliform-positive routine sample.

Systems which collect more than one routine sample per month shall collect at least three repeat samples for each routine sample that is total coliform-positive. Systems which collect one routine sample per month or less shall collect at least four repeat samples for each routine sample that is total coliform-positive.

Systems may, with the approval of the department, count routine samples as repeat samples rather than routine samples provided that:

(1) The routine samples are collected within five service connections of the initial total coliform-positive sample; and

(2) The routine samples are collected before the system learns that the initial sample was total coliform-positive.

b. Repeat monitoring time period. The required set of repeat samples must be collected within twenty-four hours of notification by the department of the total coliform-positive result. The department may specify a longer time limit if it determines that the system cannot

collect the repeat samples within twenty-four hours due to logistical or other problems beyond its control.

The repeat samples must be collected on the same day except that the department may allow systems with a single service connection to:

(1) Collect the required set of repeat samples over a four-day period; or

(2) Collect a larger volume repeat sample in one or more sample containers of any size as long as the total volume collected is at least four hundred milliliters for systems that collect one or less routine sample per month and three hundred milliliters for systems that collect more than one routine sample per month.

c. Repeat monitoring location. The repeat samples must be collected at the following locations:

(1) At least one repeat sample must be collected from the original sampling tap that was total coliform-positive.

(2) At least one repeat sample must be collected from a tap within five service connections upstream of the original total coliform-positive sampling tap.

(3) At least one repeat sample must be collected from a tap within five service connections downstream of the original total coliform-positive sampling tap.

(4) Systems required to collect four repeat samples shall collect the fourth repeat sample within five service connections upstream or downstream of the original total coliform-positive sampling tap.

The department may waive the requirement to collect at least one repeat sample upstream and downstream of the original total coliform-positive sampling site and specify alternate sampling locations if the original sampling site is at or one away from the end of the distribution system.

d. Additional sets of repeat samples. If one or more samples in the set of required repeat samples is total coliform-positive, an additional set of repeat samples must be collected meeting the same time and location requirements as for the original set of repeat samples.

Additional sets of repeat samples must be collected until no total coliform bacteria are detected in one complete set or the department determines that the maximum contaminant level for total coliform bacteria has been

exceeded. The supplier of water shall report to the department and notify the public when a maximum contaminant level is exceeded.

3. **Next-month samples.** Suppliers of water for public water systems that collect four or fewer routine samples per month that have one or more total coliform-positive routine or repeat samples shall collect at least five routine samples the next month that water is provided to the public. The department may waive this requirement only if one of the following conditions ~~are~~ is met:

   a. The department or an agent approved by the department, but not an employee of the system, conducts an onsite visit before the end of the next month that the system serves water to the public and determines that additional monitoring or corrective action is not warranted.

   b. The department, in a written decision made available to the public, determines why total coliform-positive samples occurred and establishes that the system has corrected or will correct the problem before the end of the next month that water is served to the public.

   c. The department invalidates the original total coliform-positive routine sample.

   Routine total coliform bacteria samples normally collected the next month that water is provided to the public may be counted towards the set of five routine samples required the next month.

4. **Fecal coliform or E.coli analysis.** Suppliers of water for public water systems shall analyze each total coliform-positive routine or repeat sample for either fecal coliform bacteria or E.coli.

   Systems shall notify the department by the end of the business day, or by the end of the next business day if the department offices are closed, once notified of a positive fecal coliform bacteria or E.coli result.

5. **Invalidation of total coliform samples.**

   a. Invalidation by the department. The department may invalidate a total coliform-positive sample only if one of the following conditions ~~are~~ is met:

      (1) The laboratory establishes that the total coliform-positive result was caused by improper sample analysis.

(2) The department determines, based upon the results of the required repeat samples, that the total coliform-positive sample resulted from a domestic or other nondistribution system problem. This provision applies only to systems that have more than one service connection and only if:

(a) All repeat samples collected at the same tap as the original total coliform-positive sample are also total coliform-positive; and

(b) All repeat samples collected within five service connections of the original total coliform-positive sample tap are total coliform-negative.

(3) The department, in a written decision made available to the public, determines that substantial grounds exist to indicate that the coliform-positive result was due to a circumstance or condition not reflective of the water quality in the distribution system. Invalidation must be based on the absence of total coliform-positive repeat samples and other factors as determined by the department. Invalidation may not be based solely on the grounds that all required repeat samples are total coliform-negative.

Total coliform-positive samples invalidated by the department may not count towards meeting the minimum monitoring requirements. Department invalidation of a total coliform-positive sample nullifies subsequent fecal coliform or E.coli results for the same sample.

b. Invalidation by the laboratory. All total coliform bacteria samples examined by the department or by any other laboratory certified by the department must be invalidated, unless total coliform bacteria are detected, if:

(1) The sample produces a turbid culture in the absence of gas production using an analytical technique where gas formation is examined;

(2) The sample produces a turbid culture in the absence of an acid reaction in the presence-absence coliform test; or

(3) The sample exhibits confluent growth or produces colonies too numerous to count with an analytical technique using a membrane filter.

Suppliers of water for public water systems shall collect a replacement sample for total coliform bacteria analysis

from the same location as the original sample if the original sample is invalidated by the department or any other laboratory certified by the department. Replacement samples must be collected within twenty-four hours of notification by the department and submitted for analysis until a valid result is obtained. The department may waive the twenty-four-hour time limit on a case-by-case basis.

6. Sanitary surveys.

   a. Coverage and effective dates. Community and noncommunity water systems that collect four or less routine total coliform bacteria samples per month shall undergo an initial sanitary survey by June 29, 1994, and June 29, 1999, respectively.

   b. Repeat frequency. Community and noncommunity water systems shall undergo an additional sanitary survey every five years following the initial sanitary survey, except that noncommunity water systems using only protected and disinfected ground water, as determined by the department, shall undergo subsequent sanitary surveys at least every ten years following the initial sanitary survey.

   c. Responsibilities. Sanitary surveys must be performed by the department or an agent approved by the department. Information collected on sources of contamination within a delineated wellhead protection area during the development and implementation of an approved wellhead protection program, if available, must be considered when conducting sanitary surveys.

      The department shall review the sanitary survey results to determine if increased monitoring for total coliform bacteria or other measures are needed to protect or improve drinking water quality.

      Community and noncommunity water systems are responsible for ensuring that the required sanitary surveys are conducted.

History: Amended effective December 1, 1982; July 1, 1988; December 1, 1990; August 1, 1991.
General Authority: NDCC 61-28.1-03
Law Implemented: NDCC 61-28.1-03

33-17-01-13. Reporting and public notification.

1. Reporting requirements. Except where a shorter reporting period is specified, the system shall report to the department the result of any test, measurement, or analysis required

within the first ten days following the month in which the results are received or the first ten days following the end of the required monitoring period as stipulated by the department, whichever of these is shorter.

The system shall notify the department within forty-eight hours of the failure to comply with any primary drinking water regulations including failure to comply with monitoring requirements, except that failure to comply with the maximum contaminant levels for total coliform bacteria must be reported to the department no later than the end of the next business day after the system learns of the violation.

The system is not required to report analytical results to the department in cases where the department performed the analysis.

The system shall, within ten days of completion of each public notification required, submit to the department a representative copy of each type of notice distributed, published, posted, or made available to the persons served by the system or to the media.

The system shall submit to the department, within the time stated in the request, copies of any records required to be maintained by the department or copies of any documents then in existence which the department is entitled to inspect under the provisions of state law.

2. Public notification.

   a. Maximum contaminant level, treatment technique, and variance and exemption schedule violations. A public water system which fails to comply with an applicable maximum contaminant level or an established treatment technique or which fails to comply with the requirements of any schedule prescribed pursuant to a variance or exemption shall notify persons served by the system as follows:

      (1) By publication in a daily newspaper of general circulation in the area served by the system as soon as possible, but in no case later than fourteen days after notification of the violation or failure. If the area served by the system is not served by a daily newspaper of general circulation, notice must instead be given by publication in a weekly newspaper of general circulation serving the area;

      (2) By mail delivery, or by hand delivery, not later than forty-five days after the violation or failure. The department may waive mail or hand delivery if it determines that the system has corrected the

violation or failure within the forty-five-day period; and

(3) For violations of the maximum contaminant levels ~~of contaminants~~ for nitrate and total coliform bacteria, when fecal coliforms or E. coli are present in the water distribution system, that may pose an acute risk to human health, by furnishing a copy of the notice to the radio and television stations serving the area served by the system as soon as possible, but in no case later than seventy-two hours after receiving notification of the violation or failure.

A public water system must give notice at least once every three months by mail delivery or by hand delivery for as long as the violation or failure exists.

A community water system in an area that is not served by a daily or weekly newspaper of general circulation or a noncommunity water system must give notice within fourteen days after notification of the violation or failure by hand delivery or by continuous posting in conspicuous places within the area served by the system. Posting must continue for as long as the violation or failure exists.

b. Other violations, variances, and exemptions. A public water system which fails to perform required monitoring, fails to complete required sanitary surveys, fails to comply with an established testing procedure, is granted a variance, or is granted an exemption shall notify persons served by the system as follows:

(1) By publication in a daily newspaper of general circulation in the area served by the system within three months after notification of the violation or grant. If the area served by the system is not served by a daily newspaper of general circulation, notice shall instead be given by publication in a weekly newspaper of general circulation serving the area.

(2) A public water system must give notice at least once every three months by mail delivery or by hand delivery for as long as the violation exists or the variance or exemption is in existence.

(3) A community water system in an area that is not served by a daily or weekly newspaper of general circulation or a noncommunity water system must give notice within three months after notification of the violation or grant by hand delivery or by continuous

posting in conspicuous places within the area served by the system. Posting must continue for as long as the violation exists or the variance or exemption remains in effect.

c. Notice to new billing units. A community water system must give a copy of the most recent public notice for any outstanding violation of any maximum contaminant level, or any treatment technique requirement, or any variance or exemption schedule to all new billing units or new hookups prior to or at the time service begins.

d. General notice content. Each notice must provide a clear and readily understandable explanation of the violation, any potential adverse health effects, the population at risk, the steps that the public water system is taking to correct such violation, the necessity for seeking alternative water supplies, if any, and any preventive measures the consumer should take until the violation is corrected. Each notice must be conspicuous and may not contain unduly technical language, unduly small print, or similar problems that frustrate the purpose of the notice. Each notice must include the telephone number of a designee of the public water system as a source of additional information concerning the notice.

e. Mandatory health effects language. When providing the information on potential adverse health effects required in notices of violations of maximum contaminant levels or treatment technique requirements, or notices of the granting or the continued existence of variances or exemptions, or notices of failure to comply with a variance or exemption schedule, the public water system shall include specific contaminant language <u>set forth under title 40, Code of Federal Regulations, part 141, section 32, paragraph E, and</u> available from the department for the following contaminants:

(1) Trichloroethylene.

(2) Carbon tetrachloride.

(3) 1,2-Dichloroethane.

(4) Vinyl chloride.

(5) Benzene.

(6) 1,1-Dichloroethylene.

(7) para-Dichlorobenzene.

(8) 1,1,1-Trichloroethane.

(9) Fluoride.

(10) Total coliform bacteria.

(11) Fecal coliform bacteria or E.coli.

f. Notification by the department. Notice to the public required by this section may be given by the department on behalf of the system.

History: Amended effective December 1, 1982; July 1, 1988; December 1, 1990; August 1, 1991.
General Authority: NDCC 61-28.1-03
Law Implemented: NDCC 61-28.1-03, 61-28.1-05

33-17-01-15. Variance and exemption.

1. Variance. The department may not authorize a variance to a public water system from the microbiological maximum contaminant level requirements. The department may authorize a variance to a public water system from any other maximum contaminant level ~~except the microbiological maximum contaminant levels~~ when:

   a. The raw water sources which are available to a system cannot meet the maximum contaminant level despite application of the best technology, treatment techniques, or other means which the department finds are generally and reasonably available, taking cost into consideration. The department hereby identifies the following as the best technology, treatment techniques, or other means generally available for achieving compliance with the maximum contaminant level for volatile synthetic organic chemicals: central treatment using packed tower aeration; central treatment using granular activated carbon for all these chemicals except vinyl chloride;

   b. The concentration of the contaminant will not result in unreasonable risk to health; and

   c. Within one year of the date of variance authorization, a schedule for compliance is issued and under which the system agrees to implement such schedule.

2. Exemption. The department may not exempt a public water system from the microbiological maximum contaminant level requirements. The department may exempt a public water system from any other maximum contaminant level or treatment technique requirement, or from both, upon finding that:

a. Due to compelling factors, including economic, the system is unable to comply with such maximum contaminant level or treatment technique;

b. The system was in operation on the effective date of such maximum contaminant level or treatment technique regulation;

c. The granting of the exemption will not result in an unreasonable risk to health; and

d. Within one year of the date of exemption authorization, a schedule for compliance is issued and the system agrees to implement such schedule.

3. Procedure.

a. Action to consider a variance or exemption may be initiated by the department or by the system through a written request submitted to the department.

b. Prior to authorization of a variance or a compliance schedule for a variance, the department shall provide notice and opportunity for a public hearing on that proposed variance or compliance schedule for a variance.

c. Prior to authorization of a compliance schedule for an exemption, the department shall provide notice and opportunity for a public hearing on the proposed compliance schedule for an exemption.

History: Amended effective December 1, 1982; July 1, 1988; December 1, 1990; August 1, 1991.
General Authority: NDCC 61-28.1-03
Law Implemented: NDCC 61-28.1-03, 61-28.1-05

SEPTEMBER 1991

33-06-05-01. Requirements.

1. Definitions. As used in this section:

   a. "Institution" includes all day care and child care facilities, head start programs, nursery schools, public and private kindergartens, and elementary and high schools operating in North Dakota.

   b. "Institution authority" means anyone designated by the governing body of an institution.

2. Minimum requirements.

   a. Minimum requirements for children attending day care and child care facilities, head start programs, and nursery schools shall be three inoculations of diphtheria, pertussis, and tetanus vaccine, three doses of oral poliomyelitis vaccine, and one dose each of measles, mumps, and rubella ~~(German measles)~~ (MMR) vaccine if given after fifteen months of age. Each child must also be adequately immunized for Haemophilus influenzae type b disease at the age-appropriate schedule recommended by the state department of health and consolidated laboratories with a vaccine approved by the food and drug administration (FDA).

   b. Minimum requirements for children attending kindergartens and elementary and high schools shall be four inoculations of diphtheria, pertussis, and tetanus vaccine, four doses of oral poliomyelitis vaccine, and one dose each of measles, mumps, and rubella ~~(German measles)~~ (MMR) vaccine if given after fifteen months of age. A second dose of

measles, mumps, and rubella (MMR) vaccine is required for school entry into kindergarten or first grade.

c. Exception to these minimum requirements for those children who do not start immunizations at the recommended time shall be determined by an authorized representative of the state department of health and consolidated laboratories.

3. Recordkeeping and reporting. Records and reports prescribed by the state department of health and consolidated laboratories shall be completed and submitted in accordance with instructions on the forms furnished by the state department of health and consolidated laboratories.

   a. Certificates of immunization must be presented to the designated institution authority before any child is admitted to an institution. The original must be maintained in the child's school record. The copy must be retained by the parent or guardian.

   b. The school immunization summary report and the record of inadequately immunized children must be submitted to the state department of health and consolidated laboratories by October first of each year.

4. Appointment of an institution authority.

   a. An institution authority shall be appointed for each institution by its governing board or authorized personnel. He or she shall be an employee of such institution.

   b. The name of the designated institution authority, the institution, address, and telephone number shall be submitted to the state department of health and consolidated laboratories, immunization division, by July first of each year.

5. Children admitted to school in the process of receiving immunizations. Any child admitted to school under the provision that such child is in the process of receiving the required immunizations shall be required to receive the immunizations according to the recommended schedule set forth by the state department of health and consolidated laboratories. Any child not adhering to the recommended schedule shall be promptly excluded from school.

History: Amended effective November 1, 1979; September 1, 1991.
General Authority: NDCC 23-01-03
Law Implemented: NDCC 23-07-17.1

DECEMBER 1991

STAFF COMMENT: Chapter 33-03-25 contains all new material but is not underscored so as to improve readability.

CHAPTER 33-03-25
ALTERNATIVE HEALTH CARE SERVICES PROJECTS

33-03-25-01. Definitions.

1. "Alternative health care services pilot project" means any health care service subject to licensure or certification by the department in which the state health council must waive any existing North Dakota law or rule in order for the project to be developed or operated. This may include, but not be limited to, state laws or rules governing the standards of practice regulating health professionals such as physicians, nurses, pharmacists, or other health professionals; changes in state tax laws, health care reimbursement through state programs, health facility and health program standards, and other changes judged appropriate by the council. The intent of the alternative health care services pilot project is to

provide a means for testing new and experimental ways of providing health care services.

2. "Council" means the state health council.

3. "Department" means the state department of health and consolidated laboratories.

4. "Waiver" means that applicable state laws or rules relative to the creation or operation of a pilot project providing alternative health care services do not need to be met for a period of time as specified by the council, but not exceeding the duration of the approved pilot project.

History: Effective December 1, 1991.
General Authority: NDCC 23-01-04.3
Law Implemented: NDCC 23-01-04.3

33-03-25-02. Term of pilot project. The term of the project must begin on the date of the council's initial approval. Any project approved by the council must be for a term of up to one year with renewals for a maximum term of five years.

History: Effective December 1, 1991.
General Authority: NDCC 23-01-04.3
Law Implemented: NDCC 23-01-04.3

33-03-25-03. Process.

1. Forms for applying as a pilot project must be available from the department. Completed applications must be submitted to the department.

2. The department shall review the application within sixty days of its receipt. The review must evaluate the project for compliance with section 33-30-25-05 and with federal and state laws and rules. Following its review, the department shall send the application and review to the council. Upon submission of the application to the council, the department shall issue notices of a public hearing on the application.

   a. The notice must be at least thirty days prior to the public hearing and must appear in the official newspaper of each county served by the pilot project.

   b. At the same time the department issues the notice of a public hearing, the notice and a copy of the application must be sent to public or private agencies or boards that have been identified by the department as having a responsibility for licensure, certification, or regulation of people or programs directly affected by the proposed

project and to any other person requesting a copy of the application or notice.

c. The public hearing must occur at the next regularly scheduled council meeting.

3. The council shall make a decision on the application within one hundred eighty days after the public hearing.

History: Effective December 1, 1991.
General Authority: NDCC 23-01-04.3
Law Implemented: NDCC 23-01-04.3

33-03-25-04. Criteria. Criteria to be considered must include:

1. The number of people who will be served.

2. The size of the geographical area, its location, and its designation as a health professional shortage area.

3. Evidence that the project will contain the cost of health care and provide a high quality of care.

4. Evidence that the project provides financial and geographical access to needed health care services.

5. Evidence that the project is primary care focused with referral and emergency provisions.

6. Evidence of unmet health care needs which require the waivers requested.

History: Effective December 1, 1991.
General Authority: NDCC 23-01-04.3
Law Implemented: NDCC 23-01-04.3

33-03-25-05. Standards.

1. Unless waived by the council, a pilot project must be in compliance with all state laws and rules.

2. Each pilot project must maintain safety and quality associated with the provision of health care services.

3. Personnel operating or providing health services must be competent and knowledgeable in terms of the services provided.

4. Backup personnel must be available to provide emergency medical assistance.

5. The physical plant must be appropriate for the services provided.

History: Effective December 1, 1991.
General Authority: NDCC 23-01-04.3
Law Implemented: NDCC 23-01-04.3

33-03-25-06. Report from pilot project. As a condition of approval, the applicant must agree to report at least quarterly to the department and provide information specified by the council and department.

History: Effective December 1, 1991.
General Authority: NDCC 23-01-04.3
Law Implemented: NDCC 23-01-04.3

33-03-25-07. Onsite review and continued approval. The department shall conduct an onsite review following initiation of the pilot project and at least one annual unannounced onsite review to evaluate the pilot project. Based on the onsite reviews and other information, the department shall provide an annual report to the council on each pilot project. Based on its review and other information, the council shall renew its approval of the pilot project, require modification of the pilot project, or deny continued operation of the pilot project.

History: Effective December 1, 1991.
General Authority: NDCC 23-01-04.3
Law Implemented: NDCC 23-01-04.3

33-03-25-08. Council report. The council shall provide a written report of its findings concerning each pilot project and will make recommendations to the next legislative assembly concerning any necessary changes in North Dakota statutes.

History: Effective December 1, 1991.
General Authority: NDCC 23-01-04.3
Law Implemented: NDCC 23-01-04.3

33-03-25-09. Termination. Any project may be terminated at any time by the council or at the request of the legal agent of the project. The council may base its decision upon evidence that people have been or will be harmed by further operation or use of the pilot project, upon evidence that the project is excessively costly to operate or use, upon evidence that the project is not meeting its expressed purpose or meeting the needs of the people served, or upon other evidence considered by the council sufficient to justify termination. Discontinuance of a pilot project must be accomplished in an orderly fashion in a timeframe and manner approved by the department.

History: Effective December 1, 1991.
General Authority: NDCC 23-01-04.3
Law Implemented: NDCC 23-01-04.3

STAFF COMMENT: Chapter 33-03-26 contains all new material but is not underscored so as to improve readability.

CHAPTER 33-03-26
ORGAN TRANSPLANT SUPPORT FUND

33-03-26-01. Selection process. Prior to the end of each biennium, the state health officer shall use the following procedure to select the private nonprofit patient-oriented organization incorporated in North Dakota which will administer grant moneys distributed from the organ transplant support fund provided for by the fifty-second legislative assembly in house bill no. 1499. Selection of the initial grant administrator must be made prior to January 1, 1992.

1. At least thirty days before the deadline for receipt of proposals, an advertisement must be placed in each daily newspaper in North Dakota. The advertisement must run at least once per week for two weeks. Facilities within North Dakota which perform transplants and individuals who have contacted the department in writing requesting a copy of the advertisement must also be mailed a copy of the advertisement at least thirty days prior to the deadline for receipt of proposals.

2. The advertisement must include the date for submission of proposals, a general description of the requirements necessary to meet the qualifications set forth in section 33-03-26-02 and the statutory requirements, where a copy of the specific requirements can be obtained, and a summary of the procedure to be used in making the selection.

3. Prior to submitting an advertisement, the state health officer shall establish a selection committee of five people consisting of the state health officer, two North Dakota transplant recipients, a representative selected by the North Dakota insurance commissioner, and a member of the staff of the department of human services who is familiar with the medicaid program.

4. Upon receipt, the selection committee shall review and award from one to ten points for each qualification identified in section 33-03-26-02. The three applicants with the highest

total score must be invited for a personal interview with the selection committee.

5. At the personal interview, the selection committee shall again score each applicant on each qualification on a scale from one to ten. The applicant with the highest total score, based only on the personal interview, must be offered the contract to administer grant moneys from the organ transplant support fund. If the offer is refused, the applicant with the second highest score must be offered the contract. If the second highest scoring applicant refuses to enter the contract, it must be offered to the third highest scoring applicant. If all three of the highest scoring applicants refuse to accept, the selection process will be reconducted beginning with a readvertisement. The requirement that the grant administrator be selected prior to the beginning of the biennium does not apply if the selection process must be redone. If the selection process is not completed prior to the end of the biennium and completion of the contract with the existing grant administrator, the existing grant administrator shall continue to administer the grant program in accordance with the existing contract.

History: Effective December 1, 1991.
General Authority: NDCC 23-01-05.1
Law Implemented: NDCC 23-01-05.1

33-03-26-02. Qualifications. The entity selected as the private nonprofit patient-oriented organization incorporated in North Dakota for administration of grants from the organ transplant support fund must be selected based upon the following:

1. Whether the organization meets the requirements of section 1 of 1991 house bill no. 1499. If the requirements of this subsection are not met, the organization may not be selected.

2. Whether the organization has a volunteer board of directors which has members representing transplant centers, medical social workers, transplant recipients, medical personnel, accountants, and attorneys.

3. Whether the organization is structured to allow for expeditious decisions.

4. Whether the organization is structured to avoid or minimize administrative costs so they do not exceed ten percent of available grant moneys.

5. Whether the organization's bylaws or structure provide that no part of the fund may be used for the benefit of the directors; and provide a mechanism to assure board members who may have a

conflict are not able to vote or influence the board's decision on the matter on which a conflict exists.

6. Whether the organization has a demonstrated ability to raise funds from other sources.

7. Whether the organization has corporate goals which focus on patient needs associated with transplants.

8. The length of time the organization has been in existence.

History: Effective December 1, 1991.
General Authority: NDCC 23-01-05.1
Law Implemented: NDCC 23-01-05.1

33-24-01-04. Definitions. As used in this article the following words have the meaning ascribed to them unless otherwise made inappropriate by use and context.

1. "Aboveground tank" means a device meeting the definition of "tank" in this section and that is situated in such a way that the entire surface area of the tank is completely above the plane of the adjacent surrounding surface and the entire surface area of the tank (including the tank bottom) is able to be visually inspected.

2. "Act" means North Dakota Century Code chapter 23-20.3.

3. "Active life" of a facility means the period from the initial receipt of hazardous waste at the facility until the department receives certification of final closure.

4. "Active portion" means that portion of a facility where treatment, storage, or disposal operations are being or have been conducted after the effective date of the Act and which is not a closed portion. (See also "closed portion" and "inactive portion".)

5. "Ancillary equipment" means any device including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps, that is used to distribute, meter, or control the flow of hazardous waste from its point of generation to storage or treatment tanks, between hazardous waste storage and treatment tanks to a point of disposal onsite, or to a point of shipment for disposal offsite.

6. "Aquifer" means a geologic formation, group of formations, or part of a formation capable of yielding a significant amount of ground water to wells or springs.

7. "Authorized representative" means the person responsible for the overall operation of a facility or an operational unit

(i.e., part of a facility), e.g., the plant manager, superintendent, or person of equivalent responsibility.

8. "Boiler" means an enclosed device using controlled flame combustion and:

   a. Boilers must have the following characteristics:

      (1) The unit must have physical provisions for recovering and exporting thermal energy in the form of steam, heated fluids, or heated gases;

      (2) The unit combustion chamber and primary energy recovery sections must be of integral design. To be of integral design, the combustion chamber and the primary energy recovery sections (such as waterwalls and superheaters) must be physically formed into one manufactured or assembled unit. A unit in which the combustion chamber and the primary energy recovery sections are joined only by ducts or connections carrying flue gas is not integrally designed; however, secondary energy recovery equipment (such as economizers or air preheaters) need not be physically formed into the same unit as the combustion chamber and the primary energy recovery section. The following units are not precluded from being boilers solely because they are not of integral design: Process heaters (units that transfer energy directly to processed steam), and fluidized bed combustion units;

      (3) While in operation, the unit must maintain a thermal energy recovery efficiency of at least sixty percent, calculated in terms of the recovered energy compared with the thermal value of the fuel; and

      (4) The unit must export and utilize at least seventy-five percent of the recovered energy, calculated on an annual basis. In this calculation, no credit should be given for recovered heat used internally in the same unit. (Examples of internal use are the preheating of fuel or combustion air, and the driving of induced or forced draft fans or feedwater pumps); or

   b. The unit is one which the department has determined, on a case-by-case basis, to be a boiler, after considering the standards of section 33-24-01-11.

9. "Certification" means a statement of professional opinion based on knowledge and belief.

10. "Closed portion" means that portion of a facility which an owner or operator has closed in accordance with the approved facility closure plan and all applicable closure requirements. (See also "active portion" and "inactive portion".)

11. "Component" means either the tank or ancillary equipment of a tank system.

12. "Confined aquifer" means an aquifer bounded above and below by impermeable beds or by beds of distinctly lower permeability than that of the aquifer itself; an aquifer containing confined ground water.

13. "Constituent" or "hazardous waste constituent" means a constituent that caused the department to list the hazardous waste in chapter 33-24-02, or a constituent listed in Table 1 of section 33-24-02-14.

14. "Container" means any portable device in which a material is stored, transported, treated, disposed of, or otherwise handled.

15. "Contingency plan" means a document setting out an organized, planned, and coordinated course of action to be followed in case of a fire, explosion, or release of hazardous waste or hazardous waste constituents which could threaten human health or the environment.

16. "Corrosion expert" means a person who, by reason of his knowledge of the physical sciences and the principles of engineering and mathematics, acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. Such a person must be certified as being qualified by the national association of corrosion engineers or be a registered professional engineer who has certification or licensing that includes education and experience in corrosion control on buried or submerged metal piping systems and metal tanks.

17. "Department" means the North Dakota state department of health and consolidated laboratories.

18. "Designated facility" means a hazardous waste treatment, storage, or disposal facility which ~~has received a hazardous waste permit, or a facility with interim status, as defined by Resource Conservation and Recovery Act, or a facility which qualifies for treatment as having been issued a permit under North Dakota Century Code section 23-20.3-05, or that is regulated under subdivision b of subsection 3 of section 33-24-02-06 or section 33-24-05-230, and has been designated on the manifest by the generator pursuant to section 33-24-03-04.~~:

a. Has received a permit (or interim status) in accordance with the requirements of chapters 33-24-06 and 33-24-07;

b. Has received a permit (or interim status) from a state authorized in accordance with 40 Code of Federal Regulations, part 271; or

c. Is regulated under subdivision b of subsection 3 of section 33-24-02-06 or sections 33-24-05-230 through 33-24-05-234; and

d. That has been designated on the manifest by the generator pursuant to section 33-24-01-06. If a waste is destined to a facility in an authorized state which has not yet obtained authorization to regulate that particular waste as hazardous, then the designated facility must be a facility allowed by the receiving state to accept such waste.

19. "Dike" means an embankment or ridge of either natural or manmade materials used to prevent the movement of liquids, sludges, solids, or other materials.

20. "Discharge" or "hazardous waste discharge" means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying, or dumping of hazardous waste into or on any land or water.

21. "Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid or hazardous waste into or on any land or water including ground water.

22. "Disposal facility" means a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which wastes will remain after closure.

23. "Elementary neutralization unit" means a device which:

a. Is used for neutralizing wastes ~~which~~ that are hazardous ~~wastes~~ only because they exhibit the corrosivity characteristic defined in section 33-24-02-12, or are listed in chapter 33-24-02 only for this reason; and

b. Meets the definition of tank, tank systems, container, transport vehicle, or vessel.

24. "Equivalent method" means any testing or analytical method approved by the department under sections 33-24-01-06 and 33-24-01-07.

25. "Existing hazardous waste management facility" or "existing facility" means a facility which was in operation, or for

which construction commenced on or before July 1, 1981. A facility has commenced construction if:

a. The owner or operator has obtained all necessary federal, state, and local approvals or permits necessary to begin physical construction; and

b. Either of the following:

(1) A continuous onsite, physical construction program has begun; or

(2) The owner or operator has entered into contractual obligations, which cannot be canceled or modified without substantial loss, for physical construction of the facility to be completed within a reasonable time.

26. "Existing portion" means that land surface area of an existing waste management unit, included in part A of the permit application, as originally filed, on which wastes have been placed prior to the issuance of a permit.

27. "Existing tank system" or "existing component" means a tank system or component that is used for the storage or treatment of hazardous waste and that is in operation, or for which installation has commenced on or prior to July 14, 1986. Installation will be considered to have commenced if the owner or operator has obtained all federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the tank system and if either (1) a continuous onsite physical construction or installation program has begun, or (2) the owner or operator has entered into contractual obligations, which cannot be canceled or modified without substantial loss, for physical construction of the site or installation of the tank system to be completed within a reasonable time.

28. "Facility" means all contiguous land, and structures, other appurtenances, and improvements on the land, used for treating, storing, or disposing of hazardous waste. A facility may consist of several treatment, storage, or disposal operational units, e.g., one or more landfills, surface impoundments, or combinations of them.

29. "Federal agency" means any department, agency, or other instrumentality of the federal government, any independent agency or establishment of the federal government including any government corporation, and the government printing office.

30. "Federal, state, and local approvals or permits necessary to begin physical construction" means permits and approvals

required under federal, state, or local hazardous waste control statutes, regulations, or ordinances.

31. "Final closure" means the closure of all hazardous waste management units at the facility in accordance with all applicable closure requirements so that hazardous waste management activities under chapter 33-24-05 are no longer conducted at the facility unless subject to the provisions in section 33-24-03-12.

32. "Food-chain crops" means tobacco, crops grown for human consumption, and crops grown for feed for animals whose products are consumed by humans.

33. "Freeboard" means the vertical distance between the top of a tank or surface impoundment dike and the surface of the waste contained therein.

34. "Free liquids" means liquids which readily separate from the solid portion of a waste under ambient temperature and pressure.

35. "Generator" means any person, by site, whose act or process produces hazardous waste identified or listed in chapter 33-24-02 or whose act first causes a hazardous waste to become subject to regulation.

36. "Ground water" means water below the land surface in a zone of saturation.

37. "Hazardous waste" means a hazardous waste as defined in chapter 33-24-02.

38. "Hazardous waste constituent". See "constituent".

39. "Hazardous waste management unit" is a contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system, and a container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed.

40. "Hazardous waste number" means the number assigned to each hazardous waste identified in chapter 33-24-02.

41. "Identification number" means the number assigned by the environmental protection agency and the department to each generator, transporter, and treatment, storage, or disposal facility.

42. "Inactive portion" means that portion of a facility which is not operated after the effective date of this chapter. (See also "active portion" and "closed portion".)

43. "Incinerator" means any enclosed device using controlled flame combustion that neither meets the criteria for classification as a boiler nor is listed as an industrial furnace.

44. "Incompatible waste" means a hazardous waste which is unsuitable for:

    a. Placement in a particular device or facility because it may cause corrosion or decay of containment materials, e.g., container inner liners or tank walls; or

    b. Commingling with another waste or material under uncontrolled conditions because the commingling might produce heat or pressure, fire or explosion, violent reaction, toxic dust, mists, fumes, or gases, or flammable fumes or gases.

45. "Industrial furnace" means any of the following enclosed devices that are integral components of manufacturing processes and that use controlled flame devices to accomplish recovery of material for energy:

    a. Cement kilns.

    b. Lime kilns.

    c. Aggregate kilns.

    d. Phosphate kilns.

    e. Coke ovens.

    f. Blast furnaces.

    g. Smelting, melting, and refining furnaces (including pyrometallurgical devices such as cupolas, reverberator furnaces, sintering machine, roasters, and foundry furnaces).

    h. Titanium dioxide chloride process oxidation reactors.

    i. Methane reforming furnaces.

    j. Pulping liquor recovery furnaces.

    k. Combustion devices used in the recovery of sulfur values from spent sulfuric acid.

1. Such other devices as the department may, after notice and comment, add to this list on the basis of one or more of the following factors:

   (1) The design and use of the device primarily to accomplish recovery of material products;

   (2) The use of the device to burn or reduce raw materials to make a material product;

   (3) The use of a device to burn or reduce secondary materials as effective substitutes for raw materials, in processes using raw materials as principal feed stock;

   (4) The use of a device to burn or reduce secondary materials as ingredients in an industrial process to make a material product;

   (5) The use of a device in common industrial practice to produce a material product; and

   (6) Other factors, as appropriate.

46. "Individual generation site" means the contiguous site at or on which one or more hazardous wastes are generated. An individual generation site, such as a large manufacturing plant, may have one or more sources of hazardous waste, but is considered a single or individual generation site if the site or property is contiguous.

47. "Inground tank" means a device meeting the definition of a "tank" in this section whereby a portion of the tank wall is situated to any degree within the ground, thereby preventing visual inspection of that external surface area of the tank that is in the ground.

48. "In operation" refers to a facility which is treating, storing, or disposing of hazardous waste.

49. "Injection well" means a well into which fluids are injected. (See also "underground injection".)

50. "Inner liner" means a continuous layer of material placed inside a tank or container which protects the construction materials of the tank or container from the contained waste or reagents used to treat the waste.

51. "Installation inspector" means a person who, by reason of his knowledge of the physical sciences and the principles of engineering, acquired by a professional education and related practical experience, is qualified to supervise the installation of tank systems.

52. "International shipment" means the transportation of hazardous waste into or out of the jurisdiction of the United States.

53. "Landfill" means a disposal facility or part of a facility where hazardous waste is placed in or on land and which is not a pile, a land treatment facility, a surface impoundment, ~~or~~ an underground injection well, a salt dome formation, a salt bed formation, an underground mine, or a cave.

54. "Landfill cell" means a discrete volume of a hazardous waste landfill which uses a liner to provide isolation of wastes from adjacent cells or wastes. Examples of landfill cells are trenches and pits.

55. "Land treatment facility" means a facility or part of a facility at which hazardous waste is applied onto or incorporated into the soil surface; such facilities are disposal facilities if the waste will remain after closure.

56. "Leachate" means any liquid, including any suspended components in the liquid, that have percolated through or drained from hazardous waste.

57. "Leak detection system" means a system capable of detecting the failure of either the primary or secondary containment structure or the presence of a release of hazardous waste or accumulated liquid in the secondary containment structure. Such a system must employ operational controls (e.g., daily visual inspections for releases into the secondary containment system of aboveground tanks) or consist of an interstitial monitoring device designed to detect continuously and automatically the failure of the primary or secondary containment structure or the presence of a release of hazardous waste into the secondary containment structure.

58. "Liner" means a continuous layer of natural or manmade materials beneath or on the sides of a surface impoundment, landfill, or landfill cell, which restricts the downward or lateral escape of hazardous waste, hazardous waste constituents, or leachate.

59. "Major facility" means any facility classified as such by the environmental protection agency in conjunction with the department.

60. "Management" or "hazardous waste management" means the systematic control of the collection, source separation, storage, transportation, processing, treatment, recovery, and disposal of hazardous waste.

61. "Manifest" means the shipping document uniform hazardous manifest environmental protection agency form 8700-22 and, if necessary, environmental protection agency form 8700-22a,

originated and signed by the generator in accordance with instructions included in the appendix to chapter 33-24-03.

62. "Manifest document number" means the state environmental protection agency twelve-digit identification number assigned to the generator, plus a unique five-digit document number assigned to the uniform hazardous waste manifest by the generator for recording and reporting purposes.

63. "Mining overburden returned to the minesite" means any material overlying an economic mineral deposit which is removed to gain access to that deposit and is then used for reclamation of a surface mine.

64. "Miscellaneous unit" means a hazardous waste management unit where hazardous waste is treated, stored, or disposed of and that is not a container, tank, surface impoundment, pile, land treatment unit, landfill, incinerator, boiler, industrial furnace, underground injection well with appropriate technical standards under 40 Code of Federal Regulations, part 146, or unit eligible for a research, development, and demonstration permit under section 33-24-06-20.

65. "Movement" means that hazardous waste transported to a facility in an individual vehicle.

~~65.~~ 66. "Municipality" means a city, county, district, association, or other public body created by or pursuant to state law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes.

~~66.~~ 67. "New hazardous waste management facility" or "new facility" means a facility which began operation, or for which construction commenced, after July 1, 1981. (See also "existing hazardous waste management facility".)

~~67.~~ 68. "New tank system" or "new tank components" means a tank system or component that will be used for the storage or treatment of hazardous waste and for which installation has commenced after July 14, 1986; except, however, for purposes of subdivision b of subsection 7 of section 33-24-05-106, a new tank system is one for which construction commences after July 14, 1986. (See also "existing tank system".)

~~68.~~ 69. "Onground tank" means a device meeting the definition of "tank" in this section and that is situated in such a way that the bottom of the tank is on the same level as the adjacent surrounding surface so that the external tank bottom cannot be visually inspected.

~~69.~~ 70. "Onsite" means the same or geographically contiguous property which may be divided by public or private right of way, provided the entrance and exit between the properties is at a

crossroads intersection, and access is by crossing, as opposed to going along, the right of way. Noncontiguous property owned by the same person, but connected by a right of way which that person controls and to which the public does not have access is also considered onsite property.

~~70.~~ 71. "Open burning" means the combustion of any material without the following characteristics:

a. Control of combustion air to maintain adequate temperature for efficient combustion;

b. Containment of the combustion reactions in an enclosed device to provide sufficient residence time and mixing for complete combustion; and

c. Control of emission of the gaseous combustion products. (See also "incineration" and "thermal treatment".)

~~71.~~ 72. "Operator" means the person responsible for the overall operation of a facility.

~~72.~~ 73. "Owner" means the person who owns a facility or part of a facility.

~~73.~~ 74. "Partial closure" means the closure of a hazardous waste management unit in accordance with the applicable closure requirements of chapter 33-24-05 at a facility that contains other active hazardous waste management units. For example, partial closure may include the closure of a tank (including its associated piping and underlying containment systems), landfill cell, surface impoundment, waste pile, or other hazardous waste management unit, while other units of the same facility continue to operate.

~~74.~~ 75. "Person" means an individual, trust, firm, joint stock company, federal agency, corporation (including a government corporation), partnership, association, state, municipality, commission, political subdivision of a state, or any interstate body.

~~75.~~ 76. "Personnel" or "facility personnel" means all persons who work at, or oversee the operation of, a hazardous waste facility, and whose actions or failure to act may result in noncompliance with the requirements of chapter 33-24-05 or 40 CFR part 265, if applicable.

~~76.~~ 77. "Pile" means any noncontainerized accumulation of solid, nonflowing hazardous waste that is used for treatment or storage.

~~77.~~ 78. "Point source" means any discernible, confined, and discrete conveyance, including any pipe, ditch, channel, tunnel,

conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.

~~78.~~ 79. "Publicly owned treatment works" means any device or system used in the treatment (including recycling or reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by this state or a municipality. This definition includes sewers, pipes, or other conveyances only if they convey wastewater to a publicly owned treatment works providing treatment.

~~79.~~ 80. "Representative sample" means a sample of a universe or whole, e.g., waste pile, lagoon, or ground water, which can be expected to exhibit the average properties of the universe or whole.

~~80.~~ 81. "Runoff" means any rainwater, leachate, or other liquid that drains over land from any part of a facility.

~~81.~~ 82. "Run-on" means any rainwater, leachate, or other liquid that drains over land onto any part of a facility.

~~82.~~ 83. "Saturated zone" or "zone of saturation" means that part of the earth's crust in which all voids are filled with water.

~~83.~~ 84. "Sludge" means any solid, semisolid, or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility exclusive of the treated effluent from a wastewater treatment plant.

~~84.~~ 85. "Small quantity generator" means a generator who generates less than one thousand kilograms of hazardous waste in a calendar month.

~~85.~~ 86. "Solid waste" means a solid waste as defined in section 33-24-02-02.

~~86.~~ 87. "State" means this state.

~~87.~~ 88. "Storage" means the holding of hazardous waste at a site for a temporary period, at the end of which the hazardous waste is treated, disposed of, or stored elsewhere.

~~88.~~ 89. "Sump" means any pit or reservoir that meets the definition of tank and those troughs or trenches connected to it that serve to collect hazardous waste for transport to hazardous waste storage, treatment, or disposal facilities.

~~89.~~ 90. "Surface impoundment" or "impoundment" means a facility or part of a facility which is a natural topographic depression, manmade excavation, or diked area formed primarily of earthen materials (although it may be lined with manmade materials), which is designed to hold an accumulation of liquid wastes or wastes containing free liquids, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons.

~~90.~~ 91. "Tank" means a stationary device, designed to contain an accumulation of hazardous waste, which is constructed primarily of nonearthen materials, e.g., wood, concrete, steel, or plastic, which provide structural support.

~~91.~~ 92. "Tank system" means a hazardous waste storage or treatment tank and its associated ancillary equipment and containment system.

~~92.~~ 93. "Thermal treatment" means the treatment of hazardous waste in a device which uses elevated temperatures as the primary means to change the chemical, physical, or biological character or composition of the hazardous waste. Examples of thermal treatment processes are incineration, molten salt, pyrolysis, calcination, wet air oxidation, and microwave discharge. (See also "incinerator" and "open burning".)

~~93.~~ 94. "Totally enclosed treatment facility" means a facility for the treatment of hazardous waste which is directly connected to an industrial production process and which is constructed and operated in a manner which prevents the release of any hazardous waste or any constituent thereof into the environment during treatment. An example is a pipe in which waste acid is neutralized.

~~94.~~ 95. "Transfer facility" means any transportation-related facility including loading docks, parking areas, storage areas, or other similar areas where shipments of hazardous waste are held during the normal course of transportation.

~~95.~~ 96. "Transportation" means the movement of hazardous wastes by air, rail, highway, or water.

~~96.~~ 97. "Transport vehicle" means a motor vehicle or railcar used for the transportation of cargo by any mode. Each cargo-carrying body (trailer, railroad freight car, etc.) is a separate transport vehicle.

~~97.~~ 98. "Transporter" means a person engaged in the offsite transportation of hazardous waste by air, rail, highway, or water.

99. "Treatability study" means a study in which a hazardous waste is subjected to a treatment process to determine:

a. Whether the waste is amenable to the treatment process;

b. What pretreatment (if any) is required;

c. The optimal process conditions needed to achieve the desired treatment;

d. The efficiency of a treatment process for a specific waste or wastes; or

e. The characteristics and volumes of residuals from a particular treatment process.

Also included in this definition for the purpose of subsections 5 and 6 of section 33-24-02-04 exemptions are liner compatibility, corrosion, and other material compatibility studies and toxicological and health effect studies. A "treatability study" is not a means to commercially treat or dispose of hazardous waste.

~~98.~~ 100. "Treatment" means any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste, or so as to recover energy or material resources from the waste, or so as to render such waste nonhazardous, or less hazardous; safer to transport, store, or dispose of; or amenable for recovery, amenable for storage, or reduced in volume.

~~99.~~ 101. "Treatment zone" means a soil area of the unsaturated zone of a land treatment unit within which hazardous constituents are degraded, transformed, or immobilized.

~~100.~~102. "Underground injection" means the subsurface emplacement of fluids through a bored, drilled, or driven well; or through a dug well, where the depth of the dug well is greater than the largest surface dimension. (See also "injection well".)

~~101.~~103. "Underground tank" means a device meeting the definition of "tank" in this section whose entire surface area is totally below the surface of and covered by the ground.

~~102.~~104. "Unfit for use tank system" means a tank system that has been determined through an integrity assessment or other inspection to be no longer capable of storing or treating hazardous waste without posing a threat of release of hazardous waste to the environment.

~~103.~~105. "United States" means the fifty states, the District of Columbia, the commonwealth of Puerto Rico, the Virgin Islands, Guam, American Samoa, and the commonwealth of the northern Mariana Islands.

~~104.~~106. "Unsaturated zone" or "zone of aeration" means the zone between the land surface and the water table.

~~105.~~107. "Uppermost aquifer" means the natural geologic formation nearest the natural ground surface that is an aquifer, as well as lower aquifers that are hydraulically interconnected with this aquifer within the facility's property boundary.

~~106.~~108. "Vessel" includes every description of watercraft, used or capable of being used as a means of transportation on the water.

~~107.~~109. "Wastewater treatment unit" means a device which:

a. Is part of a wastewater treatment facility which is subject to regulation under either section 402 or 307(b) of the Clean Water Act;

b. Receives and treats or stores an influent wastewater which is a hazardous waste as identified in section 33-24-02-03, or generates and accumulates a wastewater treatment sludge which is a hazardous waste as defined in section 33-24-02-03, or treats or stores a wastewater treatment sludge which is a hazardous waste as defined in section 33-24-02-03; and

c. Meets the definition of tank or tank system.

~~108.~~110. "Water (bulk shipment)" means the bulk transportation of hazardous waste which is loaded or carried onboard a vessel without containers or labels.

~~109.~~111. "Well" means any shaft or pit dug or bored into the earth, generally of a cylindrical form and often walled with bricks or tubing to prevent the earth from caving in.

~~110.~~112. "Well injection". (See "underground injection".)

~~111.~~113. "Zone of engineering control" means an area under the control of the owner/operator that, upon detection of a hazardous waste release, can be readily cleaned up prior to the release of hazardous waste or hazardous constituents to ground water or surface water.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-01-05. References. When used in this article, the following publications are incorporated by reference:

1. "ASTM Standard Test Methods for Flash Point of Liquids by Setaflash Closed Tester", ASTM Standard D-3278-78, available from the American society for testing and materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

2. "ASTM Standard Test Methods for Flash Point by Pensky-Martens Closed Tester," ASTM Standard D-93-79 or D-93-80, available from the American society for testing and materials, 1916 Race Street, Philadelphia, Pennslyvania 19103.

3. "Flammable and Combustible Liquids Code" (1977 or 1981), available from the national fire protection association, 470 Atlantic Avenue, Boston, Massachusetts 02210.

4. "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", environmental protection agency publication SW-846 ~~(third edition as amended November 1986) [The third edition of SW-846 is available from the superintendent of documents, United States government printing office, Washington, D.C., 20401, 202-783-3228 on a subscription basis]~~ (latest edition and updates).

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-01-08. Petitions to amend chapter 33-24-02 to exclude a waste produced at a particular facility.

1. Any person seeking to exclude a waste at a particular generating facility from the lists in sections 33-24-02-15 through 33-24-02-18 may petition for a regulatory amendment under this section and section 33-24-01-06. To be successful:

   a. The petitioner must demonstrate to the satisfaction of the department that the waste produced by a particular generating facility does not meet any of the criteria under which the waste was listed as a hazardous or an acutely hazardous waste; and

   b. Based on a complete application, the department must determine, where it has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste. A waste which is so excluded, however, still may be a hazardous waste by operation of sections 33-24-02-10 through 33-24-02-14.

2. The procedures in this section and section 33-24-01-06 may also be used to petition the department for a regulatory

amendment to exclude waste from paragraph 2 of subdivision b of subsection 1~~, or from~~ of section 33-24-02-03 or subsection 3 of section 33-24-02-03, a waste which is described in ~~those~~ these sections and is either a waste listed in ~~chapter 33-24-02, contains a waste listed in chapter 33-24-02, or is derived from a waste listed in chapter 33-24-02~~ sections 33-24-02-15 through 33-24-02-18, or is derived from a waste listed in sections 33-24-02-15 through 33-24-02-18. This exclusion may only be issued for a particular generating, storage, treatment, or disposal facility. The petitioner must make the same demonstration as required by subsection 1 ~~of this section, except that where~~. Where the waste is a mixture of solid waste and one or more listed hazardous wastes or is derived from one or more hazardous wastes, ~~the petitioner's~~ this demonstration ~~may~~ must be made with respect to ~~each constituent listed waste or~~ the waste mixture as a whole; analysis must be conducted for not only those constituents for which the listed waste contained in the mixture was listed as hazardous, but also for factors (including additional constitutents) that could cause the waste mixture to be a hazardous waste. A waste which is so excluded may still be a hazardous waste by operation of sections 33-24-02-10 through 33-24-02-14.

3. If the waste is listed with codes "I", "C", "R", or "E" in sections 33-24-02-15 through 33-24-02-18:

   a. The petitioner must show that the waste does not exhibit the relevant characteristics for which the waste was listed as defined in sections 33-24-02-11, 33-24-02-12, 33-24-02-13, or 33-24-02-14 using any applicable methods prescribed therein. The petitioner also must show that the waste does not exhibit any of the other characteristics defined in sections 33-24-02-11, 33-24-02-12, 33-24-02-13, or 33-24-02-14 using any applicable methods prescribed therein.

   b. Based on a complete application, the department must determine, where it has a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste. A waste which is so excluded, however, still may be a hazardous waste by operation of sections 33-24-02-10 through 33-24-02-14.

4. If the waste is listed with code "T" in sections 33-24-02-15 through 33-24-02-18:

   a. The petitioner must demonstrate that the waste:

      (1) Does not contain the constituent or constituents (as defined in appendix IV of chapter 33-24-02) that

caused the department to list the wastes, using the appropriate test methods prescribed in appendix III of chapter 33-24-02; or

(2) Containing one or more of the hazardous constituents (as defined in appendix IV of chapter 33-24-02) that caused the department to list the waste, does not meet the criterion of subdivision c of subsection 1 of section 33-24-02-09 when considering the factors used by the department in paragraphs 1 through 11 of subdivision c of subsection 1 of section 33-24-02-09 under which the waste was listed as hazardous; and

b. Based on a complete application, the department must determine where they have a reasonable basis to believe that factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste; and

c. The petitioner must demonstrate that the waste does not exhibit any characteristics defined in sections 33-24-02-11, 33-24-02-12, 33-24-02-13, and 33-24-02-14.

d. A waste which is so excluded, however, still may be a hazardous waste by operation of sections 33-24-02-10 through 33-24-02-14.

5. If the waste is listed with the code "H" in sections 33-24-02-15 through 33-24-02-18:

a. The petitioner must demonstrate that the waste does not meet the criterion of subdivision d of subsection 1 of section 33-24-02-09; and

b. Based on a complete application, the department must determine where it has a reasonable basis to believe that additional factors (including additional constituents) other than those for which the waste was listed could cause the waste to be a hazardous waste, that such factors do not warrant retaining the waste as a hazardous waste; and

c. The petitioner must demonstrate that the waste does not exhibit any of the characteristics defined in sections 33-24-02-11, 33-24-02-12, 33-24-02-13, and 33-24-02-14 using any applicable methods prescribed therein.

d. A waste which is so excluded, however, still may be a hazardous waste by operation of sections 33-24-02-10 through 33-24-02-14.

6. Reserved for listing radioactive wastes.

7. Reserved for listing infectious wastes.

8. Demonstration samples must consist of enough representative samples, but in no case less than four samples, taken over a period of time sufficient to represent the variability or the uniformity of the waste.

9. Each petition must include, in addition to the information required by subsection 2 of section 33-24-01-06:

   a. The name and address of the laboratory facility performing the sampling or tests of the wastes;

   b. The names and qualifications of the persons sampling and testing the wastes;

   c. The dates of sampling and testing;

   d. The location of the generating facility;

   e. A description of the manufacturing processes or other operations and feed materials producing the waste and an assessment of whether such processes, operations, or feed materials can or might produce a waste that is not covered by the demonstration;

   f. A description of the waste and an estimate of average and maximum monthly and annual quantities of waste covered by the demonstration;

   g. Pertinent data on and discussion of the factors delineated in the respective criterion for listing a hazardous waste where the demonstration is based on the factors in subdivision c of subsection 1 of section 33-24-02-09;

   h. A description of the methodologies and equipment used to obtain the representative sample;

   i. A description of the sample handling and preparation techniques, including techniques used for extraction, containerization, and preservation of the sample;

   j. A description of the tests performed (including results);

   k. The names and model numbers of the instruments used in performing the tests; and

   l. The following statement signed by the generator of the waste or the generator's authorized representative:

      I certify under penalty of law that I have personally examined and am familiar with the information submitted in this demonstration and all attached documents, and that,

based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

10. After receiving a petition for an exclusion, the department may request any additional information which it may reasonably require to evaluate the petition.

11. An exclusion will only apply to the waste generated at the individual facility covered by the demonstration and will not apply to wastes from any other facility.

12. The department may exclude only part of the waste for which the demonstration is submitted where it has reason to believe that variability of the waste justifies a partial exclusion.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-01-13. Additional regulation of certain hazardous waste recycling activities on a case-by-case basis. The department may decide on a case-by-case basis that persons accumulating or storing the recyclable materials described in paragraph 4 of subdivision b of subsection 1 of section 33-24-02-06 should be regulated under subsections 2 and 3 of section 33-24-02-06. The basis for this decision is that the materials are being accumulated or stored in a manner that does not protect human health and the environment because the materials or their toxic constituents have not been adequately contained, or because the materials being accumulated or stored together are incompatible. In making this decision, the department will consider the following factors:

1. The types of materials accumulated or stored and the amounts accumulated or stored;

2. The method of accumulation or storage;

3. The length of time the materials have been accumulated or stored before being reclaimed;

4. Whether any contaminants are being released into the environment or are likely to be so released; and

5. Other relevant factors. The procedures for this decision are set forth in section 33-24-01-14 of this chapter.

History: Effective October 1, 1986; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-01-14. Procedures for case-by-case regulation of hazardous waste recycling activities. The department will use the following procedures when determining whether to regulate hazardous waste recycling activities described in paragraph 4 of subdivision b of subsection 1 of section 33-24-02-06 under the provisions of subsections 2 and 3 of section 33-24-02-06 rather than under the provisions of section 33-24-05-230:

1. If a generator is accumulating the waste, the department will issue a notice setting forth the factual basis for the decision and stating that the person must comply with the applicable requirements of chapter 33-24-03. The notice will become final within thirty days, unless the person served requests a public hearing to challenge the decision. Upon receiving such a request, the department will hold a public meeting and will provide notice of the hearing to the public and allow public participation at the hearing. The department will issue a final order after the hearing stating whether or not compliance with chapter 33-24-03 is required. The order becomes effective thirty days after serving the decision unless the department specifies a later date or unless review by the department is requested. The order may be appealed to the department by any person who participated in the public hearing. The department may choose to grant or to deny the appeal. Final department action occurs when a final order is issued and department review procedures are exhausted.

2. If the person is accumulating the recyclable materials at a storage facility, the notice will state that the person must obtain a permit in accordance with all applicable provisions of chapters 33-24-06 and 33-24-07. The owner or operator of the facility must apply for a permit within no less than sixty days and no more than six months of notice, as specified in the notice. If the owner or operator of the facility wishes to challenge the department's decision, the owner or operator may do so in his or her permit application, in a public hearing held on the draft permit, or in comments filed on the draft permit, or on the notice of intent to deny the permit. The fact sheet accompanying the permit will specify the reasons for the department's determination. The question whether the department's decision was proper will remain open for consideration during the public comment period discussed under chapter 33-24-07 and in any subsequent hearing.

History: Effective October 1, 1986; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03

Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-01-15. Variances. The department may, on a case-by-case basis, grant a variance from this article upon such conditions and within such time limitations as it may prescribe provided it is no less stringent than the federal regulations, 40 CFR parts 260 through ~~270~~ 281.

History: Effective December 1, 1988; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-01-16. Availability of information. All records related to this article not specifically protected by state or federal law must be made available to the public in accordance with the following provisions:

1. Definitions. For the purposes of this article:

   a. "Record" means any document, writing, photograph, sound or magnetic recording, drawing, or other similar thing by which information has been preserved, from which the information can be retrieved and copied, and which is, was, or is alleged to be possessed by the department. The term includes informal writings (such as drafts and the like) and also includes information preserved in a form which must be translated or deciphered by machine in order to be intelligible to humans. The term includes documents and the like which were created or acquired by the department, its predecessors, its officers, and its employees by use of state funds or in the course of transacting official business. However, the term does not include materials which are legally owned by a department officer or employee in his or her purely personal capacity. Nor does the term include materials published by nonstate organizations which are readily available to the public, such as books, journals, and periodicals available through reference libraries, even if such materials are in the department's possession.

   b. "Request" means a request to inspect or obtain a copy of one or more records.

   c. "Requester" means any person who has submitted a request to the department.

2. Requests to which this section applies.

a. This section applies to any written request received by the department whether or not it cites this availability of information section.

b. Any written request to the department for existing records prepared by the department for routine public distribution, e.g., pamphlets, copies of speeches, press releases, and educational materials must be honored. No individual determination is necessary in such cases, since preparation of the records for routine public distribution itself constitutes a determination that the records are available to the public.

3. Requests which do not reasonably describe records sought. The department will make every reasonable effort to assist in the identification and description of records sought and to assist the requester in formulating his request. If a request is described in general terms (e.g., all records having to do with a certain area), the department may communicate with the requester (by telephone when practicable) with a view toward reducing the administrative burden of processing a broad request and minimizing the fees payable by the requester. Such attempts will not be used as a means to discourage requests, but rather as a means to help identify more specificity the records actually sought.

4. Time allowed for issuance of initial determination.

a. Except as otherwise provided in this section, not later than the tenth working day after the date of receipt of a request for records, the department shall issue a written determination to the requester stating which of the requested records will, and which will not, be released and the reason for any denial of a request. If the records are not known to exist or are not in the department's possession, the department shall so inform the requester. To the extent requested records which are in the department's possession are published by the department, the response may inform the requester that the records are available for inspection and where copies can be obtained.

b. The period of ten working days must be measured from the date the request is first received and logged into the department.

c. There must be excluded from the period of ten working days (or any extension thereof) any time which elapses between the date that a requester is notified by the department that his request does not reasonably identify the records sought, and the date that the requester furnishes a reasonable identification.

d. There must be excluded from the period of ten working days (or any extension thereof) any time which elapses between the date that a requester is notified by the department that prepayment or assurance of payment of fees is required, and the date the requester pays (or makes suitable arrangements to pay) such charges.

e. The department may extend the basic ten-day period established under subdivision a by a period not to exceed ten additional working days, by furnishing written notice to the requester within the basic ten-day period, stating the reasons for such extension and a date by which the office expects to be able to issue a determination. The period may be so extended only when absolutely necessary, only for the period required, and only when one or more of the following unusual circumstances require the extension:

(1) There is a need to search and collect the requested records from field facilities or other establishments that are separate from the office processing the request;

(2) There is a need to search for, collect, and appropriately examine a voluminous amount of separate and distinct records which are demanded in a single request; or

(3) There is a need for consultation, which must be conducted with all practicable speed, with another division having a substantial interest in the determination of the request.

f. Failure of the department to issue a determination within the ten-day period or any authorized extension constitutes final department action which authorizes the requester to commence an action in an appropriate state district court to obtain the records.

5. Initial denials of requests.

a. An initial denial of a request may be issued only for the following reasons:

(1) The records requested are specifically protected by state or federal law; or

(2) The records are deemed enforcement-sensitive.

b. Each initial determination which denies, in whole or in part, a request for one or more existing located records must state that the requester may appeal the initial denial by sending a written appeal to the department within thirty days of receipt of the determination.

6. Appeals from initial denials - Manner of making.

a. Any person whose request for one or more existing, located department records has been denied, in whole or in part, by an initial determination may appeal that denial by addressing a written appeal to the department.

b. An appeal should be mailed no later than thirty calendar days after the date the requester received the initial determination on the request. An untimely appeal may be treated either as a timely appeal or as a new request.

c. The appeal letter must contain a reference to the regard line, the date of initial determination, and the name and address of the person who issued the initial denial. The appeal letter must also indicate which of the records to which access was denied are the subjects of the appeal.

7. Appeal determination - By whom made. The department's legal counsel shall make one of the following legal determinations in connection with an appeal from the initial denial of a request for an existing, located record:

a. The record must be disclosed;

b. The record must not be disclosed because a statute or a provision of this section so requires; or

c. The record is exempt from mandatory disclosure but legally may be disclosed as a matter of department discretion.

8. Contents of determination denying appeal. A determination denying an appeal from an initial denial must be in writing, must state which of the exemptions apply to each requested existing record, and must state the reasons for denial of the appeal. A denial determination must also state the name and position of the department employee who directed that the appeal be denied. Such a determination must further state that the person whose request was denied may obtain de novo judicial review of the denial by complaint filed with the district court of the United States in the district in which the complainant resides, or in which the department's records are located. However, no determination denying an appeal may reveal the existence or nonexistence of records if identifying the mere fact of the existence or nonexistence of those records would reveal confidential business information, confidential personal information, or a confidential investigation. Instead of identifying the existence or nonexistence of the records, the determination must state that the appeal is denied because either the records do not exist or they are exempt from mandatory disclosure.

9. Time allowed for issuance of appeal determination.

a. Except as otherwise provided in this section, not later than the twentieth working day after the date of receipt of the informational request of an appeal from an initial denial of a request for records, the department's legal counsel shall issue a written determination stating which of the requested records (as to which an appeal was made) shall be disclosed and which shall not be disclosed.

b. The period of twenty working days must be measured from the date an appeal is first received by the department.

c. The department's legal counsel may extend the basic twenty-day period established under subdivision a by a period not to exceed ten additional working days, by furnishing written notice to the requester within the basic twenty-day period stating the reason for such extension and the date by which the office expects to be able to issue a determination. The period may be so extended only when absolutely necessary, only for the period required, and only when one or more of the following unusual circumstances require the extension:

(1) There is a need to search for and collect the records from field facilities or other establishments that are separate from the office processing the appeal;

(2) There is need to search for, collect, and appropriately examine a voluminous amount of separate and distinct records which are demanded in a single request; or

(3) There is a need for consultation, which must be conducted with all practicable speed, with another division having a substantial interest in the determination of the request.

d. No extension of the twenty-day period shall be issued under subdivision c which would cause the total of all such extensions to exceed ten working days.

10. Failure to decide on appeal by deadline. Failure to decide if an appealed record must be disclosed by the deadline imposed in this section constitutes final agency action and the requester's right to judicial review.

11. Fees - Payments - Waiver.

a. Fees will be charged requesters for searching for and producing requested records in accordance with department policy.

b. Reduction or waiver of fee. The fee chargeable under department policy must be reduced or waived by the department if the department determines that a waiver or reduction of the fee is in the public interest because furnishing the information can be considered as primarily benefiting the general public. Reduction or waiver of fees must be considered (need not necessarily be granted) in connection with each request from a representative of the press or other communications medium or from a public interest group.

History: Effective December 1, 1991.
General Authority: NDCC 23-30.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-02-03. Definition of hazardous waste.

1. A solid waste, as defined in section 33-24-02-02, is a hazardous waste if:

   a. It is not excluded from regulation as a hazardous waste under subsection 2 of section 33-24-02-04; and

   b. It meets any of the following criteria:

      (1) It exhibits any of the characteristics of hazardous waste identified in ~~this chapter~~ sections 33-24-02-10 through 33-24-02-14 except that any mixture of a waste from the extraction, beneficiation, and processing of ores and minerals excluded under subdivision g of subsection 2 of section 33-24-02-04 and any other solid waste exhibiting a characteristic of hazardous waste under sections 33-24-02-10 through 33-24-02-14 only if it exhibits a characteristic that would not have been exhibited by the excluded waste alone if such mixture had not occurred or if it continues to exhibit any of the characteristics exhibited by the nonexcluded wastes prior to mixture. Further, for the purposes of applying the extraction procedure toxicity characteristic to such mixtures, the mixture is also a hazardous waste if it exceeds the maximum concentration for any contaminant listed in table 1 to section 33-24-02-14 that would not have been exceeded by the excluded waste alone if the mixture had not occurred or if it continues to exceed the maximum concentration for any contaminant exceeded by the nonexempt waste prior to the mixture.

      (2) It is listed in this chapter and has not been excluded from the lists in this chapter under sections 33-24-01-06 and 33-24-01-08.

(3) It is a mixture of a solid waste and a hazardous waste that is listed in ~~this chapter~~ sections 33-24-02-15 through 33-24-02-18 solely because it exhibits one or more of the characteristics of hazardous waste identified in ~~this chapter~~ sections 33-24-02-10 through 33-24-02-14, unless the ~~resulting~~ resultant mixture no longer exhibits any characteristic of hazardous waste identified in ~~this chapter~~ sections 33-24-02-10 through 33-24-02-14 or unless the solid waste is excluded from regulation under subdivision g of subsection 2 of section 33-24-02-04 and the resultant mixture no longer exhibits any characteristic of hazardous waste identified in sections 33-24-02-10 through 33-24-02-14 for which the hazardous waste listed in sections 33-24-02-15 through 33-24-02-18 was listed.

(4) It is a mixture of solid waste and one or more hazardous wastes listed in this chapter and has not been excluded from this paragraph under sections 33-24-01-06 and 33-24-01-08; however, the following mixtures of solid wastes and hazardous wastes listed in this chapter are not hazardous wastes (except by application of paragraph 1 or 2 of subdivision b of subsection 1) if the generator can demonstrate that the mixture consists of wastewater the discharge of which is subject to regulation under subsections 18 and 19, or 25 of North Dakota Century Code section 61-28-04 (including wastewater at the facilities which have eliminated the discharge of wastewater) and:

(a) One or more of the following spent solvents listed in section 33-24-02-16 - carbon tetrachloride, tetrachloroethylene, trichloroethylene - provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed one part per million;

(b) One or more of the following spent solvents listed in section 33-24-02-16 - methylene chloride, 1,1,1-trichloroethane, chlorobenzene, o-dichlorobenzene, cresols, cresylic acid, nitrobenzene, toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, spent chlorofluorocarbon solvents - provided that the maximum total weekly usage of these solvents (other than the amounts that can be demonstrated

not to be discharged to wastewater) divided by the average weekly flow of wastewater into the headworks of the facility's wastewater treatment or pretreatment system does not exceed twenty-five parts per million;

(c) One of the following wastes listed in section 33-24-02-17 - heat exchanger bundle cleaning sludge from the petroleum refining industry (environmental protection agency hazardous waste number K050);

(d) A discarded chemical commercial product, or chemical intermediate listed in section 33-24-02-18, arising from de minimus losses of these materials from manufacturing operations in which these materials are used as raw materials or are produced in the manufacturing process. For purposes of this subparagraph, "de minimus" losses include those from normal material handling operations, e.g., spills from the unloading or transfer of materials from bins or other containers and leaks from pipes, valves, or other devices used to transfer materials; minor leaks of process equipment, storage tanks or containers; leaks from well-maintained pump packings and seals; sample purgings; relief device discharges; discharges from safety showers and rinsing and cleaning of personal safety equipment; and rinsate from empty containers or from containers that are rendered empty by that rinsing; or

(e) Wastewater resulting from laboratory operations containing toxic (T) wastes listed in this chapter, provided that the annualized average flow of laboratory wastewater does not exceed one percent of total wastewater flow into the headworks of the facility's wastewater treatment or pretreatment system, or provided the wastes combined annualized average concentration does not exceed one part per million in the headworks of the facility's wastewater treatment or pretreatment facility. Toxic (T) wastes used in laboratories that are demonstrated not to be discharged to wastewater are not to be included in this calculation.

2. A solid waste which is not excluded from regulation under subdivision a of subsection 1 becomes a hazardous waste when any of the following events occur:

a. In the case of a waste listed in this chapter, when the waste first meets the listing description set forth in this chapter.

b. In the case of a mixture of solid waste and one or more listed hazardous wastes, when a hazardous waste listed in this chapter is first added to the solid waste.

c. In the case of any other waste (including a waste mixture), when the waste exhibits any of the characteristics identified in this chapter.

3. Unless and until it meets the criteria of subsection 4:

   a. A hazardous waste will remain a hazardous waste.

   b. Except as otherwise provided in paragraph 2:

      (1) Any solid waste generated from the treatment, storage, or disposal of a hazardous waste, including any sludge, spill residue, ash, emission control dust, or leachate (but not including precipitation runoff) is a hazardous waste. (However, materials that are reclaimed from solid wastes and that are used beneficially are not solid wastes and hence are not hazardous wastes under this provision unless the reclaimed material is burned for energy recovery or used in a manner constituting disposal.)

      (2) The following solid wastes are not hazardous even though they are generated from the treatment, storage, or disposal of a hazardous waste, unless they exhibit one or more of the characteristics of hazardous waste:

         (a) Waste pickle liquor sludge generated by lime stabilization of spent pickle liquor from the iron and steel industry (SIC codes 331 and 332).

         (b) Wastes from burning any of the materials exempted from regulation by paragraph 4, 6, 7, or 8 of subdivision c of subsection 1 of section 33-24-02-06.

4. Any solid waste described in subsection 3 is not a hazardous waste if it meets the following criteria:

   a. In the case of any solid waste, it does not exhibit any of the characteristics of hazardous waste identified in this chapter; or

   b. In the case of a waste which is a listed waste under this chapter, contains a waste listed in this chapter or is

derived from a waste listed in this chapter, it also has been excluded from subsection 3 under sections 33-24-01-06 and 33-24-01-08.

5. Dilution prohibited. No generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility may in any way dilute a waste to achieve compliance with this article.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-02-04. Exclusions.

1. Materials which are not solid wastes. The following materials are not solid wastes for the purpose of this chapter:

   a. Domestic sewage and any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly owned treatment works for treatment. "Domestic sewage" means untreated sanitary wastes that pass through a sewer system.

   b. Industrial wastewater discharges that are point source discharges subject to regulation under subsections 18 and 19 of North Dakota Century Code section 61-28-04. (Comment: This exclusion applies only to the actual point source discharge. It does not exclude industrial wastewaters while they are being collected, stored, or treated before discharge, nor does it exclude sludges that are generated by industrial wastewater treatment.)

   c. Irrigation return flows.

   d. Source, special nuclear or byproduct material as defined by the Atomic Energy Act of 1954, as amended [42 U.S.C. 2011 et seq.].

   e. Materials subjected to in situ mining techniques which are not removed from the ground as part of the extraction process.

   f. Pulping liquors (i.e., black liquor) that are reclaimed in a pulping liquor recovery furnace and then reused in the pulping process, unless it is accumulated speculatively as defined in subsection 3 of section 33-24-02-01.

   g. Spent sulfuric acid used to produce virgin sulfuric acid, unless it is accumulated speculatively as defined in subsection 3 of section 33-24-02-01.

h. Secondary materials that are reclaimed and returned to the original process or processes in which they were generated where they are reused in the production process provided:

(1) Only tank storage is involved, and the entire process through completion of reclamation is closed by being entirely connected with pipes or other comparable enclosed means of conveyance;

(2) Reclamation does not involve controlled flame combustion (such as occurs in boilers, industrial furnaces, or incinerators);

(3) The secondary materials are never accumulated in such tanks for over twelve months without being reclaimed; and

(4) The reclaimed material is not used to produce a fuel, or used to produce products that are used in a manner constituting disposal.

2. Solid wastes which are not hazardous wastes. The following solid wastes are not hazardous wastes:

a. Household waste, including household waste that has been collected, transported, stored, treated, disposed, recovered, e.g., refuse-derived fuel, or reused. "Household waste" means any waste material (including garbage, trash, and sanitary wastes in septic tanks) derived from households (including single and multiple residences, hotels, and motels), bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas). A resource recovery facility managing municipal solid waste may not be deemed to be treating, storing, disposing of, or otherwise managing hazardous wastes for the purpose of regulation under this article, if such facility:

(1) Receives and burns only:

(a) Household waste (from single and multiple dwellings, hotels, motels, and other residential sources); and

(b) Solid waste from commercial or industrial sources that does not contain hazardous waste; and

(2) Such facility does not accept hazardous wastes and the owner or operator of such facility has established contractual requirements or other appropriate notification or inspection procedures to

assure that hazardous wastes are not received at or burned in such facility.

b. Solid wastes generated by any of the following and which are returned to the soils as fertilizers:

(1) The growing and harvesting of agricultural crops.

(2) The raising of animals, including animal manures.

c. Mining overburden returned to the minesite.

d. Fly ash waste, bottom ash waste, slag waste, and flue gas emission control wastes generated primarily from the combustion of coal or other fossil fuels.

e. Drilling fluids, produced waters, and other wastes associated with the exploration, development, or production of crude oil, natural gas, or geothermal energy.

f. The following chromium-containing wastes:

(1) Wastes which fail the test for the characteristic of EP toxicity because chromium is present or are listed in this chapter due to the presence of chromium, which do not fail the test for the characteristic of EP toxicity for any other constituent or are not listed due to the presence of any other constituent, and which do not fail the test for any other characteristic, if it is shown by a waste generator or by waste generators that:

(a) The chromium in the waste is exclusively (or nearly exclusively) trivalent chromium;

(b) The waste is generated from an industrial process which uses trivalent chromium exclusively (or nearly exclusively) and the process does not generate hexavalent chromium; and

(c) The waste is typically and frequently managed in nonoxidizing environments.

(2) Specific wastes which meet the standard of paragraph 1 (so long as they do not fail the test for the characteristic of EP toxicity, and do not fail the test for any other characteristics) are:

(a) Chrome (blue) trimmings, chrome (blue) shavings, sewer screenings, and wastewater treatment sludges, generated by the following

subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue; and shearling.

(b) Buffing dust generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; retan/wet finish; no beamhouse; through-the-blue.

(c) Wastewater treatment sludges generated by the following subcategories of the leather tanning and finishing industry: hair pulp/chrome tan/retan/wet finish; hair save/chrome tan/retan/wet finish; and through-the-blue.

(d) Waste scrap leather from the leather tanning industry, the shoe manufacturing industry, and other leather product manufacturing industries.

(e) Wastewater treatment sludges from the production of TiO_2 pigment using chromium-bearing ores by the chloride process.

g. Solid waste from the extraction, beneficiation, and processing of ores and minerals (including coal), including phosphate rock and overburden from the mining of uranium ore. For purposes of subdivision g of subsection 2 of section 33-24-02-04, beneficiation of ores and minerals is restricted to the following activities: crushing; grinding; washing; dissolution; crystallization; filtration; sorting; sizing; drying; sintering; pelletizing; briquetting; calcining to remove water or carbon dioxide, or both; roasting, autoclaving, or chlorination, or a combination thereof, in preparation for leaching (except where the roasting, autoclaving, or chlorination, or a combination thereof, leaching sequence produces a final or intermediate product that does not undergo further beneficiation or processing), gravity concentration; magnetic separation; electrostatic separation; flotation; ion exchange; solvent extraction; electrowinning; precipitation; amalgamation; and heap, dump, vat, tank, and in situ leaching. For the purposes of subdivision g of subsection 2 of section 33-24-02-04, solid waste from the processing of ores and minerals will include only the following wastes, until the environmental protection agency completes a report to Congress and a regulatory determination under ultimate regulatory status:

(1) Slag from primary copper processing;

(2) Slag from primary lead processing;

(3) Red and brown muds from bauxite refining;

(4) Phosphogypsum from phosphoric acid production;

(5) Slag from elemental phosphorous production;

(6) Gasifier ash from coal gasification;

(7) Process wastewater from coal gasification;

(8) Calcium sulfate wastewater treatment plant sludge from primary copper processing;

(9) Slag tailings from primary copper processing;

(10) Fluorogypsum from hydrofluoric acid production;

(11) Process wastewater from hydrofluoric acid production;

(12) Air pollution control dust or sludge from iron blast furnaces;

(13) Iron blast furnace slag;

(14) Treated residue from roasting or leaching of chrome ore;

(15) Process wastewater from primary magnesium processing by the anhydrous process;

(16) Process wastewater from phosphoric acid production;

(17) Basic oxygen furnace and open hearth furnace air pollution control dust or sludge from carbon steel production;

(18) Basic oxygen furnace and open hearth furnace slag from carbon steel production;

(19) Chloride process waste solids from titanium tetrachloride production; and

(20) Slag from primary zinc processing.

h. Cement kiln dust waste.

i. Solid waste which consists of discarded wood or wood products which fails the test for the characteristic of EP toxicity and which is not a hazardous waste for any other reason, if the waste is generated by persons who utilize

the arsenical-treated wood and wood products for these materials intended end use.

3. Hazardous wastes which are exempted from certain regulations. A hazardous waste which is generated in a product or raw material storage tank, a product or raw material transport vehicle or vessel, a product or raw material pipeline, or in a manufacturing process unit or an associated non-waste-treatment-manufacturing unit is not subject to regulation under chapters 33-24-03 through 33-24-07 or to the notification requirements until it exits the unit in which it was generated, unless the unit is a surface impoundment, or unless the hazardous waste remains in the unit more than ninety days after the unit ceases to be operated for manufacturing, or for storage or transportation of product or raw materials.

4. Samples.

   a. Except as provided in subdivision b, a sample of solid waste or a sample of water, soil, or air, which is collected for the sole purpose of testing to determine its characteristics or composition, is not subject to any requirements of this chapter or chapters 33-24-03 through 33-24-07 or to the notification requirements when:

      (1) The sample is being transported to a laboratory for the purpose of testing;

      (2) The sample is being transported back to the sample collector after testing;

      (3) The sample is being stored by the sample collector before transport to a laboratory for testing;

      (4) The sample is being stored in a laboratory before testing;

      (5) The sample is being stored in a laboratory after testing but before it is returned to the sample collector; or

      (6) The sample is being stored temporarily in the laboratory after testing for a specific purpose, e.g., until conclusion of a court case or enforcement action where further testing of the sample may be necessary.

   b. In order to qualify for the exemption in paragraphs 1 and 2 of subdivision a, a sample collector shipping samples to a laboratory and a laboratory returning samples to a sample collector must:

(1) Comply with the United States department of transportation, the United States postal service, or any other applicable shipping requirement; or

(2) Comply with the following requirements if the sample collector determines that the United States department of transportation, the United States postal service, or other shipping requirements do not apply to the shipment of the sample:

(a) Assure that the following information accompanies the sample:

[1] The sample collector's name, mailing address, and telephone number;

[2] The laboratory's name, mailing address, and telephone number;

[3] The quantity of the sample;

[4] The date of shipment; and

[5] A description of the sample.

(b) Package the sample so that it does not leak, spill, or vaporize from its packaging.

c. This exemption does not apply if the laboratory determines that the waste is hazardous but the laboratory is no longer meeting any of the conditions stated in subdivision a.

5. Treatability study samples.

a. Except as provided in subdivision b, persons who generate or collect samples for the purpose of conducting treatability studies as defined in section 33-24-01-04, are not subject to any requirement of chapters 33-24-02 through 33-24-04 or to the notification requirements, nor are such samples included in the quantity determination of section 33-24-02-05 and subsection 4 of section 33-24-03-12 when:

(1) The sample is being collected and prepared for transportation by the generator or sample collectors;

(2) The sample is being accumulated or stored by the generator or sample collector prior to transportation to a laboratory or testing facility; or

(3) The sample is being transported to the laboratory or testing facility for the purpose of conducting a treatability study.

b. The exemption in subdivision a is applicable to samples of hazardous waste being collected and shipped for the purpose of conducting treatability studies provided that:

(1) The generator or sample collector uses (in "treatability studies") no more than one thousand kilograms of any nonacute hazardous waste, one kilogram of acute hazardous waste, or two hundred fifty kilograms of soils, water, or debris contaminated with acute hazardous waste for each process being evaluated for each generated waste stream.

(2) The mass of each sample shipment does not exceed one thousand kilograms of nonacute hazardous waste, one kilogram of acute hazardous waste, or two hundred fifty kilograms of soils, water, or debris contaminated with acute hazardous waste.

(3) The sample must be packaged so that it will not leak, spill, or vaporize from its packaging during shipment and the requirements of subparagraphs a or b of this subdivision are met.

(a) The transportation of each sample shipment complies with United States department of transportation, United States postal service, or any other applicable shipping requirements; or

(b) If the United States department of transportation, United States postal service, or other shipping requirements do not apply to the shipment of the sample, the following information must accompany the sample:

[1] The name, mailing address, and telephone number of the originator of the samples;

[2] The name, address, and telephone number of the facility that will perform the treatability study;

[3] The quantity of the sample;

[4] The date of shipment; and

[5] A description of the sample, including its hazardous waste number.

(4) The sample is shipped to a laboratory or testing facility which is exempt under subsection 6 of section 33-23-02-04 or has an appropriate hazardous waste permit or interim status.

(5) The generator or sample collector maintains the following records for a period ending three years after completion of the treatability study:

(a) Copies of the shipping document;

(b) A copy of the contract with the facility conducting the treatability study;

(c) Documentation showing:

[1] The amount of waste shipped under this exemption;

[2] The name, address, and identification number of the laboratory or testing facility that received the waste;

[3] The date the shipment was made; and

[4] Whether unused samples and residues were returned to the generator.

(6) The generator reports the information required under subparagraph c of paragraph 5 in its biennial report.

c. The department may grant requests, on a case-by-case basis, for quantity limits in excess of those specified in paragraph 1 of subdivision b, for up to an additional five hundred kilograms of nonacute hazardous waste, one kilogram of acute hazardous waste, and two hundred fifty kilograms of soils, water, or debris contaminated with acute hazardous waste, to conduct further treatability study evaluation when there has been an equipment or mechanical failure during the conduct of a treatability study, there is a need to verify the results of a previously conducted treatability study, there is a need to study and analyze alternative techniques within a previously evaluated treatment process, or there is a need to do further evaluation of an ongoing treatability study to determine final specifications for treatment. The additional quantities allowed are subject to all provisions in subdivision a and paragraphs 2 and 6 of subdivision b. The generator or sample collector must apply to the department and provide in writing the following information:

(1) The reason why the generator or sample collector requires additional quantity of sample for the treatability study evaluation and the additional quantity needed;

(2) Documentation accounting for all samples of hazardous waste from the waste stream which have been sent for or have undergone treatability studies including the data each previous sample from the waste stream was shipped, the quantity of each previous shipment, the laboratory or testing facility to which it was shipped, what treatability study processes were conducted on each sample shipped, and available results of each treatability;

(3) A description of the technical modifications or change in specifications which will be evaluated and the expected results;

(4) If such further study is being required due to equipment or mechanical failure, the applicant must include information regarding the reason for the failure or breakdown and also include what procedures or equipment improvements have been made to protect against further breakdowns; and

(5) Such other information that the department considers necessary.

6. Samples undergoing treatability studies at laboratories and testing facilities. Samples undergoing treatability studies and the laboratory or testing facility conducting such treatability studies, to the extent such facilities are not otherwise subject to hazardous waste requirements, are not subject to any requirements of this article, or to the notification requirements provided that the conditions of subdivisions a through k are met. A mobile treatment unit may qualify as a testing facility subject to subdivisions a through k. Where a group of mobile treatment units are located at the same site, the limitations specified in subdivisions a through k apply to the entire group of mobile treatment units collectively as if the group were one mobile treatment unit.

a. No less than forty-five days before conducting treatability studies, the facility notifies the department in writing that it intends to conduct treatability studies under this subsection.

b. The laboratory or testing facility conducting the treatability study has an identification number.

c. No more than a total of two hundred fifty kilograms of "as received" hazardous waste is subjected to initiation of treatment in all treatability studies in any single day. "As received" waste refers to the waste as received in the shipment from the generator or sample collector.

d. The quantity of "as received" hazardous waste stored at the facility for the purpose of evaluation in treatability studies does not exceed one thousand kilograms, the total of which can include five hundred kilograms of soils, water, or debris contaminated with acute hazardous waste or one kilogram of acute hazardous waste. This quantity limitation does not include:

(1) Treatability study residues; and

(2) Treatment materials (including nonhazardous solid waste) added to "as received" hazardous waste.

e. No more than ninety days have elapsed since the treatability study for the sample was completed, or no more than one year has elapsed since the generator or sample collector shipped the sample to the laboratory or testing facility, whichever date first occurs.

f. The treatability study does not involve the placement of hazardous waste on the land or open burning of hazardous waste.

g. The facility maintains records for three years following completion of each study that shows compliance with the treatment rate limits and the storage time and quantity limits. The following specific information must be included for each treatability study conducted:

(1) The name, address, and identification number of the generator or sample collector of each waste sampled;

(2) The date the shipment was received;

(3) The quantity of waste accepted;

(4) The quantity of "as received" waste in storage each day;

(5) The date the treatment study was initiated and the amount of "as received" waste introduced to treatment each day;

(6) The date the treatability study was concluded; and

(7) The date any unused sample or residues generated from the treatability study were returned to the generator

or sample collector or, if sent to a designated facility, the name of the facility and the identification number.

h. The facility keeps, onsite, a copy of the treatability study contract and all shipping papers associated with the transport of treatability study samples to and from the facility for a period ending three years from the completion date of each treatability study.

i. The facility prepares and submits a report to the department by March fifteenth of each year that estimates the number of studies and the amount of waste expected to be used in treatability studies during the current year, and includes the following information for the previous calendar year:

(1) The name, address, and identification number of the facility conducting the treatability study;

(2) The types, by process, of treatability studies conducted;

(3) The names and addresses of persons for whom studies have been conducted including their identification numbers;

(4) The total quantity of waste in storage each day;

(5) The quantity and type of waste subjected to treatability studies;

(6) When each treatability study was conducted; and

(7) The final disposition of residues and unused samples from each treatability study.

j. The facility determines whether any unused sample or residues generated by the treatability study are hazardous waste under section 33-24-02-03 and, if so, are subject to chapters 33-24-02 through 33-24-06, unless the residues and unused samples are returned to the sample originator under the subsection 5 of section 33-24-02-04 exemption.

k. The facility notifies the department by letter when the facility is no longer planning to conduct any treatability studies at the site.

7. Polychlorinated biphenyl wastes regulated under Toxic Substance Control Act. The disposal of polychlorinated biphenyl-containing dielectric fluid and electric equipment containing such fluid authorized for use and regulated under 40 CFR 761 and that are hazardous only because they fail the

test for the toxicity characteristic (hazardous waste codes D018 through D043 only) are exempt from regulation under this article, and the notification requirements.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04, 23-20.3-10

33-24-02-05. Special requirements for hazardous waste generated by conditionally exempt small quantity generators.

1. A generator is a conditionally exempt small quantity generator in a calendar month if the generator generates no more than one hundred kilograms of hazardous waste in that month.

2. Except for those wastes identified in subsections 5, 6, 7, and 10, a conditionally exempt small quantity generator's hazardous wastes are not subject to regulation under chapters 33-24-03 through 33-24-07, and the notification requirements, provided the generator complies with the requirements of subsections 6, 7, and 10.

3. Hazardous waste that is not subject to regulation or that is subject only to sections 33-24-03-02 and 33-24-03-03, subsection 3 of section 33-24-03-13, and section 33-24-03-14 is not included in the quantity determinations of this chapter and chapters 33-24-03 through 33-24-07 and is not subject to any of the requirements of those chapters. Hazardous waste that is subject to the requirements of subsections 2 and 3 of section 33-24-02-06 and sections 33-24-05-201 through 33-24-05-209 and sections 33-24-05-230 through 33-24-05-234 is included in the quantity determination of this chapter and is subject to the requirements of chapters 33-24-03 through 33-24-07.

4. In determining the quantity of hazardous waste generated, a generator need not include:

   a. Hazardous waste when it is removed from onsite storage;

   b. Hazardous waste produced by onsite treatment (including reclamation) of the generator's hazardous waste, so long as the hazardous waste that is treated was counted once; or

   c. The spent materials that are generated, reclaimed, and subsequently reused onsite, so long as such spent materials have been counted once.

5. If a generator generates acute hazardous waste in a calendar month in quantities greater than set forth below, all

quantities of that acute hazardous waste are subject to full regulation under chapters 33-24-03 through 33-24-07, and the notification requirements.

a. A total of one kilogram of acute hazardous waste listed in section 33-24-02-16, 33-24-02-17, or subsection 5 of section 33-24-02-18.

b. A total of one hundred kilograms of any residue or contaminated soil, waste, or other debris resulting from the cleanup of a spill, into or on any land or water, of any acute hazardous waste listed in sections 33-24-02-16, 33-24-02-17, or subsection 5 of section 33-24-02-18. [Comment: "Full regulation" means those regulations applicable to generators of greater than one thousand kilograms of nonacutely hazardous waste in a calendar month.]

6. In order for acute hazardous wastes generated by a generator of acute hazardous wastes in quantities equal to or less than set forth in subdivision a or b of subsection 5 to be excluded from full regulation under this section, the generator shall comply with the following requirements:

a. Section 33-24-03-02;

b. The generator may accumulate acute hazardous waste onsite. If the generator accumulates at any time acute hazardous waste in quantities greater than those set forth in subdivision a or b of subsection 5, all of those accumulated wastes are subject to regulation under ~~chapters 33-24-03 through~~ section 33-24-03-07 and the applicable notification requirements. The time period of subsection ~~4~~1 of section 33-24-03-12, for accumulation of wastes onsite, begins when the accumulated wastes exceed the applicable exclusion limit;

c. A conditionally exempt small quantity generator may either treat or dispose of the generator's acute hazardous waste; in an onsite facility or ensure delivery to an offsite storage, treatment, or disposal facility, either of which, if located in the United States is:

(1) Permitted under chapter 33-24-06;

(2) In interim status under subsection 2 of section 33-20.3-05 of North Dakota Century Code chapter 33-20.3;

(3) Authorized to manage hazardous waste by the state;

(4) Permitted, licensed, or registered by the state to manage municipal or industrial solid waste; or

(5) A facility which:

(a) Beneficially uses or reuses or legitimately recycles or reclaims its waste; or

(b) Treats its waste prior to beneficial use or reuse or legitimate recycling or reclamation.

[NOTE: Although provisions of this subsection exclude certain generators from full regulation under this section, all applicable provisions of article 33-20, North Dakota solid waste management rules apply.]

7. In order for hazardous waste generated by a conditionally exempt small quantity generator in quantities of less than one hundred kilograms of hazardous waste during a calendar month to be excluded from full regulation under this section, the generator shall comply with the following requirements:

a. Section 33-24-03-02.

b. The conditionally exempt small quantity generator may accumulate hazardous waste onsite. If the generator accumulates at any time more than a total of one thousand kilograms of the generator's hazardous waste, all of those accumulated wastes are subject to regulation under ~~subsections 1 and 2 of section 33-24-03-12~~ special provisions of chapter 33-24-03 applicable to generators of between one hundred kilograms and one thousand kilograms of hazardous waste in a calendar month as well as the requirements of chapters 33-24-04 through 33-24-06 of this article and the applicable notification requirements. The time period of subsection 4 of section 33-24-03-12 for accumulation of wastes onsite begins for a conditionally exempt small quantity generator when the accumulated wastes exceed one thousand kilograms;

c. A conditionally exempt small quantity generator may either treat or dispose of the generator's hazardous waste in an onsite facility, or ensure delivery to an offsite storage, treatment, or disposal facility, either of which, if located in the United States, is:

(1) Permitted under chapter 33-24-06;

(2) In interim status under subsection 2 of section 23-20.3-05 of North Dakota Century Code chapter 23-20.3;

(3) Authorized to manage hazardous waste by the state;

(4) Permitted, licensed, or registered by the state to manage municipal or industrial solid waste; or

(5) A facility which:

(a) Beneficially uses or reuses, or legitimately recycles or reclaims its waste; or

(b) Treats its waste prior to beneficial use or reuse, or legitimate recycling or reclamation.

[NOTE: Although provisions of this subsection exclude certain generators from full regulation under this section, all applicable provisions of article 33-20, North Dakota solid waste management rules apply.]

8. Hazardous waste subject to the reduced requirements of this section may be mixed with nonhazardous waste and remain subject to these reduced requirements even though the resultant mixture exceeds the quantity limitations identified in this section, unless the mixture meets any of the characteristics of hazardous waste identified in sections 33-24-02-10 through 33-24-02-14.

9. If any person mixes a solid waste with a hazardous waste that exceeds the quantity exclusion level of this section, the mixture is subject to full regulation.

10. If a conditionally exempt small quantity generator's wastes are mixed with used oil, the mixture is subject to sections 33-24-05-210 through 33-24-05-219 if it is destined to be burned for energy recovery. Any material produced from such a mixture by processing, blending, or other treatment is also so regulated if it is destined to be burned for energy recovery.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-02-06. Requirements for recyclable materials.

1. The following requirements for recyclable materials are:

a. Hazardous wastes that are recycled are subject to the requirements for generators, transporters, and storage facilities of subsections 2 and 3, except for the materials listed in subdivisions b and c of subsection 1. Hazardous wastes that are recycled will be known as "recyclable materials".

b. The following recyclable materials are not subject to the requirements of this section but are regulated under sections 33-24-05-201 through 33-24-05-235 and all applicable provisions in chapters 33-24-06 and 33-24-07:

(1) Recyclable materials used in a manner constituting disposal (sections 33-24-05-201 through 33-24-05-204).

(2) Hazardous wastes burned for energy recovery in boilers and industrial furnaces that are not regulated under sections 33-24-05-144 through 33-24-05-150.

(3) Used oil that exhibits one or more of the characteristics of hazardous waste and is burned for energy recovery in boilers and industrial furnaces that are not regulated under sections 33-24-05-144 through 33-24-05-159.

(4) Recyclable materials from which precious metals are reclaimed (section 33-24-05-230).

(5) Spent lead-acid batteries that are being reclaimed (section 33-24-05-235).

c. The following recyclable materials are not subject to regulation under chapters 33-24-03 through 33-24-07 and are not subject to notification requirements:

(1) Industrial ethyl alcohol that is reclaimed except that, unless provided otherwise in an international agreement as specified in section 33-24-03-25:

(a) A person initiating a shipment for reclamation in a foreign country, and any intermediary arranging for the shipment, must comply with the requirements applicable to a primary exporter in section 33-24-03-20, subdivisions a through d and f of subsection 1 and subsection 2 of section 33-24-03-23, and section 33-24-03-24, export such materials only upon consent of the receiving country and in conformance with the environmental protection agency acknowledgment of consent as defined in sections 33-24-03-50 through 33-24-03-59, and provide a copy of the environmental protection agency acknowledgment of consent to the shipment to the transporter transporting the shipment for export.

(b) Transporters transporting a shipment for export may not accept a shipment if the transporter knows the shipment does not conform to the environmental protection agency acknowledgment of consent, shall ensure that a copy of the environmental protection agency acknowledgment of consent accompanies the shipment, and shall ensure that it is delivered to the facility

designated by the person initiating the shipment.

(2) Used batteries (or used battery cells) returned to a battery manufacturer for regeneration.

(3) Used oil that exhibits one or more of the characteristics of hazardous waste, but is recycled in some other manner than being burned for energy recovery.

(4) Scrap metal.

(5) Fuel produced from the refining of oil-bearing hazardous wastes along with normal process streams at a petroleum refining facility, if such wastes result from normal petroleum refining, production, and transportation practices.

(6) Oil reclaimed from hazardous waste resulting from normal petroleum refining, production, and transportation practices, which oil is to be refined along with normal process streams at a petroleum refining facility.

(7) Coke and coal tar from the iron and steel industry that contains hazardous waste number K087 (decanter tank tar sludge from coking operations) from the iron and steel production process.

(8) Subdivision c also applies to the following:

(a) Hazardous waste fuel produced from oil-bearing hazardous wastes from petroleum refining, production, or transportation practices, or produced from oil reclaimed from such hazardous wastes, where such hazardous wastes are reintroduced into a process that does not use distillation or does not produce products from crude oil so long as the resulting fuel meets the used oil specification under 40 CFR 266.40(e) of the federal hazardous waste regulations so long as no other hazardous wastes are used to produce the hazardous waste fuel.

(b) Hazardous waste fuel produced from oil-bearing hazardous waste from petroleum refining production, and transportation practices, where such hazardous wastes are reintroduced into a refining process after a point in which contaminates are removed so long as the fuel meets the used oil fuel specification under 40

CFR 266.40(e) of the federal hazardous waste regulations; and

(c) Oil reclaimed from oil-bearing hazardous wastes from petroleum refining, production, and transportation practices, which reclaimed oil is burned as a fuel without reintroduction to a refining process, so long as the reclaimed oil meets the used oil fuel specification under 40 CFR 266.40(e) of the federal hazardous waste regulations.

(9) Petroleum coke produced from petroleum refinery hazardous wastes containing oil at the same facility at which such wastes were generated unless the resulting coke product exceeds one or more of the characteristics of hazardous waste in sections 33-24-02-10 through 33-24-02-14.

2. Generators and transporters of recyclable materials are subject to the applicable requirements of chapters 33-24-03 and 33-24-04 and the notification requirements, except as provided in subsection 1.

3. Owners or operators of facilities that:

a. Store recyclable materials before they are recycled are regulated under all applicable provisions of ~~chapters 33-24-05 through 33-24-07~~ sections 33-24-05-01 through 33-24-05-143, sections 33-24-05-400 through 33-24-05-449, sections 33-24-05-191 through 33-24-05-399 and chapter 33-24-06, and the notification ~~requirement~~ requirements, except as provided in subsection 1. ~~(~~The recycling process itself is exempt from ~~regulations~~ regulation except as provided in subsection 4 of section 33-24-02-06.~~)~~

b. Recycle recyclable materials without storing them before they are recycled are subject to the following requirements, except as provided in subsection 1;

(1) Notification requirements; and

(2) Sections 33-24-05-38 and 33-24-05-39 (dealing with the use of the manifest and manifest discrepancies).

(3) Subsection 4 of section 33-24-02-06.

4. Owners or operators of facilities subject to the hazardous waste permitting requirements with hazardous waste management units that recycle hazardous wastes are subject to the requirements of sections 33-24-05-400 through 33-24-05-449.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-02-09. Criteria for listing hazardous waste.

1. The department shall list a solid waste as a hazardous waste only upon determining that the solid waste meets one of the following criteria:

   a. It exhibits any of the characteristics of hazardous waste identified in this chapter.

   b. It has been found to be fatal to humans in low doses or, in the absence of data on human toxicity, it has been shown in studies to have an oral LD 50 toxicity (rat) of less than fifty milligrams per kilogram, and inhalation LC 50 toxicity (rat) of less than two milligrams per liter, or a dermal LD 50 toxicity (rabbit) of less than two hundred milligrams per kilogram or is otherwise capable of causing or significantly contributing to an increase in serious irreversible, or incapacitating reversible, illness. (Waste listed in accordance with these criteria will be designated acute hazardous waste.)

   c. It contains any of the toxic constituents listed in appendix V~~, unless~~ and, after considering ~~any of~~ the following factors, the department concludes that the waste is not capable of posing a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of or otherwise managed:

      (1) The nature of the toxicity presented by the constituent;

      (2) The concentration of the constituent in the waste;

      (3) The potential of the constituent or any toxic degradation product of the constituent to migrate from the waste into the environment under the types of improper management considered in paragraph 7;

      (4) The persistence of the constituent or any toxic degradation product of the constituent;

      (5) The potential for the constituent or any toxic degradation product of the constituent to degrade into nonharmful constituents and the rate of degradation;

(6) The degree to which the constituent or any degradation product of the constituent bioaccumulates in ecosystems;

(7) The plausible types of improper management to which the waste could be subjected;

(8) The quantities of the waste generated at individual generation sites or on a statewide basis;

(9) The nature and severity of the human health and environmental damage that has occurred as a result of the improper management of wastes containing the constituent;

(10) Action taken by other governmental agencies or regulatory programs based on the health or environmental hazard posed by the waste or waste constituent; and

(11) Such other factors as may be appropriate.

Substances will be listed on appendix V only if they have been shown in scientific studies to have toxic, carcinogenic, mutagenic or teratogenic effects on human or other life forms. (Wastes listed in accordance with these criteria will be designated toxic wastes.)

2. The department may list classes or types of solid waste as hazardous wastes if it has reason to believe that individual wastes, within the class or type of waste, typically or frequently are hazardous under the definition of hazardous waste found in subsection 5 of North Dakota Century Code section 23-20.3-02.

3. The department will use the criteria for listing specified in this section to establish the exclusion limits referred to in subsection 3 of section 33-24-02-05.

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-02-10. General characteristics of hazardous waste.

1. A solid waste, as defined in section 33-24-02-02, which is not excluded from regulation as a hazardous waste under subsection 2 of section 33-24-02-04 is a hazardous waste if it exhibits any of the characteristics identified in this chapter. (Comment: Section 33-24-03-02 sets forth the generator's responsibility to determine whether the

generator's waste exhibits one or more of the characteristics identified in this chapter.)

2. A hazardous waste which is identified by a characteristic in this chapter~~, but is not listed as a hazardous waste in this chapter, is assigned a hazardous waste number set forth in the respective characteristic in this chapter. This number must be used in complying with the notification requirements and certain recordkeeping and reporting requirements under chapters 33-24-03 through 33-24-06~~ is assigned every hazardous waste number that is applicable as set forth in this chapter. This number must be in compliance with the notification requirements and all applicable recordkeeping and reporting requirements under chapters 33-24-03 through 33-24-06.

3. For purposes of sections 33-24-02-10 through 33-24-02-14 the department will consider a sample obtained using any of the applicable sampling methods specified in appendix I to be a representative sample within the meaning of chapter 33-24-01.

History: Effective January 1, 1984; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-02-11. Characteristic of ignitability.

1. A solid waste exhibits the characteristic of ignitability if a representative sample of the waste has any of the following properties:

   a. It is a liquid, other than an aqueous solution containing less than twenty-four percent alcohol by volume, and has a flashpoint less than sixty degrees Celsius [140 degrees Fahrenheit], as determined by a Penske-Martins Closed Cup Tester, using the test method specified in American Society for Testing and Material Standard D-93-79 or D-93-80, or a Setaflash Closed Cup Tester, using the test method specified in American Society for Testing and Material Standard D-3278-78, or as determined by an equivalent test method approved by the department under procedures set forth in sections 33-24-01-06 and 33-24-01-07.

   b. It is not a liquid and is capable, under standard temperature and pressure of causing fire through friction, absorption of moisture or spontaneous chemical changes and, when ignited, burns so vigorously that it creates a hazard.

   c. It is an ignitable compressed gas as defined in 49 CFR 173.300 and as determined by the test methods described in

that regulation or equivalent test methods approved by the department.

d. It is an oxidizer as defined in 49 CFR 173.151.

2. A solid waste that exhibits the characteristic of ignitability~~, but is not listed as a hazardous waste in this chapter~~ has ~~a~~ the hazardous waste number of D001.

History: Effective January 1, 1984; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-02-12. Characteristic of corrosivity.

1. A solid waste exhibits the characteristic of corrosivity if a representative sample of the waste has either of the following properties:

   a. It is aqueous and has a pH less than or equal to two or greater than or equal to twelve and five-tenths, as determined by a pH meter, using either the test method specified in the "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see section 33-24-01-05), or an equivalent test method approved by the department; or

   b. It is a liquid and corrodes steel (SAE 1020) at a rate greater than six and thirty-five-hundredths millimeters [0.250 inch] per year at a test temperature of fifty-five degrees Celsius [130 degrees Fahrenheit] as determined by the test method specified in National Association of Corrosion Engineers (NACE) Standard TM-01-69 as standardized in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see section 33-24-01-05), or an equivalent test method approved by the department.

2. A solid waste that exhibits the characteristic of corrosivity~~, but is not listed as a hazardous waste in this chapter~~ has ~~a~~ the hazardous waste number of D002.

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-02-13. Characteristic of reactivity.

1. A solid waste exhibits the characteristic of reactivity if a representative sample of the waste has any of the following properties:

   a. It is normally unstable and readily undergoes violent change without detonating.

   b. It reacts violently with water.

   c. It forms potentially explosive mixtures with water.

   d. When mixed with water, it generates toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment.

   e. It is a cyanide-bearing or sulfide-bearing waste which, when exposed to pH conditions between two and twelve and five-tenths, can generate toxic gases, vapors, or fumes in a quantity sufficient to present a danger to human health or the environment.

   f. It is capable of detonation or explosive reaction if it is subjected to a strong initiating source or if heated under confinement.

   g. It is readily capable of detonation or explosive decomposition or reaction at standard temperature and pressure.

   h. It is a forbidden explosive as defined in 49 CFR 173.51, or a Class A explosive as defined in 49 CFR 173.53 or a Class B explosive as defined in 49 CFR 173.88.

2. A solid waste that exhibits the characteristic of reactivity~~, but is not listed as a hazardous waste in this chapter~~ has the hazardous waste number of D003.

History: Effective January 1, 1984; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-02-14. ~~Characteristic of EP toxicity~~ Toxicity characteristic.

1. A solid waste exhibits the characteristic of ~~EP~~ toxicity if, using the test methods described in appendix II or equivalent methods approved by the department under the procedures set forth in sections 33-24-01-06 and 33-24-01-07, the extract from a representative sample of the waste contains any of the contaminants listed in table 1 at a concentration equal to or greater than the respective value given in that table. Where the waste contains less than one-half of one percent

filterable solid, the waste itself, after filtering using the methodology outlined in appendix II, is considered to be the extract for the purposes of this section.

2. A solid waste that exhibits the characteristic of ~~EP~~ toxicity~~, but is not listed as a hazardous waste in this chapter~~ has ~~a~~ the hazardous waste number specified in table 1 which corresponds to the toxic contaminant causing it to be hazardous.

~~TABLE 1~~

~~MAXIMUM CONCENTRATION OF CONTAMINANTS~~

~~FOR CHARACTERISTIC OF EP TOXICITY~~

~~Hazardous Waste Number~~	~~Contaminant~~	~~Maximum Concentration, mg/l~~
~~D004~~	~~Arsenic~~	~~5.0~~
~~D005~~	~~Barium~~	~~100.0~~
~~D006~~	~~Cadmium~~	~~1.0~~
~~D007~~	~~Chromium~~	~~5.0~~
~~D008~~	~~Lead~~	~~5.0~~
~~D009~~	~~Mercury~~	~~0.2~~
~~D010~~	~~Selenium~~	~~1.0~~
~~D011~~	~~Silver~~	~~5.0~~
~~D012~~	~~Endrin~~[1]	~~0.02~~
~~D013~~	~~Lindane~~[2]	~~0.4~~
~~D014~~	~~Methoxychlor~~[3]	~~10.0~~
~~D015~~	~~Toxaphene~~[4]	~~0.5~~
~~D016~~	~~2,4-D~~[5]	~~10.0~~
~~D017~~	~~2,4,5-TP Silvex~~[6]	~~1.0~~

~~1 1,2,3,4,10,10-hexachloro-1,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo,endo-5,8-dimethano naphthalene~~

~~2 1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer~~

~~3 1,1,1-trichloro-2,2-bis (p-methoxyphenyl) ethane~~

~~4 $C_{10}H_{10}Cl_8$, technical chlorinated camphene, 67-69% chlorine~~

~~5 2,4-dichlorophenoxyacetic acid~~

~~6 2,4,5-trichlorophenoxypropionic acid~~

TABLE 1

MAXIMUM CONCENTRATION OF CONTAMINANTS
FOR THE TOXICITY CHARACTERISTIC

EPA HW No[1]	Contaminant	CAS No.[2]	Regulatory Level (mg/l)
D004	Arsenic	7440-38-2	5.0
D005	Barium	7440-39-3	100.0
D018	Benzene	71-43-2	0.5
D006	Cadmium	7440-43-9	1.0
D019	Carbon tetrachloride	56-23-5	0.5
D020	Chlordane	57-74-9	0.03
D021	Chlorobenzene	108-90-7	100.0
D022	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
D023	o-Cresol	95-48-7	[4]200.0
D024	m-Cresol	108-39-4	[4]200.0
D025	p-Cresol	106-44-5	[4]200.0
D026	Cresol	.....	[4]200.0
D016	2,4-D	94-75-7	10.0
D027	1,4-Dichlorobenzene	106-46-7	7.5
D028	1,2-Dichloroethane	107-06-2	0.5
D029	1,1-Dichloroethylene	75-35-4	0.7
D030	2,4-Dinitrotoluene	121-14-2	[3]0.13
D012	Endrin	72-20-8	0.02
D031	Heptachlor (and its hydroxide)	76-44-8	0.008
D032	Hexachlorobenzene	118-74-1	[3]0.13
D033	Hexachlorobutadiene	87-68-3	0.5
D034	Hexachloroethane	67-72-1	3.0

TABLE 1

MAXIMUM CONCENTRATION OF CONTAMINANTS
FOR THE TOXICITY CHARACTERISTIC (Continued)

EPA HW No[1]	Contaminant	CAS No.[2]	Regulatory Level (mg/l)
D008	Lead	7439-92-1	5.0
D013	Lindane	58-89-9	0.4
D009	Mercury	7439-97-6	0.2
D014	Methoxychlor	72-43-5	10.0
D035	Methyl ethyl ketone	78-93-3	200.0
D036	Nitrobenzene	98-95-3	2.0
D037	Pentrachlorophenol	87-86-5	100.0
D038	Pyridine	110-86-1	[3]5.0
D010	Selenium	7782-49-2	1.0
D011	Silver	7440-22-4	5.0
D039	Tetrachloroethylene	127-18-4	0.7
D015	Toxaphene	8001-35-2	0.5
D040	Trichloroethylene	79-01-6	0.5
D041	2,4,5-Trichlorophenol	95-95-4	400.0
D042	2,4,6-Trichlorophenol	88-06-2	2.0
D017	2,4,5-TP (Silvex)	93-72-1	1.0
D043	Vinyl chloride	75-01-4	0.2

[1]Hazardous waste number.
[2]Chemical abstracts service number.
[3]Quantitation limit is greater than the calculated regulatory level. The quantitation limit therefore becomes the regulatory level.
[4]If o-, m-, and p-Cresol concentrations cannot be differentiated, the total cresol (D026) concentration is used. The regulatory level of total cresol is 200 mg/l.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-02-15. Lists of hazardous wastes.

1. A solid waste is a hazardous waste if it is listed in sections 33-24-02-15 through 33-24-02-18, unless it has been excluded from these lists under section 33-24-01-06 or 33-24-01-08.

2. The department will indicate its basis for listing the classes or types of wastes listed in this chapter by employing one or more of the following hazard codes:

Waste Type	Waste Hazard Code
Ignitable Waste	(I)
Corrosive Waste	(C)
Reactive Waste	(R)
~~EP Toxic~~ Characteristic Toxicity Waste	(E)
Acute Hazardous Waste	(H)
Toxic Waste	(T)

Appendix IV identifies the constituent which caused the waste to be listed as ~~an EP toxic~~ a toxicity characteristic waste (E) or toxic wastes (T) in sections 33-24-02-16 and 33-24-02-17.

3. Each hazardous waste listed in this chapter is assigned a hazardous waste number which precedes the name of the waste. The number must be used in complying with the notification requirements and certain recordkeeping and reporting requirements under chapters 33-24-03 through 33-24-06.

4. The following hazardous wastes listed in sections 33-24-02-16 and 33-24-02-17 are subject to the exclusion limits for acutely hazardous wastes established in section 33-24-02-05: hazardous waste numbers F020, F021, F023, F026, and F027.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-02-16. Hazardous waste from nonspecific sources. The following solid wastes are listed hazardous wastes from nonspecific sources unless they are excluded under sections 33-24-01-06 and 33-24-01-08 and listed in Appendix VI.

Hazardous Waste No.	Hazardous Waste	Hazard Code
Generic:		

F001	The following spent halogenated solvents used in degreasing: tetrachloroethylene, trichloroethylene, methylene chloride, 1,1,1-trichloroethane, carbon tetrachloride, and chlorinated fluorocarbons; all spent solvent mixtures/blends used in degreasing containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those solvents listed in F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F002	The following spent halogenated solvents: tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane, and 1,1,2-trichloroethane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above halogenated solvents or those listed in F001, F004, or F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)
F003	The following spent nonhalogenated solvents: xylene, acetone, ethyl acetate, ethyl benzene, ethyl ether, methyl isobutyl ketone, n-butyl alcohol, cyclohexanone, and methanol; all spent solvent mixtures/blends containing, before use, only the above spent nonhalogenated solvents; and all spent solvent mixtures/blends containing, before use, one or more of the above nonhalogenated solvents, and, a total of ten percent or more (by volume) of one or more of those solvents listed in F001, F002, F004, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(T)*
F004	The following spent nonhalogenated solvents: cresols and cresylic acid, and nitrobenzene; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of the above nonhalogenated solvents or those solvents listed in F001, F002, and F005; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	(I)
F005	The following spent nonhalogenated solvents: toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, benzene, 2-ethoxyethanol, and 2-nitropropane; all spent solvent mixtures/blends containing, before use, a total of ten percent or more (by volume) of one or more of the above nonhalogenated solvents or those solvents listed in	(I,T)

	F001, F002, or F004; and still bottoms from the recovery of these spent solvents and spent solvent mixtures.	
F006	Wastewater treatment sludges from electroplating operations except from the following processes: (1) sulfuric acid anodizing of aluminum; (2) tin plating on carbon steel; (3) zinc plating (segregated basis) on carbon steel; (4) aluminum or zinc-aluminum plating on carbon steel; (5) cleaning/stripping associated with tin, zinc, and aluminum plating on carbon steel; and (6) chemical etching and milling of aluminum.	(T)
F019	Wastewater treatment sludges from the chemical conversion coating of aluminum.	(T)
F007	Spent cyanide plating bath solutions from electroplating operations.	(R, T)
F008	Plating bath ~~sludges~~ residues from the bottom of plating baths from electroplating operations where cyanides are used in the process.	(R, T)
F009	Spent stripping and cleaning bath solutions from electroplating operations where cyanides are used in the process.	(R, T)
F010	Quenching bath ~~sludge~~ residue from oil baths from metal heat treating operations where cyanides are used in the process.	(R, T)
F011	Spent cyanide solutions from salt bath pot cleaning from metal heat treating operations.	(R, T)
F012	Quenching wastewater treatment sludges from metal heat treating operations where cyanides are used in the process.	(T)
~~F024~~	~~Wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor cleanout wastes from the production of chlorinated aliphatic hydrocarbons, having carbon content from one to five, utilizing free radical catalyzed processes. (This listing does not include light ends, spent filters and filter aids, spent desiccants, wastewater, wastewater treatment sludges, spent catalysts, and wastes listed in section 33-24-02-17.)~~	~~(T)~~
F020	Wastes (except wastewater and spent carbon from	(H)

hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) or tri- or tetrachlorophenol, or of intermediates used to produce their pesticide derivatives. (This listing does not include wastes from the production of hexachlorophene from highly purified 2,4,5-trichlorophenol.)

F021 Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of pentachlorophenol, or of intermediates used to produce its derivatives. (H)

F022 Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzenes under alkaline conditions. (H)

F023 Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the production or manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tri- and tetrachlorophenols. (This listing does not include wastes from equipment used only for the production or use of hexachlorophene from highly purified 2,4,5-trichlorophenol.) (H)

F024 Process wastes, including but not limited to, distillation residues, heavy ends, tars, and reactor cleanout wastes, from the production of certain chlorinated aliphatic hydrocarbons by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution. (This listing does not include wastewaters, wastewater treatment sludges, spent catalysts, and wastes listed in section 33-24-02-16 or 33-24-02-17. (H)

F025 Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and (H)

	including five, with varying amounts and positions of chlorine substitution.	
F026	Wastes (except wastewater and spent carbon from hydrogen chloride purification) from the production of materials on equipment previously used for the manufacturing use (as a reactant, chemical intermediate, or component in a formulating process) of tetra-, penta-, or hexachlorobenzene under alkaline conditions.	(H)
F027	Discarded unused formulations containing tri-, tetra-, or pentachlorophenol or discarded unused formulations containing compounds derived from these chlorophenols. (This listing does not include formulations containing hexachlorophene synthesized from prepurified 2,4,5-trichlorophenol as the sole component).	(H)
F028	Residues resulting from the incineration or thermal treatment of soil contaminated with environmental protection agency hazardous waste Nos. F020, F021, F022, F023, F026, and F027.	(T)

*(I,T) should be used to specify mixtures containing ignitable and toxic constituents.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-02-17. Hazardous waste from specific sources. The following solid wastes are listed hazardous wastes from specific sources unless they are excluded under sections 33-24-01-06 and 33-24-01-08 and listed in appendix VI.

Hazardous Waste No.	Hazardous Waste	Hazard Code
Wood Preservation:		
K001	Bottom sediment sludge from the treatment of wastewaters from wood preserving processes that use creosote and/or pentachlorophenol.	(T)

Inorganic Pigments:		
K002	Wastewater treatment sludge from the production of chrome yellow and orange pigments.	(T)
K003	Wastewater treatment sludge from the production of molybdate orange pigments.	(T)
K004	Wastewater treatment sludge from the production of zinc yellow pigments.	(T)
K005	Wastewater treatment sludge from the production of chrome green pigments.	(T)
K006	Wastewater treatment sludge from the production of chrome oxide green pigments (anhydrous and hydrated).	(T)
K007	Wastewater treatment sludge from the production of iron blue pigments.	(T)
K008	Oven residue from the production of chrome oxide green pigments.	(T)
Organic Chemicals:		
K009	Distillation bottoms from the production of acetaldehyde from ethylene.	(T)
K010	Distillation side cuts from the production of acetaldehyde from ethylene.	(T)
K011	Bottom stream from the wastewater stripper in the production of acrylonitrile.	(R, T)
K013	Bottom stream from the acetonitrile column in the production of acrylonitrile.	(R, T)
K014	Bottoms from the acetonitrile purification column in the production of acrylonitrile.	(T)
K015	Still bottoms from the distillation of benzyl chloride.	(T)
K016	Heavy ends or distillation residues	(T)

	from the production of carbon tetrachloride.	
K017	Heavy ends (still bottoms) from the purification column in the production of epichlorohydrin.	(T)
K018	Heavy ends from the fractionation column in ethyl chloride production.	(T)
K019	Heavy ends from the distillation of ethylene dichloride in ethylene dichloride production.	(T)
K020	Heavy ends from the distillation of vinyl chloride in vinyl chloride monomer production.	(T)
K021	Aqueous spent antimony catalyst waste from fluoromethanes production.	(T)
K022	Distillation bottom tars from the production of phenol/acetone from cumene.	(T)
K023	Distillation light ends from the production of phthalic anhydride from naphthalene.	(T)
K024	Distillation bottoms from the production of phthalic anhydride from naphthalene.	(T)
K093	Distillation light ends from the production of phthalic anhydride from orthoxylene.	(T)
K094	Distillation bottoms from the production of phthalic anhydride from orthoxylene.	(T)
K025	Distillation bottoms from the production of nitrobenzene by the nitration of benzene.	(T)
K026	Stripping still tails from the production of methy ethyl pyridines.	(T)
K027	Centrifuge and distillation residues from toluene diisocyanate production.	(R, T)
K028	Spent catalyst from the	(T)

	hydrochlorinator reactor in the production of 1,1,1-trichloroethane.	
K029	Waste from the product steam stripper in the production of 1,1,1-trichloroethane.	(T)
K095	Distillation bottoms from the production of 1,1,1-trichlorethane.	(T)
K096	Heavy ends from the heavy ends column from the production of 1,1,1-trichloroethane.	(T)
K030	Column bottoms or heavy ends from the combined production of trichloroethylene and perchloroethylene.	(T)
K083	Distillation bottoms from aniline production.	(T)
K103	Process residues from aniline extraction from the production of aniline.	(T)
K104	Combined wastewater streams generated from nitrobenzene/aniline production.	(T)
K085	Distillation or fractionation column bottoms from the production of chlorobenzenes.	(T)
K105	Separated aqueous stream from the reactor product washing step in the production of chlorobenzenes.	(T)
K111	Product washwaters from the production of dinitrotoluene via nitration of toluene.	(C, T)
K112	Reaction byproduct water from the drying column in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K113	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K114	Vicinals from the purification of toluenediamine in the production of toluenediamine via hydrogenation	(T)

	of dinitrotoluene.	
K115	Heavy ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	(T)
K116	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.	(T)
K117	Wastewater from the reactor vent gas scrubber in the production of ethylene dibromide via bromination of ethene.	(T)
K118	Spent absorbent solids from purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	(T)
K136	Still bottoms from the purification of ethylene dibromide in the production of ethylene dibromide via bromination of ethene.	(T)
Inorganic Chemicals:		
K071	Brine purification muds from the mercury cell process in chlorine production, where separately prepurified brine is not used.	(T)
K073	Chlorinated hydrocarbon waste from the purification step of the diaphragm cell process using graphite anodes in chlorine production.	(T)
K106	Wastewater treatment sludge from the mercury cell process in chlorine production.	(T)
Pesticides:		
K031	Byproduct salts generated in the production of MSMA and cacodylic acid.	(T)
K032	Wastewater treatment sludge from the production of chlordane.	(T)
K033	Wastewater and scrub water from the chlorination of cyclopentadiene in the production of chlordane.	(T)

K034	Filter solids from the filtration of hexachlorocyclopentadiene in the production of chlordane.	(T)
K097	Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane.	(T)
K035	Wastewater treatment sludges generated in the production of creosote.	(T)
K036	Still bottoms from toluene reclamation distillation in the production of disulfoton.	(T)
K037	Wastewater treatment sludges from the production of disulfoton.	(T)
K038	Wastewater from the washing and stripping of phorate production.	(T)
K039	Filter cake from the filtration of diethylphosphorodithioic acid in the production of phorate.	(T)
K040	Wastewater treatment sludge from the production of phorate.	(T)
K041	Wastewater treatment sludge from the production of toxaphene.	(T)
K098	Untreated process wastewater from the production of toxaphene.	(T)
K042	Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T.	(T)
K043	2,6-Dichlorophenol waste from the production of 2,4-D.	(T)
K099	Untreated wastewater from the production of 2,4-D.	(T)
K123	Process wastewater (including supernates, filtrates, and washwaters) from the production of ethylenebisdithiocarbamic acid and its salts.	(T)
K124	Reactor vent scrubber water from the production of ethylenebis-	(C, T)

	dithiocarbamic acid and its salts.	
K125	Filtration, evaporation, and centrifugation solids from the production of ethylenebisdithiocarbamic acid and its salts.	(T)
K126	Baghouse dust and floor sweepings in milling and packaging operations from the production or formulation of ethylenebisdithiocarbamic acid and its salts.	(T)
K131	Wastewater from the reactor and spent sulfuric acid from the acid dryer from the production of methyl bromide.	(C,T)
K132	Spent absorbent and wastewater separator solids from the production of methyl bromide.	(T)
Explosives:		
K044	Wastewater treatment sludges from the manufacturing and processing of explosives.	(R)
K045	Spent carbon from the treatment of wastewater containing explosives.	(R)
K046	Wastewater treatment sludges from the manufacturing, formulation, and loading of lead-based initiating compounds.	(T)
K047	Pink/red water from TNT operations.	(R)
Petroleum Refining:		
K048	Dissolved air flotation (DAF) float from the petroleum refining industry.	(T)
K049	Slop oil emulsion solids from the petroleum refining industry.	(T)
K050	Heat exchanger bundle cleaning sludge from the petroleum refining industry.	(T)
K051	API separator sludge from the petroleum refining industry.	(T)
K052	Tank bottoms (leaded) from the petroleum refining industry.	(T)
Iron and Steel:		

K061	Emission control dust/sludge from the primary production of steel in electric furnaces.	(T)
K062	Spent pickle liquor generated by steel finishing operations of facilities within the iron and steel industry (standard industrial classification codes 331 and 332).	(C, T)
Primary Copper:		
K064	Acid plant blowdown slurry/sludge resulting from the thickening of blowdown slurry from primary copper production.	(T)
Primary Lead:		
K065	Surface impoundment solids contained in and dredged from surface impoundments at primary lead smelting facilities.	(T)
Primary Zinc:		
K066	Sludge from treatment of process wastewater and/or acid plant blowdown from primary zinc production.	(T)
Primary Aluminum:		
K088	Spent potliners from primary aluminum reduction.	(T)
Ferroalloys:		
K090	Emission control dust or sludge from ferrochromium-silicon production.	(T)
K091	Emission control dust or sludge from ferrochromium production.	(T)
Secondary Lead:		
K069	Emission control dust/sludge from secondary lead smelting.	(T)
K100	Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting.	(T)
Veterinary Pharmaceuticals:		
K084	Wastewater treatment sludges generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
K101	Distillation tar residues from the distillation of aniline-based compounds	(T)

	in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	
K102	Residue from the use of activated carbon for decolorization in the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds.	(T)
Ink Formulation:		
K086	Solvent washes and sludges, caustic washes and sludges, or water washes and sludges from cleaning tubs and equipment used in the formulation of ink from pigments, driers, soaps, and stabilizers containing chromium and lead.	(T)
Coking:		
K060	Ammonia still lime sludge from coking operations.	(T)
K087	Decanter tank tar sludge from coking operations.	(T)

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-02-18. Discarded commercial chemical products, off-specification species, container residues, and spill residues thereof. The following materials or items are hazardous wastes if and when they are discarded or intended to be discarded as described in paragraph 1 of subdivision b of subsection 1 of section 33-24-02-02, when they are mixed with waste oil or used oil or other material and applied to the land for dust suppression or road treatment, when they are otherwise applied to the land in lieu of their original intended use or when they are contained in products that are applied to the land in lieu of their original intended use, or when, in lieu of their original intended use, they are produced for use as (or as a component of) a fuel, distributed for use as a fuel, or burned as a fuel.

1. Any commercial chemical product, manufacturing chemical intermediate, or any mixture of the chemicals having the generic name listed in subsection 5 or 6.

2. Any off-specification commercial chemical product, manufacturing chemical intermediate, or any mixture of the chemicals which, if it met specifications, would have the generic name listed in subsection 5 or 6.

3. Any residue remaining in a container or in an inner liner removed from a container that has held any commercial chemical product, manufacturing chemical intermediate, or any mixture of the chemicals having the generic name listed in subsection 5 or 6, unless the container is empty as defined in subdivision c of subsection 2 of section 33-24-02-07.

   (NOTE: Unless the residue is being beneficially used or legitimately recycled or reclaimed; or being accumulated, stored, transported, or treated prior to such use, reuse, recycling, or reclamation, the department considers the residue to be intended for discard, and thus a hazardous waste. An example of a legitimate reuse of the residue would be where the residue remains in the container and the container is used to hold the same commercial chemical product or manufacturing chemical intermediate it previously held. An example of the discard of the residue would be where the drum is sent to a drum reconditioner who reconditions the drum but discards the residue.)

4. Any residue or contaminated soil, water, or other debris, resulting from the cleanup of a spill, into or on any land or water, of any commercial chemical product, manufacturing chemical intermediate, or mixture of the chemicals having the generic name listed in subsection 5 or 6, or any residue or contaminated soil, water, or other debris resulting from the cleanup of a spill into or on any land or water of any off-specification chemical product, manufacturing chemical

intermediate, or mixture of the chemicals, which, if it met specifications would have the generic name listed in subsection 5 or 6. (Comment: The phrase "commercial chemical product or manufacturing chemical intermediate having the generic name listed in . . ." refers to a chemical substance which is manufactured or formulated for commercial or manufacturing use, which consists of the commercially pure grade of the chemical, any technical grades of the chemical, that are produced or marketed, and all formulations containing one or more of the chemicals having the generic name listed in subsection 5 or 6 as active ingredients. It does not refer to a material, such as a manufacturing process waste, that contains any of the substances listed in subsection 5 or 6. Where a manufacturing process is deemed to be a hazardous waste because it contains a substance listed in subsection 5 or 6, such wastes will be listed in either section 33-24-02-16 or 33-24-02-17 or will be identified as a hazardous waste by the characteristic set forth in this chapter.)

5. The commercial chemical products, manufacturing chemical intermediates, off-specification commercial chemical products or manufacturing chemical intermediates, or mixtures of the chemicals referred to in subsections 1 through 4, are identified as acute hazardous wastes (H) and are subject to the small quantity exclusion defined in subsection 5 of section 33-24-02-05. These wastes and their corresponding hazardous waste numbers are:

Hazardous Waste No.	Chemical Abstracts No.	Substance
P023	107-20-0	Acetaldehyde, chloro-
P002	591-08-2	Acetamide, N-(aminothioxomethyl)-
P057	640-19-7	Acetamide, 2-fluoro-
P058	62-74-8	Acetic acid, fluoro-, sodium salt
P002	591-08-2	1-Acetyl-2-thiourea
P003	107-02-8	Acrolein
P070	116-06-3	Aldicarb
P004	309-00-2	Aldrin
P005	107-18-6	Allyl alcohol
P006	20859-73-8	Aluminum phosphide (R,T)
P007	2763-96-4	5-(Aminomethyl)-3-isoxazolol
P008	504-24-5	4-Aminopyridine
P009	131-74-8	Ammonium picrate (R)
P119	7803-55-6	Ammonium vanadate
P099	506-61-6	Argentate(1-), bis(cyano-C)-, potassium
P010	7778-39-4	Arsenic acid H_3AsO_4
P012	1327-53-3	Arsenic oxide As_2O_3
P011	1303-28-2	Arsenic oxide As_2O_5
P011	1303-28-2	Arsenic pentoxide
P012	1327-53-3	Arsenic trioxide
P038	692-42-2	Arsine, diethyl
P036	696-28-6	Arsonous dichloride, phenyl-
P054	151-56-4	Aziridine
P067	75-55-8	Aziridine, 2-methyl-
P013	542-62-1	Barium cyanide
P024	106-47-8	Benzenamine, 4-chloro-

Hazardous Waste No.	Chemical Abstracts No.	Substance
P077	100-01-6	Benzenamine, 4-nitro-
P028	100-44-7	Benzene, (chloromethyl)-
P042	51-43-4	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-,(R)-
P046	122-09-8	Benzeneethanamine, alpha,alpha-dimethyl-
P014	108-98-5	Benzenethiol
P001	[1]81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, & salts, when present at concentrations greater than 0.3%
P028	100-44-7	Benzyl chloride
P015	7440-41-7	Beryllium
P017	598-31-2	Bromoacetone
P018	357-57-3	Brucine
P045	39196-18-4	2-Butanone, 3,3-dimethyl-1-(methylthio)-, O-[methylamino)carbonyl] oxime
P021	592-01-8	Calcium cyanide
P021	592-01-8	Calcium cyanide $Ca(CN)_2$
P022	75-15-0	Carbon disulfide
P095	75-44-5	Carbonic dichloride
P023	107-20-0	Chloroacetaldehyde
P024	106-47-8	p-Chloroaniline
P026	5344-82-1	1-(o-Chlorophenyl)thiourea
P027	542-76-7	3-Chloropropionitrile
P029	544-92-3	Copper cyanide
P029	544-92-3	Copper cyanide Cu(CN)
P030	.....	Cyanides (soluble cyanide salts), not otherwise specified
P031	460-19-5	Cyanogen
P033	506-77-4	Cyanogen chloride
PO33	506-77-4	Cyanogen chloride (CN)Cl
P034	131-89-5	2-Cyclohexyl-4,6-dinitrophenol
P016	542-88-1	Dichloromethyl ether
P036	696-28-6	Dichlorophenylarsine
P037	60-57-1	Dieldrin
P038	692-42-2	Diethylarsine
P041	311-45-5	Diethyl-p-nitrophenyl phosphate
P040	297-97-2	O,O-Diethyl O-pyrazinyl phosphorothioate
P043	55-91-4	Diisopropylfluorophosphate (DFP)
P004	309-00-2	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-,(1alpha,4alpha,4abeta,5alpha, 8alpha,8abeta)-
P060	465-73-6	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-,(1alpha,4alpha,4abeta,5beta, 8beta,8abeta)-
P037	60-57-1	2,7:3,6-Dimethanonaphth[2,3b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-,(1aalpha,2beta, 2aalpha,3beta,6beta,6aalpha,7beta,7aalpha)-
P051	[1]72-20-8	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro,(1aalpha,2beta, 2abeta,3alpha,6alpha,6abeta,7beta,7aalpha)-, & metabolites
P044	60-51-5	Dimethoate
P046	122-09-8	alpha, alpha-Dimethylphenethylamine
P047	[1]534-52-1	4,6-Dinitro-o-cresol and salts
P048	51-28-5	2,4-Dinitrophenol
P020	88-85-7	Dinoseb
P085	152-16-9	Diphosphoramide, octamethyl-
P111	107-49-3	Diphosphoric acid, tetraethyl ester
P039	298-04-4	Disulfoton
P049	541-53-7	Dithiobiuret
P050	115-29-7	Endosulfan
P088	145-73-3	Endothall
P051	72-20-8	Endrin

Hazardous Waste No.	Chemical Abstracts No.	Substance
P051	72-20-8	Endrin, & metabolites
P042	51-43-4	Epinephrine
P031	460-19-5	Ethanedinitrile
P066	16752-77-5	Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-,methyl ester
P101	107-12-0	Ethyl cyanide
P054	151-56-4	Ethyleneimine
P097	52-85-7	Famphur
P056	7782-41-4	Fluorine
P057	640-19-7	Fluoroacetamide
P058	62-74-8	Fluoroacetic acid, sodium salt
P065	628-86-4	Fulminic acid, mercury(2+)salt (R,T)
P059	76-44-8	Heptachlor
P062	757-58-4	Hexaethyl tetraphosphate
P116	79-19-6	Hydrazinecarbothioamide
P068	60-34-4	Hydrazine, methyl-
P063	74-90-8	Hydrocyanic acid
P063	74-90-8	Hydrogen cyanide
P096	7803-51-2	Hydrogen phosphide
P060	465-73-6	Isodrin
P007	2763-96-4	3(2H)-Isoxazolone, 5-(aminomethyl)-
P092	62-38-4	Mercury, (acetato-O)phenyl-
P065	628-86-4	Mercury fulminate (R,T)
P082	62-75-9	Methanamine, N-methyl-N-nitroso-
P064	624-83-9	Methane, isocyanato-
P016	542-88-1	Methane, oxybis[chloro-
P112	509-14-8	Methane, tetranitro- (R)
P118	75-70-7	Methanethiol, trichloro-
P050	115-29-7	6,9-Methano-2,4,3-benxodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide
P059	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-
P066	16752-77-5	Methomyl
P068	60-34-4	Methyl hydrazine
P064	624-83-9	Methyl isocyanate
P069	75-86-5	2-Methyllactonitrile
P071	298-00-0	Methyl parathion
P072	86-88-4	alpha-Naphthylthiourea
P073	13463-39-3	Nickel carbonyl
P073	13463-39-3	Nickel carbonyl $Ni(CO)_4$, (T-4)-
P074	557-19-7	Nickel cyanide
P074	557-19-7	Nickel cynaide $Ni(CN)_2$
P075	[1]54-11-5	Nicotine and salts
P076	10102-43-9	Nitric oxide
P077	100-01-6	p-Nitroaniline
P078	10102-44-0	Nitrogen dioxide
P076	10102-43-9	Nitrogen oxide NO
P078	10102-44-0	Nitrogen oxide NO_2
P081	55-63-0	Nitroglycerine (R)
P082	62-75-9	N-Nitrosodimethylamine
P084	4549-40-0	N-Nitrosomethylvinylamine
P085	152-16-9	Octamethylpyrophosphoramide
P087	20816-12-0	Osmium oxide OsO_4, (T-4)-
P087	20816-12-0	Osmium tetroxide
P088	145-73-3	7-Oxabicyclo[2.2.1]heptane-2,3-dicarboxylic acid
P089	56-38-2	Parathion
P034	131-89-5	Phenol, 2-cyclohexyl-4,6-dinitro-
P048	51-28-5	Phenol, 2,4-dinitro-
P047	[1]534-52-1	Phenol, 2-methyl-4,6-dinitro-, and salts

Hazardous Waste No.	Chemical Abstracts No.	Substance
P020	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-
P009	131-74-8	Phenol, 2,4,6-trinitro-, ammonium salt (R)
P092	62-38-4	Phenylmercury acetate
P093	103-85-5	Phenylthiourea
P094	298-02-2	Phorate
P095	75-44-5	Phosgene
P096	7803-51-2	Phosphine
P041	311-45-5	Phosphoric acid, diethyl 4-nitrophenyl ester
P039	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester
P094	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester
P044	60-51-5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester
P043	55-91-4	Phosphorofluoridic acid, bis(1-methylethyl) ester
P089	56-38-2	Phosphorothioic acid, O,O-diethyl O-(4-nitrophenyl) ester
P040	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester
P097	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl] O,O-dimethyl ester
P071	298-00-0	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl)ester
P110	78-00-2	Plumbane, tetraethyl-
P098	151-50-8	Potassium cyanide
P098	151-50-8	Potassium cyanide K(CN)
P099	506-61-6	Potassium silver cyanide
P070	116-06-3	Propanal, 2-methyl-2-(methylthio)-, O-[(methylamino)carbonyl]oxime
P101	107-12-0	Propanenitrile
P027	542-76-7	Propanenitrile, 3-chloro-
P069	75-86-5	Propanenitrile, 2-hydroxy-2methyl-
P081	55-63-0	1,2,3-Propanetriol, trinitrate (R)
P017	598-31-2	2-Propanone, 1-bromo-
P102	107-19-7	Propargyl alcohol
P003	107-02-8	2-Propenal
P005	107-18-6	2-Propen-1-ol
P067	75-55-8	1,2-Propylenimine
P102	107-19-7	2-Propyn-1-ol
P008	504-24-5	Pyridinamine
P075	[1]54-11-5	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S), & salts
P114	12039-52-0	Selenious acid, dithallium(1+) salt
P103	630-10-4	Selenourea
P104	506-64-9	Silver cyanide
P104	506-64-9	Silver cyanide Ag(CN)
P105	26628-22-8	Sodium azide
P106	143-33-9	Sodium cyanide
P106	143-33-9	Sodium cyanide Na(CN)
P107	1314-96-1	Strontium sulfide
P107	1314-96-1	Strontium sulfide SrS
P108	[1]57-24-9	Strychnidin-10-one, and salts
P018	357-57-3	Strychnidin-10-one, 2,3-dimethoxy-
P108	[1]57-24-9	Strychnine and salts
P115	7446-18-6	Sulfuric acid, dithallium(1+) salt
P109	3689-24-5	Tetraethyldithiopyrophosphate
P110	78-00-2	Tetraethyl lead
P111	107-49-3	Tetraethyl pyrophosphate
P112	509-14-8	Tetranitromethane (R)
P062	757-58-4	Tetraphosphoric acid, hexaethyl ester
P113	1314-32-5	Thallic oxide
P113	1314-32-5	Thallium oxide Tl_2O_3
P114	12039-52-0	Thallium(I) selenite

Hazardous Waste No.	Chemical Abstracts No.	Substance
P115	7446-18-6	Thallium(I) sulfate
P109	3689-24-5	Thiodiphosphoric acid, tetraethyl ester
P045	39196-18-4	Thiofanox
P049	541-53-7	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$
P014	108-98-5	Thiophenol
P116	79-19-6	Thiosemicarbazide
P026	5344-82-1	Thiourea, (2-chlorophenyl)-
P072	86-88-4	Thiourea, 1-naphthalenyl-
P093	103-85-5	Thiourea, phenyl-
P123	8001-35-2	Toxaphene
P118	75-70-7	Trichloromethanethiol
P119	7803-55-6	Vanadic acid, ammonium salt
P120	1314-62-1	Vanadium oxide V_2O_5
P120	1314-62-1	Vanadium pentoxide
P084	4549-40-0	Vinylamine, N-methyl-N-nitroso-
P001	[1]81-81-2	Warfarin, & salts, when present at concentrations greater than 0.3%
P121	557-21-1	Zinc cyanide
P121	557-21-1	Zinc cyanide $Zn(CN)_2$
P122	1314-84-7	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10% (R, T)

[1]CAS Number given for parent compound only.

6. The commercial chemical products, manufacturing chemical intermediates, off-specification commercial chemical products, or mixtures of the chemicals referred to in subsections 1 through 4, are identified as toxic wastes (T) unless otherwise designated and are subject to the small quantity exclusion defined in subsections 1 and 6 of section 33-24-02-05.

(Comment: For the convenience of the regulated community, the primary hazardous properties of these materials have been indicated by the letters T (toxicity), R (reactivity), I (ignitability), and C (corrosivity). Absence of a letter indicates that the compound is only listed for toxicity.)

These wastes and their corresponding hazardous waste numbers are:

New Table

Hazardous Waste No.	Chemical Abstracts No.	Substance
U001	75-07-0	Acetaldehyde (I)
U034	75-87-6	Acetaldehyde, trichloro-
U187	62-44-2	Acetamide, N-(4-ethoxyphenyl)-
U005	53-96-3	Acetamide, N-9H-fluoren-2-yl
U240	[1]94-75-7	Acetic acid, (2,4-dichlorophenoxy)-, salts & esters
U112	141-78-6	Acetic acid, ethyl ester (I)

Hazardous Waste No.	Chemical Abstracts No.	Substance
U144	301-04-2	Acetic acid, lead(2+) salt
U214	563-68-8	Acetic acid, thallium (1+) salt
see F027	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-
U002	67-64-1	Acetone (I)
U003	75-05-8	Acetonitrile (I,T)
U004	98-86-2	Acetophenone
U005	53-96-3	2-Acetylaminofluorene
U006	75-36-5	Acetyl chloride (C,R,T)
U007	79-06-1	Acrylamide
U008	79-10-7	Acrylic acid (I)
U009	107-13-1	Acrylonitrile
U011	61-82-5	Amitrole
U012	62-53-3	Aniline (I,T)
U136	75-60-5	Arsinic acid, dimethyl-
U014	492-80-8	Auramine
U015	115-02-6	Azaserine
U010	50-07-7	Azirino[2',3':3,4]pyrrolo[1,2-a]indole-4,7-dione, 6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-[1aS-(1aalpha, 8beta, 8aalpha, 8balpha)]-
U157	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-
U016	225-51-4	Benz[c]acridine
U017	98-87-3	Benzal chloride
U192	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-
U018	56-55-3	Benz[a]anthracene
U094	57-97-6	Benz[a]anthracene, 7,12-dimethyl-
U012	62-53-3	Benzenamine (I,T)
U014	492-80-8	Benzenamine, 4,4'-carbonimidoylbis[N,N-dimethyl-
U049	3165-93-3	Benzenamine, 4-chloro-2-methyl-, hydrochloride
U093	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-
U328	95-53-4	Benzenamine, 2-methyl-
U353	106-49-0	Benzenamine, 4-methyl-
U158	101-14-4	Benzenamine, 4,4'-methylenebis[2-chloro-
U222	636-21-5	Benzenamine, 2-methyl-, hydrochloride
U181	99-55-8	Benzenamine, 2-methyl-5-nitro-
U019	71-43-2	Benzene (I,T)
U038	510-15-6	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy-, ethyl ester
U030	101-55-3	Benzene, 1-bromo-4-phenoxy-
U035	305-03-3	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-
U037	108-90-7	Benzene, chloro-
U221	25376-45-8	Benzenediamine, ar-methyl-
U028	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester
U069	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester
U088	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester
U102	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester
U107	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester
U070	95-50-1	Benzene, 1,2-dichloro-
U071	541-73-1	Benzene, 1,3-dichloro-
U072	106-46-7	Benzene, 1,4-dichloro-
U060	72-54-8	Benzene, 1,1'-(2,2-dichloroethylidene)bis[4-chloro-
U017	98-87-3	Benzene, (dichloromethyl)-
U223	26471-62-5	Benzene, 1,3-diisocyanatomethyl- (R,T)
U239	1330-20-7	Benzene, dimethyl- (I,T)
U201	108-46-3	1,3-Benzenediol
U127	118-74-1	Benzene, hexachloro-
U056	110-82-7	Benzene, hexahydro- (I)
U220	108-88-3	Benzene, methyl-
U105	121-14-2	Benzene, 1-methyl-2,4-dinitro-
U106	606-20-2	Benzene, 2-methyl-1,3-dinitro-

Hazardous Waste No.	Chemical Abstracts No.	Substance
U055	98-82-8	Benzene, (1-methylethyl)- (I)
U169	98-95-3	Benzene, nitro-
U183	608-93-5	Benzene, pentachloro-
U185	82-68-8	Benzene, pentachloronitro-
U020	98-09-9	Benzenesulfonic acid chloride (C,R)
U020	98-09-9	Benzenesulfonyl chloride (C,R)
U207	95-94-3	Benzene, 1,2,4,5-tetrachloro-
U061	50-29-3	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-
U247	72-43-5	Benzene, 1,1'-(2,2,2-trichloroethylidene)bis[4-methoxy-
U023	98-07-7	Benzene, (trichloromethyl)-
U234	99-35-4	Benzene, 1,3,5-trinitro-
U021	92-87-5	Benzidine
U202	[1]81-07-2	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide, & salts
U203	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-
U141	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-
U090	94-58-6	1,3-Benzodioxole, 5-propyl-
U064	189-55-9	Benzo[rst]pentaphene
U248	[1]81-81-2	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenyl-butyl)-, & salts, when present at concentrations of 0.3% or less
U022	50-32-8	Benzo[a]pyrene
U197	106-51-4	p-Benzoquinone
U023	98-07-7	Benzotrichloride (C,R,T)
U085	1464-53-5	2,2'-Bioxirane
U021	92-87-5	[1,1'-Biphenyl]-4,4'-diamine
U073	91-94-1	[1,1'Biphenyl]-4,4'-diamine, 3,3'-dichloro-
U091	119-90-4	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-
U095	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-
U225	75-25-2	Bromoform
U030	101-55-3	4-Bromophenyl phenyl ether
U128	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-
U172	924-16-3	1-Butanamine, N-butyl-N-nitroso-
U031	71-36-3	1-Butanol (I)
U159	78-93-3	2-Butanone (I,T)
U160	1338-23-4	2-Butanone peroxide (R,T)
U053	4170-30-3	2-Butenal
U074	764-41-0	2-Butene, 1,4-dichloro- (I,T)
U143	303-34-4	2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy]methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S-[1alpha(Z),7(2S*,3R*), 7aalpha]]-
U031	71-36-3	n-Butyl alcohol (I)
U136	75-60-5	Cacodylic acid
U032	13765-19-0	Calcium chromate
U238	51-79-6	Carbamic acid, ethyl ester
U178	615-53-2	Carbamic acid, methylnitroso-, ethyl ester
U097	79-44-7	Carbamic chloride, dimethyl-
U114	[1]111-54-6	Carbamodithioic acid, 1,2-ethanediylbis-, salts and esters
U062	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester
U215	6533-73-9	Carbonic acid, dithallium(1+) salt
U033	353-50-4	Carbon difluoride
U156	79-22-1	Carbonochloridic acid, methyl ester (I,T)
U033	353-50-4	Carbon oxyfluoride (R,T)
U211	56-23-5	Carbon tetrachloride
U034	75-87-6	Chloral
U035	305-03-3	Chlorambucil
U036	57-74-9	Chlordane, alpha & gamma isomers
U026	494-03-1	Chlornaphazine
U037	108-90-7	Chlorobenzene
U038	510-15-6	Chlorobenzilate

Hazardous Waste No.	Chemical Abstracts No.	Substance
U039	59-50-7	4-Chloro-m-cresol
U042	110-75-8	2-Chloroethyl vinyl ether
U044	67-66-3	Chloroform
U046	107-30-2	Chloromethyl methyl ether
U047	91-58-7	beta-Chloronaphthalene
U048	95-57-8	o-Chlorophenol
U049	3165-93-3	4-Chloro-o-toluidine, hydrochloride
U032	13765-19-0	Chromic acid H_2CrO_4, calcium salt
U050	218-01-9	Chrysene
U051	.....	Creosote
U052	1319-77-3	Cresol (Cresylic acid)
U053	4170-30-3	Crotonaldehyde
U055	98-82-8	Cumene (I)
U246	506-68-3	Cyanogen bromide (CN)Br
U197	106-51-4	2,5-Cyclohexadiene-1,4-dione
U056	110-82-7	Cyclohexane (I)
U129	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha,6beta)
U057	108-94-1	Cyclohexanone (I)
U130	77-47-4	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-
U058	50-18-0	Cyclophosphamide
U240	[1]94-75-7	2,4-D, salts and esters
U059	20830-81-3	Daunomycin
U060	72-54-8	DDD
U061	50-29-3	DDT
U062	2303-16-4	Diallate
U063	53-70-3	Dibenz[a,h]anthracene
U064	189-55-9	Dibenzo[a,i]pyrene
U066	96-12-8	1,2-Dibromo-3-chloropropane
U069	84-74-2	Dibutyl phthalate
U070	95-50-1	o-Dichlorobenzene
U071	541-73-1	m-Dichlorobenzene
U072	106-46-7	p-Dichlorobenzene
U073	91-94-1	3,3'-Dichlorobenzidine
U074	764-41-0	1,4-Dichloro-2-butene (I,T)
U075	75-71-8	Dichlorodifluoromethane
U078	75-35-4	1,1-Dichloroethylene
U079	156-60-5	1,2-Dichloroethylene
U025	111-44-4	Dichloroethyl ether
U027	108-60-1	Dichloroisopropyl ether
U024	111-91-1	Dichloromethoxy ethane
U081	120-83-2	2,4-Dichlorophenol
U082	87-65-0	2,6-Dichlorophenol
U084	542-75-6	1,3-Dichloropropene
U085	1464-53-5	1,2:3,4-Diepoxybutane (I,T)
U108	123-91-1	1,4-Diethyleneoxide
U028	117-81-7	Diethylhexyl phthalate
U086	1615-80-1	N,N'-Diethylhydrazine
U087	3288-58-2	O,O-Diethyl S-methyl-dithiophosphate
U088	84-66-2	Diethyl phthalate
U089	56-53-1	Diethylstilbesterol
U090	94-58-6	Dihydrosafrole
U091	119-90-4	3,3'-Dimethoxybenzidine
U092	124-40-3	Dimethylamine (I)
U093	60-11-7	p-Dimethylaminoazobenzene
U094	57-97-6	7,12-Dimethylbenz[a]anthracene
U095	119-93-7	3,3'-Dimethylbenzidine
U096	80-15-9	alpha,alpha-Dimethylbenzylhydroperoxide (R)
U097	79-44-7	Dimethylcarbamoyl chloride

Hazardous Waste No.	Chemical Abstracts No.	Substance
U098	57-14-7	1,1-Dimethylhydrazine
U099	540-73-8	1,2-Dimethylhydrazine
U101	105-67-9	2,4-Dimethylphenol
U102	131-11-3	Dimethyl phthalate
U103	77-78-1	Dimethyl sulfate
U105	121-14-2	2,4-Dinitrotoluene
U106	606-20-2	2,6-Dinitrotoluene
U107	117-84-0	Di-n-octyl phthalate
U108	123-91-1	1,4-Dioxane
U109	122-66-7	1,2-Diphenylhydrazine
U110	142-84-7	Dipropylamine (I)
U111	621-64-7	Di-n-propylnitrosamine
U041	106-89-8	Epichlorohydrin
U001	75-07-0	Ethanal (I)
U174	55-18-5	Ethanamine, N-ethyl-N-nitroso-
U155	91-80-5	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-
U067	106-93-4	Ethane, 1,2-dibromo-
U076	75-34-3	Ethane, 1,1-dichloro-
U077	107-06-2	Ethane, 1,2-dichloro-
U131	67-72-1	Ethane, hexachloro-
U024	111-91-1	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-
U117	60-29-7	Ethane, 1,1'-oxybis- (I)
U025	111-44-4	Ethane, 1,1'-oxybis[2-chloro-
U184	76-01-7	Ethane, pentachloro-
U208	630-20-6	Ethane, 1,1,1,2-tetrachloro-
U209	79-34-5	Ethane, 1,1,2,2-tetrachloro-
U218	62-55-5	Ethanethioamide
U226	71-55-6	Ethane, 1,1,1-trichloro-
U227	79-00-5	Ethane, 1,1,2-trichloro-
U359	110-80-5	Ethanol, 2-ethoxy-
U173	1116-54-7	Ethanol, 2,2'-(nitrosoimino)bis-
U004	98-86-2	Ethanone, 1-phenyl-
U043	75-01-4	Ethene, chloro-
U042	110-75-8	Ethene, (2-chloroethoxy)-
U078	75-35-4	Ethene, 1,1-dichloro-
U079	156-60-5	Ethene, 1,2-dichloro-, (E)-
U210	127-18-4	Ethene, tetrachloro-
U228	79-01-6	Ethene, trichloro-
U112	141-78-6	Ethyl acetate (I)
U113	140-88-5	Ethyl acrylate (I)
U238	51-79-6	Ethyl carbamate (urethane)
U117	60-29-7	Ethyl ether (I)
U114	[1]111-54-6	Ethylenebisdithiocarbamic acid, salts and esters
U067	106-93-4	Ethylene dibromide
U077	107-06-2	Ethylene dichloride
U359	110-80-5	Ethylene glycol monoethyl ether
U115	75-21-8	Ethylene oxide (I,T)
U116	96-45-7	Ethylenethiourea
U076	75-34-3	Ethylidene dichloride
U118	97-63-2	Ethyl methacrylate
U119	62-50-0	Ethyl methanesulfonate
U120	206-44-0	Fluoranthene
U122	50-00-0	Formaldehyde
U123	64-18-6	Formic acid (C,T)
U124	110-00-9	Furan (I)
U125	98-01-1	2-Furancarboxaldehyde (I)
U147	108-31-6	2,5-Furandione
U213	109-99-9	Furan, tetrahydro- (I)
U125	98-01-1	Furfural (I)

Hazardous Waste No.	Chemical Abstracts No.	Substance
U124	110-00-9	Furfuran (I)
U206	18883-66-4	Glucopyranose, 2-deoxy-2(3-methyl-3-nitrosoureido)-, D-
U206	18883-66-4	D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)-carbonyl]amino]-
U126	765-34-4	Glycidylaldehyde
U163	70-25-7	Guanidine, N-methyl-N'-nitro-N-nitroso-
U127	118-74-1	Hexachlorobenzene
U128	87-68-3	Hexachlorobutadiene
U130	77-47-4	Hexachlorocyclopentadiene
U131	67-72-1	Hexachloroethane
U132	70-30-4	Hexachlorophene
U243	1888-71-7	Hexachloropropene
U133	302-01-2	Hydrazine (R,T)
U086	1615-80-1	Hydrazine, 1,2-diethyl-
U098	57-14-7	Hydrazine, 1,1-dimethyl-
U099	540-73-8	Hydrazine, 1,2-dimethyl-
U109	122-66-7	Hydrazine, 1,2-diphenyl-
U134	7664-39-3	Hydrofluoric acid (C,T)
U134	7664-39-3	Hydrogen fluoride (C,T)
U135	7783-06-4	Hydrogen sulfide
U135	7783-06-4	Hydrogen sulfide H_2S
U096	80-15-9	Hydroperoxide, 1-methyl-1-phenylethyl- (R)
U116	96-45-7	2-Imidazolidinethione
U137	193-39-5	Indeno[1,2,3-cd]pyrene
U139	9004-66-4	Iron dextran
U190	85-44-9	1,3-Isobenzofurandione
U140	78-83-1	Isobutyl alcohol (I,T)
U141	120-58-1	Isosafrole
U142	143-50-0	Kepone
U143	303-34-4	Lasiocarpine
U144	301-04-2	Lead acetate
U146	1335-32-6	Lead, bis(acetato-O)tetrahydroxytri-
U145	7446-27-7	Lead phosphate
U146	1335-32-6	Lead subacetate
U129	58-89-9	Lindane
U163	70-25-7	MNNG
U147	108-31-6	Maleic anhydride
U148	123-33-1	Maleic hydrazide
U149	109-77-3	Malononitrile
U150	148-82-3	Melphalan
U151	7439-97-6	Mercury
U152	126-98-7	Methacrylonitrile (I,T)
U092	124-40-3	Methanamine, N-methyl- (I)
U029	74-83-3	Methane, bromo-
U045	74-87-3	Methane, chloro- (I,T)
U046	107-30-2	Methane, chloromethoxy-
U068	74-95-3	Methane, dibromo-
U080	75-09-2	Methane, dichloro-
U075	75-71-8	Methane, dichlorodifluoro-
U138	74-88-4	Methane, iodo-
U119	62-50-0	Methanesulfonic acid, ethyl ester
U211	56-23-5	Methane, tetrachloro-
U153	74-93-1	Methanethiol (I,T)
U225	75-25-2	Methane, tribromo-
U044	67-66-3	Methane, trichloro-
U121	75-69-4	Methane, trichlorofluoro-
U036	57-74-9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-
U154	67-56-1	Methanol (I)
U155	91-80-5	Methapyrilene

Hazardous Waste No.	Chemical Abstracts No.	Substance
U142	143-50-0	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one, 1,1a,3,3a, 4,5,5,5a,5b,6-decachloroctahyrdo-
U247	72-43-5	Methoxychlor
U154	67-56-1	Methyl alcohol (I)
U029	74-83-9	Methyl bromide
U186	504-60-9	1-Methylbutadiene (I)
U045	74-87-3	Methyl chloride (I,T)
U156	79-22-1	Methyl chlorocarbonate (I,T)
U226	71-55-6	Methyl chloroform
U157	56-49-5	3-Methylcholanthrene
U158	101-14-4	4,4'-Methylenebis(2-chloroaniline)
U068	74-95-3	Methylene bromide
U080	75-09-2	Methylene chloride
U159	78-93-3	Methyl ethyl ketone (MEK) (I,T)
U160	1338-23-4	Methyl ethyl ketone peroxide (R,T)
U138	74-88-4	Methyl iodide
U161	108-10-1	Methyl isobutyl ketone (I)
U162	80-62-6	Methyl methacrylate (I,T)
U161	108-10-1	4-Methyl-2-pentanone (I)
U164	56-04-2	Methylthiouracil
U010	50-07-7	Mitomycin C
U059	20830-81-3	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy)-alpha-L-lyxo-hexopyranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-
U167	134-32-7	1-Naphthalenamine
U168	91-59-8	2-Naphthalenamine
U026	494-03-1	Naphthalenamine, N,N'-bis(2-chloroethyl)-
U165	91-20-3	Naphthalene
U047	91-58-7	Naphthalene, 2-chloro-
U166	130-15-4	1,4-Naphthalenedione
U236	72-57-1	2,7-Naphthalenedisulfonic acid, 3,3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'diyl)bis(azo)bis[5-amino-4-hydroxy]-, tetrasodium salt
U166	130-15-4	1,4-Naphthoquinone
U167	134-32-7	alpha-Naphthylamine
U168	91-59-8	beta-Naphthylamine
U217	10102-45-1	Nitric acid, thallium(1+) salt
U169	98-95-3	Nitrobenzene (I,T)
U170	100-02-7	p-Nitrophenol
U171	79-46-9	2-Nitropropane (I,T)
U172	924-16-3	N-Nitrosodi-n-butylamine
U173	1116-54-7	N-Nitrosodiethanolamine
U174	55-18-5	N-Nitrosodiethylamine
U176	759-73-9	N-Nitroso-N-ethylurea
U177	684-93-5	N-Nitroso-N-methylurea
U178	615-53-2	N-Nitroso-N-methylurethane
U179	100-75-4	N-Nitrosopiperidine
U180	930-55-2	N-Nitrosopyrrolidine
U181	99-55-8	5-Nitro-o-toluidine
U193	1120-71-4	1,2-Oxathiolane, 2,2-dioxide
U058	50-18-0	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide
U115	75-21-8	Oxirane (I,T)
U126	765-34-4	Oxiranecarboxyaldehyde
U041	106-89-8	Oxirane, (chloromethyl)-
U182	123-63-7	Paraldehyde
U183	608-93-5	Pentachlorobenzene
U184	76-01-7	Pentachloroethane
U185	82-68-8	Pentachloronitrobenzene (PCNB)
See F027	87-86-5	Pentachlorophenol

Hazardous Waste No.	Chemical Abstracts No.	Substance
U161	108-10-1	Pentanol, 4-methyl-
U186	504-60-9	1,3-Pentadiene (I)
U187	62-44-2	Phenacetin
U188	108-95-2	Phenol
U048	95-57-8	Phenol, 2-chloro-
U039	59-50-7	Phenol, 4-chloro-3-methyl-
U081	120-83-2	Phenol, 2,4-dichloro-
U082	87-65-0	Phenol, 2,6-dichloro-
U089	56-53-1	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis-, (E)-
U101	105-67-9	Phenol, 2,4-dimethyl-
U052	1319-77-3	Phenol, methyl-
U132	70-30-4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-
U170	100-02-7	Phenol, 4-nitro-
See F027	87-86-5	Phenol, pentachloro-
See F027	58-90-2	Phenol, 2,3,4,6-tetrachloro-
See F027	95-95-4	Phenol, 2,4,5-trichloro-
See F027	88-06-2	Phenol, 2,4,6-trichloro-
U150	148-82-3	L-Phenylalanine, 4-[bis(2-chloroethyl)amino]-
U145	7446-27-7	Phosphoric acid, lead(2+) salt (2:3)
U087	3288-58-2	Phosphorodithioic acid, 0,0-diethyl S-methyl ester
U189	1314-80-3	Phosphorus sulfide (R)
U190	85-44-9	Phthalic anhydride
U191	109-06-8	2-Picoline
U179	100-75-4	Piperidine, 1-nitroso-
U192	23950-58-5	Pronamide
U194	107-10-8	1-Propanamine (I,T)
U111	621-64-7	1-Propanamine, N-nitroso-N-propyl-
U110	142-84-7	1-Propanamine, N-propyl- (I)
U066	96-12-8	Propane, 1,2-dibromo-3-chloro-
U083	78-87-5	Propane, 1,2-dichloro-
U149	109-77-3	Propanedinitrile
U171	79-46-9	Propane, 2-nitro- (I,T)
U027	108-60-1	Propane, 2,2'-oxybis[2-chloro-
U193	1120-71-4	1,3-Propane sultone
See F027	93-72-1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-
U235	126-72-7	1-Propanol, 2,3-dibromo-, phosphate (3:1)
U140	78-83-1	1-Propanol, 2-methyl- (I,T)
U002	67-64-1	2-Propanone (I)
U007	79-06-1	2-Propenamide
U084	542-75-6	1-Propene, 1,3-dichloro-
U243	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-
U009	107-13-1	2-Propenenitrile
U152	126-98-7	2-Propenenitrile, 2-methyl- (I,T)
U008	79-10-7	2-Propenoic acid (I)
U113	140-88-5	2-Propenoic acid, ethyl ester (I)
U118	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester
U162	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester (I,T)
U194	107-10-8	n-Propylamine (I,T)
U083	78-87-5	Propylene dichloride
U148	123-33-1	3,6-Pyridazinedione, 1,2-dihydro-
U196	110-86-1	Pyridine
U191	109-06-8	Pyridine, 2-methyl-
U237	66-75-1	2,4(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-
U164	56-04-2	4-(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo-
U180	930-55-2	Pyrrolidine, 1-nitroso-
U200	50-55-5	Reserpine
U201	108-46-3	Resorcinol
U202	[1]81-07-2	Saccharin, and salts
U203	94-59-7	Safrole

Hazardous Waste No.	Chemical Abstracts No.	Substance
U204	7783-00-8	Selenious acid
U204	7783-00-8	Selenium dioxide
U205	7488-56-4	Selenium sulfide
U205	7488-56-4	Selenium sulfide SeS_2 (R,T)
U015	115-02-6	L-Serine, diazoacetate (ester)
See F027	93-72-1	Silvex (2,4,5-TP)
U206	18883-66-4	Streptozotocin
U103	77-78-1	Sulfuric acid, dimethyl ester
U189	1314-80-3	Sulfur phosphide (R)
See F027	93-76-5	2,4,5-T
U207	95-94-3	1,2,4,5-Tetrachlorobenzene
U208	630-20-6	1,1,1,2-Tetrachloroethane
U209	79-34-5	1,1,2,2-Tetrachloroethane
U210	127-18-4	Tetrachloroethylene
See F027	58-90-2	2,3,4,6-Tetrachlorophenol
U213	109-99-9	Tetrahydrofuran (I)
U214	563-68-8	Thallium(I) acetate
U215	6533-73-9	Thallium(I) carbonate
U216	7791-12-0	Thallium(I) chloride
U216	7791-12-0	Thallium chloride TlCl
U217	10102-45-1	Thallium(I) nitrate
U218	62-55-5	Thioacetamide
U153	74-93-1	Thiomethanol (I,T)
U244	137-26-8	Thioperoxydicarbonic diamide $[(H_2N)C(S)]_2S_2$, tetramethyl-
U219	62-56-6	Thiourea
U244	137-26-8	Thiram
U220	108-88-3	Toluene
U221	25376-45-8	Toluenediamine
U223	26471-62-5	Toluene diisocyanate (R,T)
U328	95-53-4	o-Toluidine
U353	106-49-0	p-Toluidine
U222	636-21-5	o-Toluidine hydrochloride
U011	61-82-5	1H-1,2,4-Triazol-3-amine
U227	79-00-5	1,1,2-Trichloroethane
U228	79-01-6	Trichloroethylene
U121	75-69-4	Trichloromonofluoromethane
See F027	95-95-4	2,4,5-Trichlorophenol
See F027	88-06-2	2,4,6-Trichlorophenol
U234	99-35-4	1,3,5-Trinitrobenzene (R,T)
U182	123-63-7	1,3,5-Trioxane, 2,4,6-trimethyl-
U235	126-72-7	Tris (2,3-dibromopropyl) phosphate
U236	72-57-1	Trypan blue
U237	66-75-1	Uracil mustard
U176	759-73-9	Urea, N-ethyl-N-nitroso-
U177	684-93-5	Urea, N-methyl-N-nitroso-
U043	75-01-4	Vinyl chloride
U248	[1]81-81-2	Warfarin, and salts, when present at concentrations of 0.3 percent or less
U239	1330-20-7	Xylene (I)
U200	50-55-5	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl)oxy]-, methyl ester, (3beta,16beta,17alpha,18beta,20alpha)-
U249	1314-84-7	Zinc phosphide Zn_3P_2, when present at concentrations of 10 percent or less

[1]CAS Number given for parent compound only.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

APPENDIX I

REPRESENTATIVE SAMPLING METHODS

The methods and equipment used for sampling waste materials will vary with the form and consistency of the waste materials to be sampled. Samples collected using the sampling protocols listed below, for sampling waste with properties similar to the indicated materials, will be considered by the agency to be representative of the waste.

Extremely viscous liquid - ASTM Standard D140-70 Crushed or powdered material - ASTM Standard D346-75 Soil or rock-like material - ASTM Standard D420-69 Soil-like material - ASTM Standard D1452-65

Fly Ash-like material - ASTM Standard D2234-76 (ASTM Standards are available from ASTM, 1916 Race Street, Philadelphia, PA 19103)

Containerized liquid wastes - "COLIWASA" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods,"[1] United States Environmental Protection Agency, Office of Solid Waste, Washington, D.C. 20460. (Copies may be obtained from Solid Waste Information, United States Environmental Protection Agency, 26 W. St. Clair Street, Cincinnati, Ohio 45268)

Liquid waste in pits, ponds, lagoons, and similar reservoirs. - "Pond Sampler" described in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods."[1]

This manual also contains additional information on application of these protocols.

New Appendix

APPENDIX II

METHOD 1311
TOXICITY CHARACTERISTIC LEACHING PROCEDURE
(TCLP)

1.0 Scope and Application

1.1 The Toxicity Characteristic Leaching Procedure is designed to determine the mobility of both organic and inorganic analytes present in liquid, solid, and multiphasic wastes.

1.2 If a total analysis of the waste demonstrates that individual analytes are not present in the waste, or that they are present but at such low concentrations that the appropriate regulatory levels could not possibly be exceeded, the Toxicity Characteristic Leaching Procedure need not be run.

1.3 If an analysis of any one of the liquid fractions of the Toxicity Characteristic Leaching Procedure extract indicates that a regulated compound is present at such high concentrations that, even after accounting for dilution from the other fractions of the extract, the concentration would be equal to or above the regulatory level for that compound, then the waste is hazardous and it is not necessary to analyze the remaining fractions of the extract.

1.4 If an analysis of extract obtained using a bottle extractor shows that the concentration of any regulated volatile analyte equals or exceeds the regulatory level for that compound, then the waste is hazardous and extraction using the Zero-Headspace Extractor (ZHE) is not necessary. However, extract from a bottle extractor cannot be used to demonstrate that the concentration of volatile compounds is below the regulatory level.

2.0 Summary of Method

2.1 For liquid wastes (i.e., those containing less than one-half percent dry solid material), the waste, after filtration through a six-tenths to eight-tenths micrometer glass fiber filter, is defined as the Toxicity Characteristic Leaching Procedure extract.

2.2 For wastes containing greater than or equal to one-half percent solids, the liquid, if any, is separated from the solid phase and stored for later analysis; the particle size of the solid phase is reduced, if necessary. The solid phase is extracted with an amount of extraction fluid equal to twenty times the weight of the solid phase.

The extraction fluid employed is a function of the alkalinity of the solid phase of the waste. A special extractor vessel is used when testing for volatile analytes (see Table 1 for a list of volatile compounds). Following extraction, the liquid extract is separated from the solid phase by filtration through a six-tenths to eight tenths micrometers glass fiber filter.

2.3 If compatible (i.e., multiple phases will not form on combination), the initial liquid phase of the waste is added to the liquid extract, and these are analyzed together. If incompatible, the liquids are analyzed separately and the results are mathematically combined to yield a volume-weighted average concentration.

3.0 Interferences

3.1 Potential interferences that may be encountered during analysis are discussed in the individual analytical methods.

4.0 Apparatus and Materials

4.1 Agitation apparatus: The agitation apparatus must be capable of rotating the extraction vessel in an end-over-end fashion (see Figure 1) at thirty plus or minus two revolutions per minute. Suitable devices known to the department are identified in Table 2.

4.2 Extraction Vessels:

4.2.1 Zero-Headspace Extraction Vessel (ZHE). This device is for use only when the waste is being tested for the mobility of volatile analytes (i.e., those listed in Table 1). The Zero-Headspace Extractor (depicted in Figure 2) allows for liquid/solid separation within the device, and effectively precludes headspace. This type of vessel allows for initial liquid/solid separation, extraction, and final extract filtration without opening the vessel (see section 4.3.1). The vessels shall have an internal volume of five hundred to six hundred milliliters and be equipped to accommodate a ninety to a one hundred ten millimeters filter. The devices contain VITON®[1] O-rings which should be replaced frequently. Suitable Zero-Headspace Extractor devices known to the department are identified in Table 3.

---

[1]VITON® is a trademark of DuPont.

Table 1

Volatile Analytes[1,2]

Compound	CAS no.
Acetone	67-64-1
Benzene	71-43-2
n-Butyl alcohol	71-36-3
Carbon disulfide	75-15-0
Carbon tetrachloride	56-23-5
Chlorobenzene	108-90-7
Chloroform	67-66-3
1,2-Dichloroethane	107-06-2
1,1-Dichloroethylene	75-35-4
Ethyl acetate	141-78-6
Ethyl benzene	100-41-4
Ethyl ether	60-29-7
Isobutanol	78-83-1
Methanol	67-56-1
Methylene chloride	75-09-2
Methyl ethyl ketone	78-93-3
Methyl isobutyl ketone	108-10-1
Tetrachloroethylene	127-18-4
Toluene	108-88-3
1,1,1-Trichloroethane	71-55-6
Trichloroethylene	79-01-6
Trichlorofluoromethane	75-69-4
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1
Vinyl chloride	75-01-4
Xylene	1330-20-7

[1]When testing for any or all of these analytes, the Zero-Headspace Extractor vessel shall be used instead of the bottle extractor.

[2]Benzene, carbon tetrachloride, chlorobenzene, chloroform; 1,2-dichlorethane, 1,1-dichloroethylene, methyl ethyl ketone, tetrachloroethylene, trichloroethylene, and vinyl chloride are toxicity characteristic constituents.the liquid extract is separated from the solid phase by filtration through a six-tenths to eight-tenths micrometers glass fiber filter.

Figure 1
Rotary Agitation Apparatus

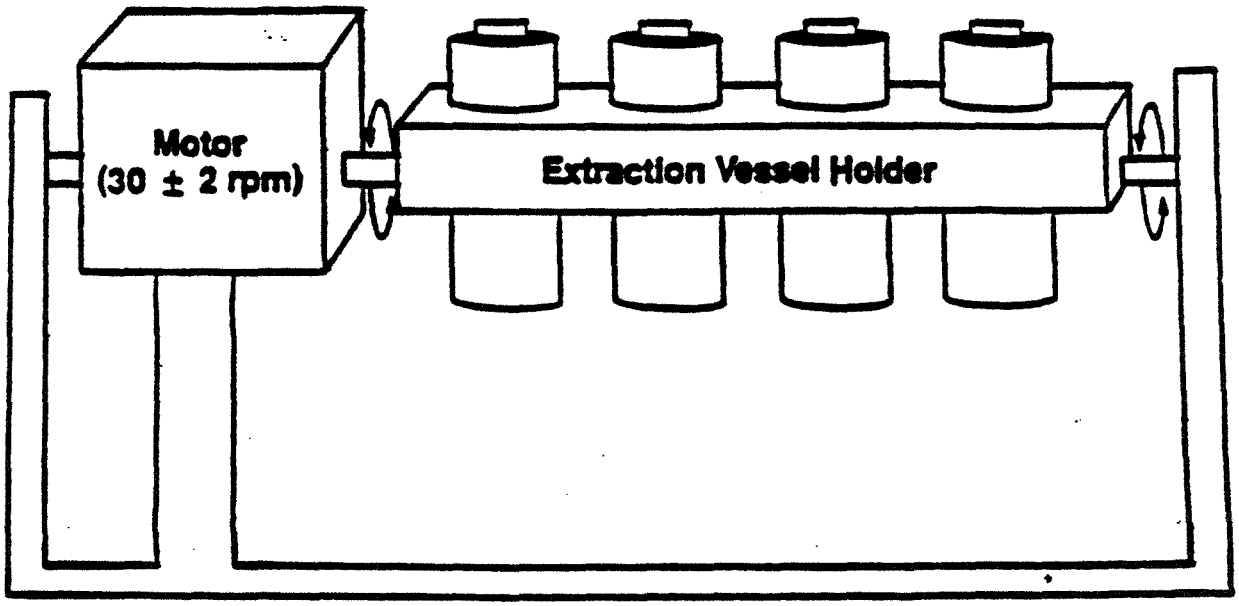


Table 2

Suitable Rotary Agitation Apparatus[1]

Company	Location	Model no.
Analytical Testing and Consulting services, Inc.	Warrington, PA (215) 343-4490	4-vessel (DC20S); 8-vessel (DC20); 12-vessle (DC20B).
Associated Design and Manufacturing Company	Alexandria, VA (703) 549-5999	2-vessel (3740-2). 4-vessel (3740-4). 6-vessel (3740-6). 8-vessel (3740-8). 12-vessel (3740-12). 24-vessel (3740-24).
Environmental Machine and Design, Inc.	Lynchburg, VA (804) 845-6424	8-vessel (08-00-00). 4-vessel (04-00-00).
IRA Machine Shop and Laboratory	Santurce, PR (809) 752-4004	8-vessel (011001).
Lars Lande Manufacturing	Whitmore Lake, MI (313) 449-4116	10-vessel (01VRE). 5-vessel (5VRE).
Millipore Corp.	Bedford, MA (800) 225-3384	4-ZHE or 4 1-liter bottle extractor (YT300RAHW).

[1]Any device that rotates the extraction vessel in an end-over-end fashion at 30 ±2 rpm is acceptable.

Figure 2
Zero-Headspace Extractor
(ZHE)

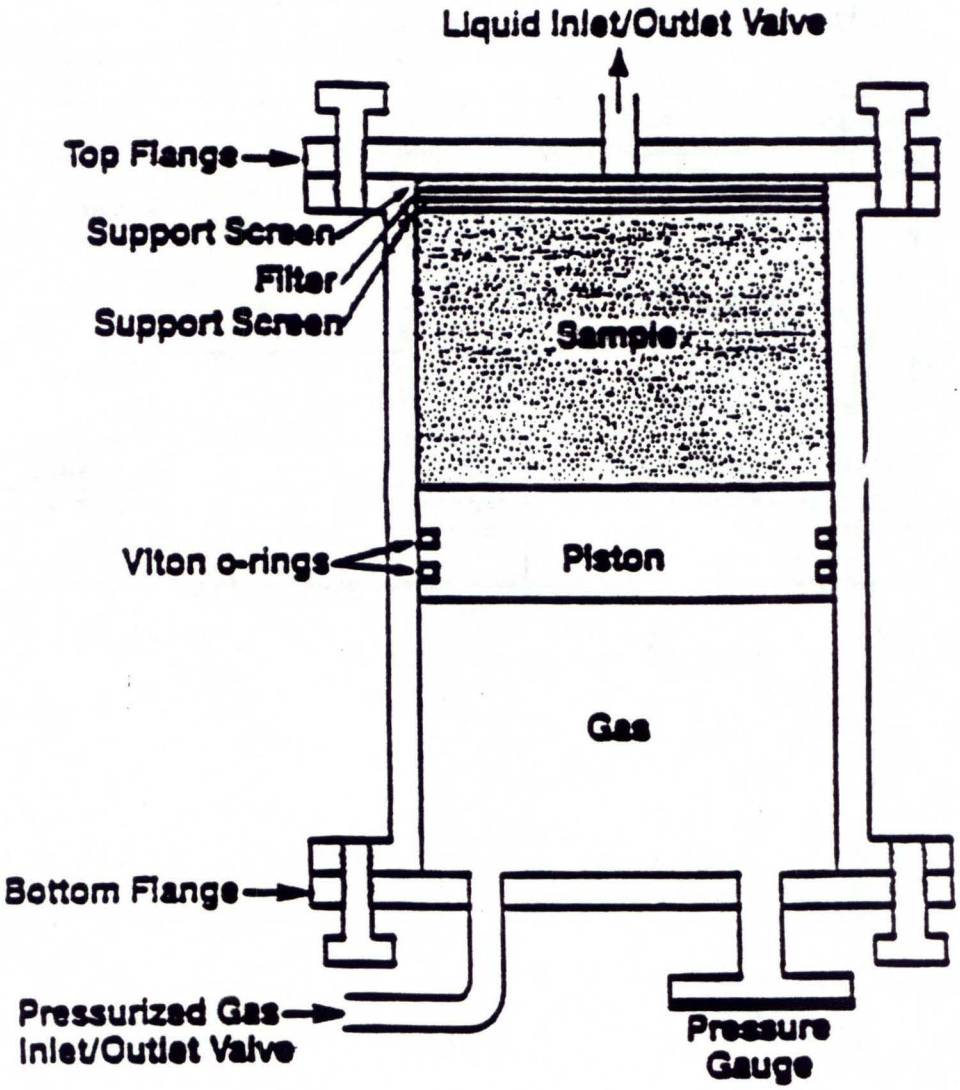


Table 3

Suitable Zero-Headspace Extractor Vessels[1]

Company	Location	Model no.
Analytical Testing & Consulting Services, Inc.	Warrington, PA (215) 343-4490	C102, Mechanical Pressure Device.
Associated Design and Manufacturing Company	Alexandria, VA (703) 549-5999	3745-ZHE, Gas Pressure Device.
Lars Lande Manufacturing[2]	Whitmore Lake, MI (313) 449-4116	ZHE-11, Gas Pressure Device.
Millipore Corporation	Bedford, MA (800) 225-3384	YT30090HW, Gas Pressure Device.
Environmental Machine and Design, Inc.	Lynchburg, VA (804) 845-6424	VOLA-TOX1, Gas Pressure Device.

[1]Any device that meets the specifications listed in section 4.2.1 of the method is acceptable.
[2]This device uses a 110 mm filter.

For the Zero-Headspace Extractor to be acceptable for use, the piston within the Zero-Headspace Extractor should be able to be moved with approximately fifteen pounds per square inch (psi) or less. If it takes more pressure to move the piston, the O-rings in the device should be replaced. If this does not solve the problem, the Zero-Headspace Extractor is unacceptable for Toxicity Characteristic Leaching Procedure analyses and the manufacturer should be contacted.

The Zero-Headspace Extractor should be checked for leaks after every extraction. If the device contains a built-in pressure gauge, pressurize the device to fifty pounds per square inch, allow it to stand unattended for one hour, and recheck the pressure. If the device does not have a built-in pressure gauge, pressurize the device to fifty pounds per square inch, submerge it in water, and check for the presence of air bubbles escaping from any of the fittings. If pressure is lost, check all fittings and inspect and replace O-rings, if necessary. Retest the device. If leakage problems cannot be solved, the manufacturer should be contacted.

Some Zero-Headspace Extractors use gas pressure to actuate the Zero-Headspace Extractor piston, while others use mechanical pressure (see Table 3). Whereas the volatiles procedure (see section 7.3) refers to pounds per square inch (psi), for the mechanically actuated piston, the pressure applied is measured in torque-inch pounds. Refer to the manufacturer's instructions as to the proper conversion.

4.2.2 Bottle Extraction Vessel. When the waste is being evaluated using the nonvolatile extraction, a jar with sufficient capacity to hold the sample and the extraction fluid is needed. Headspace is allowed in this vessel.

The extraction bottles may be constructed from various materials, depending on the analytes to be analyzed and the nature of the waste (see section 4.3.3). It is recommended that borosilicate glass bottles be used instead of other types of glass, especially when inorganics are of concern. Plastic bottles, other than polytetrafluoroethylene, shall not be used if organics are to be investigated. Bottles are available from a number of laboratory suppliers. When this type of extraction vessel is used, the filtration device discussed in section 4.3.2 is used for initial liquid/solid separation and final extract filtration.

4.3 Filtration Devices: It is recommended that all filtrations be performed in a hood.

4.3.1 Zero-Headspace Extractor Vessel (ZHE): When the waste is evaluated for volatiles, the Zero-Headspace Extraction vessel described in section 4.2.1 is used for filtration. The device shall be capable of supporting and keeping in place the glass fiber filter and be able to withstand the pressure needed to accomplish separation (fifty pounds per square inch).

Note: When it is suspected that the glass fiber filter has been ruptured, an in-line glass fiber filter may be used to filter the material within the Zero-Headspace Extractor.

4.3.2 Filter Holder: When the waste is evaluated for other than volatile analytes, any filter holder capable of supporting a glass fiber filter and able to withstand the pressure needed to accomplish separation may be used. Suitable filter holders

range from simple vacuum units to relatively complex systems capable of exerting pressures of up to fifty pounds per square inch or more. The type of filter holder used depends on the properties of the material to be filtered (see section 4.3.3). These devices shall have a minimum internal volume of three hundred milliliters and be equipped to accommodate a minimum filter size of forty-seven millimeters (filter holders having an internal capacity of one and one-half liters or greater and equipped to accommodate a one hundred forty-two millimeters diameter filter are recommended). Vacuum filtration can only be used for wastes with low solids content (less than ten percent) and for highly granular liquid-containing wastes. All other types of wastes should be filtered using positive pressure filtration. Suitable filter holders known to the department are shown in Table 4.

Table 4

Suitable Filter Holders[1]

Company	Location	Model/Catalog No.	Size (μm)
Nucleopore Corporation	Pleasanton, CA (800) 882-7711	425910 401400	142 mm 47 mm
Micro Filtratiuon Systems	Dublin, CA (800) 334-7132 (415) 828-6010	302400 311400	142 mm 47 mm
Millipore Corporation	Bedford, MA (800) 225-3384	YT30142HW XX1004700	142 mm 47 mm

[1]Any device capable of separating the liquid from the solid phase of the waste is suitable, providing that it is chemically compatible with the waste and the constituents to be analyzed. Plastic devices (not listed above) may be used when only inorganic analytes are of concern. The 142 mm size filter holder is recommended.

4.3.3 Materials of Construction: Extraction vessels and filtration devices shall be made of inert materials which will not leach or absorb waste components. Glass, polytetrafluoroethylene (PTFE), or type 316 stainless steel equipment may be used when evaluating the mobility of both organic and inorganic components. Devices made of high-density polyethylene (HDPE), polypropylene (PP), or polyvinyl chloride (PVC) may be used only when evaluating the mobility of metals. Borosilicate glass bottles are recommended for use over other

types of glass bottles, especially when inorganics are constituents of concern.

4.4 Filters: Filters shall be made of borosilicate glass fiber, shall contain no binder materials, and shall have an effective pore size of six-tenths to eight-tenths micrometer or equivalent. Filters known to the department which meet these specifications are identified in Table 5. Prefilters must not be used. When evaluating the mobility of metals, filters shall be acid-washed prior to use by rinsing with 1N nitric acid followed by three consecutive rinses with deionized distilled water (a minimum of one liter per rinse is recommended). Glass fiber filters are fragile and should be handled with care.

4.5 pH Meters: The meter should be accurate to plus or minus five-hundredths units at twenty-five degrees Celsius.

Table 5

Suitable Filter Media[1]

Company	Location	Model	Pore size
Millipore Corporation	Bedford, MA (800) 225-3384	AP40	0.7
Nucleopore Corporation	Pleasonton, CA (415) 463-2530	211625	0.7
Whatman Laboratory Products, Inc.	Clifton, NJ (201) 773-5800	GFF	0.7
Micro Filtration Systems	Dublin, CA (800) 334-7132 (415) 828-6010	GF75	0.7

[1]Any filter that meets the specifications in Section 4.4 of the Method is suitable.

4.6 Zero-Headspace Extractor Extract Collection Devices: TEDLAR®[2] bags or glass, stainless steel or PTFE gas-tight syringes are used to collect the initial liquid phase and the final extract of the waste when using the Zero-Headspace Extractor device. The devices listed are recommended for use under the following conditions:

4.6.1 If a waste contains an aqueous liquid phase or if a waste does not contain a significant amount of nonaqueous liquid (i.e., less than one percent of

[2]TEDLAR® is a registered trademark of DuPont.

total waste), the TEDLAR® bag or a six hundred milliliters syringe should be used to collect and combine the initial liquid and solid extract.

4.6.2 If a waste contains a significant amount of nonaqueous liquid in the initial liquid phase (i.e., greater than one percent of total waste), the syringe or the TEDLAR® bag may be used for both the initial solid/liquid separation and the final extract filtration. However, analysts should use one or the other, not both.

4.6.3 If the waste contains no initial liquid phase (is one hundred percent solid) or has no significant solid phase (is one hundred percent liquid), either the TEDLAR® bag or the syringe may be used. If the syringe is used, discard the first five milliliters of liquid expressed from the device. The remaining aliquots are used for analysis.

4.7 Zero-Headspace Extractor Extraction Fluid Transfer Devices: Any device capable of transferring the extraction fluid into the Zero-Headspace Extractor without changing the nature of the extraction fluid is acceptable (e.g., a positive displacement or peristaltic pump, a gas-tight syringe, pressure filtration unit (see section 4.3.2), or other Zero-Headspace Extractor device).

4.8 Laboratory Balance: Any laboratory balance accurate to within plus or minus one-hundredth grams may be used (all weight measurements are to be within plus or minus one-tenth grams).

4.9 Beaker or Erlenmeyer flask, glass, 500 ml.

4.10 Watchglass, appropriate diameter to cover beaker or Erlenmeyer flask.

4.11 Magnetic stirrer.

5.0 Reagents

5.1 Reagent grade chemicals shall be used in all tests. Unless otherwise indicated, it is intended that all reagents shall conform to the specifications of the Committee on Analytical Reagents of the American Chemical Society, where such specifications are available. Other grades may be used, provided it is first ascertained that the reagent is of sufficiently high purity to permit its use without lessening the accuracy of the determination.

5.2 Reagent water. Reagent water is defined as water in which an interferant is not observed at or above the methods detection limit of the analyte(s) of interest. For nonvolatile extractions, ASTM Type II water or equivalent meets the definition of reagent water. For volatile extractions, it is recommended that reagent water be generated by any of the following methods. Reagent water should be monitored periodically for impurities.

5.2.1 Reagent water for volatile extractions may be generated by passing tap water through a carbon filter bed containing about five hundred grams of activated carbon (Calgon Corp., Filtrasorb-300 or equivalent).

5.2.2 A water purification system (Millipore Super-Q or equivalent) may also be used to generate reagent water for volatile extractions.

5.2.3 Reagent water for volatile extractions may also be prepared by boiling water for fifteen minutes. Subsequently, while maintaining the water temperature at ninety plus five degrees Celsius, bubble a contaminant-free inert gas (e.g., nitrogen) through the water for one hour. While still hot, transfer the water to a narrow mouth screw-cap bottle under zero-headspace and seal with a Teflon-lined septum and cap.

5.3 Hydrochloric acid (1N), HCl, made from ACS reagent grade.

5.4 Nitric acid (1N), HNO_3, made from ACS reagent grade.

5.5 Sodium hydroxide (1N), NaOH, made from ACS reagent grade.

5.6 Glacial acetic acid, CH_3CH_2OOH, ACS reagent grade.

5.7 Extraction fluid.

5.7.1 Extraction fluid #1: Add five and seven-tenths milliliters glacial CH_3CH_2OOH to five hundred milliliters of reagent water (see section 5.2), add sixty-four and three-tenths milliliters of 1N NaOH, and dilute to a volume of one liter. When correctly prepared, the pH of this fluid will be four and ninety-three hundredths plus or minus five hundredths.

5.7.2 Extraction fluid #2: Dilute five and seven tenths milliliters glacial CH_3CH_2OOH with reagent water (see section 5.2) to a volume of one liter. When correctly prepared, the pH of this fluid will be

two and eighty-eight hundredths plus five hundredths.

Note: These extraction fluids should be monitored frequently for impurities. The pH should be checked prior to use to ensure that these fluids are made up accurately. If impurities are found or the pH is not within the above specifications, the fluid shall be discarded and fresh extraction fluid prepared.

5.8 Analytical standards prepared according to the appropriate analytical method.

6.0 Sample Collection, Preservation, and Handling

6.1 All samples shall be collected using an appropriate sampling plan.

6.2 The Toxicity Characteristic Leaching Procedure may place requirements on the minimal size of the field sample, depending upon the physical state or states of the waste and the analytes of concern. An aliquot is needed for preliminary evaluation of which extraction fluid is to be used for the nonvolatile analyte extraction procedure. Another aliquot may be needed to actually conduct the nonvolatile extraction (see section 1.4 concerning the use of this extract for volatile organics). If volatile organics are of concern, another aliquot may be needed. Quality control measures may require additional aliquots. Further, it is always wise to collect more samples just in case something goes wrong with the initial attempt to conduct the test.

6.3 Preservatives shall not be added to samples before extraction.

6.4 Samples may be refrigerated unless refrigeration results in irreversible physical change to the waste. If precipitation occurs, the entire sample (including precipitate) should be extracted.

6.5 When the waste is to be evaluated for volatile analytes, care shall be taken to minimize the loss of volatiles. Samples shall be collected and stored in a manner intended to prevent the loss of volatile analytes (e.g., samples should be collected in Teflon-lined septum capped vials and stored at four degrees Celsius. Samples should be opened only immediately prior to extraction).

6.6 Toxicity Characteristic Leaching Procedure extracts should be prepared for analysis and analyzed as soon as possible

following extraction. Extracts or portions of extracts for metallic analyte determinations must be acidified with nitric acid to a pH less than two, unless precipitation occurs (see section 7.2.14 if precipitation occurs). Extracts should be preserved for other analytes according to the guidance given in the individual analysis methods. Extracts or portions of extracts for organic analyte determinations shall not be allowed to come into contact with the atmosphere (i.e., no headspace) to prevent losses. See section 8.0 (quality assurance requirements) for acceptable sample and extract holding times.

7.0 Procedure

7.1 Preliminary Evaluations. Perform preliminary Toxicity Characteristic Leaching Procedure evaluations on a minimum one hundred gram aliquot of waste. This aliquot may not actually undergo Toxicity Characteristic Leaching Procedure extraction. These preliminary evaluations include: (1) determination of the percent solids (section 7.1.1); (2) determination of whether the waste contains insignificant solids and is, therefore, its own extract after filtration (section 7.1.2); (3) determination of whether the solid portion of the waste requires particle size reduction (section 7.1.3); and (4) determination of which of the two extraction fluids are to be used for the nonvolatile Toxicity Characteristic Leaching Procedure extraction of the waste (section 7.1.4).

7.1.1 Preliminary determination of percent solids: percent solids is defined as that fraction of a waste sample (as a percentage of the total sample) from which no liquid may be forced out by an applied pressure, as described below.

7.1.1.1 If the waste will obviously yield no free liquid when subjected to pressure filtration (i.e., is one hundred percent solids) proceed to section 7.1.3.

7.1.1.2 If the sample is liquid or multiphasic, liquid/solid separation to make a preliminary determination of percent solids is required. This involves the filtration device described in section 4.3.2 and is outlined in sections 7.1.1.3 through 7.1.1.9.

7.1.1.3 Pre-weigh the filter and the container that will receive the filtrate.

7.1.1.4 Assemble the filter holder and filter following the manufacturer's instructions. Place the filter on the support screen and secure.

7.1.1.5 Weigh out a subsample of the waste (one hundred gram minimum) and record the weight.

7.1.1.6 Allow slurries to stand to permit the solid phase to settle. Wastes that settle slowly may be centrifuged prior to filtration. Centrifugation is to be used only as an aid to filtration. If used, the liquid should be decanted and filtered followed by filtration of the solid portion of the waste through the same filtration system.

7.1.1.7 Quantitatively transfer the waste sample to the filter holder (liquid and solid phases). Spread the waste sample evenly over the surface of the filter. If filtration of the waste at four degrees Celsius reduces the amount of expressed liquid over what would be expressed at room temperature, then allow the sample to warm up to room temperature in the device before filtering.

Note: If waste material (greater than one percent of original sample weight) has obviously adhered to the container used to transfer the sample to the filtration apparatus, determine the weight of this residue and subtract it from the sample weight determined in section 7.1.1.5 to determine the weight of the waste sample that will be filtered.

Gradually apply vacuum or gentle pressure of one to ten pounds per square inch, until air or pressurizing gas moves through the filter. If this point is not reached under ten pounds per square inch, and if no additional liquid has passed through the filter in any two-minute interval, slowly increase the pressure in ten pounds per square inch increments to a maximum of fifty pounds per square inch. After each incremental increase of ten pounds per square inch, if the

pressurizing gas has not moved through the filter, and if no additional liquid has passed through the filter in any two-minute interval, proceed to the next ten pounds per square inch increment. When the pressurizing gas begins to move through the filter, or when liquid flow has ceased at fifty pounds per square inch (i.e., filtration does not result in any additional filtrate within any two-minute period), stop the filtration.

Note: Instantaneous application of high pressure can degrade the glass fiber filter and may cause premature plugging.

7.1.1.8 The material in the filter holder is defined as the solid phase of the waste, and the filtrate is defined as the liquid phase.

Note: Some wastes, such as oily wastes and some paint wastes, will obviously contain some material that appears to be a liquid. Even after applying vacuum or pressure filtration, as outlined in section 7.1.1.7, this material may not filter. If this is the case, the material within the filtration device is defined as a solid. Do not replace the original filter with a fresh filter under any circumstances. Use only one filter.

7.1.1.9 Determine the weight of the liquid phase by subtracting the weight of the filtrate container (see section 7.1.1.3) from the total weight of the filtrate-filled container. Determine the weight of the solid phase of the waste sample by subtracting the weight of the liquid phase from the weight of the total waste sample, as determined in section 7.1.1.5 or 7.1.1.7.

Record the weight of the liquid and solid phases. Calculate the percent solids as follows:

$$\% \text{ solids} = \frac{\text{Weight of solid (section 7.1.1.9)}}{\text{Total weight of waste (section 7.1.1.5 or 7.1.1.7)}} \times 100$$

7.1.2 If the percent solids determined in section 7.1.1.9 is equal to or greater than one-half percent, then proceed either to section 7.1.3 to determine whether the solid material requires particle size reduction or to section 7.1.2.1 if it is noticed that a small amount of the filtrate is entrained in wetting of the filter. If the percent solids determined in section 7.1.1.9 is less than one-half percent, then proceed to section 7.2.9 if the nonvolatile Toxicity Characteristic Leaching Procedure is to be performed and to section 7.3 with a fresh portion of the waste if the volatile Toxicity Characteristic Leaching Procedure is to be performed.

7.1.2.1 Remove the solid phase and filter from the filtration apparatus.

7.1.2.2 Dry the filter and solid phase at one hundred plus or minus twenty degrees Celsius until two successive weighings yield the same value within plus or minus one percent. Record the final weight.

Note: Caution should be taken to ensure that the subject solid will not flash upon heating. It is recommended that the drying oven be vented to a hood or other appropriate device.

7.1.2.3 Calculate the percent dry solids as follows:

$$\% \text{ dry solids} = \frac{\text{(Weight of dry waste + filter) - tared weight of filter}}{\text{Initial weight of waste (section 7.1.1.5 or 7.1.1.7)}} \times 100$$

7.1.2.4 If the percent dry solids is less than one-half percent, then proceed to section 7.2.9 if the nonvolatile Toxicity Characteristic Leaching Procedure is to be performed, and to section 7.3 if the volatile Toxicity Characteristic Leaching Procedure is to be performed. If the percent dry solids is greater than or equal to one half percent, and if the nonvolatile Toxicity Characteristic Leaching Procedure is to be performed, return to the beginning of this section (7.1) and, with a fresh portion of waste, determine whether particle size reduction is necessary (section 7.1.3) and determine

the appropriate extraction fluid (section 7.1.4). If only the volatile Toxicity Characteristic Leaching Procedure is to be performed, see the note in section 7.1.4.

7.1.3 Determination of whether the waste requires particle size reduction (particle size is reduced during this step): using the solid portion of the waste, evaluate the solid for particle size. Particle size reduction is required, unless the solid has a surface area per gram of material equal to or greater than three and one tenth square centimeters, or is smaller than one centimeter in its narrowest dimension (i.e., is capable of passing through a nine and one-half millimeter (three hundred seventy-five thousandths of an inch) standard sieve). If the surface area is smaller or the particle size larger than described above, prepare the solid portion of the waste for extraction by crushing, cutting, or grinding the waste to a surface area or particle size as described above. If the solids are prepared for organic volatiles extraction, special precautions must be taken, (see section 7.3.6).

Note: Surface area criteria are meant for filamentous (e.g., paper, cloth, and similar) waste materials. Actual measurement of surface area is not required, nor is it recommended. For materials that do not obviously meet the criteria, sample-specific methods would need to be developed and employed to measure the surface area. Such methodology is currently not available.

7.1.4 Determination of appropriate extraction fluid: If the solid content of the waste is greater than or equal to one-half percent and if the sample will be extracted for nonvolatile constituents (section 7.2), determine of the appropriate fluid (section 5.7) for the nonvolatiles extraction as follows:

Note: Toxicity Characteristic Leaching Procedure extraction for volatile constituents uses only extraction fluid #1 (section 5.7.1). Therefore, if Toxicity Characteristic Leaching Procedure

extraction for nonvolatiles is not required, proceed to section 7.3.

7.1.4.1 Weigh out a small subsample of the solid phase of the waste, reduce the solid (if necessary) to a particle size of approximately one millimeter in diameter or less, and transfer five grams of the solid phase of the waste to a five hundred milliliters beaker or Erlenmeyer flask.

7.1.4.2 Add ninety-six and one-half milliliters of reagent water to the beaker, cover with a watchglass, and stir vigorously for five minutes using a magnetic stirrer. Measure and record the pH. If the pH is less than five, use extraction fluid #1. Proceed to section 7.2.

7.1.4.3 If the pH from section 7.1.4.2 is greater than five, add three and one-half milliliters 1N HCl, slurry briefly, cover with a watchglass, heat to fifty degrees Celsius, and hold at fifty degrees Celsius for ten minutes.

7.1.4.4 Let the solution cool to room temperature and record the pH. If the pH is less than five, use extraction fluid #1. If the pH is greater than five, use extraction fluid #2. Proceed to section 7.2.

7.1.5 If the aliquot of the waste used for the preliminary evaluation (sections 7.1.1-7.1.4) was determined to be one hundred percent solid at section 7.1.1.1, then it can be used for the section 7.2 extraction (assuming at least one hundred grams remain), and the section 7.3 extraction (assuming at least twenty-five grams remain). If the aliquot was subjected to the procedure in section 7.1.1.7, then another aliquot shall be used for the volatile extraction procedure in section 7.3. The aliquot of the waste subjected to the procedure in section 7.1.1.7 might be appropriate for use for the section 7.2 extraction if an adequate amount of solid (as determined by section 7.1.1.9) was obtained. The amount of solid necessary is dependent upon whether a sufficient amount of extract will be produced to support the analyses. If an adequate amount of solid remains, proceed to section 7.2.10 of the nonvolatile

Toxicity Characteristic Leaching Procedure extraction.

7.2 Procedure When Volatiles Are Not Involved. A minimum sample size of one hundred grams (solid and liquid phases) is recommended. In some cases, a larger sample size may be appropriate, depending on the solids content of the waste sample (percent solids, see section 7.1.1), whether the initial liquid phase of the waste will be miscible with the aqueous extract of the solid, and whether inorganics, semivolatile organics, pesticides, and herbicides are all analytes of concern. Enough solids should be generated for extraction such that the volume of Toxicity Characteristic Leaching Procedure extract will be sufficient to support all of the analyses required. If the amount of extract generated by a single Toxicity Characteristic Leaching Procedure extraction will not be sufficient to perform all of the analyses, more than one extraction may be performed and the extracts from each combined and aliquoted for analysis.

7.2.1 If the waste will obviously yield no liquid when subjected to pressure filtration (i.e., is one hundred percent solid, see section 7.1.1), weigh out a subsample of the waste (one hundred gram minimum) and proceed to section 7.2.9.

7.2.2 If the sample is liquid or multiphasic, liquid/solid separation is required. This involves the filtration device described in section 4.3.2 and is outlined in sections 7.2.3 to 7.2.8.

7.2.3 Pre-weigh the container that will receive the filtrate.

7.2.4 Assemble the filter holder and filter following the manufacturer's instructions. Place the filter on the support screen and secure. Acid-wash the filter if evaluating the mobility of metals (see section 4.4).

Note: Acid-washed filters may be used for all nonvolatile extractions even when metals are not of concern.

7.2.5 Weigh out a subsample of the waste (one hundred gram minimum) and record the weight. If the waste contains less than one-half percent dry solids (section 7.1.2), the liquid portion of the waste, after filtration, is defined as the Toxicity Characteristic Leaching Procedure extract. Therefore, enough of the sample should be filtered so that the amount of filtered liquid will support

all of the analyses required of the Toxicity Characteristic Leaching Procedure extract. For wastes containing greater than one-half percent dry solids (section 7.1.1 or 7.1.2), use the percent solids information obtained in section 7.1.1 to determine the optimum sample size (one hundred gram minimum) for filtration. Enough solids should be generated by filtration to support the analyses to be performed on the Toxicity Characteristic Leaching Procedure extract.

7.2.6 Allow slurries to stand to permit the solid phase to settle. Wastes that settle slowly may be centrifuged prior to filtration. Use centrifugation only as an aid to filtration. If the waste is centrifuged, the liquid should be decanted and filtered followed by filtration of the solid portion of the waste through the same filtration system.

7.2.7 Quantitatively transfer the waste sample (liquid and solid phases) to the filter holder (see section 4.3.2). Spread the waste sample evenly over the surface of the filter. If filtration of the waste at four degrees Celsius reduces the amount of expressed liquid over what would be expressed at room temperature, then allow the sample to warm up to room temperature in the device before filtering.

Note: If the waste material (greater than one percent of the original sample weight) has obviously adhered to the container used to transfer the sample to the filtration apparatus, determine the weight of this residue and subtract it from the sample weight determined in section 7.2.5 to determine the weight of the waste sample that will be filtered.

Gradually apply vacuum or gentle pressure of one to ten pounds per square inch, until air or pressurizing gas moves through the filter. If this point is not reached under ten pounds per square inch, and if no additional liquid has passed through the filter in any two-minute interval, slowly increase the pressure in ten pounds per square inch increments to a maximum of fifty pounds per square inch. After each incremental increase of ten pounds per square inch, if the pressurizing gas has not moved through the filter, and if no additional liquid has passed through the filter in any two-minute interval, proceed to the next ten pounds per square inch increment. When the pressurizing gas begins to move through the filter,

or when the liquid flow has ceased at fifty pounds per square inch (i.e., filtration does not result in any additional filtrate within a two-minute period), stop the filtration.

Note: Instantaneous application of high pressure can degrade the glass fiber filter and may cause premature plugging.

7.2.8 The material in the filter holder is defined as the solid phase of the waste, and the filtrate is defined as the liquid phase. Weigh the filtrate. The liquid phase may now be either analyzed (see section 7.2.12) or stored at four degrees Celsius until time of analysis.

Note: Some wastes, such as oily wastes and some paint wastes, will obviously contain some material that appears to be a liquid. Even after applying vacuum or pressure filtration, as outlined in section 7.2.7, this material may not filter. If this is the case, the material within the filtration device is defined as a solid and is carried through the extraction as a solid. Do not replace the original filter with a fresh filter under any circumstances. Use only one filter.

7.2.9 If the waste contains less than one-half percent dry solids (see section 7.1.2), proceed to section 7.2.13. If the waste contains greater than one-half percent dry solids (see section 7.1.1 or 7.1.2), and if particle size reduction of the solid was needed in section 7.1.3, proceed to section 7.2.10. If the waste as received passes a nine and one-half millimeters sieve, quantitatively transfer the solid material into the extractor bottle along with the filter used to separate the initial liquid from the solid phase, and proceed to section 7.2.11.

7.2.10 Prepare the solid portion of the waste for extraction by crushing, cutting, or grinding the waste to a surface area or particle size as described in section 7.1.3. When the surface area or particle size has been appropriately altered, quantitatively transfer the solid material into an extractor bottle. Include the filter used to separate the initial liquid from the solid phase.

Note: Sieving of the waste is not normally required. Surface area requirements are meant for filamentous (e.g., paper, cloth) and similar waste materials.

Actual measurement of surface area is not recommended. If sieving is necessary, a Teflon-coated sieve should be used to avoid contamination of the sample.

7.2.11 Determine the amount of extraction fluid to add to the extractor vessel as follows:

$$\text{Weight of extraction fluid} = \frac{20 \times \text{\% solids (section 7.1.1)} \times \text{weight of waste filtered (section 7.2.5 or 7.2.7)}}{100}$$

Slowly add this amount of appropriate extraction fluid (see section 7.1.4) to the extractor vessel. Close the extractor bottle tightly (it is recommended that Teflon tape be used to ensure a tight seal), secure in rotary agitation device, and rotate at thirty plus or minus two revolutions per minute for eighteen plus or minus two hours. Ambient temperature (i.e., temperature of room in which extraction takes place) shall be maintained at twenty-three plus or minus two degrees Celsius during the extraction period.

Note: As agitation continues, pressure may build up within the extractor bottle for some types of wastes (e.g., limed or calcium carbonate containing waste may evolve gases such as carbon dioxide). To relieve excess pressure, the extractor bottle may be periodically opened (e.g., after fifteen minutes, thirty minutes, and one hour) and vented into a hood.

7.2.12 Following the eighteen plus or minus two hour extraction, separate the material in the extractor vessel into its component liquid and solid phases by filtering through a new glass fiber filter, as outlined in section 7.2.7. For final filtration of the Toxicity Characteristic Leaching Procedure extract, the glass fiber filter may be changed, if necessary, to facilitate filtration. Filter(s) shall be acid-washed (see section 4.4) if evaluating the mobility of metals.

7.2.13 Prepare the Toxicity Characteristic Leaching Procedure extract as follows:

7.2.13.1 If the waste contained no initial liquid phase, the filtered liquid material obtained from section 7.2.12 is defined as the Toxicity Characteristic Leaching

Procedure extract. Proceed to section 7.2.14.

7.2.13.2 If compatible (e.g., multiple phases will not result on combination), combine the filtered liquid resulting from section 7.2.12 with the initial liquid phase of the waste obtained in section 7.2.7. This combined liquid is defined as the Toxicity Characteristic Leaching Procedure extract. Proceed to section 7.2.14.

7.2.13.3 If the initial liquid phase of the waste, as obtained from section 7.2.7, is not or may not be compatible with the filtered liquid resulting from section 7.2.12, do not combine these liquids. Analyze these liquids, collectively defined as the Toxicity Characteristic Leaching Procedure extract, and combine the results mathematically, as described in section 7.2.14.

7.2.14 Following collection of the Toxicity Characteristic Leaching Procedure extract, the pH of the extract should be recorded. Immediately aliquot and preserve the extract for analysis. Metals aliquots must be acidified with nitric acid to pH less than two. If precipitation is observed upon addition of nitric acid to a small aliquot of the extract, then the remaining portion of the extract for metals analyses shall not be acidified and the extract shall be analyzed as soon as possible. All other aliquots must be stored under refrigeration (four degrees Celsius) until analyzed. The Toxicity Characteristic Leaching Procedure extract shall be prepared and analyzed according to appropriate analytical methods. Toxicity Characteristic Leaching Procedure extracts to be analyzed for metals shall be acid digested except in those instances where digestion causes loss of metallic analytes. If an analysis of the undigested extract shows that the concentration of any regulated metallic analyte exceeds the regulatory level, then the waste is hazardous and digestion of the extract is not necessary. However, data on undigested extracts alone cannot be used to demonstrate that the waste is not hazardous. If the individual phases are to be analyzed separately, determine the volume of the individual phases (to plus or minus one-half percent), conduct the appropriate

analyses, and combine the results mathematically by using a simple volume-weighted average:

$$\text{Final analyte concentration} = \frac{(V_1)(C_1)+(V_2)(C_2)}{V_1 + V_2}$$

where:
V_1= The volume of the first phase (l).
C_1= The concentration of the analyte of concern in the first phase (mg/l).
V_2= The volume of the second phase (l).
C_2= The concentration of the analyte of concern in the second phase (mg/l).

7.2.15 Compare the analyte concentrations in the Toxicity Characteristic Leaching Procedure extract with the levels identified in the appropriate regulations. Refer to section 8.0 for quality assurance requirements.

7.3 Procedure When Volatiles Are Involved. Use the Zero-Headspace Extractor device to obtain Toxicity Characteristic Leaching Procedure extract for analysis of volatile compounds only. Extract resulting from the use of the Zero-Headspace Extractor shall not be used to evaluate the mobility of nonvolatile analytes (e.g., metals, pesticides, etc.).

The Zero-Headspace Extractor device has approximately a five hundred milliliters internal capacity. The Zero-Headspace Extractor can thus accommodate a maximum of twenty-five grams of solid (defined as that fraction of a sample from which no additional liquid may be forced out by an applied pressure of fifty pounds per square inch), due to the need to add an amount of extraction fluid equal to twenty times the weight of the solid phase.

Charge the Zero-Headspace Extractor with sample only once and do not open the device until the final extract (of the solid) has been collected. Repeated filling of the Zero-Headspace Extractor to obtain twenty-five grams of solid is not permitted.

Do not allow the waste, the initial liquid phase, or the extract to be exposed to the atmosphere for any more time than is absolutely necessary. Any manipulation of these materials should be done when cold (four degrees Celsius) to minimize loss of volatiles.

7.3.1 Pre-weigh the (evacuated) filtrate collection container (see section 4.6) and set aside. If

using a TEDLAR® bag, express all liquid from the Zero-Headspace Extractor device into the bag, whether for the initial or final liquid/solid separation, and take an aliquot from the liquid in the bag for analysis. The containers listed in section 4.6 are recommended for use under the conditions stated in 4.6.1-4.6.3.

7.3.2 Place the Zero-Headspace Extractor piston within the body of the Zero-Headspace Extractor (it may be helpful first to moisten the piston O-rings slightly with extraction fluid). Adjust the piston within the Zero-Headspace Extractor body to a height that will minimize the distance the piston will have to move once the Zero-Headspace Extractor is charged with sample (based upon sample size requirements determined from section 7.3, section 7.1.1 and/or 7.1.2). Secure the gas inlet/outlet flange (bottom flange) onto the Zero-Headspace Extractor body in accordance with the manufacturer's instructions. Secure the glass fiber filter between the support screens and set aside. Set liquid inlet/outlet flange (top flange) aside.

7.3.3 If the waste is one hundred percent solid (see section 7.1.1), weigh out a subsample (twenty-five gram maximum) of the waste, record weight, and proceed to section 7.3.5.

7.3.4 If the waste contains less than one-half percent dry solids (section 7.1.2), the liquid portion of waste, after filtration, is defined as the Toxicity Characteristic Leaching Procedure extract. Filter enough of the sample so that the amount of filtered liquid will support all of the volatile analyses required. For wastes containing greater than one-half percent dry solids (sections 7.1.1 and/or 7.1.2), use the percent solids information obtained in section 7.1.1 to determine the optimum sample size to charge into the Zero-Headspace Extractor. The recommended sample size is as follows:

7.3.4.1 For wastes containing less than one-half percent solids (see section 7.1.1), weigh out a five hundred gram subsample of waste and record the weight.

7.3.4.2 For wastes containing greater than one-half percent solids (see section 7.1.1), determine the amount of waste to charge

into the Zero-Headspace Extractor as follows:

$$\text{Weight of waste to change ZHE} = \frac{25}{\text{Percent solids (section 7.1)}} \times 100$$

Weigh out a subsample of the waste of the appropriate size and record the weight.

7.3.5 If particle size reduction of the solid portion of the waste was required in section 7.1.3, proceed to section 7.3.6. If particle size reduction was not required in section 7.1.3, proceed to section 7.3.7.

7.3.6 Prepare the waste for extraction by crushing, cutting, or grinding the solid portion of the waste to a surface area or particle size as described in section 7.1.3.1. Wastes and appropriate reduction equipment should be refrigerated, if possible, to four degrees Celsius prior to particle size reduction. The means used to effect particle size reduction must not generate heat in and of itself. If reduction of the solid phase of the waste is necessary, exposure of the waste to the atmosphere should be avoided to the extent possible.

Note: Sieving of the waste is not recommended due to the possibility that volatiles may be lost. The use of an appropriately graduated ruler is recommended as an acceptable alternative. Surface area requirements are meant for filamentous (e.g., paper, cloth) and similar waste materials. Actual measurement of surface area is not recommended.

When the surface area or particle size has been appropriately altered, proceed to section 7.3.7.

7.3.7 Waste slurries need not be allowed to stand to permit the solid phase to settle. Do not centrifuge wastes prior to filtration.

7.3.8 Quantitatively transfer the entire sample (liquid and solid phases) quickly to the Zero-Headspace Extractor. Secure the filter and support screens onto the top flange of the device and secure the top flange to the Zero-Headspace Extractor body in accordance with the manufacturer's instructions. Tighten all Zero-Headspace Extractor fittings and place the device in the vertical position (gas inlet/outlet flange on the bottom). Do not attach the extract collection device to the top plate.

Note: If waste material (greater than one percent of original sample weight) has obviously adhered to the container used to transfer the sample to the Zero-Headspace Extractor, determine the weight of this residue and subtract it from the sample weight determined in section 7.3.4 to determine the weight of the waste sample that will be filtered.

Attach a gas line to the gas inlet/outlet valve (bottom flange) and, with the liquid inlet/outlet valve (top flange) open, begin applying gentle pressure of one to ten pounds per square inch (or more if necessary) to force all headspace slowly out of the Zero-Headspace Extractor device into a hood. At the first appearance of liquid from the liquid inlet/outlet valve, quickly close the valve and discontinue pressure. If filtration of the waste at four degrees Celsius reduces the amount of expressed liquid over what would be expressed at room temperature, then allow the sample to warm up to room temperature in the device before filtering. If the waste is one hundred percent solid (see section 7.1.1), slowly increase the pressure to a maximum of fifty pounds per square inch to force most of the headspace out of the device and proceed to section 7.3.12.

7.3.9 Attach the evacuated pre-weighed filtrate collection container to the liquid inlet/outlet valve and open the valve. Begin applying gentle pressure of one to ten pounds per square inch to force the liquid phase of the sample into the filtrate collection container. If no additional liquid has passed through the filter in any two-minute interval, slowly increase the pressure in ten pounds per square inch increments to a maximum of fifty pounds per square inch. After each incremental increase of ten pounds per square inch, if no additional liquid has passed through the filter in any two-minute interval, proceed to the next ten pounds per square inch increment. When liquid flow has ceased such that continued pressure filtration at fifty pounds per square inch does not result in any additional filtrate within a two-minute period, stop the filtration. Close the liquid inlet/outlet valve, discontinue pressure to the piston, and disconnect and weigh the filtrate collection container.

Note: Instantaneous application of high pressure can degrade the glass fiber filter and may cause premature plugging.

7.3.10 The material in the Zero-Headspace Extractor is defined as the solid phase of the waste and the filtrate is defined as the liquid phase.

Note: Some wastes, such as oily wastes and some paint wastes, will obviously contain some material that appears to be a liquid. Even after applying pressure filtration, this material will not filter. If this is the case, the material within the filtration device is defined as a solid and is carried through the Toxicity Characteristic Leaching Procedure extraction as a solid.

If the original waste contained less than one-half percent dry solids (see section 7.1.2), this filtrate is defined as the Toxicity Characteristic Leaching Procedure extract and is analyzed directly. Proceed to section 7.3.15.

7.3.11 The liquid phase may now be either analyzed immediately (see sections 7.3.13 through 7.3.15) or stored at 4 degrees Celsius under minimal headspace conditions until time of analysis. Determine the weight of extraction fluid #1 to add to the Zero-Headspace Extractor as follows:

$$\text{Weight of extraction fluid} = \frac{20 \times \%\ \text{solids (section 7.1.1)} \times \text{weight of waste filtered (section 7.3.4 or 7.3.8)}}{100}$$

7.3.12 The following sections detail how to add the appropriate amount of extraction fluid to the solid material within the Zero-Headspace Extractor and agitation of the Zero-Headspace Extractor vessel. Extraction fluid #1 is used in all cases (see section 5.7).

7.3.12.1 With the Zero-Headspace Extractor in the vertical position, attach a line from the extraction fluid reservoir to the liquid inlet/outlet valve. The line used shall contain fresh extraction fluid and should be preflushed with fluid to eliminate any air pockets in the line. Release gas pressure on the Zero-Headspace Extractor piston (from the gas inlet/outlet valve), open the liquid inlet/outlet valve, and begin transferring extraction fluid (by pumping or similar means) into the Zero-Headspace Extractor. Continue pumping extraction fluid into the Zero-Headspace

Extractor until the appropriate amount of fluid has been introduced into the device.

7.3.12.2 After the extraction fluid has been added, immediately close the liquid inlet/outlet valve and disconnect the extraction fluid line. Check the Zero-Headspace Extractor to ensure that all valves are in their closed positions. Manually rotate the device in an end-over-end fashion two or three times. Reposition the Zero-Headspace Extractor in the vertical position with the liquid inlet/outlet valve on top. Pressurize the Zero-Headspace Extractor to five to ten pounds per square inch (if necessary) and slowly open the liquid inlet/outlet valve to bleed out any headspace (into a hood) that may have been introduced due to the addition of extraction fluid. This bleeding shall be done quickly and shall be stopped at the first appearance of liquid from the valve. Re-pressurize the Zero-Headspace Extractor with five to ten pounds per square inch and check all Zero-Headspace Extractor fittings to ensure that they are closed.

7.3.12.3 Place the Zero-Headspace Extractor in the rotary agitation apparatus (if it is not already there) and rotate at thirty plus or minus two revolutions per minute for eighteen plus or minus two hours. Ambient temperature (i.e., temperature of room in which extraction occurs) shall be maintained at twenty-two plus or minus three degrees Celsius during agitation.

7.3.13 Following the eighteen plus or minus two hour agitation period, check the pressure behind the Zero-Headspace Extractor piston by quickly opening and closing the gas inlet/outlet valve and noting the escape of gas. If the pressure has not been maintained (i.e., no gas release observed), the device is leaking. Check the Zero-Headspace Extractor for leaking as specified in section 4.2.1, and perform the extraction again with a new sample of waste. If the pressure within the device has been maintained, the material in the extractor vessel is once again separated into is component liquid and solid phases. If the waste contained an initial liquid phase, the liquid may be filtered

directly into the same filtrate collection container (i.e., TEDLAR® bag) holding the initial liquid phase of the waste. A separate filtrate collection container must be used if combining would create multiple phases, or there is not enough volume left within the filtrate collection container. Filter through the glass fiber filter, using the Zero-Headspace Extractor device as discussed in section 7.3.9. All extract shall be filtered and collected if the TEDLAR® bag is used, if the extract is multiphasic, or if the waste contained an initial liquid phase (see sections 4.6 and 7.3.1).

Note: An in-line glass fiber filter may be used to filter the material within the Zero-Headspace Extractor if it is suspected that the glass fiber filter has been ruptured.

7.3.14 If the original waste contained no initial liquid phase, the filtered liquid material obtained from section 7.3.13 is defined as the Toxicity Characteristic Leaching Procedure extract. If the waste contained an initial liquid phase, the filtered liquid material obtained from section 7.3.13 and the initial liquid phase (section 7.3.9) are collectively defined as the Toxicity Characteristic Leaching Procedure extract.

7.3.15 Following collection of the Toxicity Characteristic Leaching Procedure extract, immediately prepare the extract for analysis and store with minimal headspace at four degrees Celsius until analyzed. Analyze the Toxicity Characteristic Leaching Procedure extract according to the appropriate analytical methods. If the individual phases are to be analyzed separately (i.e., are not miscible), determine the volume of the individual phases (to one-half percent), conduct the appropriate analyses, and combine the results mathematically by using a simple volume-weighted average:

$$\textit{Final analyte concentration} = \frac{(V_1)(C_1) + (V_2)(C_2)}{V_1 + V_2}$$

where:
V_1=The volume of the first phases (l).
C_1=The concentration of the analyte of concern in the first phase (mg/l).
V_2=The volume of the second phase (l).

C_2=The concentration of the analyte of concern in the second phase (mg/l).

7.3.16 Compare the analyte concentrations in the Toxicity Characteristic Leaching Procedure extract with the levels identified in the appropriate regulations. Refer to section 8.0 for quality assurance requirements.

8.0 Quality Assurance Requirements

8.1 A minimum of one blank (using the same extraction fluid as used for the samples) must be analyzed for every twenty extractions that have been conducted in an extraction vessel.

8.2 A matrix spike shall be performed for each waste type (e.g. wastewater treatment sludge, contaminated soil, etc.) unless the result exceeds the regulatory level and the data is being used solely to demonstrate that the waste property exceeds the regulatory level. A minimum of one matrix spike must be analyzed for each analytical batch. The bias determined from the matrix spike determination shall be used to correct the measured values. (See sections 8.2.4 and 8.2.5.) As a minimum, follow the matrix spike addition guidance provided in each analytical method.

8.2.1 Matrix spikes are to be added after filtration of the Toxicity Characteristic Leaching Procedure extract and before preservation. Matrix spikes should not be added prior to Toxicity Characteristic Leaching Procedure extraction of the sample.

8.2.2 In most cases, matrix spike levels should be added at a concentration equivalent to the corresponding regulatory level. If the analyte concentration is less than one half the regulatory level, the spike concentration may be as low as one half of the analyte concentration but may not be less than five times the method detection limit. In order to avoid differences in matrix effects, the matrix spikes must be added to the same nominal volume of Toxicity Characteristic Leaching Procedure extract as that which was analyzed for the unspiked sample.

8.2.3 The purpose of the matrix spike is to monitor the performance of the analytical methods used, and to determine whether matrix interferences exist. Use of other internal calibration methods, modification of the analytical methods, or use of alternate

analytical methods may be needed to accurately measure the analyte concentration in the Toxicity Characteristic Leaching Procedure extract when the recovery of the matrix spike is below the expected analytical method performance.

8.2.4 Matrix spike recoveries are calculated by the following formula:

$$\%R \text{ (Percent recovery)} = 100(X_s - X_u)/K$$

where:
X_s = measured value for the spiked sample,
X_u = measured value for the unspiked sample, and
K = known value of the spike in the sample.

8.2.5 Measured values are corrected for analytical bias using the following formula:

$$X_c = 100(X_u/\%R)$$

where:
X_c = corrected value, and
X_u = measured value of the unspiked sample.

8.3 All quality control measures described in the appropriate analytical methods shall be followed.

8.4 Samples must undergo Toxicity Characteristic Leaching Procedure extraction within the following time periods:

SAMPLE MAXIMUM HOLDING TIMES
[Days]

	From: Field Collection To: TCLP Extraction	From: TCLP Extraction To: Preparative Extraction	From: Preparative Extraction To: Determinative Analysis	Total Elapsed Time
Volatiles	14	NA	14	28
Semivolatiles	14	7	40	61
Mercury	28	NA	28	56
Metals, except mercury	180	NA	180	360

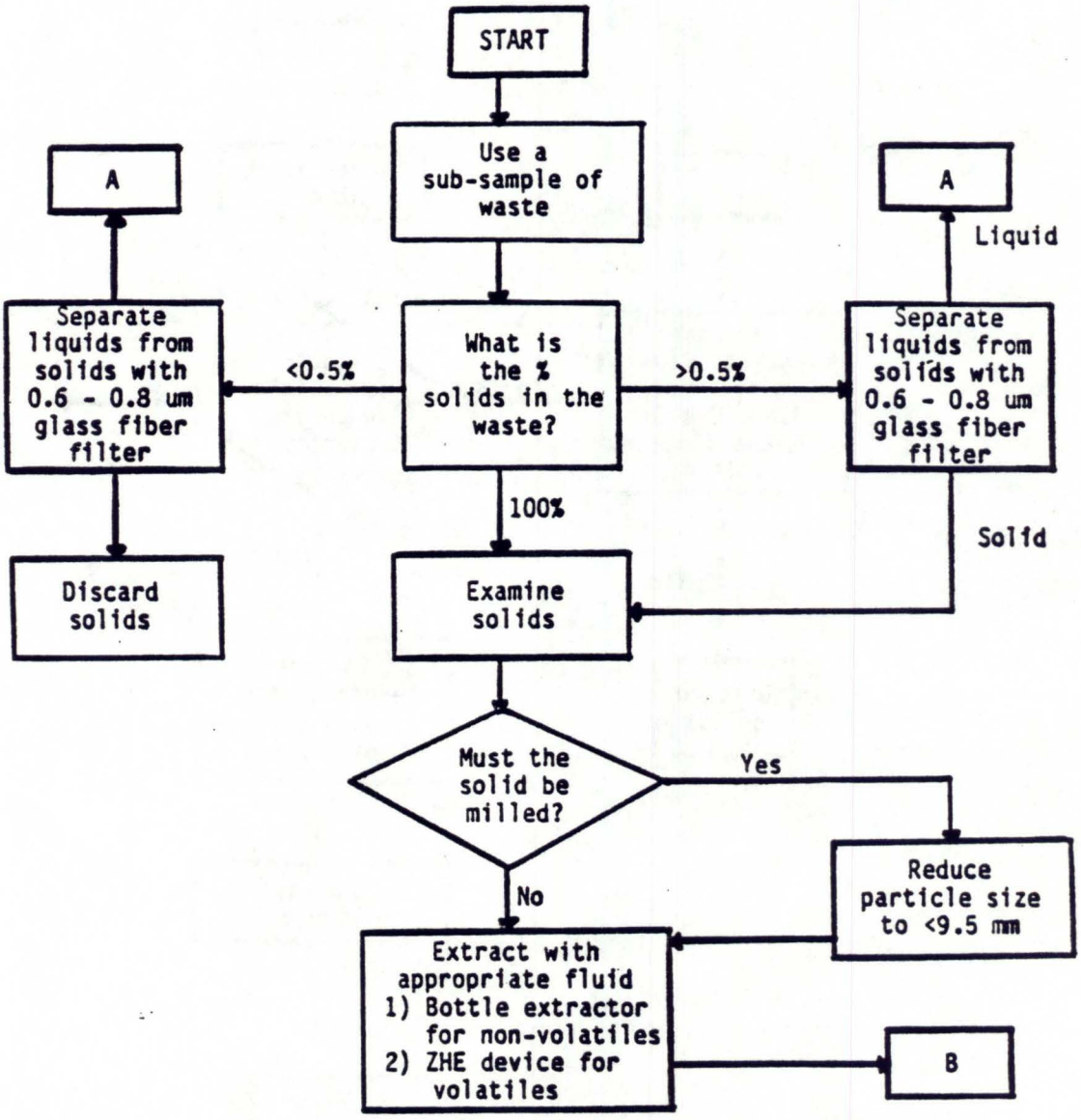
NA = Not applicable

If sample holding times are exceeded, the values obtained will be considered minimal concentrations. Exceeding the

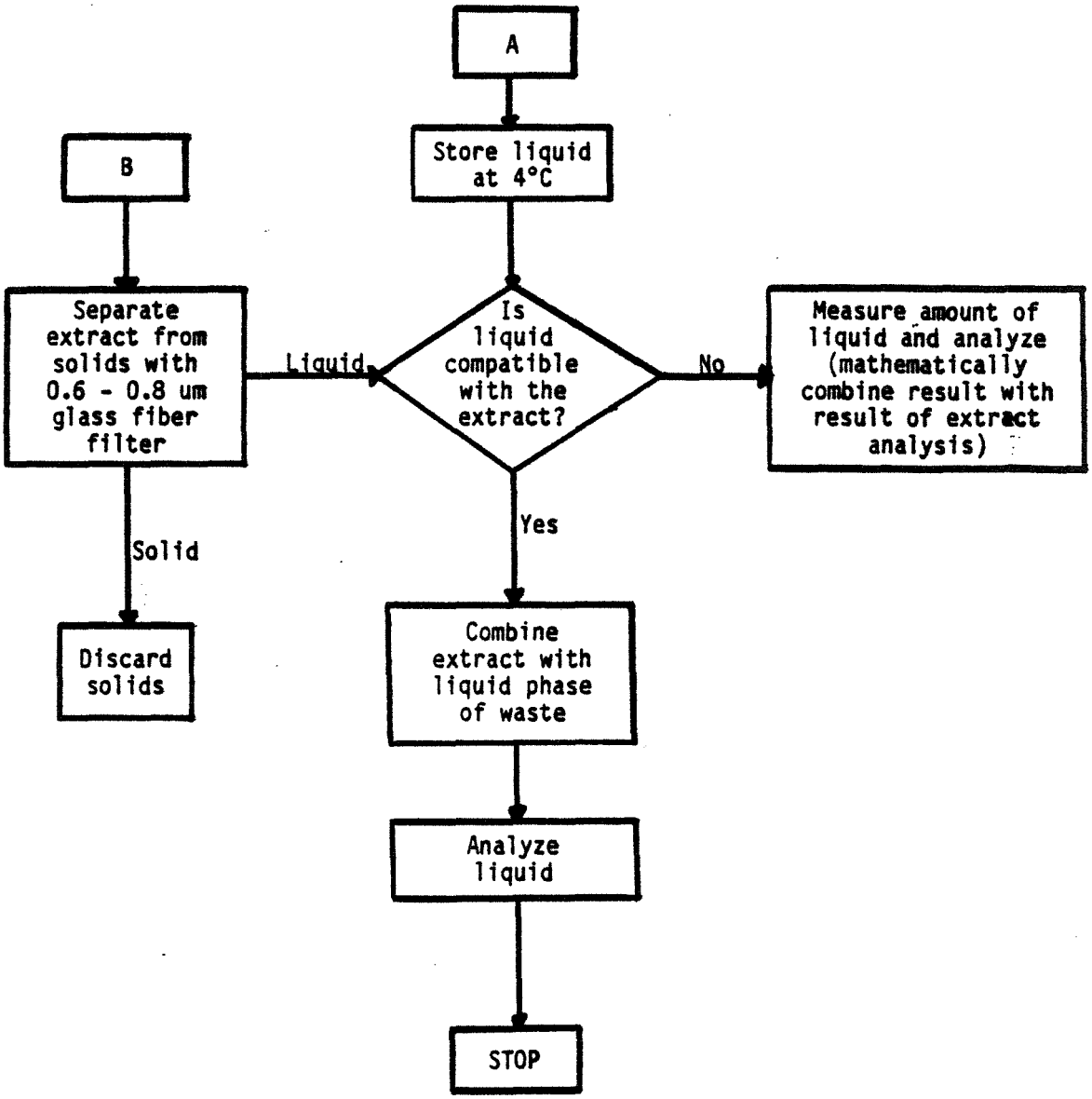
holding time is not acceptable in establishing that a waste does not exceed the regulatory level. Exceeding the holding time will not invalidate characterization if the waste exceeds the regulatory level.

METHOD 1311

TOXICITY CHARACTERISTIC LEACHATE PROCEDURE



TOXICITY CHARACTERISTIC LEACHATE PROCEDURE



APPENDIX III

CHEMICAL ANALYSIS TEST METHODS

Tables 1, 2, and 3 specify the appropriate analytical procedures described in "Test Methods for Evaluating Solid Waste, Physical Chemical Methods" incorporated by reference, (see section 33-24-01-05), which shall be used to determine whether a sample contains a given Appendix IV or V toxic constituent.

Table 1 identifies each Appendix IV or V organic constituent along with the approved measurement method. Table 2 identifies the corresponding methods for the inorganic species. Table 3 summarizes the contents of SW-846 and supplies specific section and method numbers for sampling and analysis methods.

Prior to final sampling and analysis method selection, and for additional guidance on which of the approved methods should be employed for a specific sample analysis situation, the analyst should consult the specific section or method described in SW-846.

Table 1

Analysis Methods for Organic Chemicals Contained in SW-846

Compound	Method Numbers
Acetonitrile	8030, 8240
Acrolein	8030, 8240
Acrylamide	8015, 8240
Acrylonitrile	8030, 8240
2-Amino-1-methylbenzene(o-Toluidine)	8250
4-Amino-1-methylbenzene(p-Toluidine)	8250
Aniline	8250
Benzene	8020, 8024
Benz(a)anthracene	8100, 8250, 8310
Benzo(a)pyrene	8100, 8250, 8310
Benzotrichloride	8120, 8250
Benzyl chloride	8120, 8250
Benzo(b)fluoanthene	8100, 8250, 8310
Bis(2-chloroethoxymethane)	8010, 8240
Bis(2-chloroethyl)ether	8010, 8240
Bis(2-chloroisopropyl)ether	8010, 8240
Carbon disulfide	8015, 8240
Carbon tetrachloride	8010, 8240
Chlordane	8080, 8250
Chlorinated dibenzo-p-dioxins	8280
Chlorinated dibenzofurans	8280
Chlorinated biphenyls	8080, 8250
Chloroacetaldehyde	8010, 8240
Chlorobenzene	8020, 8240
Chloroform	8010, 8240
Chloromethane	8010, 8240
2-Chlorophenol	8040, 8250
Chrysene	8100, 8250, 8310
Creosote[1]	8100, 8250
Cresol(s)	8040, 8250
Cresylic Acid(s)	8040, 8250
Dichlorobenzene(s)	8010, 8120, 8250
Dichloroethane(s)	8010, 8240
Dichloromethane	8010, 8240
Dichlorophenoxyacetic acid	8150, 8250
Dichloropropanol	8120, 8250
2,4-Dimethylphenol	8040, 8250
Dimethyl sulfate	8250, 8270
Dinitrobenzene	8090, 8250
4,6-Dinitro-o-cresol	8040, 8250
2,4-Dinitrotoluene	8090, 8250

Table 1 (continued)

Analysis Methods for Organic Chemicals Contained in SW-846

Compound	Method Numbers
2,6-Dinitrotoluene	8060, 8250
Endrin	8080, 8250
2-Ethoxyethanol	8030, 8240
Ethyl ether	8015, 8240
Ethylene dibromide	8010, 8240
Ethylene thiourea	8250, 8330
Formaldehyde	8015, 8240
Formic acid	8250
Heptachlor	8080, 8250
Hexachlorobenzene	8120, 8250
Hexachlorobutadiene	8120, 8250
Hexachloroethane	8010, 8240
Hexachlorocyclopentadiene	8120, 8250
Lindane	8080, 8250
Maleic anhydride	8250
Methanol	8010, 8240
Methomyl	8250
Methyl bromide	8010, 8240, 8260
Methyl ethyl ketone	8015, 8240
Methyl isobutyl ketone	8015, 8240
Napthalene	8100, 8250
Napthoquinone	8090, 8250
Nitrobenzen	8090, 8250
4-Nitrophenol	8040, 8240
2-Nitropropane	8030, 8240
Paraldehyde (trimer of acetaldehyde)	8015, 8240
Pentachlorophenol	8040, 8250
Phenol	8040, 8250
Phorate	8140
Phosphorodithioic acid esters	8140
Phthalic anhydride	8090, 8250
2-Picoline	8090, 8250
Pyridine	8090, 8250
Tetrachlorobenzene(s)	8120, 8250
Tetrachloroethane(s)	8010, 8240
Tetrachloroethene	8010, 8240
Tetrachlorophenol	8040, 8250
Toluene	8020, 8024
Toluene diisocyanate(s)	8250
Toluenediamine	8250
2,4-Toluenediamine	8250
2,6-Toluenediamine	8250
3,4-Toluenediamine	8250
Toxaphene	8080, 8250
Trichloroethane	8010, 8240

Table 1 (continued)

Analysis Methods for Organic Chemicals Contained in SW-846

Compound	Method Numbers
Trichloroethene(s)	8010, 8240
Trichlorofluoromethane	8010, 8240
Trichlorophenol(s)	8040, 8250
2,4,5-Trichlorophenoxy propionic acid	8150, 8250
Trichloropropane	8010, 8240
Vinyl chloride	8010, 8240
Vinylidene chloride	8010, 8240
Xylene	8020, 8240

New Table **Table 2**

Analysis Methods for Inorganic Chemicals and Miscellaneous Groups of Analytes Contained in SW-846[a]

Compound	Third Edition Method(s)	Second Edition Method(s)
Aluminum	6010	
Antimony	6010	7040, 7041
Arsenic	6010	7060, 7061
Barium	6010	7080, 7081
Beryllium	6010, 7090, 7091	
Boron	6010	
Cadmium	6010	7130, 7131
Calcium	6010	
Chromium	6010	7190, 7191
Chromium: Hexavalent	7196	7195, 7196, 7197
Cobalt	6010	
Copper	6010, 7210, 7211	
Iron	6010, 7380, 7381	
Lead	6010	7420, 7421
Magnesium	6010	
Manganese	6010, 7460,7461	
Mercury		7470, 7471
Molybdenum	6010	
Nickel	6010	7520, 7521
Osmium	7550	
Potassium	6010	
Selenium	6010	7740, 7741
Silicon	6010	
Silver	6010	7760, 7761
Sodium	6010, 7770	
Thallium	6010, 7840, 7841	
Vanadium	6010, 7910, 7911	

Table 2 (continued)

Analysis Methods for Inorganic Chemicals and Miscellaneous Groups of Analytes Contained in SW-846[a]

Compound	Third Edition Method(s)	Second Edition Method(s)
Zinc	6010, 7950, 7951	
Cyanides		9010
Total Organic Halides	9022	9020
Sulfides		9030
Sulfates	9035, 9036, 9038	
Total Organic Carbon	9060	
Phenolics		9065, 9066*, 9067
Oil and Grease	9070, 9071	
Total Coliform	9131, 9132	
Nitrate	9200	
Chlorides	9250, 9251, 9252	
Gross Alpha and Gross Beta	9310	
Alpha-Emitting Radium Isotopes	9315	
Radium-228	9320	

[a]The Third Edition and its Updates will supercede the Second Edition and its Updates I and II when it is adopted. Until the Third Edition is adopted, in a final rule, the Second Edition and its updates must be used for regulatory purposes. Therefore, reference to the Third Edition, in these tables is provided for convenience. The Third Edition of SW-846 and Update I are available from the Government Printing Office, Superintendent of Documents, Washington, DC 20402, (202) 738-3238, document number 955-001-00000-1.

*When Method 9066 is used, it must be preceded by the manual disulfation specified in procedure 7.1 of Method 9065. Just prior to distillation in Method 9065, adjust the sulfuric acid-preserved sample to pH 4 with 1+9 NaOH. After the manual distillation is completed, the autoanalyzer manifold is simplified by connecting the re-sample line directly to the sampler.

New Table

Table 3

Sampling and Analysis Methods Contained in SW-846

Compound	Third Edition Section No.	Third Edition Method No.	Second Edition Section No.	Second Edition Method No.
Quality Control	1.0		10.0	
Introduction	1.1		10.1	
Quality Control	1.2			
Method Detection Limit	1.3			
Data Reporting	1.4			
Quality Control Documentation	1.5			
References	1.6			
Choosing the Correct Procedure	2.0			
Purpose	2.1			
Required Information	2.2			
Implementing the Guidance	2.3			
Characteristics	2.4			
Ground Water	2.5			
References	2.6			
Metallic Analytes	3.0			
Sampling Considerations	3.1			
Sampling Preparation Methods	3.2			
Acid Digestion of Waters for Total Recoverable or Dissolved Metals for Analysis by Flame AAS or ICP	3.2	3005		
Acid Digestion of Aqueous Samples and Extracts for Total Metals by Flame AAs or ICP	3.2	3010	4.1	3010
Acid Digestion of Aqueous Samples and Extracts for Total Metals for Analysis by Furnace AAS.	3.2	3020	4.1	3020
Dissolution Procedure for Oils, Greases, or Waxes	3.2	3040	4.1	3040
Acid Digestion of Sediments, Sludges and Soils	3.2	3050	4.1	3050
Methods for the Determination of Metals	3.3			
Inductively Coupled Plasma Atomic Emissions Spectroscopy	3.3	*6010		
Atomic Absorption Methods	3.3	7000		
Aluminum, Flame AAS	3.3	7020		
Antimony, Flame AAS	3.3	7040	7.0	7040
Antimony, Furnace AAS	3.3	7041	7.0	7041
Arsenic, Furnace AAS	3.3	7060	7.0	7060
Arsenic, Gaseous Hydride AAS	3.3	7061	7.0	7061
Barium, Flame AAS	3.3	7080	7.0	7080
Barium, Furnace AAS	3.3	7081	7.0	7881
Beryllium, Flame AAS	3.3	*7000		
Beryllium, Furnace AAS	3.3	*7091		
Cadmium, Flame AAS	3.3	7130	7.0	7130
Cadmium, Furnace AAS	3.3	7131	7.0	7131
Calcium, Flame AAS	3.3	7140		
Chromium, Flame AAS	3.3	7190	7.0	7190
Chromium, Furnace AAS	3.3	7191	7.0	7191
Chromium, Hexavalent, Coprecipitation	3.3	7195	7.0	7195
Chromium, Hexavalent, Colorimetric	3.3	7196	7.0	7196
Chromium, Hexavalent, Chelation/Extraction	3.3	7197	7.0	7197
Chromium, Hexavalent, Differential Pulse Polarography	3.3	*7198		
Cobalt, Flame AAS	3.3	7200		
Cobalt, Furnace AAS	3.3	7201		
Copper, Flame AAS	3.3	*7210		
Copper, Furnace AAS	3.3	*7211		
Iron, Flame AAS	3.3	*7380		
Iron, Furnace AAS	3.3	*7381		
Lead, Flame AAS	3.3	7420	7.0	7470

Table 3 (continued)

Sampling and Analysis Methods Contained in SW-846

Compound	Third Edition Section No.	Third Edition Method No.	Second Edition Section No.	Second Edition Method No.
Lead, Furnace AAS	3.3	7421	5.0	7421
Magnesium, Flame AAS	3.3	7450		
Manganese, Flame AAS	3.3	*7460		
Manganese, Furnace AAS	3.3	*7461		
Mercury in Liquid Waste, Manual Cold Vapor Technique	3.3	7470	7.0	7470
Mercury in Solid or Semisolid Waste, Manual Cold Vapor Technique	3.3	7471	7.0	7471
Molybdenum, Flame AAS	3.3	7480		
Molybdenum, Furnace AAS	3.3	7481		
Nickel, Flame AAS	3.3	7520	7.0	7520
Osmium, Flame AAS	3.3	*7550		
Potassium, Flame AAS	3.3	7610		
Selenium, Furnace AAS	3.3	7740	7.0	7740
Selenium, Gaseous Hydride AAS	3.3	7741	7.0	7741
Silver, Flame AAS	3.3	7760	7.0	7760
Silver, Furnace AAS	3.3	7761	7.0	7761
Sodium, Flame AAS	3.3	*7770		
Thallium, Flame AAS	3.3	*7840		
Thallium, Furnace AAS	3.3	*7841		
Tin, Flame AAS	3.3	7870		
Vanadium, Flame AAS	3.3	*7910		
Vanadium, Furnace AAS	3.3	*7941		
Zinc, Flame AAS	3.3	*7950		
Zinc, Furnace AAS	3.3	*7951		
Organic Analytes	4.0		8.0	
Sampling Considerations	4.1			
Sample Preparation Methods	4.2			
Extractions and Preparation	4.2.1			
Organic Extraction and Sample Preparation	4.2.1	3500		
Separatory funnel Liquid-Liquid Extraction	4.2.1	3510	4.2	3510
Continuous Liquid-Liquid Extraction	4.2.1	3520	4.2	3520
Soxhlet Extraction	4.2.1	3540	4.2	3540
Ultrasonic Extraction	4.2.1	3550	4.2	3550
Waste Dilution	4.2.1	3580		
Purge and Trap	4.2.1	5030	5.0	5030
Protocol for Analysis of Sorbent Cartridges from VOST	4.2.1	*5040		
Cleanup	4.2.2			
Cleanup	4.2.2	3600		
Alumina Column Cleanup	4.2.2	3610		
Alumina Column Cleanup & Separation of Petroleum Wastes	4.2.2	*3611		
Florisil Column Ceanup	4.2.2	3620		
Silica Gel Cleanup	4.2.2	3630		
Gel-Permeation Cleanup	4.2.2	3640		
Acid-Base Partition Cleanup	4.2.2	3650	4.2	3530
Sulfur Cleanup	4.2.2	3660		
Determination of Organic Analytes	4.3			
Gas Chromatographic Methods	4.3.1		8.1	
Gas Chromatography	4.3.1	8000		
Halogenated Volatile Organics	4.3.1	8010	8.1	8010
EDB and DBCP	4.3.1	8011		
Nonhalogenated Volatile Organics	4.3.1	8015	8.1	8015
Aromatic Volatile Organics	4.3.1	8020	8.1	8020
Volatile Organic Compounds in Water by Purge-and-Trap Capillary Column GC with PID and Electrolytic Conductivity Detector in Series	4.3.1	8021		
Acrolein, Acrylonitrile, Acetonitrile	4.3.1	8030	8.1	8030

Table 3 (continued)

Sampling and Analysis Methods Contained in SW-846

Compound	Third Edition Section No.	Third Edition Method No.	Second Edition Section No.	Second Edition Method No.
Phenols	4.3.1	8040	8.1	8040
Phthalate Esters	4.3.1	8060	8.1	8060
Nitrosamines	4.3.1	8070		
Organochlorine Pesticides and PCBs as Aroclors	4.3.1	8080	8.1	8080
Nitroaromatics and Cyclic Ketones	4.3.1	8090	8.1	8090
Polynuclear Aromatic Hydrocarbons	4.3.1	8100	8.1	8100
Haloethers	4.3.1	8110		
Chlorinated Hydrocarbons	4.3.1	8120	8.1	8120
Organophosphorus Pesticides	4.3.1	8140	8.1	8140
Organophosphorus Pesticides: Capillary Column	4.3.1	8141		
Chlorinated Herbicides	4.3.1	8150	8.1	8150
Gas Chromatographic/Mass Spectroscopic Methods	4.3.2		8.2	
GC/MS Volatiles	4.3.2	8240	8.2	8240
GC/MS Semivolatiles, Packed Column	4.3.2	8250	8.2	8250
GC/MS for Volatiles Capillary Column	4.3.2	8260		
GC/MS Semivolatiles, Capillary Column	4.3.2	8270	8.2	8270
Analysis of Chlorinated Dioxins and Dibenzofurans	4.3.2	8280		
High Performance Liquid Chromatographic Methods (HPLC)	4.3.3		8.3	
Polynuclear Aromatic Hydrocarbons	4.3.3	8310	8.3	8310
Miscellaneous Screening Methods	4.4			
Headspace	4.4	3810	5.0	5020
Hexadecane Extraction as Screening of Purgeable Organics	4.4	3820		
Miscellaneous Test Methods	5.0		9.0	
Total and Amenable Cyanide (Colorimetric, Manual)	5.0	9010	9.0	9010
Total and Amenable Cyanide (Colorimetric, Automated)	5.0	9012		
Total Organic Halides (TOX)	5.0	9020	9.0	9020
Purgeable Organic Halides (POX)	5.0	9021		
Total Organic Halides (TOX) by Neutron Activation Analysis	5.0	*9022		
Acid-Soluble and Acid-Insoluble Sulfides	5.0	9030	9.0	9030
Extractable Sulfides	5.0	9031		
Sulfate, (Colorimetric, Automated, Chloranilate)	5.0	*9035		
Sulfate, (Colorimetric, Automated, Methylthymol Blue, AA II)	5.0	*9036		
Sulfate, (Turbidimetric)	5.0	*9038		
Total Organic Carbon	5.0	*9060		
Phenolics, (Spectrophotometric, Manual 4-AAP)	5.0	*9065		
Phenolics, (Colorimetric, Automated 4-AAP)	5.0	*+9066		
Phenolics, (Spectrophotometric, MBTH)	5.0	*9067		
Total Recoverable Oil and Grease (Gravimetric, Separatory Funnel Extraction	5.0	*9070		
Oil and Grease Extraction Method for Sludge Samples	5.0	*9071		
Total Coliform: Multiple Tube Fermentation	5.0	*9131		
Total Coliform: Membrane Filter	5.0	*9132		
Nitrate	5.0	*9200		
Chloride (Colorimetric, Automated Ferricyanide AAI)	5.0	*9250		
Chloride (Colorimetric, Automated Ferricyanide AAII)	5.0	*9251		
Chloride (Titrimetric, Mercuric Nitrate)	5.0	*9252		
Properties	6.0			
Multiple Extraction Prodedure	6.0	*1320		

Table 3 (continued)

Sampling and Analysis Methods Contained in SW-846

Compound	Third Edition Section No.	Third Edition Method No.	Second Edition Section No.	Second Edition Method No.
Extraction Procedure for Oily Wastes	6.0	*1330		
pH Electrometric Measurement	6.0	9040	9.0	9040
pH Paper Method	6.0	9041		
Soil pH	6.0	9045		
Specific Conductance	6.0	9050		
Cation-Exchange Capacity of Soils (Ammonium Acetate)	6.0	*9080		
Cation-Exchange Capacity of Soils (Sodium Acetate)	6.0	*9081		
Compatibility Test for Wastes and Membrane Liners	6.0	9090		
Paint Filter Liquids Test	6.0	9095	9.0	9095
Saturated Hydraulic Conductivity, Saturated Leachate Conductivity, and Intrinsic Permeability	6.0	*9100		
Gross Alpha and Gross Beta	6.0	*9310		
Alpha-Emitting Radium Isotopes	6.0	*9315		
Radium-228	6.0	*9320		
Introduction and Regulatory Definitions	7.0		2.0	
Ignitability	7.1		2.1.1	
Corrosivity	7.2		2.1.2	
Reactivity	7.3		2.1.3	
Test Method to Determine Hydrogen Cyanide Released from Wastes	7.3			
Test Method to Determine Hydrogen Cyanide Released from Wastes	7.3			
Extraction Procedure Toxicity	7.4		2.1.4	
Methods for Determining Characteristics	8.0		2.0	
Ignitability	8.1		2.1.1	
Pensky-Martens Closed-Cup Method	8.1	1010	2.1.1	1010
Setaflash Closed-Cup	8.1	1020	2.1.1	1020
Corrosivity	8.2		2.1.2	
Corrosivity Toward Steel	8.2	1110	2.1.2	1110
Reactivity	8.3		2.1.3	
Toxicity	8.4		2.1.4	
Extraction Procedure (EP) Toxicity Test Method and Structural Integrity Test	8.4	1310	2.1.4	1310
Sampling Plan	9.0		1.0	
Design and Development	9.1		1.0, 1.1	
Implementation	9.2		1.2, 1.3, 1.4	
Sampling Methods	10.0			
Modified Method 5 Sampling Train, Appendix A and B	10.0	*0010		
Source Assessment Sampling System (SASS)	10.0	*0020		
Volatile Organic Sampling Train	10.0	*0030		
Ground Water Monitoring	11.0			
Background and Objectives	11.1			
Relationship to the Regulations and to Other Documents	11.2			
Revisions and Additions	11.3			
Acceptable Designs and Practices	11.4			
Unacceptable Designs and Practices	11.5			
Land Treatment Monitoring	12.0			
Background	12.1			
Treatment Zone	12.2			
Regulatory Definition	12.3			
Monitoring and Sampling Strategy	12.4			
Analysis	12.5			
References and Bibliography	12.6			

Table 3 (continued)

Sampling and Analysis Methods Contained in SW-846

Compound	Third Edition Section No.	Third Edition Method No.	Second Edition Section No.	Second Edition Method No.
Incineration	13.0			
Introduction	13.1			
Regulatory Definition	13.2			
Waste Characterization Strategy	13.3			
Stack-Gas Effluent Characterization Strategy	13.4			
Additional Effluent Characterization Strategy	13.5			
Selection of Specific Sampling and Analysis Methods	13.6			
References	13.7			

*The Third Edition and its Updates will supersede the Second Edition and its Updates I and II when it is adopted. Until the Third Edition is adopted, in a final rule, the Second Edition and its updates must be used for regulatory purposes. Therefore, reference to the Third Edition, in these tables is provided for convenience. The Third Edition of SW-846 and Update I are available from the Government Printing Office, Superintendent of Documents, Washington, DC 20402, (202) 738-3238, document number 955-001-00000-1.

*This method may be used in conjunction with or in addition to the methods found in the Second Edition of SW-846 as amended by Updates I and II.

+When Method 9066 is used it must be preceded by the manual distillation specified in procedure 7.1 of Method 9065. Just prior to distillation in Method 9065, adjust the sulfuric acid-preserved sample to pH 4 with 1+9 NaOH. After the manual distillation is completed, the autoanalyzer manifold is simplified by connecting the re-sample line directly to the sampler.

APPENDIX IV

BASIS FOR LISTING HAZARDOUS WASTE

EPA Hazardous Waste No.	Hazardous Waste Constituents for Which Listed
F001	Tetrachloroethylene, methylene chloride trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride, chlorinated fluorocarbons.
F002	Tetrachloroethylene, methylene chloride, trichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane chlorobenzene, 1,1,2-trichloro-1,2,2-trifluoroethane, ortho-dichlorobenzene, trichlorofluoromethane.
F003	N.A.
F004	Cresols and cresylic acid, nitrobenzene.
F005	Toluene, methyl ethyl ketone, carbon disulfide, isobutanol, pyridine, 2-ethoxyethanol, benzene, 2-nitropropane.
F006	Cadmium, hexavalent chromium, nickel, cyanide (complexed).
F007	Cyanide (salts).
F008	Cyanide (salts).
F009	Cyanide (salts).
F010	Cyanide (salts).
F011	Cyanide (salts).
F012	Cyanide (complexed).
F019	Hexavalent chromium, cyanide (complexed).
F020	Tetra- and pentachlorodibenzo-p-dioxins; tetra- and pentachlorodi-benzofurans; tri- and tetrachloro-phenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
F021	Penta- and hexachlorodibenzo-p-dioxins; penta- and hexachlorodibenzofurans; pentachlorophenol and its derivatives.
F022	Tetra-, penta, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans.
F023	Tetra, and pentachlorodibenzo-p-dioxins; tetra-, and pentachlorodibenzofurans; tri- and tetra-chlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
F024	Chloromethane, dichloromethane, trichloromethane, carbon tetrachloride, chloroethylene, 1,1-dichloroethane, 1,2-dichloroethane, trans-1-2-dichloroethylene, 1,1-dichloroethylene, 1,1,1-trichloroethane, 1,1,2-trichloroethane, trichloroethylene, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, tetrachloroethylene, pentachloroethane, hexachloroethane, allyl chloride (3-chloropropene), dichloropropane, dichloropropene, 2-chloro-1,3-butadiene, hexachloro-1,3-butadiene, hexachlorocyclopentadiene, hexachlorocyclohexane, benzene, chlorbenzene, dichlorobenzenes, 1,2,4-trichlorbenzene, tetrachlorobenzene, pentachlorobenzene, hexachlorobenzene, toluene, naphthalene.
F025	Chloromethane; dichloromethane; trichloromethane; carbon tetrachloride; chloroethylene; 1,1-dichloroethane; 1,2-dichloroethane; trans-1,2-dichloroethylene; 1,1-dichloroethylene; 1,1,1-trichloroethane; 1,1,2-trichloroethane; trichloroethylene; 1,1,1,2-tetrachloroethane; 1,1,2,2-tetrachloroethane; tetrachloroethylene; pentachloroethane; hexachloroethane; allyl chloride (3-chloropropene); dichloropropane; dichloropropene; 2-chloro-

EPA Hazardous Waste No.	Hazardous Waste Constituents for Which Listed
	1,3-butadiene; hexachloro-1,3-butadiene; hexachlorocyclopentadiene; benzene; chlorobenzene; dichlorobenzene; 1,2,4-trichlorobenzene; tetrachlorobenzene; pentachlorobenzene; hexachlorobenzene; toluene; naphthalene.
F026	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans.
F027	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
F028	Tetra-, penta-, and hexachlorodibenzo-p-dioxins; tetra-, penta-, and hexachlorodibenzofurans; tri-, tetra-, and pentachlorophenols and their chlorophenoxy derivative acids, esters, ethers, amine and other salts.
K001	Pentachlorophenol, phenol, 2-chlorophenol, p-chloro-m-cresol, 2,4-dimethylphenyl, 2,4-dinitrophenol, trichlorphenols, tetrachlorophenols, 2,4-dinitrophenol, cresosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd) pyrene, benz(a)anthracene, dibenz(a)anthracene, acenaphthalene.
K002	Hexavalent chromium, lead.
K003	Hexavalent chromium, lead.
K004	Hexavalent chromium.
K005	Hexavalent chromium, lead.
K006	Hexavalent chromium.
K007	Cyanide (complexed), hexavalent chromium.
K008	Hexavalent chromium.
K009	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid.
K010	Chloroform, formaldehyde, methylene chloride, methyl chloride, paraldehyde, formic acid, chloroacetaldehyde.
K011	Acrylonitrile, acetonitrile, hydrocyanic acid.
K013	Hydrocyanic acid, acrylonitrile, acetonitrile.
K014	Acetonitrile, acrylamide.
K015	Benzyl chloride, chlorobenzene, toluene, benzotrichloride.
K016	Hexachlorobenzene, hexachlorobutadiene, carbon tetrachloride, hexachloroethane, perchloroethylene.
K017	Epichlorohydrin, chloroethers [bis(chloromethyl) ether and bis (2-chloroethyl) ethers], trichloropropane, dichloropropanols.
K018	1,2-dichloroethane, trichloroethylene, hexachlorobutadiene, hexachlorobenzene.
K019	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane), trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride.
K020	Ethylene dichloride, 1,1,1-trichloroethane, 1,1,2-trichloroethane, tetrachloroethanes, (1,1,2,2-tetrachloroethane and 1,1,1,2-tetrachloroethane),

EPA Hazardous Waste No.	Hazardous Waste Constituents for Which Listed
	trichloroethylene, tetrachloroethylene, carbon tetrachloride, chloroform, vinyl chloride, vinylidene chloride.
K021	Antimony, carbon tetrachloride, chloroform.
K022	Phenol, tars (polycyclic aromatic hydrocarbons).
K023	Phthalic anhydride, maleic anhydride.
K024	Phthalic anhydride, 1,4-naphthoquinone.
K025	Meta-dinitrobenzene, 2,4-dinotrotoluene.
K026	Paraldehyde, pyridines, 2-picoline.
K027	Toluene diisocyanate, toluene-2,4-diamine.
K028	1,1,1--trichloroethane, vinyl chloride.
K029	1,2-dichloroethane, 1,1,1-trichloroethane, vinyl chloride, vinylidene chloride, chloroform.
K030	Hexachlorobenzene, hexachlorobutadiene, hexachloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane, ethylene dichloride.
K031	Arsenic.
K032	Hexachlorocyclopentadiene.
K033	Hexachlorocyclopentadiene.
K034	Hexachlorocyclopentadiene.
K035	Creosote, chrysene, naphthalene, fluoranthene, benzo(b)fluoranthene, benzo(a)pyrene, indeno(1,2,3-cd)pyrene, benzo(a)anthracene.
K036	Toluene, phosphorodithioic and phosphorothioic acid esters.
K037	Toluene, phosphorodithioic and phosphorothioic acid esters.
K038	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K039	Phosphorodithioic and phosphorothioic acid esters.
K040	Phorate, formaldehyde, phosphorodithioic and phosphorothioic acid esters.
K041	Toxaphene.
K042	Hexachlorobenzene, ortho-dichlorobenzene.
K043	2,4-dichlorophenol, 2,6-dichlorophenol, 2,4,6-trichlorophenol.
K044	N.A.
K045	N.A.
K046	Lead.
K047	N.A.
K048	Hexavalent chromium, lead.
K049	Hexavalent chromium, lead.

EPA Hazardous Waste No.	Hazardous Waste Constituents for Which Listed
K050	Hexavalent chromium.
K051	Hexavalent chromium, lead.
K052	Lead.
K060	Cyanide, napthalene, phenolic compounds, arsenic.
K061	Hexavalent chromium, lead, cadmium.
K062	Hexavalent chromium, lead.
K064	Lead, cadmium.
K065	Do.
K066	Do.
K069	Hexavalent chromium, lead, cadmium.
K071	Mercury.
K073	Chloroform, carbon tetrachloride, hexachloroethane, trichloroethane, tetrachloroethylene, dichloroethylene, 1,1,2,2-tetrachloroethane.
K083	Aniline, diphenylamine, nitrobenzene, phenylenediamine.
K084	Arsenic.
K085	Benzene, dichlorobenzenes, trichlorbenzenes, tetrachlorobenzenes, pentachlorobenzene, hexachlorobenzene, benzyl chloride.
K086	Lead, hexavalent chromium.
K087	Phenol, naphthalene.
K088	Cyanide (complexes).
K090	Chromium.
K091	Do.
K093	Phthalic anhydride, maleic anhydride.
K094	Phthalic anhydride.
K095	1,1,2-trichloroethane, 1,1,1,2-tetrachloroethane, 1,1,2,2-tetrachloroethane.
K096	1,2-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloroethane.
K097	Chlordane, heptachlor.
K098	Toxaphene.
K099	2,4-dichlorphenol, 2,4,6-trichlorphenol.
K100	Hexavalent chromium, lead, cadmium.
K101	Arsenic.
K102	Arsenic.
K103	Aniline, nitrobenzene, phenylenediamine.

EPA Hazardous Waste No.	Hazardous Waste Constituents for Which Listed
K104	Aniline, benzene, diphenylamine, nitrobenzene, phenylenediamine.
K105	Benzene, monochlorobenzene, dichlorobenzenes, 2,4,6-trichlorophenol.
K106	Mercury.
K111	2,4-dinitrotoluene.
K112	2,4-toluenediamine, o-toluidine, p-toluidine, aniline.
K113	2,4-toluenediamine, o-toluidine, p-toluidine, aniline.
K114	2,4-toluenediamine, o-toluidine, p-toluidine.
K115	2,4-toluenediamine.
K116	Carbon tetrachloride, tetrachloroethylene, chloroform, phosgene.
K117	Ethylene dibromide.
K118	Ethylene dibromide.
K123	Ethylene thiourea.
K124	Ethylene thiourea.
K125	Ethylene thiourea.
K126	Ethylene thiourea.
K131	Dimethyl sulfate, methyl bromide.
K132	Methyl bromide.
K136	Ethylene dibromide.

N.A. - Waste is hazardous because it fails the test for the characteristic of ignitability, corrosivity, or reactivity.

New Table

APPENDIX V

HAZARDOUS CONSTITUENTS

Common name	Chemical abstracts name	Chemical abstracts no.	Hazardous waste no.
Acetonitrile	Same	75-05-88	U003
Acetophenone	Ethanone, 1-phenyl-	98-86-2	U004
2-Acetylaminefluarone	Acetamide, N-9H-fluoren-2-yl-	53-96-3	U005
Acetyl chloride	Same	75-36-5	U006
1-Acetyl-2-thiourea	Acetamide, N-(aminothioxomethyl)-	591-08-02	P002
Acrolein	2-Propenal	107-02-8	P003
Acrylamide	2-Propenamide	79-06-1	U007
Acrylonitrile	2-Propenenitrile	107-13-1	U009
Aflatoxins	Same	1402-68-2	
Aldicarb	Propanal, 2-methyl-2-, (methylthio)-O-[(methylamino) carbonyl]oxime	116-06-3	P070
Aldrin	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-10-hexachloro-1,4,4a,5,8,8a-hexahydro-, (1alpha, 4alpha,4abeta,5alpha,8alpha,8abeta)-	309-00-2	P004
Allyl alcohol	2-Propen-1-ol	107-18-6	P005
Allyl chloride	1,Propene, 3-chloro	107-18-6	
Aluminum phosphide	Same	20859-73-8	P006
4-Aminobiphenyl	[1,1'-Biphenyl]-4-amine	92-67-1	
5-(Aminomethyl)-3-isoxazolol	3(2H)-Isoxazolone, 5-(aminomethyl)-	2763-96-4	P007
4-Aminopyridine	4-Pyridinamine	504-24-5	P008
Amitrole	1H-1,2,4-Triazol-3-amine	61-82-5	U011
Ammonium vanadate	Vanadic acid, ammonium salt	7803-55-6	P119
Aniline	Benzenamine	62-53-3	U012
Antimony	Same	7440-36-0	
Antimony compounds, N.O.S.[1]			
Aramite	Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester	140-57-8	
Arsenic	Same	7440-38-2	
Arsenic compounds, N.O.S.[1]			
Arsenic acid	Arsenic acid H_3AsO_4	7778-39-4	P010
Arsenic pentoxide	Arsenic oxide AS_2O_5	1303-28-2	P011
Arsenic trioxide	Arsenic oxide AS_2O_3	1327-53-3	P012
Auramine	Benzenamine, 4,4'-carbonimidoylbis [N,N-dimethyl	492-80-8	U014
Azaserine	L-Serine, diazoacetate (ester)	115-02-6	U015
Barium	Same	7440-39-3	
Barium compounds, N.O.S.[1]			
Barium cyanide	Same	542-62-1	P013
Benz[c]acridin	Same	225-51-4	U016
Benz[a]anthracene	Same	56-55-3	U018
Benzal chloride	Benzene, (dichloromethyl)-	98-87-3	U017
Benzene	Same	71-43-2	U019
Benzenearsonic acid	Arsonic acid, phenyl-	98-05-5	
Benzidine	[1,1'-Biphenyl]-4,4 [1]-diamine	92-87-5	U021
Benzo[b]fluoranthene	Benz[e]acephenanthrylene	205-99-2	
Benzo[j]fluoranthene	Same	205-82-3	

Common name	Chemical abstracts name	Chemical abstracts no.	Hazardous waste no.
Benzo[a]pyrene	Same	50-32-8	U022
p-Benzoquinone	2,5-Cyclohexadiene-1,4-dione	106-51-4	U197
Benzotrichloride	Benzene, (trichloromethyl)-	98-07-7	U023
Benzyl chloride	Benzene, (chloromethyl)-	100-44-7	P028
Beryllium	Same	7440-41-7	P015
Beryllium compounds, N.O.S.[1]			
Bromoacetone	2-Propanone, 1-bromo-	598-31-2	P017
Bromoform	Methane, tribromo-	75-25-2	U225
4-Bromophenyl phenyl ether	Benzene, 1-bromo-4-phenoxy	101-55-3	U030
Brucine	Strychnidin-10-one, 2,3-dimethoxy	357-57-3	P018
Butyl benzyl phthalate	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester	85-68-7	
Cacodylic acid	Arsenic acid, dimethyl-	75-60-5	U136
Cadmium	Same	7440-43-9	
Cadmium compounds, N.O.S.[1]			
Calcium chromate	Chromic acid, calcium salt	13765-19-0	U032
Calcium cyanide	Calcium Cyanide $Ca(CN)_2$	592-01-8	P021
Carbon disulfide	Same	75-15-0	P022
Carbon oxyfluoride	Carbonyl difluoride	353-50-4	U033
Carbon tetrachloride	Methane, tetrachloro-	56-23-5	U211
Chloral	Acetaldehyde, trichloro-	75-87-6	U034
Chlorambucil	Benzenebutanoic acid, 4-[bis(2-chloroethyl)amino]-	305-03-3	U035
Chlordane	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-	57-74-9	U036
Chlordane (alpha and gamma isomers)			U036
Chlorinated benzenes, N.O.S.[1]			
Chlorinated ethane, N.O.S.[1]			
Chlorinated fluorocarbons, N.O.S.[1]			
Chlorinated naphthalene, N.O.S.[1]			
Chlorinated phenol, N.O.S.[1]			
Chlornaphazin	Naphthalenamine, N,N'-bis(2-chloroethyl)-	494-03-1	U026
Chloroacetaldehyde	Acetaldehyde, chloro-	107-20-0	P023
Chloroalkyl ethers, N.O.S.[1]			
p-Chloroaniline	Benzenamine, 4-chloro-	106-47-8	P024
Chlorobenzene	Benzene, chloro-	108-90-7	U037
Chlorobenzilate	Benzeneacetic acid, 4-chloro-alpha-(4-chlorophenyl)-alpha-hydroxy, ethyl ester	510-15-6	U038
p-Chloro-m-cresol	Phenol, 4-chloro-3-methyl-	59-50-7	U039
2-Chloroethyl vinyl ether	Ethene, (2-chloroethoxy)-	110-75-8	U042
Chloroform	Methane, trichloro-	67-66-3	U044
Chloromethyl methyl ether	Methane, chloromethoxy-	107-30-2	U046
beta-Chloronaphthalene	Napthalene, 2-chloro-	91-58-7	U047
o-Chlorophenol	Phenol, 2-chloro-	95-57-8	U048
1-(o-Chlorophenyl) thiourea	Thiourea, (2-chlorophenyl)-	5344-82-1	P026
Chloroprene	1,3-Butadiene, 2-chloro-	126-99-8	
3-Chloropropionitrile	Propanenitrile, 3-chloro-	542-76-7	P027
Chromium	Same	7440-47-3	

Common name	Chemical abstracts name	Chemical abstracts no.	Hazardous waste no.
Chromium compounds, N.O.S.[1]			
Chrysene	Same	218-01-9	U050
Citrus red No. 2	2-Naphthalenol, 1-[(2,5-dimethoxyphenyl)azo]-	6358-53-8	
Coal tar creosote	Same	8007-45-2	
Copper cyanide	Copper cyanide CuCN	544-92-3	P029
Creosote	Same		U051
Cresol (Cresylic acid)	Phenol, methyl-	1319-77-3	U052
Crotonaldehyde	2-Butenal	4170-30-3	U053
Cyanides (soluble salts and complexes), N.O.S.[1]			P030
Cyanogen	Ethanedinitrile	460-19-5	P031
Cyanogen bromide	Cyanogen bromide (CN)Br	506-68-3	U246
Cyanogen chloride	Cyanogen chloride (CN)Cl	506-77-4	P033
Cycasin	beta-D-Glucopyranoside, (methyl-ONN-azoxy)methyl	14901-08-7	
2-Cyclohexyl-4,6-dinitrophenol	Phenol, 2-cyclohexyl-4,6-dinitro-	131-89-5	P034
Cyclophosphamide	2H-1,3,2-Oxazaphosphorin-2-amine, N,N-bis(2-chloroethyl)tetrahydro-, 2-oxide	50-18-0	U058
2,4-D	Acetic acid, (2,4-dichlorophenoxy)-	94-75-7	U240
2,4-D, salts, esters			U240
Daunomycin	5,12-Naphthacenedione, 8-acetyl-10-[(3-amino-2,3,6-trideoxy-alpha-L-lyxo-hexopranosyl)oxy]-7,8,9,10-tetrahydro-6,8,11-trihydroxy-1-methoxy-, (8S-cis)-	20830-81-3	U059
DDD	Benzene, 1,1'-(2,2-dichloroethylidene) bis[4-chloro-	72-54-8	U060
DDE	Benzene, 1,1'-(dichloroethenylidene) bis[4-chloro-	72-55-9	
DDT	Benezene, 1,1'-(2,2,2-trichloro-ethylidene)bis[4-chloro-	50-29-3	U061
Diallate	Carbamothioic acid, bis(1-methylethyl)-, S-(2,3-dichloro-2-propenyl) ester	2303-16-4	U062
Dibenz[a,h]acridine	Same	226-36-8	
Dibenz[a,j]acridine	Same	224-42-0	
Dibenz[a,h]anthracene	Same	53-70-3	U063
7H-Dibenzo[c,g]carbazole	Same	194-59-2	
Dibenzo[a,e]pyrene	Naphtho[1,2,3,4-def]chrysene	192-65-4	
Dibenzo[a,h]pyrene	Dibenzo[b,def]chrysene	189-64-0	
Dibenzo[a,i]pyrene	Benzo[rst]pentaphene	189-55-9	U064
1,2-Dibromo-3-chloropropane	Propane, 1,2-dibromo-3-chloro	96-12-8	U066
Dibutyl phthalate	1,2-Benzenedicarboxylic acid, dibutyl ester	84-74-2	U069
o-Dichlorobenzene	Benzene, 1,2-dichloro-	95-50-1	U070
m-Dichlorobenzene	Benzene, 1,3-dichloro-	541-73-1	U071
p-Dichlorobenzene	Benzene, 1,4-dichloro-	106-46-7	U072
Dichlorobenzene, N.O.S[1]	Benzene, dichloro-	25321-22-6	
3,3'-Dichlorobenzidine	[1,1'-Biphenyl]-4,4'-diamine,3,3'-dichloro-	91-94-1	U073
1,4-Dichloro-2-butene	2-Butene, 1,4-dichloro-	764-41-0	U074
Dichlorodifluoromethane	Methane, dichlorodifluoro-	75-71-8	U075

Common name	Chemical abstracts name	Chemical abstracts no.	Hazardous waste no.
Dichloroethylene, N.O.S.[1]	Dichloroethylene	25323-30-2	
1,1-Dichloroethylene	Ethene, 1,1-dichloro,	75-35-4	U078
1,2-Dichloroethylene	Ethene, 1,2-dichlrol-, (E)-	156-60-5	U079
Dichloroethyl ether	Ethane, 1,1'oxybis[2-chloro-	111-44-4	U025
Dichloroisopropyl ether	Propane, 2,2'-oxybis[2-chloro-	108-60-1	U027
Dichloromethoxy ethane	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-	111-91-1	U024
Dichloromethyl ether	Methane, oxybis[chloro-	542-88-1	P016
2,4-Dichlorophenol	Phenol, 2,4-dichloro-	120-83-2	U081
2,6-Dichlorophenol	Phenol, 2,6-dichloro-	87-65-0	U082
Dichlorophenylarsine	Arsonous dichloride, phenyl-	696-28-6	P036
Dichloropropane, N.O.S.[1]	Propane, dichloro-	26638-19-7	
Dichloropropanol, N.O.S.[1]	Propanol, dichloro-	26545-73-3	
Dichloropropene, N.O.S.[1]	1-Propene, dichloro-	26952-23-8	
1,3-Dichloropropene	1-Propene, 1,3-dichloro-	542-75-6	U084
Dieldrin	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a, 7,7a-octahydro-, (1aalpha,2beta,2aalpha, 3beta,6beta,6aalpha,7beta,7aalpha)-	60-57-1	P037
1,2:3,4-Diepoxybutane	2,2'-Bioxirane	1464-53-5	U085
Diethylarsine	Arsine, diethyl-	692-42-2	P038
1,4 Diethyleneoxide	1,4 Dioxane	123-91-1	U108
Diethylhexyl phthalate	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl)ester	117-81-7	U028
N,N'-Diethylhydrazine	Hydrazine, 1,2-diethyl-	1615-80-1	U086
O,O-Diethyl S-methyl dithiophosphate	Phosphorodithioic acid, O,O-diethyl S-methyl ester	3288-58-2	U087
Diethyl-p-nitrophenyl phosphate	Phosphoric acid, diethyl 4-nitrophenyl ester	311-45-5	P041
Diethyl phthalate	1,2-Benzenedicarboxylic acid, diethyl ester	84-66-2	U088
O,O-Diethyl O-pyrazinyl phosphorothioate	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester	297-97-2	P040
Diethylstilbesterol	Phenol, 4,4'-(1,2-diethyl-1,2-ethenediyl)bis, (E)-	56-53-1	U089
Dihydrosafrole	1,3-Benzenodioxole, 5-propyl-	94-58-6	U090
Diisopropylfluorophosphate(DFP)	Phosphorofluoridic acid, bis (1-methylethyl)ester	55-91-4	P043
Dimethoate	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester	60-51-5	P044
3,3'-Dimethoxybenzidine	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethoxy-	119-90-4	U091
p-Dimethylaminoazobenzene	Benzenamine, N,N-dimethyl-4-(phenylazo)-	60-11-7	U093
7,12-Dimethylbenz[a]anthracene	Benz[a]anthracene, 7,12-dimethyl	57-97-6	U094
3,3'-Dimethylbenzidine	[1,1'-Biphenyl]-4,4'diamine, 3,3'-dimethyl-	119-93-7	U095
Dimethylcarbamoyl chloride	Carbamic chloride, dimethyl-	79-44-7	U097
1,1-Dimethylhydrazine	Hydrazine, 1,1-dimethyl-	57-14-7	U098
1,2-Dimethylhydrazine	Hydrazine, 1,2-dimethyl-	540-73-8	U099
alpha, alpha-	Benzeneethanamine, alpha,alpha-dimethyl-	122-09-8	P046

Common name	Chemical abstracts name	Chemical abstracts no.	Hazardous waste no.
Dimethylphenethylamine			
2,4-Dimethylphenol	Phenol, 2,4-dimethyl-	105-67-9	U101
Dimethyl phthalate	1,2-Benzenedicarboxylic acid, dimethyl ester	131-11-3	U102
Dimethyl sulfate	Sulfuric acid, dimethyl ester	77-78-1	U103
Dinitrobenzene, N.O.S.[1]	Benzene, dinitro-	25154-54-5	
4,6-Dinitro-o-cresol	Phenol, 2-methyl-4,6-dinitro-	534-52-1	P047
4,6-Dinitro-o-cresol salts			P047
2,4-Dinitrophenol	Phenol, 2,4-dinitro-	51-28-5	P048
2,4-Dinitrotoluene	Benzene, 1-methyl-2,4-dinitro-	121-14-2	U105
2,6-Dinitrotoluene	Benzene, 2-methyl-1,3-dinitro-	606-20-2	U106
Dinoseb	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	88-85-7	P020
Di-n-octyl phthalate	1,2-Benzenedicarboxylic acid, dioctyl ester)	117-84-0	U017
Diphenylamine	Benzenamine, N-phenyl-	122-39-4	
1,2-Diphenylhydrazine	Hydrazine, 1,2-diphenyl-	122-66-7	U109
Di-n-propylnitrosamine	1-Propanamine, N-nitroso-N-propyl-	621-64-7	U111
Disulfoton	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)ethyl] ester	298-04-4	P039
Dithiobiuret	Thioimidodicarbonic diamide $[(H_2N)C(S)]_2NH$	541-53-7	P049
Endosulfan	6,9-Methano-2,4,3-benzodioxathiepen, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide	115-29-7	P050
Endothall	7-Oxabicyclo[2.2.1]heptane-2,3 -dicarboxylic acid	145-73-3	P088
Endrin	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a, 7,7a-octahydro-,(1aalpha,2beta,2abeta, 3alpha,6alpha,6abeta, 7beta,7aalpha)-	72-20-8	P051
Endrin metabolites			P051
Epichlorohydrin	Oxirane, (chloromethyl)-	106-89-8	U041
Epinephrine	1,2-Benzenediol, 4-[1-hydroxy-2-(methylamino)ethyl]-, (R)-	51-43-4	P042
Ethyl carbamate (urethane)	Carbamic acid, ethyl ester	51-79-6	U238
Ethyl cyanide	Propanenitrile	107-12-0	P101
Ethylenebisdithiocarbamic acid	Carbamodithioic acid, 1,2-ethanediyl bis-	111-54-6	U114
Ethylenebisdithiocarbamic acid, salts and esters			U114
Ethylene dibromide	Ethane, 1,2-dibromo-	106-93-4	U067
Ethylene dichloride	Ethane, 1,2-dichloro-	107-06-2	U077
Ethylene glycol monoethyl ether	Ethanol, 2-ethoxy-	110-80-5	U359
Ethyleneimine	Aziridine	151-56-4	P054
Ethylene oxide	Oxirane	75-21-8	U115
Ethylenethiourea	2-Imidazolidinethione	96-45-7	U116
Ethylidene dichloride	Ethane, 1,1-dichloro-	75-34-3	U076
Ethyl methacrylate	2-Propenoic acid, 2-methyl-, ethyl ester	97-63-2	U118
Ethyl methanesulfonate	Methanesulfonic acid, ethyl ester	62-50-0	U119
Famphur	Phosphorothioic acid, 0-[4-[(dimethylamino)sulfonyl]phenyl]	52-85-7	P097

Common name	Chemical abstracts name	Chemical abstracts no.	Hazardous waste no.
	O,O-dimethyl ester		
Fluoranthene	Same	206-44-0	U120
Fluorine	Same	7782-41-4	P056
Fluoroacetamide	Acetamide, 2-fluoro-	640-19-7	P057
Fluoroacetic acid, sodium salt	Acetic acid, fluoro-, sodium salt	62-74-8	P058
Formaldehyde	Same	50-00-0	U122
Glycidylaldehyde	Oxiranecarboxyaldehyde	765-34-4	U126
Halomethanes, N.O.S.[1]			
Heptachlor	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	76-44-8	P059
Heptachlor epoxide	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-heptachloro-1a,1b,5,5a,6,6a-hexa-hydro-, (1aalpha,1bbeta,2alpha,5alpha,5abeta,6beta,baalpha)-	1024-57-3	
Heptachlor epoxide (alpha, beta, and gamma isomers)			
Hexachlorobenzene	Benzene, hexachloro-	118-74-1	U127
Hexachlorobutadiene	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	87-68-3	U128
Hexachlorocyclopentadiene	1,3-Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	77-47-4	U130
Hexachlorodibenzo-p-dioxins			
Hexachlorodibenzofurans			
Hexachloroethane	Ethane, hexachloro-	67-72-1	U131
Hexachlorophene	Phenol, 2,2'-methylenebis[3,4,6-trichloro-	70-30-4	U132
Hexachloropropene	1-Propene, 1,1,2,3,3,3-hexachloro-	1888-71-7	U243
Hexaethyl tetraphosphate	Tetraphosphoric acid, hexaethyl ester	757-58-4	P062
Hydrazine	Same	302-01-2	U133
Hydrogen cyanide	Hydrocyanic acid	74-90-8	P063
Hydrogen fluoride	Hydrofluoric acid	7664-39-3	U134
Hydrogen sulfide	Hydrogen sulfide H_2S	7783-06-4	U135
Indeno[1,2,3-cd]pyrene	Same	193-39-5	U137
Iron dextran	Same	9004-66-4	U139
Isobutyl alcohol	1-Propanol, 2-methyl-	78-83-1	U140
Isodrin	1,4,5,8-Dimethanonaphthalene, 1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a-hexahydro-,(1alpha,4alpha,4abeta,5beta,8beta,8abeta-)	465-73-6	P060
Isosafrole	1,3-Benzodioxole, 5-(1-propenyl)-	120-58-1	U141
Kepone	1,3,4-Metheno-2H-cyclobuta[cd]pentalen-2-one,1,1a,3,3a,4,5,5,5a,5b,6-decachloroctahydro-	143-50-0	U142
Lasiocarpine	2-Butenoic acid, 2-methyl-, 7-[[2,3-dihydroxy-2-(1-methoxyethyl)-3-methyl-1-oxobutoxy] methyl]-2,3,5,7a-tetrahydro-1H-pyrrolizin-1-yl ester, [1S- [1alpha(Z),7(2S*,3R*),7aalpha]]-	303-34-1	4143
Lead	Same	7439-92-1	
Lead compounds, N.O.S.[1]			
Lead acetate	Acetic acid, lead(2+) salt	301-04-2	U144
Lead phosphate	Phosphoric acid, lead(2+) salt (2:3)	7446-27-7	U145
Lead subacetate	Lead, bis(acetato-O)tetrahydroxytri-	1335-32-6	U146

Common name	Chemical abstracts name	Chemical abstracts no.	Hazardous waste no.
Lindane	Cyclohexane, 1,2,3,4,5,6-hexachloro-, (1alpha,2alpha,3beta,4alpha,5alpha, 6beta)-	58-89-9	U129
Maleic anhydride	2,5-Furandione	108-31-6	U147
Maleic hydrazide	3,6-Pyridazinedione, 1,2-dihydro-	123-33-1	U148
Malononitrile	Propanedinitrile	109-77-3	U149
Melphalan	L-Phenylalanine, 4-[bis(2-chloroethyl) amino]-	148-82-3	U150
Mercury	Same	7439-97-6	U151
Mercury compounds, N.O.S.[1]			
Mercury fulminate	Fulminic acid, mercury(2+) salt	628-86-4	P065
Methacrylonitrile	2-Propenenitrile, 2-methyl-	126-98-7	U152
Methapyrilene	1,2-Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thienylmethyl)-	91-80-5	U155
Methomyl	Ethanimidothioic acid, N-[[(methylamino)carbonyl]oxy]-, methyl ester	16752-77-5	P066
Methoxychlor	Benzene, 1,1'-(-2,2,2-trichloro-ethylidene)bis[4-methoxy-	72-43-5	U247
Methyl bromide	Methane, bromo-	74-83-9	U029
Methyl chloride	Methane, chloro-	74-87-3	U045
Methylchlorocarbonate	Carbonochloridic acid, methyl ester	79-22-1	U156
Methyl chloroform	Ethane, 1,1,1-trichloro-	71-55-6	U226
3-Methylcholanthrene	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	56-49-5	U157
4,4'-Methylenebis(2-Benzenamine, chloroaniline)	4,4'-methylenebis[2-chloro-	101-14-4	U158
Methylene bromide	Methane, dibromo-	74-95-3	U068
Methylene chloride	Methane, dichloro-	75-09-2	U080
Methyl ethyl ketone (MEK)	2-Butanone	78-93-3	U159
Methyl ethyl ketone peroxide	2-Butanone, peroxide	1338-23-4	U160
Methyl hydrazine	Hydrazine, methyl-	60-34-4	P068
Methyl iodide	Methane, iodo-	74-88-4	U138
Methyl isocyanate	Methane, isocyanato-	624-83-9	P064
2-Methyllactonitrile	Propanenitrile, 2-hydroxy-2-methyl-	75-86-5	P069
Methyl methacrylate	2-Propenoic acid, 2-methyl-, methyl ester	80-62-6	U162
Methyl methanesulfonate	Methanesulfonic acid, methyl ester	66-27-3	
Methyl parathion	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester	298-00-0	P071
Methylthiouracil	4(1H)-Pyrimidinone, 2,3-dihydro-6-methyl-2-thioxo	56-04-2	U164
Mitomycin C	Azirino[2',3':3,4]pyrrolo[1,2-a) indole-4,7-dione,6-amino-8-[[(aminocarbonyl)oxy]methyl]-1,1a,2,8,8a,8b-hexahydro-8a-methoxy-5-methyl-,[1aS-(1aalpha,8beta, 8aalpha8balpha)]-	50-07-7	U010
MNNG	Guanidine, N-methyl-N'-nitro-N-nitroso-	70-25-7	U163
Mustard gas	Ethane, 1,1'-thiobis[2-chloro-	505-60-2	
Naphthalene	Same	91-20-3	U165
1,4-Naphthoquinone	1,4-Naphthalenedione	130-15-4	U166

Common name	Chemical abstracts name	Chemical abstracts no.	Hazardous waste no.
alpha-Naphthylamine	1-Naphthalenamine	134-32-7	U167
beta-Naphthylamine	2-Naphthalenamine	91-59-8	U168
alpha-Naphthylthiourea	Thiourea, 1-naphthalenyl-	86-88-4	P072
Nickel	Same	7440-02-0	
Nickel compounds, N.O.S.[1]			
Nickel carbonyl	Nickel carbonyl, $NI(CO)_4$, (T-4)-	13463-39-3	P073
Nickel cyanide		557-19-7	P074
Nicotine	Pyridine, 3-(1-methyl-2-pyrrolidinyl)-, (S)-	54-11-5	P075
Nicotine salts			P075
Nitric oxide	Nitrogen oxide NO	10102-43-9	P076
p-Nitroaniline	Benzenamine, 4-nitro-	100-01-6	P077
Nitrobenzene	Benzene, nitro-	98-95-3	U169
Nitrogen dioxide	Nitrogen oxide NO_2	10102-44-0	P078
Nitrogen mustard	Ethanamine, 2-chloro-N-(2-chloroethyl)-N-methyl-	51-75-2	
Nitrogen mustard, Hydrochloride salt			
Nitrogen mustard N-oxide	Ethanamine, 2-chloro-N-(2-chloroethyl)-N-methyl-,N-oxide	126-85-2	
Nitrogen mustard, N-oxide, hydrochloride salt			
Nitroglycerine	1,2,3-Propanetriol, trinitrate	55-63-0	P081
p-Nitrophenol	Phenol, 4-nitro-	100-02-7	U170
2-Nitropropane	Propane, 2-nitro-	79-46-9	U171
Nitrosamines, N.O.S.[1]		35576-91-1D	
N-Nitrosodi-n-butylamine	1-Butanamine, N-butyl-N-nitroso-	924-16-3	U172
N-Nitrosodiethanolamine	Ethanol, 2,2'-(nitrosoimino)bis-	1116-54-7	U173
N-Nitrosodiethylamine	Ethanamine, N-ethyl-N-nitroso-	55-18-5	U174
N-Nitrosodimethylamine	Methanamine, N-methyl-N-nitroso-	62-75-9	P082
N-Nitroso-N-ethylurea	Urea, N-ethyl-N-nitroso-	759-73-9	U176
N-Nitrosomethylethylamine	Ethanamine, N-methyl-N-nitroso-	10595-95-6	
N-Nitroso-N-methylurea	Urea, N-methyl-N-nitroso-	684-93-5	U177
N-Nitroso-N-methylurethane	Carbamic acid, methylnitroso-, ethyl ester	615-53-2	U178
N-Nitrosomethylvinylamine	Vinylamine, N-methyl-N-nitroso-	4549-40-0	P084
N-Nitrosomorpholine	Morpholine, N-nitroso-	59-89-2	
N-Nitrosonornicotine	Pyridine, 3-(1-nitroso-2-pyrrolidinyl)-,(S)-	16543-55-8	
N-Nitrosopiperidine	Piperidine, 1-nitroso-	100-75-4	U179
N-Nitrosopyrrolidine	Pyrrolidine, 1-nitroso-	930-55-2	U180
N-Nitrososarcosine	Glycine, N-methyl-N-nitroso-	13256-22-9	
5-Nitro-o-toluidine	Benzenamine, 2-methyl-5-nitro-	99-55-8	U181
Octamethylpyrophosphoramide	Diphosphoramide, octamethyl-	152-16-9	P085
Osmium tetroxide	Osmium oxide OsO_4, (T-4)-	20816-12-0	P087
Paraldehyde	1,3,5-Trioxane, 2,4,6-trimethyl-	123-63-7	U182
Parathion	Phosphorothioic acid, O,O-diethyl O-(4 (nitrophenyl)ester	56-38-2	P089
Pentachlorobenzene	Benzene, pentachloro-	608-93-5	U183
Pentachlorodibenzo-p-dioxins			
Pentachlorodibenzofurans			
Pentachloroethane	Ethane, pentachloro-	76-01-7	U184

Common name	Chemical abstracts name	Chemical abstracts no.	Hazardous waste no.
Pentachloronitrobenzene (PCNB)	Benzene, pentachloronitro-	82-68-8	U185
Pentachlorophenol	Phenol, pentachloro-	87-86-5	See F027
Phenacetin	Acetamide, N-(4-ethoxyphenyl)-	62-44-2	U187
Phenol	Same	108-95-2	U188
Phenylenediamine	Benzenediamine	25265-76-3	
Phenylmercury acetate	Mercury, (acetato-O)phenyl-	62-38-4	P092
Phenylthiourea	Thiourea, phenyl-	103-85-5	P093
Phosgene	Carbonic dichloride	75-44-5	P095
Phosphine	Same	7803-51-2	P096
Phorate	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester	298-02-2	P094
Phthalic acid esters, N.O.S.[1]			
Phthalic anhydride	1,3-Isobenzofurandione	85-44-9	U190
2-Picoline	Pyridine, 2-methyl-	109-06-8	U191
Polychlorinated biphenyls N.O.S.[1]			
Potassium cyanide	Potassium cyanide K(CN)	151-50-8	P098
Potassium silver cyanide	Argentate(1-), bis(cyano-C)-, potassium	506-61-6	P099
Pronamide	Benzamide 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-	23950-58-5	U192
1,3-Propane sultone	1,2-Oxathiolane, 2,2-dioxide	1120-71-4	U193
n-Propylamine	1-Propanamine	107-10-8	U194
Propargyl alcohol	2-Propyn-1-ol	107-19-7	P102
Propylene dichloride	Propane, 1,2-dichloro-	78-87-5	U083
1,2-Propylenimine	Aziridine, 2-methyl-	75-55-8	P067
Propylthiouracil	4(1H)-Pyrimidinone, 2,3-dihydro-6-propyl-2-thioxo-	51-52-5	
Pyridine	Same	110-86-1	U196
Reserpine	Yohimban-16-carboxylic acid, 11,17-dimethoxy-18-[(3,4,5-trimethoxybenzoyl) oxy]-smethyl ester, (3beta,16beta, 17alpha,18beta,20alpha)-	50-55-5	U200
Resorcinol	1,3-Benzenediol	108-46-3	U201
Saccharin	1,2-Benzisothiazol-3(2H)-one, 1,1-dioxide	81-07-2	U202
Saccharin salts			U202
Safrole	1-3-Benzodioxole, 5-(2-propenyl)-	94-59-7	U203
Selenium	Same	7782-49-2	
Selenium compounds N.O.S[1]			
Selenium dioxide	Selenious acid	7783-00-8	U204
Selenium sulfide	Selenium sulfide SeS_2	7488-56-4	U205
Selenourea	Same	630-10-4	P103
Silver	Same	7440-22-4	
Silver coumpounds, N.O.S.[1]			
Silver cyanide	Silver cyanide Ag(CN)	506-64-9	P104
Silvex (2,4,5-TP)	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	93-72-1	See F027
Sodium cyanide	Sodium cyanide (Na(CN)	143-33-9	P106
Streptozotocin	D-Glucose, 2-deoxy-2-[[(methylnitrosoamino)carbonyl]amino]-	18883-66-4	U206
Strontium sulfide	Strontium sulfide SrS	1314-96-1	P107
Strychnine	Strychnidin-10-one	57-24-9	P108
Strychnine salts			P108

Common name	Chemical abstracts name	Chemical abstracts no.	Hazardous waste no.
TCDD	Dibenzo[b,e] [1,4]dioxin, 2,3,7,8-tetrachloro-	1746-01-6	
1,2,4,5-Tetrachlorobenzene	Benzene, 1,2,4,5-tetrachloro-	95-94-3	U207
Tetrachlorodibenzo-p-dioxins			
Tetrachlorodibenzofurans			
Tetrachloroethane, N.O.S.[1]	Ethane, tetrachloro-, N.O.S.	25322-20-7	
1,1,1,2-Tetrachloroethane	Ethane, 1,1,1,2-tetrachloro-	630-20-6	U208
1,1,2,2-Tetrachloroethane	Ethane, 1,1,2,2-tetrachloro-	79-34-5	U209
Tetrachloroethylene	Ethene, tetrachloro-	127-18-4	U210
2,3,4,6-Tetrachlorophenol	Phenol, 2,3,4,6-tetrachloro-	58-90-2	See F027
Tetraethyldithiopyrophosphate	Thiodiphosphoric acid, tetraethyl ester	3689-24-5	P109
Tetraethyl lead	Plumbane, tetraethyl-	78-00-2	P110
Tetraethyl pyrophosphate	Diphosphoric acid, tetraethyl ester	107-49-3	P111
Tetranitromethane	Methane, tetranitro-	509-14-8	P112
Thallium	Same	7440-28-0	
Thallium compounds, N.O.S.[1]			
Thallic oxide	Thallium oxide Tl_2O_3	1314-32-5	P113
Thallium(I) acetate	Acetic acid, thallium(1+) salt	563-68-8	U214
Thallium(I) carbonate	Carbonic acid, dithallium(1+) salt	6533-73-9	U215
Thallium(I) chloride	Thallium chloride TICI	7791-12-0	U216
Thallium(I) nitrate	Nitric acid, thallium(1+) salt	10102-45-1	U217
Thallium selenite	Selenious acid, dithallium(1+) salt	12039-52-0	P114
Thallium(I) sulfate	Sulfuric acid, dithallium(1+) salt	7446-18-6	P115
Thioacetamide	Ethanethioamide	62-55-5	U218
Thiofanox	2-Butanone, 3,3-dimethyl-1-(methylthio)-,O-[(methylamino) carbonyl]oxime	39196-18-4	P045
Thiomethanol	Methanethiol	74-93-1	U153
Thiophenol	Benzenethiol	108-98-5	P014
Thiosemicarbazide	Hydrazinecarbothioamide	79-19-6	P116
Thiourea	Same	62-56-6	U219
Thiram	Thioperoxydicarbonic diamide, $[(H_2N)C(S)]_2S_2$tetramethyl-	137-26-8	U244
Toluene	Benzene, methyl-	108-88-3	U220
Toluenediamine	Benzenediamine, ar-methyl-	25376-45-8	U221
Toluene-2,4-diamine	1,3-Benzenediamine, 4-methyl-	95-80-7	
Toluene-2,6-diamine	1,3-Benzenediamine, 2-methyl-	823-40-5	
Toluene-3,4-diamine	1,2-Benzenediamine, 4-methyl-	496-72-0	
Tolulene diisocyanate	Benzene, 1,3-diisocyanatomethyl-	26471-62-5	U223
o-Toluidine	Benzenamine, 2-methyl-	95-53-4	U328
o-Toluidine hydrochloride	Benzenamine, 2-methyl-, hydrochloride	636-21-5	U222
p-Toluidine	Benzenamine, 4-methyl-	106-49-0	U353
Toxaphene	Same	8001-35-2	P123
1,2,4-Trichlorobenzene	Benzene, 1,2,4-trichloro-	120-82-1	
1,1,2-Trichloroethane	Ethane, 1,1,2-trichloro-	79-00-5	U227
Trichloroethylene	Ethene, trichloro	79-01-6	U228
Trichloromethanethiol	Methanethiol, trichloro-	75-70-7	P118
Trichloromonofluoromethane	Methane, trichlorofluoro-	75-69-4	U121
2,4,5-Trichlorophenol	Phenol, 2,4,5-trichloro-	95-95-4	See F027
2,4,6-Trichlorophenol	Phenol, 2,4,6-trichloro-	88-06-2	See F027
2,4,5-T	Acetic acid, (2,4,5-trichlorophenoxy)-	93-76-5	See F027
Trichloropropane, N.O.S[1]		25735-29-9	

Common name	Chemical abstracts name	Chemical abstracts no.	Hazardous waste no.
1,2,3-Trichloropropane	Propane, 1,2,3-trichloro-	96-18-4	
O,O,O-Triethyl phosphorothioate	Phosphorothioic acid, O,O,O-triethyl ester	126-68-1	
Tris(1-aziridinyl)phosphine sulfide	Aziridine, 1,1',1"-phosphinothioylidynetris-	52-24-4	
Tris(2,3-dibromopropyl)phosphate	1-Propanol, 2,3-dibromo-, phosphate (3:1)	126-72-7	U235
Trypan blue	2,7-Naphthalenedisulfonic acid, 3, 3'-[(3,3'-dimethyl[1,1'-biphenyl]-4,4'diyl)bis(azo)]-bis[5-amino-4-hydroxy-, tetrasodium salt	72-57-1	U236
Uracil mustard	2,4-(1H,3H)-Pyrimidinedione, 5-[bis(2-chloroethyl)amino]-	66-75-1	U237
Vanadium pentoxide	Vanadium oxide V_2O_5	1314-62-1	P120
Vinyl chloride	Ethene, chloro-	75-01-4	U043
Warfarin	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations less than 0.3%	81-81-2	U248
Warfarin	2H-1-Benzopyran-2-one, 4-hydroxy-3-(3-oxo-1-phenylbutyl)-, when present at concentrations less than 0.3%	81-81-2	P001
Warfarin salts, when present at concentrations less than 0.3%			U248
Warfarin salts, when present at concentrations less than 0.3%			P001
Zinc cyanide	Zinc cyanide $Zn(CN)_2$	557-21-1	P121
Zinc phosphide	Zinc phosphide Zn_3P_2, when present at concentrations greater than 10%	1314-84-7	P122
Zinc phosphide	Zinc phosphide Zn_3P_2, when present at concentrations of 10% or less	1314-84-7	U249

[1]The abbreviation N.O.S. (not otherwise specified) signifies those members of the general class not specifically listed by name in this appendix.

APPENDIX VI
EXCLUDED UNDER SECTIONS 33-24-01-06 AND 33-24-01-08

Table 1
Wastes Excluded From Non-Specific Sources

Facility	Address	Waste Description
(Reserved)		

Table 2
Wastes Excluded From Specific Sources

Facility	Address	Waste Description
(Reserved)		

Table 3
Wastes Excluded From Commercial Chemical Products, Off-Specification Species, Container Residues, and Soil Residues Thereof

Facility	Address	Waste Description
(Reserved)		

APPENDIX VII

METHOD OF ANALYSIS FOR CHLORINATED DIBENZO-P-DIOXINS AND DIBENZOFURANS [3,4,5,6]

Method 8280

1. Scope and Application

1.1 This method measures the concentration of chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans in chemical wastes including still bottoms, filter aids, sludges, spent carbon, and reactor residues, and in soils.

1.2 The sensitivity of this method is dependent upon the level of interferences.

1.3 This method is recommended for use only by analysts experienced with residue analysis and skilled in mass spectral analytical techniques.

1.4 Because of the extreme toxicity of these compounds, the analyst must take necessary precautions to prevent exposure to himself, or to others, of materials known or

---

[3] This method is appropriate for the analysis of tetra, penta, and hexachlorinated dibenzo-p-dioxins and dibenzofurans.

[4] Analytical protocol for dtermination of tetrachlorinated dibenzo-p-dioxins in phenolic chemical wastes and soil samples obtained from the proximity of chemical dumps. T. O. Tiernan and M. Taylor, Brehm Laboratory, Wright State University, Dayton, Ohio 45435.

[5] Analytical protocol for determination of chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans in river water. T. O. Tiernan and M. Taylor, Brehm Laboratory, Wright State University, Dayton, Ohio 45435.

[6] In general, the techniques that should be used to handle these materials are those which are followed for radioactive or infectious laboratory materials. Assistance in evaluating laboratory practices may be obtained from industrial hygienists and persons specializing in safe laboratory practices. Typical infectious waste incinerators are probably not satisfactory devices for disposal of materials highly contaminated with chlorinated dibenzo-p-dioxins or chlorinated dibenzofurans. Safety instructions are outlined in environmental protection agency Test Method 613(4.0).

See Also: 1) "Program for monitoring potential contamination in the laboratory following the handling and analyses of chlorinated dibenzo-p-dioxins and dibenzofurans" by F. D. Hileman et al., In: Human and Environmental Risks of Chlorinated Dioxins and Related Compounds, R. E. Tucker, et al. eds., Plenum Publishing Corp., 1983. 2) Safety procedures outlined in environmental protection agency Method 613, Federal Register volume 44, No. 233, December 3, 1979.

believed to contain chlorinated dibenzo-p-dioxins or chlorinated dibenzofurans.

2. Summary of the Method

2.1 This method is an analytical extraction cleanup procedure, and capillary column gas chromatograph-low resolution mass spectrometry method, using capillary column gas chromatograph/mass spectrometer conditions and internal standard techniques, which allow for the measurement of pentachlorinated dibenzo-p-dioxins and pentachlorinated dibenzofurans in the extract.

2.2 If interferences are encountered, the method provides selected general purpose cleanup procedures to aid the analyst in their elimination.

3. Interferences

3.1 Solvents, reagents, glassware, and other sample processing hardware may yield discrete artifacts or elevated baselines, or both, causing misinterpretation of gas chromatograms. All of these materials must be demonstrated to be free from interferences under the conditions of the analysis by running method blanks. Specific selection of reagents and purification of solvents by distillation in all-glass systems may be required.

3.2 Interferences coextracted from the samples will vary considerably from source to source, depending upon the diversity of the industry being sampled. Pentachlorinated dibenzo-p-dioxins is often associated with other interfering chlorinated compounds such as PCBs which may be at concentrations several orders of magnitude higher than that of pentachlorinated dibenzo-p-dioxins. While general cleanup techniques are provided as part of this method, unique samples may require additional cleanup approaches to achieve the sensitivity stated in Table 1.

3.3 The other isomers of tetrachlorinated dibenzo-p-dioxins may interfere with the measurement of 2,3,7,8-tetrachlorinated dibenzo-p-dioxins. Capillary column gas chromatography is required to resolve those isomers that yield virtually identical mass fragmentation patterns.

4. Apparatus and Materials

4.1 Sampling equipment for discrete or composite sampling.

4.1.1 Grab sample bottle - amber glass, one liter or one quart volume. French or boston round design is

recommended. The container must be washed and solvent rinsed before use to minimize interferences.

4.1.2 Bottle caps - threaded to screw onto the sample bottles. Caps must be lined with teflon. Solvent washed foil, used with the shiny side towards the sample, may be substituted for the teflon if sample is not corrosive.

4.1.3 Compositing equipment - automatic or manual composing system. No tygon or rubber tubing may be used, and the system must incorporate glass sample containers for the collection of a minimum of two hundred fifty milliliters. Sample containers must be kept refrigerated after sampling.

4.2 Water bath - heated, with concentric ring cover, capable of temperature control (±2 degrees Celsius). The bath should be used in a hood.

4.3 Gas chromatograph/mass spectrometer data system.

4.3.1 Gas chromatograph: An analytical system with a temperature-programmable gas chromatograph and all required accessories including syringes, analytical columns, and gases.

4.3.2 Column: SP-2250 coated on a thirty meter long x twenty-five hundredths millimeters inside diameter glass column (Supelco No. 2-3714 or equivalent). Glass capillary column conditions: Helium carrier gas at thirty centimeters per second linear velocity run splitless. Column temperature is two hundred ten degrees Celsius.

4.3.3 Mass spectrometer: Capable of scanning from thirty-five to four hundred fifty atomic mass unit every one second or less, utilizing seventy volts (nominal) electron energy in the electron impact ionization mode and producing a mass spectrum which meets all the criteria in Table 2 when fifty nanograms of decafluorotriphenyl-phosphine is injected through the gas chromatograph inlet. The system must also be capable of selected ion monitoring for at least four ions simultaneously, with a cycle time of one second or less. Minimum integration time for selected ion monitoring is one hundred milliseconds. Selected ion monitoring is verified by injecting fifteen thousandths nanogram of tetrachlorinated dibenzo-p-dioxin Cl^{37} to give a

minimum signal to noise ratio of five to one at mass three hundred twenty-eight.

4.3.4 Gas chromatograph/mass spectrometer interface: Any gas chromatograph-to-mass spectrometer interface that gives acceptable calibration points at fifty nanograms per injection for each compound of interest and achieves acceptable tuning performance criteria (see sections 6.1-6.3) may be used. Gas chromatograph-to-mass spectrometer interfaces constructed of all glass or glass-lined materials are recommended. Glass can be deactivated by silanizing with dichlorodimethylsilane. The interface must be capable of transporting at least ten nanograms of the components of interest from the gas chromatograph to the mass spectrometer.

4.3.5 Data system: A computer system must be interfaced to the mass spectrometer. The system must allow the continuous acquisition and storage on machine-readable media of all mass spectra obtained throughout the duration of the chromatographic program. The computer must have software that can search any gas chromatograph/mass spectrometer data file for ions of a specific mass and that can plot such ion abundances versus time or scan number. This type of plot is defined as an extracted ion current profile. Software must also be able to integrate the abundance, in any extracted ion current profile, between specified time or scan number limits.

4.4 Pipettes-Disposable, Pasteur, one hundred fifty millimeters long x five millimeters inside diameter (Fisher Scientific Co., No. 13-678-6A or equivalent).

4.5 Flint glass bottle (teflon-lined screwcap).

4.6 Reacti-vial (silanized) (Pierce Chemical Co.)

5. **Reagents**

5.1 Potassium hydroxide-(American Chemical Society), two percent in distilled water.

5.2 Sulfuric acid-(American Chemical Society), concentrated.

5.3 Methylene chloride, hexane, benzene, petroleum ether, methanol, tetradecane-pesticide quality or equivalent.

5.4 Prepare stock standard solutions of tetrachlorinated dibenzo-p-dioxins and ^{37}Cl-TCDD (molecular weight three

hundred twenty-eight) in a glove box. The stock solutions are stored in a glove box, and checked frequently for signs of degradation or evaporation, especially just prior to the preparation of working standards.

5.5 Alumina-basic, Woelm; eighty/two hundred mesh. Before use activate overnight at six hundred degrees Celsius, cool to room temperature in a desiccator.

5.6 Prepurified nitrogen gas.

6. **Calibration**

6.1 Before using any cleanup procedure, the analyst must process a series of calibration standards through the procedure to validate elution patterns and the absence of interferences from reagents.

6.2 Prepare gas chromatograph/mass spectrometer calibration standards for the internal standard technique that will allow for measurement of relative response factors of at least three CDD/^{37}CDD ratios. Thus, for tetrachlorinated dibenzo-p-dioxins, at least three T CDD/^{37}Cl-TCDD and TCDF/^{37}Cl-TCDF must be determined.[7] The ^{37}Cl-TCDD/F concentration in the standard should be fixed and selected to yield a reproducible response at the most sensitive setting of the mass spectrometer. Response factors for pentachlorinated dibenzo-p-dioxins and hexachlorinated dibenzo-p-dioxins may be determined by measuring the response of the tetrachloro-labeled compounds relative to that of the unlabeled 1,2,3,4- or 2,3,7,8-tetrachlorinated dibenzo-p-dioxins, 1,2,3,4,7-pentachlorinated dibenzo-p-dioxins or 1,2,3,4,7,8-hexachlorinated dibenzo-p-dioxins, which are commercially available.[8]

6.3 Assemble the necessary gas chromatograph/mass spectrometer apparatus and establish operating parameters equivalent to those indicated in Section 11.1 of this method. Calibrate

---

[7] ^{37}Cl-labeled 2,3,7,8-TCDD and 2,3,7,8-TCDF are available from K.O.R. Isotopes, and Cambridge Isotopes, Inc., Cambridge, Massachusetts. Proper standardization requires the use of a specific labeled isomer for each congener to be determined. However, the only labeled isomers readily available are ^{37}Cl-2,3,7,8-TCDD and ^{37}Cl-2,3,7,8-TCDF. This method therefore uses these isomers as surrogates for the chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans. When other labeled chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans are available, their use will be required.

[8] This procedure is adopted because standards are not available for most of the chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans, and assumes that all the congeners will show the same response as the unlabeled congener used as a standard. Although this assumption may not be true in all cases, the error will be small.

the gas chromatograph/mass spectrometer system according to Eichelberger, et al. (1975) by the use of decafluorotriphenyl phosphine. By injecting calibration standards, establish the response factors for chlorinated dibenzo-p-dioxins vs. ^{37}Cl-TCDD, and for chlorinated dibenzofurans vs. ^{37}Cl-TCDF. The detection limit provided in Table 1 should be verified by injecting fifteen thousandths nanogram of ^{37}Cl-TCDD which should give a minimum signal to noise ratio of five to one at mass three hundred twenty-eight.

7. **Quality Control**

7.1 Before processing any samples, the analyst should demonstrate through the analysis of a distilled water method blank, that all glassware and reagents are interference-free. Each time a set of samples is extracted, or there is a change in reagents, a method blank should be processed as a safeguard against laboratory contamination.

7.2 Standard quality assurance practices must be used with this method. Field replicates must be collected to measure the precision of the sampling technique. Laboratory replicates must be analyzed to establish the precision of the analysis. Fortified samples must be analyzed to establish the accuracy of the analysis.

8. **Sample Collection, Preservation, and Handling**

8.1 Grab and composite samples must be collected in glass containers. Conventional sampling practices should be followed, except that the bottle must not be prewashed with sample before collection. Composite samples should be collected in glass containers in accordance with the requirements of the Resource Conservation and Recovery Act program. Sampling equipment must be free of tygon and other potential sources of contamination.

8.2 The samples must be iced or refrigerated from the time of collection until extraction. Chemical preservatives should not be used in the field unless more than twenty-four hours will elapse before delivery to the laboratory. If an aqueous sample is taken and the sample will not be extracted within forty-eight hours of collection, the sample should be adjusted to a pH range of 6.0-8.0 with sodium hydroxide or sulfuric acid.

8.3 All samples must be extracted within seven days and completely analyzed within thirty days of collection.

9. **Extraction and Cleanup Procedures**

9.1 Use an aliquot of one to ten grams sample of the chemical waste or soil to be analyzed. Soils should be dried using a stream of prepurified nitrogen and pulverized in a ball-mill or similar device. Perform this operation in a clear area with proper hood space. Transfer the sample to a tared one hundred twenty-five milliliters flint glass bottle (teflon-lined screwcap) and determine the weight of the sample. Add an appropriate quantity of ^{37}Cl-labeled 2,3,7,8-TCDD (adjust the quantity according to the required minimum detectable concentration), which is employed as an internal standard.

9.2 Extraction

9.2.1 Extract chemical waste samples by adding ten milliliters methanol, forty milliliters petroleum ether, fifty milliliters doubly distilled water, and then shaking the mixture for two minutes. Tars should be completely dissolved in any of the recommended neat solvents. Activated carbon samples must be extracted with benzene using method 3540 in SW-846 (Test Methods for Evaluating Solid Waste - Physical/Chemical Methods, available from G.P.O. Stock #055-022-81001-2). Quantitatively transfer the organic extract or dissolved sample to a clean two hundred fifty milliliters flint glass bottle (teflon lined screwcap), add fifty milliliters doubly distilled water and shake for two minutes. Discard the aqueous layer and proceed with Step 9.3.

9.2.2 Extract soil samples by adding forty milliliters of petroleum ether to the sample, and then shaking for twenty minutes. Quantitatively transfer the organic extract to a clean two hundred fifty milliliters flint glass bottle (teflon-lined screwcap), add fifty milliliters doubly distilled water and shake for two minutes. Discard the aqueous layer and proceed with Step 9.3.

9.3 Wash the organic layer with fifty milliliters of twenty percent aqueous potassium hydroxide by shaking for ten minutes and then remove and discard the aqueous layer.

9.4 Wash the organic layer with fifty milliliters of doubly distilled water by shaking for two minutes, and discard the aqueous layer.

9.5 Cautiously add fifty milliliters concentrated sulfuric acid and shake for ten minutes. Allow the mixture to

stand until layers separate (approximately ten minutes), and remove and discard the acid layer. Repeat acid washing until no color is visible in the acid layer.

9.6 Add fifty milliliters of doubly distilled water to the organic extract and shake for two minutes. Remove and discard the aqueous layer and dry the organic layer by adding ten grams of anhydrous sodium sulfate.

9.7 Concentrate the extract to incipient dryness by heating in a fifty-five degree Celsius water bath and simultaneously flowing a stream of prepurified nitrogen over the extract. Quantitatively transfer the residue to an alumina microcolumn fabricated as follows:

9.7.1 Cut off the top section of a ten milliliters disposable pyrex pipette at the four milliliters mark and insert a plug of silanized glass wool into the tip of the lower portion of the pipette.

9.7.2 Add two and eight tenths grams of Woelm basic alumina (previously activated at six hundred degrees Celsius overnight and then cooled to room temperature in a desiccator just prior to use).

9.7.3 Transfer sample extract with a small volume of methylene chloride.

9.8 Elute the microcolumn with ten milliliters of three percent methylene chloride-in-hexane followed by fifteen milliliters of twenty percent methylene chloride-in-hexane and discard these effluents. Elute the column with fifteen milliliters of fifty percent methylene chloride-in-hexane and concentrate this effluent (fifty-five degrees Celsius water bath, stream of prepurified nitrogen) to about three tenths to five tenths milliliters.

9.9 Quantitatively transfer the residue (using methylene chloride to rinse the container) to a silanized Reacti-Vial (Pierce Chemical Co.). Evaporate, using a stream of prepurified nitrogen, almost to dryness, rinse the walls of the vessel with approximately five tenths milliliters methylene chloride, evaporate just to dryness, and tightly cap the vial. Store the vial at five degrees Celsius until analysis, at which time the sample is reconstituted by the addition of tridecane.

9.10 Approximately one hour before gas chromatograph/mass spectrometer (high resolution gas chromatograph-low resolution spectrometer) analysis, dilute the residue in the microreaction vessel with an appropriate quantity of

tridecane. Gently swirl the tridecane on the lower portion of the vessel to ensure dissolution of the chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans. Analyze a sample by gas chromatograph/electron capture to provide insight into the complexity of the problem, and to determine the manner in which the mass spectrometer should be used. Inject an appropriate aliquot of the sample into the gas chromatograph/mass spectrometer instrument, using a syringe.

9.11 If, upon preliminary gas chromatograph/mass spectrometer analysis, the sample appears to contain interfering substances which obscure the analyses for chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans, high performance liquid chromatographic cleanup of the extract is accomplished, prior to further gas chromatograph/mass spectrometer analysis.

10. High Performance Liquid Chromatographic Cleanup Procedure[9]

10.1 Place approximately two milliliters of hexane in a fifty-milliliter flint glass sample bottle fitted with a teflon-lined cap.

10.2 At the appropriate retention time, position sample bottle to collect the required fraction.

10.3 Add two milliliters of five percent weight/volume sodium carbonate to the sample fraction collected and shake for one minute.

10.4 Quantitatively remove the hexane layer (top layer) and transfer to a microreaction vessel.

10.5 Concentrate the fraction to dryness and retain for further analysis.

11. Gas Chromatograph/Mass Spectrometer Analysis

11.1 The following column conditions are recommended: Glass capillary column conditions: SP-2250 coated on a thirty-meter long x twenty-five hundredths millimeter inside diameter glass column (Supelco No. 2-3714, or equivalent) with helium carrier gas at thirty centimeters per second linear velocity, run splitless. Column temperature is two hundred ten degrees Celsius. Under these conditions the retention time for tetrachlorinated dibenzo-p-dioxins is about nine and one-half minutes. Calibrate the system

---

[9] For cleanup see also method #8320 or #8330, SW-846, Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (1982).

daily with, a minimum, three injections of standard mixtures.

11.2 Calculate response factors for standards relative to ^{37}Cl-TCDD/F (see Section 12).

11.3 Analyze samples with selected ion monitoring of at least two ions from Table 3. Proof of the presence of chlorinated dibenzo-p-dioxins or chlorinated dibenzofurans exists if the following conditions are met:

11.3.1 The retention time of the peak in the sample must match that in the standard, within the performance specifications of the analytical system.

11.3.2 The ratio of ions must agree within ten percent with that of the standard.

11.3.3 The retention time of the peak maximum for the ions of interest must exactly match that of the peak.

11.4 Quantitate the chlorinated dibenzo-p-dioxin and chlorinated dibenzofuran peaks from the response relative to the ^{37}Cl-TCDD/F internal standards. Recovery of the internal standard should be greater than fifty percent.

11.5 If a response is obtained for the appropriate set of ions, but is outside the expected ratio, a coeluting impurity may be suspected. In this case, another set of ions characteristic of the chlorinated dibenzo-p-dioxin/ chlorinated dibenzofuran molecules should be analyzed. For tetrachlorinated dibenzo-p-dioxins a good choice of ions is m/e two hundred fifty-seven and m/e two hundred fifty-nine. For tetrachlorinated dibenzofurans a good choice of ions is m/e two hundred forty-one and two hundred forty-three. These ions are useful in characterizing the molecular structure to tetrachlorinated dibenzo-p-dioxins and tetrachlorinated dibenzofurans. For analysis of tetrachlorinated dibenzo-p-dioxins good analytical technique would require using all four ions, m/e two hundred fifty-seven, three hundred twenty, three hundred twenty-two, and three hundred twenty-eight, to verify detection and signal to noise ratio of five to one. Suspected impurities such as DDE, DDD, or PCB residues can be confirmed by checking for their major fragments. These materials can be removed by the cleanup columns. Failure to meet criteria should be explained in the report, or the sample reanalyzed.

11.6 If broad background interference restricts the sensitivity of the gas chromatograph/mass spectrometer analysis, the

analyst should employ cleanup procedures and reanalyze by gas chromatograph/mass spectrometer. See Section 10.0.

11.7 In those circumstances where these procedures do not yield a definitive conclusion, the use of high resolution mass spectrometry is suggested.

12. Calculations

12.1 Determine the concentration of individual compounds according to the formula:

$$\text{Concentration, } \mu g/gm = \frac{A \times A_s}{G \times A_{is} \times R_f}$$

where:
A = μg of internal standard added to the sample[10]
G = gm of sample extracted
A_s = area of characteristic ion of the compound being quantified
A_{is} = area of characteristic ion of the internal standard
R_f = response factor[11]

Response factors are calculated using data obtained from the analysis of standards according to the formula:

$$Rf \frac{A_s \times C_{is}}{A_{is} \times C_s}$$

where:

C_{is} = concentration of the internal standard
C_c = concentration of the standard compound

12.2 Report results in micrograms per gram without correction for recovery data. When duplicate and spiked samples are analyzed, all data obtained should be reported.

---

[10] The proper amount of standard to be used is determined from the calibration curve (See Section 6.0).

[11] If standards for pentachlorinated dibenzo-p-dioxins/Fs and hexachlorinated dibenzo-p-dioxins/Fs are not available, response factors for ions derived from these congeners are calculated relative to ^{37}Cl-TCDD/F. The analyst may use response factors for 1,2,3,4- or 2,3,7,8-TCDD, 1,2,3,4,7-PeCDD, or 1,2,3,4,7,8-HxCDD for quantitation of tetrachlorinated dibenzo-p-dioxins/Fs, pentachlorinated dibenzo-p-dioxins/Fs and hexachlorinated dibenzo-p-dioxins/Fs, respectively. Implicit in this requirement is the assumption that the same response is obtained from pentachlorinated dibenzo-p-dioxins/Fs containing the same numbers of chlorine atoms.

12.3 Accuracy and Precision. No data are available at this time.

Table 1

Gas Chromatography of TCDD

Column	Retention time (min.)	Detection limit (μg/kg)[1]
Glass capillary	9.5	0.003

[1] Detection limit for liquid samples is 0.003 μg/l. This is calculated from the minimum detectable GC response being equal to five times the GC background noise assuming a 1 ml effective final volume of the 1 liter sample extract, and a GC injection of 5 microliters. Detection levels apply to both electron capture and GC/MS detection. For further details see 44 FR 69526 (December 3, 1979).

Table 2

DFTPP Key Ions and Ion Abundance Criteria[1]

Mass	Ion abundance criteria
51	30-60% of mass 198.
68	Less than 2% of mass 69.
70	Less than 2% of mass 69.
127	40-60% of mass 198.
197	Less than 1% of mass 198.
198	Base peak, 100% relative abundance.
199	5-9% of mass 198.
275	10-30% of mass 198.
365	Greater than 1% of mass 198.
441	Present but less than mass 443.
442	Greater than 40% of mass 198.
443	17-23% of mass 442.

[1] J. W. Eichelberger, L. E. Harris, and W. L. Budde. 1975. Reference compound to calibrate ion abundance measurement in gas chromatography-mass spectrometry. Analytical Chemistry 47:995.

Table 3

List of Accurate Masses Monitored Using GC Selected-Ion Monitoring, Low Resolution, Mass Spectrometry for Simultaneous Determination of Tetra-, Penta- Hexachlorinated Dibenzo-p-Dioxins and Dibenzofurans

Class of chlorinated dibenzodioxin or dibenzofuran	Number of chlorine substituents (x)	Monitored m/z for dibenzodioxins $C_{12}H_{8-x}O_2Cl_x$	Monitored m/z for dibenzofurans $C_{12}H_{8-x}OCl_x$	Approximate theoretical ratio expected on basis of isotopic abundance
Tetra	4	[1]319.897	[1]303.902	0.74
		321.894	305.903	1.00
		[2]327.885	[2]311.894	.....
		[3]256.933	.....	0.21
		[3]258.930	.....	0.20
Penta	5	[1]353.858	.....	0.57
		355.855	339.860	1.00
Hexa	6	389.816	373.821	1.00
		391.813	375.818	0.87

[1] Molecular ion peak.
[2] Cl_4-labelled standard peaks.
[3] Ions which can be monitored in TCDD analyses for confirmation purposes.

33-24-03-02. Hazardous waste determination. A person who generates a solid waste as defined in section 33-24-02-02 must determine if that waste is a hazardous waste using the following method:

1. The person should first determine if the waste is excluded from regulation under section 33-24-02-04;

2. The ~~person~~ must then determine if the waste is listed as a hazardous waste in chapter 33-24-02; and

3. ~~If the waste is not listed as a hazardous waste in chapter 33-24-02, the person must determine whether the waste is identified in chapter 33-24-02 by either~~ For purposes of compliance with sections 33-24-05-250 through 33-24-05-299, or if the waste is not listed in sections 33-24-02-15 through 33-24-02-18, the generator must then determine whether the waste is identified in sections 33-24-02-10 through 33-24-02-14 by either:

   a. Testing the waste according to the methods set forth in chapter 33-24-02 or an equivalent method as approved by the department; or

   b. Applying knowledge of the hazard characteristic of the waste in light of the materials or the processes used.

   ~~c. All waste analysis pursuant to subdivision a must be conducted by a laboratory certified by the department.~~

4. If the waste is determined to be hazardous, the generator shall refer to chapter 33-24-05 for possible exclusions or restrictions pertaining to management of the generator's specific waste.

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-03-07. Use of the manifest.

1. The generator must:

   a. Sign the manifest certification by hand;

   b. Obtain the handwritten signature of the initial transporter and date of acceptance on the manifest; and

   c. Retain one copy, in accordance with subsection 1 of section 33-24-03-13.

2. The generator must give the transporter the remaining copies of the manifest.

3. For shipments of hazardous waste within the United States solely by water (bulk shipments only), the generator must send three copies of the manifest dated and signed in accordance with this section to the owner or operator of the designated facility or the last water (bulk shipment) transporter to handle the waste in the United States if exported by water. Copies of the manifest are not required for each transporter.

4. For rail shipments of hazardous waste within the United States which originate at the site of generation, the generator must send at least three copies of the manifest dated and signed in accordance with this section to:

   a. The next nonrail transporter, if any;

   b. The designated facility if transported solely by rail; or

   c. The last rail transporter to handle the waste in the United States if exported by rail.

5. For shipments of hazardous waste to a designated facility in an authorized state which has not yet obtained authorization to regulate that particular waste as hazardous, the generator must assure that the designated facility agrees to sign and return the manifest to the generator, and that any out-of-state transporter signs and forwards the manifest to the designated facility.

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-03-12. Accumulation time.

1. Except as provided in subsections 4, 5, and 6, a generator may accumulate hazardous waste onsite for ninety days or less without a permit or without having interim status provided that:

   a. The waste is placed in containers and the generator complies with sections 33-24-05-89 through 33-24-05-102, or the waste is placed in tanks and the generator complies with sections 33-24-05-103 through 33-24-05-114, except subsection 3 of section 33-24-05-110 and section 33-24-05-113. In addition, such a generator is exempt from all the requirements in sections 33-24-05-59 through 33-24-05-88, except for sections 33-24-05-60 and 33-24-05-63;

b. The date upon which each period of accumulation begins is clearly marked and visible for inspection on each container;

c. While being accumulated onsite, each container and tank is properly labeled or marked with the words "Hazardous Waste"; and

d. The generator complies with the requirements for owners or operators in sections ~~33-24-05-07 and 33-24-05-15 through 33-24-05-36~~ 33-24-05-10 through 33-24-05-36, with section 33-24-05-07, and with subdivision d of subsection 1 of section 33-24-05-256.

2. A generator who accumulates hazardous waste for more than ninety days is an operator of a storage facility and is subject to the requirements of chapter 33-24-05 and the permit requirements of chapter 33-24-06, unless the generator has been granted an extension to the ninety-day period. Such extension may be granted by the department if hazardous wastes must remain onsite for longer than ninety days due to unforeseen, temporary, and uncontrollable circumstances. An extension may be granted at the discretion of the department on a case-by-case basis.

3. A generator may accumulate as much as fifty-five gallons of hazardous waste or one quart of acutely hazardous waste listed in subsection 5 of section 33-24-02-18 in containers at or near any point of generation where wastes initially accumulate, which is under the control of the operator of the process generating the waste, without a permit or interim status and without complying with subsection 1 provided the operator:

a. Complies with sections 33-24-05-90, 33-24-05-91, and subsection 1 of section 33-24-05-92; and

b. Marks the operator's containers either with the words "Hazardous Waste" or with other words that identify the contents of the containers.

4. A generator who generates greater than one hundred kilograms but less than one thousand kilograms of hazardous waste in a calendar month may accumulate hazardous waste onsite for one hundred eighty days or less without a permit or without having interim status provided that:

a. The quantity of waste accumulated onsite never exceeds six thousand kilograms;

b. The generator complies with requirements of sections 33-24-05-89 through 33-24-05-102, except section 33-24-05-95;

c. The generator complies with the requirements of section 33-24-05-114;

d. The generator complies with the requirements of subdivisions b and c of subsection 1 and the requirements of sections 33-24-05-15 through 33-24-05-20; and

e. The generator complies with the following requirements:

(1) At all times there must be at least one employee either on the premises or on call (i.e., available to respond to an emergency by reaching the facility within a short period of time) with the responsibility for coordinating all the emergency response measures specified in paragraph 4 of subdivision c of subsection 4. This employee is the emergency coordinator.

(2) The generator shall post the following information next to the telephone:

(a) The name and telephone number of the emergency coordinator;

(b) Location of fire extinguishers and spill control material and, if present, fire alarm; and

(c) The telephone number of the fire department, unless the facility has a direct alarm.

(3) The generator shall ensure that all employees are thoroughly familiar with proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies;

(4) An emergency coordinator or emergency coordinator's designee shall respond to any emergency that arises. The applicable responses are as follows:

(a) In the event of a fire, call the fire department or attempt to extinguish it using a fire extinguisher;

(b) In the event of a spill, contain the flow of hazardous waste to the extent possible, and as soon as is practicable, clean up the hazardous waste and any contaminated materials or soil; and

(c) In the event of a fire, explosion, or other release which could threaten human health outside the facility, or when the generator has

knowledge that a spill has reached surface water, the generator shall immediately notify the national response center using their twenty-four toll free number 1-800-424-8802. The report must include the following information:

[1] The name, address, and state/environmental protection agency identification number of the generator;

[2] Date, time, and type of incident (e.g., spill or fire);

[3] Quantity and type of hazardous waste involved in the incident;

[4] Extent of injuries, if any; and

[5] Estimated quantity and disposition of recovered materials, if any.

5. A generator who generates greater than one hundred kilograms but less than one thousand kilograms of hazardous waste in a calendar month and who must transport the waste, or offer the waste for transportation, over a distance of two hundred miles or more for offsite treatment, storage, or disposal may accumulate hazardous waste onsite for two hundred seventy days or less without a permit or without having interim status provided the generator complies with the requirements of subsection 4.

6. A generator who generates greater than one hundred kilograms but less than one thousand kilograms of hazardous waste in a calendar month and who accumulates hazardous waste in quantities exceeding six thousand kilograms or accumulates hazardous waste for more than one hundred eighty days (or for more than two hundred seventy days if the generator shall transport the waste or offer the waste for transportation, over a distance of two hundred miles or more) is an operator of a storage facility and is subject to the requirements of chapter 33-24-05 and the permit requirements of chapter 33-24-06 unless the generator has been granted an extension to one hundred eighty days (or two hundred seventy days if applicable). Such extension may be granted by the department if hazardous waste must remain onsite for longer than one hundred eighty days (or two hundred seventy days if applicable) due to unforeseen, temporary, and uncontrollable circumstances. An extension may be granted at the discretion of the department on a case-by-case basis.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.

General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-03-15. Exception reporting.

1. A generator of greater than one thousand kilograms of hazardous waste in a calendar month who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within thirty-five days of the date the waste was accepted by the initial transporter shall contact the transporter or the owner or operator, or both, of the designated facility to determine the status of the hazardous waste.

2. A generator of greater than one thousand kilograms of hazardous waste in a calendar month must submit an exception report to the department if the generator has not received a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within forty-five days of the date the waste was accepted by the initial transporter. The exception report must be submitted to the department within sixty days of the date the waste was accepted by the initial transporter and must include:

   a. A legible copy of the manifest for which the generator does not have confirmation of delivery; and

   b. A cover letter signed by the generator or the generator's authorized representative explaining the efforts taken to locate the hazardous waste and the results of those efforts.

3. A generator who generates greater than one hundred kilograms but less than one thousand kilograms of hazardous waste in a calendar month who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within sixty days of the date the waste was accepted by the initial transporter shall submit a legible copy of the manifest, with some indication that the generator has not received confirmation of delivery, to the department.

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-04-01. Scope.

1. This chapter establishes standards which apply to persons transporting hazardous waste within this state if the transportation requires a manifest under chapter 33-24-03.

2. This chapter does not apply to onsite transportation of hazardous waste by generators or by owners or by operators of permitted hazardous waste management facilities.

3. A transporter of hazardous waste must also comply with chapter 33-24-03 if the transporter:

   a. Transports hazardous waste into this state from abroad; or

   b. Mixes hazardous waste of different department of transportation shipping descriptions by placing them into a single container.

      [NOTE: The transporter in complying with these requirements does not become the generator of the waste.]

History: Effective January 1, 1984; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-01. Purpose, scope, and applicability.

1. The purpose of this chapter is to establish minimum standards which define the acceptable management of hazardous waste.

2. The standards in this chapter apply to owners and operators of all facilities which treat, store, or dispose of hazardous waste, except as specifically provided otherwise in this chapter or chapter 33-24-02.

3. The requirements of this chapter apply to a person disposing of hazardous waste by means of underground injection subject to a permit issued under an underground injection control program approved or promulgated under the Safe Drinking Water Act only to the extent they are required by chapter 33-24-06.

4. The requirements of this chapter apply to the owner or operator of a publicly owned treatment works which treats, stores, or disposes of hazardous waste only to the extent they are included in a hazardous waste permit by rule granted to such a person under chapter 33-24-06.

5. The requirements of this chapter apply to recyclable materials used in a manner constituting disposal, hazardous waste burned for energy recovery, recyclable materials utilized for precious metal recovery, and spent lead acid batteries being reclaimed.

6. The requirements of this chapter do not apply to:

   a. The owner or operator of a facility permitted, licensed, or registered by the department to manage municipal or

industrial solid waste, if the only hazardous waste the facility treats, stores, or disposes of is excluded from regulation under section 33-24-02-05.

b. The owner or operator of a facility managing recyclable hazardous wastes described in subdivisions a and b of subsection 1 of section 33-24-02-06 (except to the extent that requirements of this chapter are referred to in sections 33-24-05-201 through 33-24-05-235).

c. A generator accumulating waste onsite in compliance with section 33-24-03-12.

d. A farmer disposing of pesticide containers from the farmer's own use in compliance with section 33-24-03-40.

e. The owner or operator of a totally enclosed treatment facility, as defined in section 33-24-01-04.

f. The owner or operator of an elementary neutralization or a wastewater treatment unit as defined in section 33-24-01-04.

g. Immediate response activities.

(1) Except as provided in paragraph 2, a person engaged in treatment or containment activities during immediate response to any of the following situations:

(a) A discharge of hazardous waste.

(b) An imminent and substantial threat of a discharge of hazardous waste.

(c) A discharge of material which, when discharged, becomes a hazardous waste.

(2) An owner or operator of a facility otherwise regulated by this chapter shall comply with all applicable requirements of sections 33-24-05-15 through 33-24-05-36.

(3) Any person who is covered by paragraph 1 and continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this chapter and chapters 33-24-06 and 33-24-07.

h. A transporter storing manifested shipments of hazardous waste in containers meeting the requirements of section 33-24-03-08 at a transfer facility for a period of ten days or less.

i. The addition of absorbent material to waste in a container (as defined in section 33-24-01-04) or the addition of waste to absorbent material in a container provided that these actions occur at the time waste is first placed in a container and subsection 2 of section 33-24-05-08 and sections 33-24-05-90 and 33-24-05-91 are complied with.

7. The requirements of this chapter apply to owners or operators of all facilities which treat, store, or dispose of hazardous wastes referred to in sections 33-24-05-250 through 33-24-05-300.

8. Subsection 2 of section 33-24-05-09 applies only to facilities subject to regulation under sections 33-24-05-89 through 33-24-05-317 and sections 33-24-05-300 through 33-24-05-303.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-04. General waste analysis.

1. Waste analysis requirements.

a. Before an owner or operator treats, stores, or disposes of any hazardous waste, the owner or operator shall obtain a detailed chemical and physical analysis of a representative sample of the waste. At a minimum, this analysis must contain all the information which must be known to treat, store, or dispose of the waste in accordance with the requirements of this chapter or a permit issued under chapter 33-24-06.

b. The analysis may include data developed under chapter 33-24-02 and existing published or documented data on the hazardous waste or on waste generated from similar processes. (Comment: For example, the facility's records of analysis performed on the waste before the effective date of these rules, or studies conducted on hazardous wastes generated from processes similar to that which generated the waste to be managed at the facility, may be included in the data base required to comply with subdivision a of subsection 1. The owner or operator of an offsite facility may arrange for the generator of the hazardous waste to supply part of the information required by subdivision a of subsection 1, except as otherwise specified in subsections 2 and 3 of section 33-24-05-256. If the generator does not supply the information, and the owner or operator chooses to accept a hazardous waste, the owner or operator is responsible for obtaining the information required to comply with this section.)

c. The analysis must be repeated as necessary to ensure that it is accurate and up-to-date. At a minimum, the analysis must be repeated:

(1) When the owner or operator is notified, or has reason to believe, that the process or operation generating the hazardous waste has changed; and

(2) For offsite facilities when the results of the inspection required in subdivision d indicate that the hazardous waste received at the facility does not match the waste designated on the accompanying manifest or shipping paper.

d. The owner or operator of an offsite facility shall inspect and, if necessary, analyze each hazardous waste movement received at the facility to determine whether it matches the identity of the waste specified on the accompanying manifest or shipping paper.

2. The owner or operator shall develop and follow a written waste analysis plan which describes the procedures which the owner or operator will carry out to comply with subsection 1. The owner or operator must keep this plan at the facility. At a minimum, the plan must specify:

a. The parameters for which each hazardous waste will be analyzed and the rationale for the selection of these parameters, i.e., how analysis for these parameters will provide sufficient information on the waste's properties to comply with subsection 1.

b. The test methods which will be used to test for these parameters.

c. The sampling method which will be used to obtain a representative sample of the waste to be analyzed. A representative sample may be obtained using either:

(1) One of the sampling methods described in appendix I of chapter 33-24-02; or

(2) An equivalent sampling method.

d. The frequency with which the initial analysis of the waste will be reviewed or repeated to ensure that the analysis is accurate and up-to-date.

e. For offsite facilities the waste analysis that hazardous waste generators have agreed to supply.

f. Where applicable, the methods which will be used to meet the additional waste analysis requirements for specific

waste management methods as specified in sections 33-24-05-08, 33-24-05-145, 33-24-05-183, ~~and~~ 33-24-05-256, subsection 4 of section 33-24-05-404, and subsection 4 of section 33-24-05-433.

g. For surface impoundments exempted from land disposal restrictions under subsection 1 of section 33-24-05-253, the procedures and schedules for:

(1) The sampling of impoundment contents;

(2) The analyses of test data; and

(3) ~~The annual removal of residues which are not listed under section 33-24-01-08 and do not exhibit a characteristic of hazardous waste, and which do not meet the treatment standards of sections 33-24-05-280 through 33-24-05-289 or, where no treatment standards have been established, the annual removal of residues which do not meet the applicable prohibition levels in sections 33-24-05-270 through 33-24-05-279.~~ The annual removal of residues which are not delisted under section 33-24-01-08 or which exhibit a characteristic of hazardous waste and either:

(a) Do not meet applicable treatment standards of sections 33-24-05-280 through 33-24-05-289; or

(b) Where no treatment standards have been established;

[1] Such residues are prohibited from land disposal under section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(b); or

[2] Such residues are prohibited from land disposal under subsection 6 of section 33-24-05-273.

3. For offsite facilities, the waste analysis plan required in subsection 2 must also specify the procedures which will be used to inspect and analyze each movement of hazardous waste received at the facility to ensure that it matches the identity of the waste designated on the accompanying manifest or shipping paper. At a minimum, the plan must describe:

a. The procedures which will be used to determine the identity of each movement of waste managed at the facility.

b. The sampling method which will be used to obtain a representative sample of the waste to be identified, if the identification method includes sampling.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-06. General inspection requirements.

1. The owner or operator shall inspect the facility for malfunctions and deterioration, operator errors, and discharges which may be causing or may lead to release of hazardous waste constituents to the environment, or a threat to human health. The owner or operator shall conduct these inspections often enough to identify problems in time to correct them before they harm human health or the environment.

2. Schedule requirements.

   a. The owner or operator shall develop and follow a written schedule for inspecting all monitoring equipment, safety, and emergency equipment, security devices, and operating and structural equipment (such as dikes and sump pumps) that are important to preventing, detecting, or responding to environmental or human health hazards.

   b. The owner or operator shall keep this schedule at the facility.

   c. The schedule must identify the types of problems, e.g., malfunctions or deterioration, which are to be looked for during the inspection, e.g., inoperative sump pump, leaking fitting, eroding dike, etc.

   d. The frequency of inspection may vary for the items on the schedule. However, it should be based on the rate of possible deterioration of the equipment and the probability of an environmental or human health incident if the deterioration or malfunction of any operator error goes undetected between inspections. Areas subject to spills, such as loading and unloading areas, must be inspected daily when in use. At a minimum, the inspection schedule must include the terms and frequencies called for in sections 33-24-05-93, ~~33-24-05-106,~~ ~~33-24-05-108,~~ ~~33-24-05-117,~~ ~~33-24-05-132,~~ ~~33-24-05-150,~~ ~~and~~ ~~33-24-05-178,~~ 33-24-05-107, 33-24-05-117, 33-24-05-132, 33-24-05-150, 33-24-05-178, 33-24-05-302, 33-24-05-403, 33-24-05-422, 33-24-05-423, and 33-24-05-428, where applicable.

3. The owner or operator shall remedy any deterioration or malfunction of equipment or structures which the inspection reveals on a schedule which ensures that the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action must be taken immediately.

4. The owner or operator shall record inspections in an inspection log or summary. The owner or operator shall keep these records for at least three years from the date of inspection. At a minimum, these records must include the date and time of the inspection, the name of the inspector, a notation of the observations made, and the date and nature of any repairs or other remedial actions.

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-40. Operating record.

1. The owner or operator shall keep a written operating record at the facility.

2. The following information must be recorded, as it becomes available, and maintained in the operating record until closure of the facility:

   a. A description and quantity of each hazardous waste received and the methods and dates of its treatment, storage, or disposal at the facility as required by appendix I.

   b. The location of each hazardous waste within the facility and the quantity at each location. For disposal facilities, the location and quantity of each hazardous waste must be recorded on a map or diagram of each cell or disposal area. For all facilities, this information must include cross-reference to specific manifest document numbers, if the waste was accompanied by a manifest.

   c. Records and results of waste analysis and trial tests performed as specified in sections 33-24-05-04, 33-24-05-08, 33-24-05-145, 33-24-05-183, subsection 1 of section 33-24-05-253, ~~and section~~ sections 33-24-05-256, 33-24-05-404, and 33-24-05-433.

   d. Summary reports and details of all incidents that require implementing the contingency plan as specified in subsection 10 of section 33-24-05-31.

e. Records and results of inspections as required by subsection 4 of section 33-24-05-06 (except these data need to be kept only three years).

f. Monitoring, testing, or analytical data where required by sections 33-24-05-47 through 33-24-05-58 ~~and sections~~, 33-24-05-104, 33-24-05-106, 33-24-05-108, 33-24-05-117, 33-24-05-132, 33-24-05-150, 33-24-05-164, 33-24-05-165, 33-24-05-167, 33-24-05-178, ~~and~~ 33-24-05-179, 33-24-05-302, subsections 3 and 6 of section 33-24-05-404, section 33-24-05-405, subsections 4 and 9 of section 33-24-05-433, and section 33-24-05-434.

g. For offsite facilities, notices to generators as specified in subsection 2 of section 33-24-05-03.

h. All closure and postclosure cost estimates under section 33-24-05-76.

i. A certification by the permittee no less often than annually, that the permittee has a program in place to reduce the volume and toxicity of hazardous waste that is generated to the degree determined by the permittee to be economically practicable; and the proposed method of treatment, storage, or disposal is that practicable method currently available to the permittee which minimizes the present and future threat to human health and the environment.

j. ~~Records of the quantities (and date of placement) for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted pursuant to section 33-24-05-254 or a petition pursuant to section 33-24-05-255, and the notice required by a generator under subdivision c of subsection 1 of section 33-24-05-256.~~ Records of the quantities and date of placement for each shipment of hazardous waste placed in land disposal units under an extension to the effective date of any land disposal restriction granted pursuant to section 33-24-05-254, a petition pursuant to section 33-24-05-255, or a certification under section 33-24-05-257, and the applicable notice required by a generator under subsection 1 of section 33-24-05-256.

k. ~~For an offsite treatment facility, a copy of the notice required by a generator under subdivision a of subsection 1 of section 33-24-05-276.~~ For an offsite treatment facility, a copy of the notice, and the certification and demonstration, if applicable, required by the generator or the owner or operator under section 33-24-05-256 or 33-24-05-257.

l. ~~For an onsite treatment facility, the information contained in the notice required by a generator under subdivision a of subsection 1 of section 33-24-05-256, except for the manifest number.~~ For an onsite treatment facility, the information contained in the notice except the manifest number, and the certification and demonstration, if applicable, required by the generator or the owner or operator under section 33-24-05-256 or 33-24-05-257.

m. ~~For an offsite land disposal facility, a copy of the notice and certification required by the owner or operator of a treatment facility under subdivisions a and b of subsection 2 of section 33-24-05-256, or a copy of the notice and certification required by the generator under subdivision b of subsection 1 of section 33-24-05-256, whichever is applicable.~~ For an offsite land disposal facility, a copy of the notice, and the certification and demonstration, if applicable, required by the generator or the owner or operator of a treatment facility under section 33-24-05-256 or 33-24-05-257, whichever is applicable.

n. ~~For an onsite land disposal facility, the information contained in the notice required under subdivision b of subsection 1 of section 33-24-05-256, except for the manifest number, or the information contained in the notice required by a treater under subdivision a of subsection 2 of section 33-24-05-256, except for the manifest number, whichever is applicable.~~ For an onsite land disposal facility, the information contained in the notice required by the generator or owner or operator of a treatment facility under section 33-24-05-256, except for the manifest number, and the certification and demonstration, if applicable, required under section 33-24-05-257, whichever is applicable.

o. For an offsite storage facility, a copy of the notice, and the certification and demonstration, if applicable, required by the generator or the owner or operator under section 33-24-05-256 or 33-24-05-257.

p. For an onsite storage facility, the information contained in the notice except the manifest number, and the certification and demonstration, if applicable, required by the generator or the owner or operator under section 33-24-05-256 or 33-24-05-257.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-44. Additional reports. In addition to submitting the annual reports and unmanifested waste reports described in sections 33-24-05-42 and 33-24-05-43, the owner or operator shall also report to the department:

1. Releases, fires, and explosions as specified in subsection 10 of section 33-24-05-31.

2. Facility closures specified in section 33-24-05-64.

3. As otherwise required by sections 33-24-05-47 through 33-24-05-58, 33-24-05-115 through 33-24-05-143, ~~and~~ 33-24-05-160 through 33-24-05-200, and 33-24-05-400 through 33-24-05-449.

History: Effective January 1, 1984; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-47. Applicability of ground water protection requirements.

1. Applicability.

   a. Except as provided in subsection 2, the rules in this chapter apply to owners or operators of facilities that treat, store, or dispose of hazardous waste. The owner or operator must satisfy the requirements identified in subdivision b of subsection 1 for all wastes (or constituents thereof) contained in solid waste management units at the facility, regardless of the time at which waste was placed in such units.

   b. All solid waste management units must comply with the requirements in section 33-24-05-58. A surface impoundment, waste pile, and land treatment unit, or landfill that receives hazardous waste after July 26, 1982, (hereinafter referred to as a "regulated unit") must comply with the requirements of sections 33-24-05-48 through 33-24-05-57 in lieu of section 33-24-05-58 for purposes of detecting, characterizing, and responding to releases to the uppermost aquifer. The financial responsibility requirements of section 33-24-05-58 apply to regulated units.

2. The owner's or operator's regulated unit or units, are not subject to regulation for releases into the uppermost aquifer under this chapter if:

   a. The owner or operator is exempted under section 33-24-05-01; or

b. He operates a unit which the department finds:

(1) Is an engineered structure;

(2) Does not receive or contain liquid waste or waste containing free liquids;

(3) Is designed and operated to exclude liquid, precipitation, and other run-on and runoff;

(4) Has both inner and outer layers of containment enclosing the waste;

(5) Has a leak detection system built into each containment layer;

(6) The owner or operator will provide continuing operation and maintenance of these leak detection systems during the active life of the unit and the closure and postclosure care periods; and

(7) To a reasonable degree of certainty, will not allow hazardous constituents to migrate beyond the outer containment layer prior to the end of the postclosure care period;

c. The department finds, pursuant to subsection 4 of section 33-24-05-167, that the treatment zone of a land treatment unit that qualifies as a regulated unit does not contain levels of hazardous constituents that are above background levels of those constituents by an amount that is statistically significant, and if an unsaturated zone monitoring program meeting the requirements of section 33-24-05-165 has not shown a statistically significant increase in hazardous constituents below the treatment zone during the operating life of the unit. An exemption under this section can only relieve an owner or operator of responsibility to meet the requirements of this chapter during the postclosure care period;

d. The department finds that there is no potential for migration of liquid from a regulated unit to the uppermost aquifer during the active life of the regulated unit (including the closure period) and the postclosure care period specified under section 33-24-05-65. This demonstration must be certified by a qualified geologist or geotechnical engineer. In order to provide an adequate margin of safety in the prediction of potential migration of liquid, the owner or operator shall base any predictions made under this section on assumptions that maximize the rate of liquid migration; or

e. He designs and operates a pile in compliance with subsection 3 of section 33-24-05-130.

3. The ground water protection requirements apply during the active life of the regulated unit (including the closure period). After closure of the regulated unit, the ground water protection requirements:

   a. Do not apply if all waste, waste residues, contaminated containment system components, and contaminated subsoils are removed or decontaminated at closure;

   b. Apply during the postclosure care period under section 33-24-05-65 if the owner or operator is conducting a detection monitoring program under section 33-24-05-55; or

   c. Apply during the compliance period under section 33-24-05-53 if the owner or operator is conducting a compliance monitoring program under section 33-24-05-56 or a corrective action program under section 33-24-05-57.

4. Rules in this chapter may apply to miscellaneous units when necessary to comply with sections 33-24-05-301 through 33-24-05-303.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-48. Required programs.

1. Owners and operators subject to the ground water protection requirements shall conduct a monitoring and response program as follows:

   a. ~~Whenever hazardous constituents under section 33-24-05-50 from a regulated unit are detected at the compliance point under section 33-24-05-52, the owner or operator shall institute a compliance monitoring program under section 33-24-05-56~~ Whenever hazardous constituents under section 33-24-05-50 from a regulated unit are detected at a compliance point under section 33-24-05-52, the owner or operator must institute a compliance monitoring program under section 33-24-05-56. Detected is defined as statistically significant evidence of contamination as described in subsection 6 of section 33-24-05-55;

   b. ~~Whenever the ground water protection standard under section 33-24-05-49 is exceeded, the owner or operator shall institute a corrective action program under section 33-24-05-57~~ Whenever the ground water protection standard

under section 33-24-05-49 is exceeded, the owner or operator must institute a corrective action program under section 33-24-05-57. Exceeded is defined as statistically significant evidence of increased contamination as described in subsection 4 of section 33-24-05-56;

c. Whenever hazardous constituents under section 33-24-05-50 from a regulated unit exceed concentration limits under section 33-24-05-51 in ground water between the compliance point under section 33-24-05-52 and the downgradient facility boundary property, the owner or operator shall institute a corrective action program under section 33-24-05-57; or

d. In all other cases, the owner or operator shall institute a detection monitoring program under section 33-24-05-55.

2. The department will specify in the facility permit the specific elements of the monitoring and response program. The department may include one or more of the programs identified in subsection 1 in the facility permit as may be necessary to protect human health and the environment and will specify the circumstances under which each of the programs will be required. In deciding whether to require the owner or operator to be prepared to institute a particular program, the department will consider the potential adverse effects on human health and the environment that might occur before final administrative action on a permit modification application to incorporate such a program could be taken.

History: Effective January 1, 1984; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-49. Ground water protection standard. ~~The owner or operator shall comply with conditions specified in the facility permit that are designed to ensure that hazardous constituents under section 33-24-05-50 entering the ground water from a regulated unit do not exceed the concentration limits under section 33-24-05-51 in the uppermost aquifer underlying the waste management area beyond the point of compliance under section 33-24-05-52 during the compliance period under section 33-24-05-53. The department will establish this ground water protection standard in the facility permit when hazardous constituents have entered the ground water from a regulated unit~~ The owner or operator must comply with conditions specified in the facility permit designed to ensure that hazardous constituents under section 33-24-05-50 detected in the ground water from a regulated unit do not exceed the concentration limits under section 33-24-05-51 in the uppermost aquifer underlying the waste management area beyond the point of compliance under section 33-24-05-52 during the compliance period under section 33-24-05-53. The department will establish this ground

water protection standard in the facility permit when hazardous constituents have been detected in the ground water.

History: Effective January 1, 1984; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-04

33-24-05-54. General ground water monitoring requirements. The owner or operator shall comply with the following requirements for any ground water monitoring program developed to satisfy section 33-24-05-55, 33-24-05-56, or 33-24-05-57:

1. The ground water monitoring system must consist of a sufficient number of wells, installed at appropriate locations and depth to yield ground water samples from the uppermost aquifer that:

   a. Represent the quality of background water that has not been affected by leakage from a regulated unit~~;~~ ~~and~~. A determination of background quality may include sampling of wells that are not hydraulically upgradient of the waste management area where:

      (1) Hydrogeologic conditions do not allow the owner or operator to determine what wells are hydraulically upgradient; and

      (2) Sampling at other wells will provide an indication of background ground water quality that is representative or more representative than that provided by the upgradient wells.

   b. Represent the quality of ground water passing the point of compliance.

   c. Allow for the detection of contamination when hazardous waste or hazardous constituents have migrated from the waste management area to the uppermost aquifer.

2. If a facility contains more than one regulated unit, separate ground water monitoring systems are not required for each regulated unit provided that provisions for sampling the ground water in the uppermost aquifer will enable detection and measurement at the compliance point of hazardous constituents from the regulated units that have entered the ground water in the uppermost aquifer.

3. All monitoring wells must be cased in a manner that maintains the integrity of the monitoring well borehole. This casing must be screened or perforated and packed with gravel or sand, where necessary, to enable collection of ground water samples. The annular space, i.e., the space between the borehole and

well casing, above the sampling depth must be sealed to prevent contamination of samples and the ground water.

4. The ground water monitoring program must include consistent sampling and analysis procedures that are designed to ensure monitoring results that provide a reliable indication of ground water quality below the waste management area. At a minimum, the program must include procedures and techniques for:

   a. Sample collection.

   b. Sample preservation and shipment.

   c. Analytical procedures.

   d. Chain of custody control.

5. The ground water monitoring program must include sampling and analytical methods that are appropriate for ground water sampling and that accurately measure hazardous constituents in ground water samples.

6. The ground water monitoring program must include a determination of the ground water surface elevation each time ground water is sampled.

~~7. Where appropriate the ground water monitoring program must establish background ground water quality for each of the hazardous constituents or monitoring parameters or constituents specified in the permit.~~

   ~~a. In the detection monitoring program in section 33-24-05-55, background ground water quality for a monitoring parameter or constituent must be based on data from quarterly sampling of wells upgradient from the waste management area for one year.~~

   ~~b. In the compliance monitoring program under section 33-24-05-56, background ground water quality for a hazardous constituent must be based on data from upgradient wells that:~~

      ~~(1) Is available before the permit is issued.~~

      ~~(2) Accounts for measurement errors in sampling and analysis.~~

      ~~(3) Accounts to the extent feasible, for seasonal fluctuation in background ground water quality if such fluctuations are expected to affect the concentration of the hazardous constituents.~~

~~c. Background quality may be based on sampling of wells that are not upgradient from the waste management area where:~~

~~(1) Hydrogeologic conditions do not allow the owner or operator to determine what wells are upgradient; or~~

~~(2) Sampling at other wells will provide an indication of background ground water quality that is as representative or more representative than that provided by the upgradient wells.~~

~~d. In developing the data base used to determine a background value for each parameter or constituent, the owner or operator shall take the minimum of one sample from each well and a minimum of four samples from an entire system used to determine background ground water quality, each time the system is sampled.~~

7. In detection monitoring or where appropriate in compliance monitoring, data on each hazardous constituent specified in the permit will be collected from background wells and wells at the compliance points the number and kinds of samples collected to establish background must be appropriate for the form of statistical test employed following generally accepted statistical principles. The sample site must be as large as necessary to ensure with reasonable confidence that a contaminant released to ground water from a facility will be detected. The owner or operator will determine an appropriate sampling procedure and interval for each hazardous constituent listed in the facility permit which must be specified in the unit permit upon approval by the department. This sampling procedure must be:

   a. A sequence of at least four samples, taken at an interval that assures, to the greatest extent technically feasible, that an independent sample is obtained, by reference to the uppermost aquifers effective porrosity, hydraulic conductivity, and hydraulic gradient, and the fate and transport characteristics of the potential contaminants; or

   b. An alternate sampling procedure proposed by the owner or operator and approved by the department.

~~8. The owner or operator shall use the following statistical procedures in determining whether background values or concentration limits have been exceeded:~~

~~a. If, in a detection monitoring program, the level of a constituent at the compliance point is to be compared to the constituent's background values and that background value has a sample coefficient of variation less than 1.00:~~

~~(1) The owner or operator shall take at least four portions from a sample at each well at the compliance point and determine whether the difference between the mean of the constituent at each well (using all portions taken) and the background value for the constituent is significant at the 0.05 level using the Cochrans Approximation to the Behrens-Fisher Student's t-test as described in Appendix II of this chapter. If the test indicates that the difference is significant, the owner or operator shall repeat the same procedure (with at least the same number of portions as used in the first test) with a fresh sample from the monitoring well. If this second round of analysis indicates that the difference is significant, the owner or operator shall conclude that a statistically significant change has occurred; or~~

~~(2) The owner or operator may use an equivalent statistical procedure for determining whether a statistically significant change has occurred. The department will specify such a procedure in the facility permit if it finds that the alternative procedure reasonably balances the probability of falsely identifying a noncontaminating regulating unit and the probability of failing to identify a contaminating regulating unit in a manner that is comparable to that of the statistical procedure described in paragraph 1.~~

~~b. In all other situations in a detection monitoring program and in a compliance monitoring program, the owner or operator shall use a statistical procedure providing reasonable confidence that the migration of hazardous constituents in a regulated unit into and through the aquifer will be indicated. The department will specify a statistical procedure in the facility permit that it finds:~~

~~(1) Is appropriate for the distribution of the data used to establish background values for concentration limits; and~~

~~(2) Provides a reasonable balance between the probability of falsely identifying a noncontaminating regulated unit and the probability of failing to identify a contaminating regulated unit.~~

8. The owner or operator will specify one of the following statistical methods to be used in evaluating ground water monitoring data for each hazardous constituent which, upon approval by the department, will be specified in the unit permit. The statistical test chosen must be conducted

separately for each hazardous constituent in each well. Where practical quantification limits are used in any of the following statistical procedures to comply with subdivision e of subsection 9, the practical quantification limits must be proposed by the owner or operator and approved by the department. Use of any of the following statistical methods must be protective of human health and the environment and must comply with the performance standards outlined in subsection 9.

a. A parametric analysis of variance followed by multiple comparison procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance wells mean and the background mean levels for each constituent.

b. An analysis of variance based on ranks followed by multiple comparison procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance wells median and the background median levels for each constituent.

c. A tolerance or prediction interval procedure in which an interval for each constituent is established from the distribution of the background data, and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.

d. A control chart approach that gives control limits for each constituent.

e. Another statistical test method submitted by the owner or operator and approved by the department.

9. Any statistical method chosen under subsection 8 of section 33-24-05-54 for specification in the unit permit shall comply with the following performance standards, as appropriate:

a. The statistical method used to evaluate ground water monitoring data must be appropriate for the distribution of chemical parameters or hazardous constituents. If the distribution of the chemical parameters or hazardous constituents is shown by the owner or operator to be inappropriate for a normal theory test, then the data should be transformed or a distribution-free theory test should be used. If the distributions for the constituents differ, more than one statistical method may be needed.

b. If an individual well comparison procedure is used to compare an individual compliance well constituent concentration with background constituent concentrations

or a ground water protection standard, the test must be done at a type one error level no less than one hundredth for each testing period. If a multiple comparisons procedure is used, the type one experiment wise error rate for each testing period must be no less than five hundredths; however, the type one error of no less than one hundredth for individual well comparisons must be maintained. This performance standard does not apply to tolerance intervals, prediction intervals, or control charts.

c. If a control chart approach is used to evaluate ground water monitoring data, the specific type of control chart and its associated parameter values must be proposed by the owner or operator and approved by the department if he or she finds it to be protective of human health and the environment.

d. If a tolerance interval or a prediction interval is used to evaluate ground water monitoring data, the levels of confidence and, for tolerance intervals, the percentage of the population that the interval must contain, must be proposed by the owner or operator and approved by the department if he or she finds these parameters to be protective of human health and the environment. These parameters will be determined after considering the number of samples in the background data base, the data distribution, and the range of the concentration values for each constituent of concern.

e. The statistical method must account for data below the limit of detection with one or more statistical procedures that are protective of human health and the environment. Any practical quantification limit approved by the department under subsection 8 of section 33-24-05-54 that is used in the statistical method must be the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions that are available to the facility.

f. If necessary, the statistical method must include procedures to control or correct for seasonal and spacial variability as well as temporal correlation in the data.

10. Ground water monitoring data collected in accordance with subsection 7 including actual levels of constituents must be maintained in the facility operating record. The department will specify in the permit when the data must be submitted for review.

History: Effective January 1, 1984; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03

Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-55. Detection monitoring program. An owner or operator required to establish a detection monitoring program shall, at a minimum, discharge the following responsibilities:

1. The owner or operator shall monitor for indicator parameters (e.g., specific conductance, total organic carbon, or total organic halogen), waste constituents, or reaction products that provide a reliable indication of the presence of hazardous constituents in ground water. The department will specify the parameters or constituents to be monitored in the facility permit, after considering the following factors:

   a. The types, quantities, and concentrations of constituents in wastes managed at the regulated unit.

   b. The mobility, stability, and persistence of waste constituents or their reaction products in the unsaturated zone beneath the waste management area.

   c. The detectability of indicator parameters, waste constituents, and reaction products in ground water.

   d. The concentrations or values and coefficients of variation of proposed monitoring parameters or constituents in the ground water background.

2. The owner or operator shall install a ground water monitoring system at the compliance point under section 33-24-05-52 which complies with subdivision b of subsection 1, and subsections 2 and 3, of section 33-24-05-54.

~~3. The owner or operator shall establish a background value for each monitoring parameter or constituent specified in the permit pursuant to subsection 1. The permit will specify the background values for each parameter or specify the procedures to be used to calculate the background values.~~

   ~~a. The owner or operator shall comply with subsection 7 of section 33-24-05-54 in developing the data base used to determine background values.~~

   ~~b. The owner or operator shall express background values in a form necessary for the determination of statistically significant increases under subsection 8 of section 33-24-05-54.~~

   ~~c. In taking samples used in the determination of background values, the owner or operator shall use a ground water monitoring system that complies with subdivision a of~~

~~subsection 1, and subsections 2 and 3, of section 33-24-05-54.~~

~~4. The owner or operator shall determine ground water quality at each monitoring well at the compliance point at least semiannually during the active life of a regulated unit (including the closure period) and the postclosure care period. The owner or operator shall express the ground water quality at each monitoring well in a form necessary for the determination of statistically significant increases under subsection 8 of section 33-24-05-54.~~

3. The owner or operator must conduct a ground water monitoring program for each chemical parameter and hazardous constituent specified in the permit pursuant to subsection 1 in accordance with subsection 7 of section 33-24-05-54. The owner or operator must maintain a record of ground water analytical data as measured and in a form necessary for the determination of statistical significance under subsection 8 of section 33-24-05-54.

4. The department will specify the frequencies for collecting samples and conducting statistical tests to determine whether there is statistically significant evidence of contamination for any parameter or hazardous constituent specified in the permit under subsection 1 in accordance with subsection 7 of section 33-24-05-54. A sequence of at least four samples from each well (background and compliance wells) must be collected at least semiannually during detection monitoring.

5. The owner or operator shall determine the ground water flow rate and direction in the uppermost aquifer at least annually.

~~6. The owner or operator shall use procedures and methods for sampling and analysis that meet the requirements of subsections 4 and 5 of section 33-24-05-54.~~

~~7. The owner or operator shall determine whether there is a statistically significant increase over background values for any parameter or constituent specified in the permit pursuant to subsection 1 each time the owner or operator determines ground water quality at the compliance point under subsection 4.~~

~~a. In determining whether a statistically significant increase has occurred, the owner or operator shall compare the ground water quality at each monitoring well at the compliance point for each parameter or constituent to the background value for that parameter or constituent, according to the statistical procedure specified in the permit under subsection 8 of section 33-24-05-54.~~

b. The owner or operator shall determine whether there has been a statistically significant increase at each monitoring well at the compliance point within a reasonable time period after completion of sampling. The department will specify that time period in the facility permit, after considering the complexity of the statistical test and availability of laboratory facilities to perform the analysis of ground water samples.

8. If the owner or operator determines, pursuant to subsection 7, that there is a statistically significant increase for parameters or constituents specified pursuant to subsection 1 at any monitoring well at the compliance point, the owner or operator shall:

a. Notify the department of this finding in writing within seven days. The notification must indicate what parameters or constituents have shown statistically significant increases.

b. Immediately sample the ground water in all monitoring wells and determine whether constituents identified in the list in appendix IX of chapter 33-24-05 are present and, if so, at what concentration.

c. Establish a background value for each constituent that has been found at the compliance point under subdivision b of subsection 8, as follows:

(1) The owner or operator shall comply with subsection 7 of section 33-24-05-54 in developing the data base used to determine background values.

(2) The owner or operator must express background values in a form necessary for the determination of statistically significant increases under subsection 8 of section 33-24-05-54.

(3) In taking samples used in the determination of background values, the owner or operator must use a ground water monitoring system that complies with subdivision a of subsection 1, and subsections 2 and 3, of section 33-24-05-54.

d. Within ninety days submit to the department an application for a permit modification to establish a compliance monitoring program meeting the requirements of section 33-24-05-56. The application must include the following information:

(1) An identification of the concentration of each constituent found in the ground water at each monitoring well at the compliance point;

~~(2) Any proposed changes to the ground water monitoring system at the facility necessary to meet the requirements of section 33-24-05-56;~~

~~(3) Any proposed changes to the monitoring frequency, sampling and analysis procedures or methods or statistical procedures used at the facility necessary to meet the requirements of section 33-24-05-56; and~~

~~(4) For each hazardous constituent found at the compliance point, a proposed concentration limit under subdivision a or b of subsection 1 of section 33-24-05-51, or a notice of intent to seek a variance under subsection 2 of section 33-24-05-51.~~

~~e. Within one hundred eighty days, submit to the department:~~

~~(1) All data necessary to justify any variance sought under subsection 2 of section 33-24-05-51; and~~

~~(2) An engineering feasibility plan for a corrective action program necessary to meet the requirements of section 33-24-05-57, unless:~~

~~(a) All hazardous constituents identified under subdivision b of subsection 8 are listed in table 1 of section 33-24-05-51 and their concentrations do not exceed the respective values given in that table; or~~

~~(b) The owner or operator has sought a variance under subsection 2 of section 33-24-05-51 for every hazardous constituent identified under subdivision b.~~

6. The owner or operator must determine whether there is statistically significant evidence of contamination for any chemical parameter of hazardous constituent specified in the permit pursuant to subsection 1 at a frequency specified under subsection 4.

   a. In determining whether statistically significant evidence of contamination exists, the owner or operator must use the methods specified in the permit under subsection 8 of section 33-24-05-54. These methods must compare data collected at the compliance points to the background ground water quality data.

   b. The owner or operator must determine whether there is statistically significant evidence of contamination at each monitoring well at the compliance point within a reasonable period of time at the completion of sampling. The department will specify in the facility permit what

period of time is reasonable, after considering the complexity of the statistical test and availability of laboratory facilities to perform the analysis of ground water samples.

7. If the owner or operator determines pursuant to subsection 6 that there is statistically significant evidence of contamination for chemical parameters or hazardous constituents specified pursuant to subsection 1 at any monitoring well at the compliance point, the owner or operator must:

   a. Notify the department of this finding in writing within seven days. The notification must indicate what chemical parameters or hazardous constituents have shown statistically significant evidence of contamination.

   b. Immediately sample the ground water in all monitoring wells and determine whether constituents in the list of appendix IX of chapter 33-24-05 are present, and if so, in what concentration.

   c. For any appendix IX compounds found in the analysis pursuant to subdivision b of subsection 7, the owner or operator may resample within one month and repeat the analysis for those compounds detected. If the results of the second analysis confirm the initial results, then these constituents will form the basis for compliance monitoring. If the owner or operator does not resample the compounds found pursuant to subdivision b of subsection 7, the hazardous constituents found during this initial appendix IX analysis will form the basis for compliance monitoring.

   d. Within ninety days, submit to the department an application for a permit modification to establish a compliance monitoring program meeting the requirements of section 33-24-05-56. The application must include the following information:

      (1) An identification of the concentration or any appendix IX constituent detected in the ground water at each monitoring well at the compliance point.

      (2) Any proposed changes to the ground water monitoring system at the facility necessary to meet the requirements of section 33-24-05-56.

      (3) Any proposed additions or changes to the monitoring frequency, sampling and analysis procedures or methods, or statistical methods used at the facility necessary to meet the requirements of section 33-24-05-56.

(4) For each hazardous constituent detected at the compliance point, a proposed concentration limit under subdivision a or b of subsection 1 of section 33-24-05-51, or a notice of intent to seek an alternate concentration limit under subsection 2 of section 33-24-05-51.

e. Within one hundred eighty days, submit to the department:

(1) All data necessary to justify an alternate concentration limit sought under subsection 2 of section 33-24-05-51; and

(2) An engineering feasibility plan for a corrective action program necessary to meet the requirements of section 33-24-05-57, unless:

(a) All hazardous constituents identified under subdivision b of subsection 7 are listed in table 1 of section 33-24-05-51 and their concentrations do not exceed the respective values given in that table; or

(b) The owner or operator has sought an alternate concentration limit under subsection 2 of section 33-24-05-51 for every hazardous constituent identified under subdivision b of subsection 7.

f. If the owner or operator determines, pursuant to subsection 6, that there is a statistically significant difference for chemical parameters or hazardous constituents specified pursuant to subsection 1 at any monitoring well at the compliance point, the owner or operator may demonstrate that a source other than a regulated unit caused the contamination or that the detection is an artifact caused by an error in sampling, analysis, or statistical evaluation or natural variation in the ground water. The owner or operator may make a demonstration under this section in addition to, or in lieu of, submitting a permit modification application under subdivision d of subsection 7; however, the owner or operator is not relieved of the requirement to submit a permit modification application within the time specified in subdivision d of subsection 7 unless the demonstration made under this subdivision successfully shows that a source other than a regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation. In making a demonstration under this subdivision, the owner or operator must:

(1) Notify the department in writing within seven days of determining statistically significant evidence of

contamination at the compliance point that the owner or operator intends to make a demonstration under this subdivision;

(2) Within ninety days, submit a report to the department which demonstrates that a source other than a regulated unit caused the contamination or that the contamination resulted from error in sampling, analysis, or evaluation;

(3) Within ninety days, submit to the department an application for a permit modification to make any appropriate changes to the detection monitoring program facility; and

(4) Continue to monitor in accordance with the detection monitoring program established under this section.

8. If the owner or operator determines that the detection monitoring program no longer satisfies the requirements of this section, the owner or operator must, within ninety days, submit an application for a permit modification to make any appropriate changes to the program.

~~9. If the owner or operator determines, pursuant to subsection 7, that there is a statistically significant increase of parameters or constituents specified pursuant to subsection 1 at any monitoring well at the compliance point, the owner or operator may demonstrate that a source other than a regulated unit caused the increase or that the increase resulted from error in sampling, analysis, or evaluation. While the owner or operator may make such a demonstration in addition to, or in lieu of, submitting a permit modification application under subdivision d of subsection 8, the owner or operator must still submit a permit modification application within the time specified in subdivision d of subsection 8 should the demonstration be unsuccessful. In making a demonstration under this subsection, the owner or operator shall:~~

~~a. Notify the department in writing within seven days of determining a statistically significant increase at the compliance point that the owner or operator intends to make a demonstration under this subsection.~~

~~b. Within ninety days submit a report to the department which demonstrates that a source other than a regulated unit caused the increase, or that the increase resulted from error in sampling, analysis, or evaluation.~~

~~c. Within ninety days, submit to the department an application for a permit modification to make any appropriate changes to the detection monitoring program at the facility.~~

~~d. Continue to monitor in accordance with the detection monitoring program established under this section.~~

~~10. If the owner or operator determines that the detection monitoring program no longer satisfies the requirements of this section, the owner or operator shall, within ninety days, submit an application for a permit modification to make any appropriate changes to the program.~~

~~11. The owner or operator must assure that monitoring and corrective action measures necessary to achieve compliance with the ground water protection standard under section 33-24-05-49 are taken during the term of the permit.~~

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-56. Compliance monitoring program. An owner or operator who is required to establish a compliance monitoring program under this chapter shall, at a minimum, discharge the following responsibilities:

1. The owner or operator shall monitor the ground water to determine whether regulated units are in compliance with the ground water protection standard under section 33-24-05-49. The department will specify the ground water protection standard in the facility permit, including:

   a. A list of the hazardous constituents identified under section 33-24-05-50.

   b. Concentration limits under section 33-24-05-51 for each of those hazardous constituents.

   c. The compliance point under section 33-24-05-52.

   d. The compliance period under section 33-24-05-53.

2. The owner or operator shall install a ground water monitoring system at the compliance point as specified under section 33-24-05-52. The ground water monitoring system must comply with subdivision b of subsection 1, and subsections 2 and 3, of section 33-24-05-54.

~~3. Where a concentration limit established under subdivision b of subsection 1 is based on background ground water quality, the department will specify the concentration limit in the permit as follows:~~

~~a. If there is a high temporal correlation between upgradient and compliance point concentrations of the hazardous~~

~~constituents, the owner or operator may establish the concentration limit through sampling at upgradient wells each time ground water is sampled at the compliance point. The department will specify the procedures used for determining the concentration limit in this manner in the permit. In all other cases, the concentration limit will be the mean of the pooled data on the concentration of the hazardous constituent.~~

~~b. If a hazardous constituent is identified on table 1 under section 33-24-05-51 and the difference between the respective concentration limit in table 1 and the background value of that constituent under subsection 7 of section 33-24-05-54 is not statistically significant, the owner or operator shall use the background value of the constituent as the concentration limit. In determining whether this difference is statistically significant, the owner or operator shall use a statistical procedure providing reasonable confidence that a real difference will be indicated. The statistical procedure must:~~

~~(1) Be appropriate for the distribution of the data used to establish background values; and~~

~~(2) Provide a reasonable balance between the probability of falsely identifying a significant difference and the probability of failing to identify a significant difference.~~

~~c. The owner or operator shall:~~

~~(1) Comply with subsection 7 of section 33-24-05-54 in developing data base used to determine background values.~~

~~(2) Express background values in a form necessary for the determination of statistically significant increases under subsection 8 of section 33-24-05-54.~~

~~(3) Use a ground water monitoring system that complies with subdivision a of subsection 1, and subsections 2 and 3, of section 33-24-05-54.~~

3. The department will specify the sampling procedures and statistical methods appropriate for the constituents and the facility, consistent with subsections 7 and 8 of section 33-24-05-54.

   a. The owner or operator must conduct a sampling program for each chemical parameter or hazardous constituent in accordance with subsection 7 of section 33-24-05-54.

b. The owner or operator must record ground water analytical data as measured and in form necessary for the determination of statistical significance under subsection 8 of section 33-24-05-54 for the compliance period of the facility.

4. ~~The owner or operator shall determine the concentration of hazardous constituents in ground water at each monitoring well at the compliance point at least quarterly during the compliance period. The owner or operator shall express the concentration at each monitoring well in a form necessary for the determination of statistically significant increases under subsection 8 of section 33-24-05-54~~ The owner or operator must determine whether there is statistically significant evidence of increased contamination for any chemical parameter or hazardous constituent specified in the permit, pursuant to subsection 1, at a frequency specified under subsection 6.

a. In determining whether statistically significant evidence of increased contamination exists, the owner or operator must use the methods specified in the permit under subsection 8 of section 33-24-05-54. The methods must compare data collected at the compliance points to a concentration limit developed in accordance with section 33-24-05-51.

b. The owner or operator must determine whether there is statistically significant evidence of increased contamination at each monitoring well at the compliance point within a reasonable time period after completion of sampling. The department will specify that time period and the facility permit, after considering the complexity of the statistical test and the availability of laboratory facilities to perform the analysis of ground water samples.

5. The owner or operator shall determine the ground water flow rate and direction in the uppermost aquifer at least annually.

6. ~~The owner or operator shall analyze samples from all monitoring wells at the compliance point to determine whether constituents identified in the list in appendix IX are present and, if so, at what concentration. The analysis must be conducted at least annually to determine whether additional appendix IX constituents are present in the uppermost aquifer. If the owner or operator finds constituents from appendix IX in the ground water that are not already identified in the permit as monitoring constituents, the owner or operator shall report the concentration of these additional constituents to the department within seven days after completion of the analyses~~ The department will specify the frequencies for collecting samples and conducting statistical tests to determine statistically significant evidence of increased

contamination in accordance with subsection 7 of section 33-24-05-54. A sequence of at least four samples from each well, background and compliance wells, must be collected at least semiannually during the compliance period of the facility.

7. ~~The owner or operator shall use procedures and methods of sampling and analysis that meet the requirements of subsections 4 and 5 of section 33-24-05-54~~ The owner or operator must analyze samples from all monitoring wells at the compliance point for all constituents contained in appendix IX at least annually to determine whether additional hazardous constituents are present in the uppermost aquifer and, if so, at what concentration, pursuant to the procedures in subsection 6 of section 33-24-05-55. If the owner or operator finds appendix IX constituents in the ground water that are not already identified in the permit as monitoring constituents, the owner or operator may resample within one month and repeat the appendix IX analysis. If the second analysis confirms the presence of new constituents, the owner or operator must report the concentration of these additional constituents to the department within seven days after the completion of the second analysis and add them to the monitoring list. If the owner or operator chooses not to resample, then the owner or operator must report the concentrations of these additional constituents to the department within seven days after completion of the initial analysis and add them to the monitoring list.

~~8. The owner or operator shall determine whether there is a statistically significant increase over the concentration limits for any hazardous constituents specified in the permit pursuant to subsection 1 each time the owner or operator determines the concentration of hazardous constituents in ground water at the compliance point.~~

~~a. In determining whether a statistically significant increase has occurred, the owner or operator shall compare the ground water quality at each monitoring well at the compliance point for each hazardous constituent to the concentration limit for that constituent according to the statistical procedures specified in the permit under subsection 8 of section 33-24-05-54.~~

~~b. The owner or operator shall determine whether there has been a statistically significant increase at each monitoring well at the compliance point, within a reasonable time period after completion of sampling. The department will specify that time period in the facility permit, after considering the complexity of the statistical test and availability of laboratory facilities to perform the analysis of ground water samples.~~

~~9. If the owner or operator determines, pursuant to subsection 8, that the ground water protection standard is being exceeded at any monitoring well at the point of compliance, the owner or operator shall:~~

8. If the owner or operator determines pursuant to subsection 4 that any concentration limits under section 33-24-05-51 are being exceeded at any monitoring well at the point of compliance, the owner or operator must:

   a. Notify the department of this finding in writing within seven days. The notification must indicate what concentration limits have been exceeded.

   b. Submit to the department an application for a permit modification to establish a corrective action program meeting the requirements of section 33-24-05-57 within one hundred eighty days, or within ninety days if an engineering feasibility study has been previously submitted to the department under subdivision e of subsection 8 of section 33-24-05-55. The application must, at a minimum, include the following information:

      (1) A detailed description of corrective actions that will achieve compliance within the ground water protection standard specified in the permit under subsection 1.

      (2) A plan for a ground water monitoring program that will demonstrate the effectiveness of the corrective action. Such a ground water monitoring program may be based on a compliance monitoring program developed to meet the requirements of this section.

~~10. If the owner or operator determines, pursuant to subsection 8 that the ground water protection standard is being exceeded at any monitoring well at the point of compliance, the owner or operator may demonstrate that a source other than a regulated unit caused the increase or that the increase resulted from an error in sampling, analysis, or evaluation. While the owner or operator may make such a demonstration in addition to, or in lieu of, submitting a permit modification application under subdivision b of subsection 9, the owner or operator shall still submit a permit modification application within the time specified in subdivision b of subsection 9 should the demonstration be unsuccessful. In making a demonstration under this subsection, the owner or operator shall:~~

9. If the owner or operator determines, pursuant to subsection 4, that the ground water concentration limits under this section are being exceeded at any monitoring well at the point of compliance, the owner or operator may demonstrate that a source other than a regulated unit caused the contamination or

that the detection is an artifact caused by an error in sampling, analysis, or statistical evaluation or natural variation in the ground water. In making a demonstration under this section, the owner or operator must:

a. Notify the department in writing within seven days that the owner or operator intends to make a demonstration under this subsection.

b. Within ninety days, submit a report to the department which demonstrates that a source other than a regulated unit caused the standard to be exceeded or that the apparent noncompliance with the standards resulted from error in sampling, analysis, or evaluation.

c. Within ninety days, submit to the department an application for a permit modification to make any appropriate changes to the compliance monitoring program at the facility.

d. Continue to monitor in accordance with the compliance monitoring program established under this section.

~~11.~~ 10. If the owner or operator determines that the compliance monitoring program no longer satisfies the requirements of this section, the owner or operator shall, within ninety days, submit an application for a permit modification to make any appropriate changes to the program.

~~12.~~ 11. The owner or operator shall assure that monitoring and corrective action measures necessary to achieve compliance with the ground water protection standard under section 33-24-05-49 are taken during the term of this permit.

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-60. Closure performance standard. The owner or operator shall close the owner's or operator's facility in a manner that:

1. Minimizes the need for further maintenance;

2. Controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, postclosure escape of hazardous waste, hazardous constituents, leachate, contaminated runoff, or hazardous waste decomposition products to the ground or surface waters or to the atmosphere; and

3. Complies with the closure requirements of sections 33-24-05-59 through 33-24-05-69 including, but not limited to, the

requirements of sections 33-24-05-97, 33-24-05-107, 33-24-05-119, 33-24-05-135, 33-24-05-151, 33-24-05-167, ~~and~~ 33-24-05-180, and 33-24-05-301 through 33-24-05-303.

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-61. Closure plan - Amendment of plan.

1. Written plan.

   a. The owner or operator of a hazardous waste management facility shall have a written closure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous waste at partial or final closure are required by paragraph 1 of subdivision a of subsection 3 of section 33-24-05-119 and paragraph 1 of subdivision a of subsection 3 of section 33-24-05-135 to have contingent closure plans. The plan must be submitted with the permit application, in accordance with subdivision m of subsection 2 of section 33-24-06-17, and approved by the department as part of the permit issuance procedure under chapter 33-24-07. In accordance with section 33-24-06-05, the approved closure plan will become a condition of any hazardous waste permit.

   b. The department's approval of the plan must ensure that the approved closure plan is consistent with sections 33-24-05-60 through 33-24-05-64 and the applicable requirements of sections 33-24-05-47 et seq., 33-24-05-97, 33-24-05-107, 33-24-05-119, 33-24-05-135, 33-24-05-151, 33-24-05-167, ~~and~~ 33-24-05-180, and 33-24-05-301. Until final closure is completed and certified in accordance with section 33-24-05-64, a copy of the approved plan and all approved revisions must be furnished to the department upon request, including request by mail.

2. Content of plan. The plan must identify steps necessary to perform partial or final, or both, closure of the facility at any point during its active life. The closure plan must include, at least:

   a. A description of how each hazardous waste management unit at the facility will be closed in accordance with section 33-24-05-60;

   b. A description of how final closure of the facility will be conducted in accordance with section 33-24-05-60. The description must identify the maximum extent of the

operations which will be unclosed during the active life of the facility;

c. An estimate of the maximum inventory of hazardous wastes ever onsite over the active life of the facility and a detailed description of the methods to be used during partial closures and final closure, including, but not limited to, methods for removing, transporting, treating, storing, or disposing of all hazardous wastes, and identification of the types of the offsite hazardous waste management units to be used, if applicable;

d. A detailed description of the steps needed to remove or decontaminate all hazardous waste residues and contaminated containment system components, equipment, structures, and soils during partial and final closure, including, but not limited to, procedures for cleaning equipment and removing contaminated soils, methods for sampling and testing surrounding soils, and criteria for determining the extent of decontamination required to satisfy the closure performance standards;

e. A detailed description of other activities necessary during the closure period to ensure that all partial closures and final closures satisfy the closure performance standards, including, but not limited to, ground water monitoring, leachate collection, and run-on and runoff control;

f. A schedule for closure of each hazardous waste management unit and for final closure of the facility. The schedule must include, at a minimum, the total time required to close each hazardous waste management unit and the time required for intervening closure activities which will allow tracking of the progress of partial and final closure. (For example, in the case of a landfill unit, estimates of the time required to treat or dispose of all hazardous waste inventory and of the time required to place a final cover must be included.);

g. For facilities that use trust funds or establish financial assurance under section 33-24-05-77 and that are expected to close prior to the expiration of the permit, an estimate of the expected year of final closure; and

h. A closure cost estimate.

3. Amendment of plan. ~~The owner or operator shall submit a written request for a permit modification to authorize a change in operating plans, facility design, or the approved closure plan in accordance with the procedures in chapter 33-24-06. The written request must include a copy of the amended closure plan for approval by the department~~ The owner

or operator must submit a written notification of, or request for, a permit modification to authorize a change in operating plans, facility design, or the approved closure plan in accordance with the applicable procedures in chapters 33-24-06 and 33-24-07. The written notification or request must include a copy of the amended closure plan for review or approval by the department.

a. ~~The owner or operator may submit a written request to the department for a permit modification to amend the closure plan at any time prior to the notification of partial or final closure of the facility~~ The owner or operator may submit a written notification or request to the department for a permit modification to amend the closure plan at any time prior to the notification of partial or final closure of the facility.

b. ~~The owner or operator shall submit a written request for a permit modification to authorize a change in the approved closure plan whenever~~ The owner or operator must submit a written notification of, or request for, a permit modification to authorize a change in the approved closure plan whenever:

(1) Changes in operating plans or facility design affect the closure plan;

(2) There is a change in the expected year of closure, if applicable; or

(3) In conducting partial or final closure activities, unexpected events require a modification of the approved closure plan.

c. The owner or operator shall submit a written request for a permit modification including a copy of the amended closure plan for approval at least sixty days prior to the proposed change in facility design or operation, or no later than sixty days after an unexpected event has occurred which has affected the closure plan. If an unexpected event occurs during the partial or final closure period, the owner or operator shall request a permit modification no later than thirty days after the unexpected event. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to prepare a contingent closure plan under paragraph 1 of subdivision a of subsection 3 of section 33-24-05-119 or paragraph 1 of subdivision a of subsection 3 of section 33-24-05-135 shall submit an amended closure plan to the department no later than sixty days from the date that the owner or operator or department determines that the hazardous waste management unit must be closed as a

landfill, subject to the requirements of section 33-24-05-180, or no later than thirty days from that date if the determination is made during partial or final closure. The department will approve, disapprove, or modify this amended plan in accordance with the procedures in chapters 33-24-06 and 33-24-07. In accordance with section 33-24-06-05, the approved closure plan will become a condition of the hazardous waste permit issued.

d. The department may request modifications to the plan under the conditions described in subdivision b of subsection 3. The owner or operator shall submit the modified plan within sixty days of the department's request, or within thirty days if the change in facility conditions occurs during partial or final closure. Any modifications requested by the department will be approved in accordance with procedures in chapters 33-24-06 and 33-24-07.

4. Notification of partial closure and final closure.

a. The owner or operator shall notify the department in writing at least sixty days prior to the date on which the owner or operator expects to begin closure of a surface impoundment, waste pile, land treatment or landfill unit, or final closure of a facility with such a unit. The owner or operator shall notify the department in writing at least forty-five days prior to the date on which the owner or operator expects to begin final closure of a facility with only treatment or storage tanks, container storage, or incinerator units to be closed.

b. The date when the owner or operator "expects to begin closure" must be either no later than thirty days after the date on which any hazardous waste management unit receives the known final volume of hazardous wastes or, if there is a reasonable possibility that the hazardous waste management unit will receive additional hazardous waste, no later than one year after the date on which the unit received the most recent volume of hazardous waste. If the owner or operator of a hazardous waste management unit can demonstrate to the department that the hazardous waste management unit or facility has the capacity to receive additional hazardous wastes and the owner or operator has taken and will continue to take, all steps to prevent threats to human health and the environment, including compliance with all applicable permit requirements, the department may approve an extension to this one-year limit.

c. If the facility's permit is terminated, or if the facility is otherwise ordered, by judicial decree or final order under North Dakota Century Code section 23-20.3-08, to cease receiving hazardous waste or to close, then the

requirements of this section do not apply. However, the owner or operator shall close the facility in accordance with the deadlines established in section 33-24-05-62.

5. **Removal of wastes and decontamination or dismantling of equipment.** Nothing in this section precludes the owner or operator from removing hazardous wastes and decontaminating or dismantling equipment in accordance with the approved partial or final closure plan at any time before or after notification of partial or final closure.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-63. Disposal or decontamination of equipment, structures, and soils. During the partial and final closure periods, all contaminated equipment, structures, and soils must be properly disposed of or decontaminated unless otherwise specified in ~~section~~ sections 33-24-05-110, 33-24-05-119, 33-24-05-135, 33-24-05-167, or 33-24-05-180, or under the authority of sections 33-24-05-301 and 33-24-05-303. By removing any hazardous wastes or hazardous constituents during partial and final closure, the owner or operator may become a generator of hazardous waste and shall handle that waste in accordance with all applicable requirements of chapter 33-24-03.

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-64. Certification of closure. Within sixty days of completion of closure of each hazardous waste surface impoundment, waste pile, land treatment, and landfill unit, and within sixty days of the completion of final closure, the owner or operator shall submit to the department, by registered mail, a certification that the hazardous waste management unit or facility, as applicable, has been closed in accordance with the specifications in the approved closure plan. The certification must be signed by the owner or operator and by an independent registered professional engineer. Documentation supporting the independent registered professional engineer's certification must be furnished to the department upon request until the department releases the owner or operator from the financial assurance requirements for closure under subsection 9 of section 33-24-05-77.

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-66. Postclosure care and use of property.

1. Postclosure care requirements.

   a. Postclosure care for each hazardous waste management unit subject to the requirements of sections 33-24-05-66 through 33-24-05-69 must begin after completion of closure of the unit and continue for thirty years after that date and must consist of at least the following:

      (1) Monitoring and reporting in accordance with the requirements of sections 33-24-05-47 through 33-24-05-58 ~~and~~, sections 33-24-05-115 through 33-24-05-186, and sections 33-24-05-300 through 33-24-05-303; and

      (2) Maintenance and monitoring of waste containment systems in accordance with the requirements of sections 33-24-05-47 through 33-24-05-58 ~~and~~, sections 33-24-05-115 through 33-24-05-186, and sections 33-24-05-300 through 33-24-05-303.

   b. Anytime preceding partial closure of a hazardous waste management unit subject to postclosure care requirements or final closure, or anytime during the postclosure period for a particular unit, the department may, in accordance with the permit modification procedures in chapters 33-24-06 and 33-24-07:

      (1) Shorten the postclosure care period applicable to the hazardous waste management unit, or facility, if all disposal units have been closed, if the owner or operator finds that the reduced period is sufficient to protect human health and the environment (e.g., leachate or ground water monitoring results, characteristics of the hazardous waste, application of advanced technology or alternative disposal, treatment, or reuse techniques indicate that the hazardous waste management unit or facility is secure); or

      (2) Extend the postclosure care period applicable to the hazardous waste management unit or facility if the owner or operator finds that the extended period is necessary to protect human health or the environment (e.g., leachate or ground water monitoring results indicate a potential for migration of hazardous waste at levels which may be harmful to human health or the environment).

2. The department may require, at partial and final closure, continuation of any of the security requirements of section 33-24-05-05 during part or all of the postclosure period when:

a. Hazardous wastes may remain exposed after completion of partial or final closure; or

b. Access by the public or domestic livestock may pose a hazard to human health.

3. Postclosure use of property on or in which hazardous wastes remain after partial or final closure must never be allowed to disturb the integrity of the final cover, liners, or any other components of the containment system, or the function of the facility's monitoring systems, unless the department finds that the disturbance:

a. Is necessary to the proposed use of the property, and will not increase the potential hazard to human health or the environment; or

b. Is necessary to reduce a threat to human health or the environment.

4. All postclosure care activities must be in accordance with the provisions of the approved postclosure plan as specified in section 33-24-05-67.

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-67. Postclosure plan - Amendment of plan.

1. Written plan. The owner or operator of a hazardous waste disposal unit shall have a written postclosure plan. In addition, certain surface impoundments and waste piles from which the owner or operator intends to remove or decontaminate the hazardous wastes at partial or final closure are required by paragraph 2 of subdivision a of subsection 3 of section 33-24-05-119 and paragraph 2 of subdivision a of subsection 3 of section 33-24-05-135 to have contingent postclosure plans. Owners or operators of surface impoundments and waste piles not otherwise required to prepare contingent postclosure plans under paragraph 2 of subdivision a of subsection 3 of section 33-24-05-119 and paragraph 2 of subdivision a of subsection 3 of section 33-24-05-135 shall submit a postclosure plan to the department within ninety days from the date that the owner or operator or department determines that the hazardous waste management unit must be closed as a landfill, subject to the requirements of sections 33-24-05-66 through 33-24-05-69. The plan must be submitted with the permit application in accordance with section 33-24-06-17, and approved by the department as part of the permit issuance procedure under chapter 33-24-07. In accordance with section 33-24-06-05, the

approved postclosure plan will become a condition of any hazardous waste permit issued.

2. For each hazardous waste management unit subject to the requirements of this section, the postclosure plan must identify the activities that will be carried on after closure of each disposal unit and the frequency of these activities, and include at least:

   a. A description of the planned monitoring activities and frequencies at which they will be performed to comply with sections 33-24-05-47 through 33-24-05-58 ~~and~~, sections 33-24-05-115 through 33-24-05-186, and sections 33-24-05-300 through 33-24-05-303 during the postclosure care period; ~~and~~

   b. A description of the planned maintenance activities, and frequencies at which they will be performed to ensure:

      (1) The integrity of the cap and final cover or other containment systems in accordance with the requirements of sections 33-24-05-47 through 33-24-05-58 ~~and~~, sections 33-24-05-115 through 33-24-05-186, and sections 33-24-05-300 through 33-24-05-303;

      (2) The function of the monitoring equipment in accordance with the requirements of sections 33-24-05-47 through 33-24-05-58 ~~and~~, sections 33-24-05-115 through 33-24-05-186, and sections 33-24-05-300 through 33-24-05-303; and

   c. The name, address, and phone number of the persons or office to contact about the hazardous waste disposal unit or facility during the postclosure care period.

3. Until final closure of the facility, a copy of the approved postclosure plan must be furnished to the department upon request, including request by mail. After final closure has been certified, the person or office specified in subdivision c of subsection 2 of section 33-24-05-67 shall keep the approved postclosure plan during the remainder of the postclosure period.

4. ~~The owner or operator shall request a permit modification to authorize a change in the approved postclosure plan in accordance with the applicable requirements of chapters 33-24-06 and 33-24-07. The written request must include a copy of the amended postclosure plan for approval by the department~~ The owner or operator must submit a written notification of, or request for, a permit modification to authorize a change in the approved postclosure plan in accordance with the applicable requirements in chapters

33-24-06 and 33-24-07. The written notification or request must include a copy of the amended postclosure plan for review or approval by the department.

a. ~~The owner or operator may submit a written request to the department for a permit modification to amend the postclosure plan at any time during the active life of the facility or during the postclosure care period~~ The owner or operator may submit a written notification or request to the department for a permit modification to amend the postclosure plan at any time during the active life of the facility or during the postclosure care period.

b. ~~The owner or operator shall submit a written request for a permit modification to authorize a change in the approved postclosure plan whenever~~ The owner or operator must submit a written notification of, or request for, a permit modification to authorize a change in the approved postclosure plan whenever:

(1) Changes in operating plans or facility design affect the approved postclosure plan;

(2) There is a change in the expected year of final closure, if applicable; or

(3) Events which occur during the active life of the facility, including partial and final closures, affect the approved postclosure plan.

c. The owner or operator shall submit a written request for a permit modification at least sixty days prior to the proposed change in facility design or operation, or no later than sixty days after an unexpected event has occurred which has affected the postclosure plan. An owner or operator of a surface impoundment or waste pile that intends to remove all hazardous waste at closure and is not otherwise required to submit a contingent postclosure plan under paragraph 2 of subdivision a of subsection 3 of section 33-24-05-119 and paragraph 2 of subdivision a of subsection 3 of section 33-24-05-135 shall submit a postclosure plan to the department no later than ninety days after the date that the owner or operator or department determine that the hazardous waste management unit must be closed as a landfill, subject to the requirements of section 33-24-05-180. The department will approve, disapprove, or modify this plan in accordance with the procedures in chapters 33-24-06 and 33-24-07. In accordance with section 33-24-06-05, the approved postclosure plan will become a permit condition.

d. The department may request modifications to the plan under the conditions described in subdivision b of subsection 4

of section 33-24-05-67. The owner or operator shall submit the modified plan no later than sixty days after the department's request, or no later than ninety days if the unit is a surface impoundment or waste pile not previously required to prepare a contingent postclosure plan. Any modifications requested by the department will be approved, disapproved, or modified in accordance with the procedures in chapters 33-24-06 and 33-24-07.

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-68. Postclosure notices.

1. No later than sixty days after certification of closure of each hazardous waste disposal unit, the owner or operator shall submit to the local zoning authority, or the authority with jurisdiction over local land use, and to the department a record of the type, location, and quantity of hazardous wastes disposed of within each cell or other disposal unit of the facility. For hazardous waste disposed of before January 12, 1981, the owner or operator shall identify the type, location, and quantity of the hazardous wastes to the best of his knowledge and in accordance with any records the owner or operator has kept.

2. Within sixty days of certification of closure of the first hazardous waste disposal unit and within sixty days of certification of closure of the last hazardous waste disposal unit, the owner or operator shall:

   a. Record, in accordance with state law, a notation on the deed to the facility property - or on some other instrument which is normally examined during title search - that will in perpetuity notify any potential purchaser of the property that:

      (1) The land has been used to manage hazardous waste;

      (2) Use of the land is restricted under sections 33-24-05-59 through 33-24-05-73; and

      (3) The survey plat and record of the type, location, and quantity of hazardous wastes disposed of within each cell or other hazardous waste disposal unit of the facility required by section 33-24-05-65 and subsection + 2 of section 33-24-05-68 have been filed with the local zoning authority or the authority with jurisdiction over local land use and with the department; and

b. Submit a certification, signed by the owner or operator, that the owner or operator has recorded the notation specified in subdivision a of subsection 2, including a copy of the document in which the notation has been placed, to the department.

3. If the owner or operator or any subsequent owner or operator of the land upon which a hazardous waste disposal unit is located wishes to remove hazardous wastes and hazardous waste residues, the liner, if any, or contaminated soils, the owner or operator shall request a modification to the postclosure permit in accordance with the applicable requirements in chapters 33-24-06 and 33-24-07. The owner or operator shall demonstrate that the removal of the hazardous waste will satisfy the criteria of subsection 3 of section 33-24-05-66. By removing hazardous waste, the owner or operator may become a generator of hazardous waste and shall manage it in accordance with all applicable requirements of this article. If the owner or operator is granted a permit modification or otherwise granted approval to conduct such removal activities, the owner or operator may request that the department approve either:

   a. The removal of the notation on the deed to the facility property or other instrument normally examined during title search; or

   b. In addition of a notation to the deed or instrument indicating the removal of the hazardous waste.

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-75. Definitions of terms used in chapter.

1. "Closure plan" means the plan for closure prepared in accordance with the requirements of section 33-24-05-61.

2. "Current closure cost estimate" means the most recent of the closure cost estimates prepared in accordance with subsections 1, 2, and 3 of section 33-24-05-76.

3. "Current postclosure cost estimate" means the most recent of the postclosure cost estimates prepared in accordance with subsections 1, 2, and 3 of section 33-24-05-76.

4. "Parent corporation" means a corporation which directly owns at least fifty percent of the voting stock of the corporation which is the facility owner or operator; the latter

corporation is deemed a "subsidiary" of the parent corporation.

5. "Postclosure plan" means the plan for postclosure care prepared in accordance with the requirements of sections 33-24-05-65 through 33-24-05-68.

6. The following terms are used in the specifications for the financial tests for closure, postclosure care and liability coverage. The definitions are intended to assist in the understanding of this chapter and are not intended to limit the meanings of terms in a way that conflicts with generally accepted accounting practices.

   "Assets" means all existing and all probable future economic benefits obtained or controlled by a particular entity.

   "Current assets" means cash or other assets or resources commonly identified as those which are reasonably expected to be realized in cash or sold or consumed during the normal operating cycle of the business.

   "Current liability" means obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets or the creation of other current liabilities.

   "Current plugging and abandonment cost estimate" means the most recent of the estimates prepared in accordance with 40 CFR part 144.62(a), (b), and (c).

   "Independently audited" refers to an audit performed by an independent certified public accountant in accordance with generally accepted auditing standards.

   "Liabilities" means probable future sacrifices of economic benefits arising from present obligations to transfer assets or provide services to other entities in the future as a result of past transactions or events.

   "Net working capital" means current assets minus current liabilities.

   "Net worth" means total assets minus total liabilities and is equivalent to owners equity.

   "Tangible net worth" means the tangible assets that remain after deducting liabilities; such assets would not include intangibles such as goodwill and rights to patents or royalties.

7. In the liability insurance requirements, the terms "bodily injury" and "property damage" have the meanings given these

terms by applicable state law. However, these terms do not include those liabilities which, consistent with standard industry practices, are excluded from coverage and liability policies for bodily injury and property damage. The department intends the meanings of other terms used in the liability insurance requirements to be consistent with their common meanings within the insurance industry. The definitions given below of several of the terms are intended to assist in the understanding of these regulations and are not intended to limit their meanings in any way that conflicts with general insurance industry usage.

"Accidental occurrence" means an accident, including continuous or repeated exposure to conditions, which results in bodily injury or property damage, neither expected nor intended from the standpoint of the insured.

"Legal defense costs" means any expenses that an insurer incurs in defending against claims of third parties brought under the terms and conditions of an insurance policy.

"Nonsudden accidental occurrence" means an occurrence which takes place over time and involves continuous or repeated exposure.

"Sudden accidental occurrence" means an occurrence which is not continuous or repeated in nature.

8. "Substantial business relationship" means the extent of a business relationship necessary under applicable state law to make a guarantee contract issued incident to that relationship valid and enforceable. A "substantial business relationship" must arise from a pattern of recent or ongoing business transactions, in addition to the guarantee itself, such that a currently existing business relationship between the guarantor and the owner or operator is demonstrated to the satisfaction of the department.

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-76. Cost estimates for closure and postclosure care.

1. The cost estimates for closure.

   a. The owner or operator shall have a detailed written estimate, in current dollars, of the cost of closing the facility in accordance with the requirements in sections 33-24-05-60 through 33-24-05-64 and applicable closure requirements in sections 33-24-05-97, 33-24-05-107,

33-24-05-119, 33-24-05-135, 33-24-05-151, 33-24-05-167, ~~and~~ 33-24-05-180, and sections 33-24-05-301 through 33-24-05-303.

(1) The estimate must equal the cost of final closure at the point in the facility's active life when the extent and manner of its operation would make closure the most expensive, as indicated by its closure plan (see subsection 2 of section 33-24-05-61).

(2) The closure cost estimate must be based on the costs to the owner or operator of hiring a third party to close the facility. A third party is a party who is neither a parent nor a subsidiary of the owner or operator. (See definition of parent corporation in subsection 4 of section 33-24-05-75.) The owner or operator may use costs for onsite disposal if the owner or operator can demonstrate that onsite disposal capacity will exist at all times over the life of the facility.

(3) The closure cost estimate may not incorporate any salvage value that may be realized with the sale of hazardous wastes, facility structures or equipment, land, or other assets associated with the facility at the time of partial or final closure.

(4) The owner or operator may not incorporate a zero cost for hazardous wastes that might have economic value.

b. During the active life of the facility, the owner or operator shall adjust the closure cost estimate for inflation within sixty days prior to the anniversary date of the establishment of the financial instruments used to comply with section 33-24-05-77. For owners and operators using the financial test or corporate guarantee, the closure cost estimate must be updated for inflation within thirty days after the close of the firm's fiscal year and before submission of updated information to the department as specified in subdivision c of subsection 6 of section 33-24-05-77. The adjustment may be made by recalculating the maximum costs of closure in current dollars, or by using an inflation factor derived from the most recent implicit price deflator for gross national product published by the United States department of commerce in its survey of current business as specified in paragraphs 1 and 2. The inflation factor is the result of dividing the latest published annual deflator by the deflator for the previous year.

(1) The first adjustment is made by multiplying the closure cost estimates by the inflation factor. The result is the adjusted closure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted closure cost estimates by the latest inflation factor.

c. During the active life of the facility, the owner or operator shall revise the closure cost estimate no later than thirty days after the department has approved the request to modify the closure plan, if the change in the closure plan increases the cost of closure. The revised closure cost estimate must be adjusted for inflation as specified in subdivision b.

d. The owner or operator shall keep the following at the facility during the operating life of the facility: The latest closure cost estimate prepared in accordance with subdivisions a and c and, when this estimate has been adjusted in accordance with subdivision b, the latest adjusted closure cost estimate.

2. Cost estimate for postclosure care.

a. The owner or operator of a disposal surface impoundment, land treatment, or landfill unit, or a surface impoundment or waste pile required under sections 33-24-05-119 and section 33-24-05-135 to prepare a contingent closure and postclosure plan, shall have a detailed written estimate in current dollars, of the annual cost of postclosure monitoring and maintenance of the facility in accordance with the applicable postclosure rules in sections 33-24-05-65 through 33-24-05-69, 33-24-05-119, 33-24-05-135, 33-24-05-167, ~~and~~ 33-24-05-180, and 33-24-05-303.

(1) The postclosure cost estimate must be based on the cost to the owner or operator of hiring a third party to conduct postclosure care activities. A third party is a party who is neither a parent or subsidiary of the owner or operator. (See definition of parent corporation in subsection 4 of section 33-24-05-75.)

(2) The postclosure cost estimate is calculated by multiplying the annual postclosure cost estimate by the number of years of postclosure care required under section 33-24-05-66.

b. During the active life of the facility, the owner or operator shall address the postclosure cost estimate for inflation within sixty days prior to the anniversary date of the establishment of the financial instruments used to comply with section 33-24-05-77. For owners or operators using the financial test or corporate guarantee, the postclosure cost estimate must be updated for inflation

within thirty days after the close of the firm's fiscal year and before the submission of updated information to the department as specified in subdivision e of subsection 6 of section 33-24-05-77. The adjustment may be made by recalculating the postclosure cost estimate in current dollars or by using an inflation factor derived from the most recent implicit price deflator for gross national product published by the United States department of commerce in a survey of current business as specified in subdivisions a and b of subsection 2 of section 33-24-05-77. The inflation factor is the result of dividing the latest annual published deflator by the deflator for the previous year.

(1) The first adjustment is made by multiplying the postclosure cost estimate by the inflation factor. The result is the adjusted postclosure cost estimate.

(2) Subsequent adjustments are made by multiplying the latest adjusted postclosure cost estimate by the latest inflation factor.

c. During the active life of the facility, the owner or operator shall revise the postclosure cost estimate within thirty days after the department has approved a request to modify the postclosure plan, if the change in the postclosure plan increases the cost of postclosure care. The revised postclosure cost estimate must be adjusted for inflation as specified in subdivision b.

d. The owner or operator shall keep the following at the facility during the operating life of the facility: The latest postclosure cost estimate prepared in accordance with subdivisions a and c of subsection 2 and, when this estimate has been adjusted in accordance with subdivision d of subsection 2, the latest adjusted postclosure cost estimate.

History: Effective January 1, 1984; amended effective December 1, 1988, December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-77. Financial assurance for closure and postclosure care. In accordance with section 33-24-05-74, an owner or operator of each facility shall establish financial assurance for closure and postclosure of the facility. The owner or operator of a hazardous waste management unit subject to the postclosure requirements of section 33-24-05-76 shall establish financial assurance for postclosure care in accordance with the approved postclosure plan for the facility sixty days prior to the initial receipt of hazardous waste or the effective

date of the regulations, whichever is later. The owner or operator shall choose from the options as specified in subsections 1 through ~~5~~ 6.

1. Closure and postclosure trust fund.

   a. An owner or operator may satisfy the requirements of this section by establishing a closure and postclosure trust fund which conforms to the requirements of this subsection and submitting an originally signed duplicate of the trust agreement to the department. An owner or operator of the new facility shall submit the originally signed duplicate of the trust agreement to the department at least sixty days before the day on which hazardous waste is first received for treatment, storage, or disposal. The trustee must be an entity which has the authority to act as a trustee in this state and whose trust operations are regulated and examined by a federal agency or by the state department of banking and financial institutions.

   b. The wording of the trust agreement must be identical to the wording specified in subdivision a of subsection 1 of section 33-24-05-81 and the trust agreement must be accompanied by a formal certification of acknowledgement (for example see subdivision b of subsection 1 of section 33-24-05-81). Schedule A of the trust agreement must be updated within sixty days after a change in the amount of the current closure and postclosure cost estimate covered by the agreement.

   c. Payments into the trust fund must be made annually by the owner or operator over the term of the initial hazardous waste permit or over the remaining operating life of the facility as estimated in the closure plan, whichever period is shorter; this period is hereinafter referred to as the "pay-in period". The payments into the trust fund must be made as follows:

      (1) For a new facility the first payment must be made before the initial receipt of hazardous waste for treatment, storage, or disposal. A receipt from the trustee for this payment must be submitted by the owner or operator to the department before the initial receipt of hazardous waste. The first payment must be at least equal to the current closure and postclosure cost estimate, except as provided in subsection 7, divided by the number of years in the pay-in period. Subsequent payments must be made no later than thirty days after each anniversary date of the first payment. The amount of each subsequent payment must be determined by this formula:

$$\text{Next Payment} = \frac{CE-CV}{Y}$$

Where CE is the current closure and postclosure cost estimate, CV is the current value of the trust fund and Y is the number of years remaining in the pay-in period.

(2) If an owner or operator establishes a trust fund as specified in 40 CFR part 265.143(a) or 265.145(a) of the federal hazardous waste regulations and the value of that trust fund is less than the current closure and postclosure cost estimate when a permit is awarded to the facility, the amount of the current closure and postclosure cost estimate still to be paid into the trust fund must be paid in over the pay-in period as defined in subdivision c. Payments must continue to be made no later than thirty days after each anniversary date of the first payment made pursuant to 40 CFR part 265. The amount of each payment must be determined by this formula.

$$\text{Next Payment} = \frac{CE-CV}{Y}$$

Where CE is the current closure and postclosure cost estimate CV is the current value of the trust fund and Y is the number of years remaining in the pay-in period.

d. The owner or operator may accelerate payments into the trust fund or the owner or operator may deposit the full amount of the current closure and postclosure cost estimate at the time the fund is established. However, the owner or operator shall maintain the value of the fund at no less than the value that the fund would have if annual payments were made as specified in subdivision c.

e. If the owner or operator establishes a closure and postclosure trust fund after having used one or more alternate mechanisms specified in this section (or in 40 CFR part 265.143 or 265.145), the first payment must be in at least the amount that the fund would contain if the trust fund were established initially and annual payments were made according to the specifications of this subsection.

f. After the pay-in period is completed, whenever the current closure and postclosure cost estimate changes, the owner or operator shall compare the new estimate with the trustee's most recent annual valuation of the trust fund. If the value of the fund is less than the amount of the new estimate, the owner or operator within sixty days after the change in the cost estimate shall either deposit an amount into the fund so that its value after the

deposit at least equals the amount of the current closure and postclosure cost estimate or obtain other financial assurance as specified in this section to cover the difference.

g. If the value of the trust fund is greater than the total amount of the current closure and postclosure cost estimate, the owner or operator may submit a written request to the department for release of the amount in excess of the current closure and postclosure cost estimate.

h. If an owner or operator substitutes other financial assurance as specified in this section for all or part of the trust fund, the owner or operator may submit a written request to the department for release of the amount in excess of the current closure and postclosure cost estimate covered by the trust fund.

i. Within sixty days after receiving a request from the owner or operator for release of funds as specified in subdivision g or h, the department will instruct the trustee to release to the owner or operator such funds as the department specifies in writing.

j. During the period of postclosure care, the department may approve a release of funds if the owner or operator demonstrates to the department that the value of the trust fund exceeds the remaining cost of the postclosure care.

k. After beginning partial or final closure or during the postclosure care period, or both, an owner or operator or any other person authorized to perform partial or final closure or postclosure activities may request reimbursement for expenditures incurred during these activities by submitting itemized bills to the department. The owner or operator may request reimbursements for partial closure only if sufficient funds are remaining in the trust fund to cover the maximum cost of closing the facility over its remaining operating life. Within sixty days after receiving bills for partial or final closure or postclosure activities, the department will determine whether the expenditures are in accordance with the closure or postclosure plans or otherwise justified and if so, it will instruct the trustee to make reimbursement in such amounts as the department specifies in writing. If the department has reason to believe that the cost of closure will be significantly greater than the value of the trust fund, it may withhold reimbursement of such amounts as it deems prudent until it determines in accordance with subsection 9 that the owner or operator is no longer required to maintain financial assurance for final closure. If the department does not instruct the

trustee to make such reimbursements, it will provide the owner or operator with a detailed written statement of reasons.

1. The department will agree to termination of the trust when:

   (1) An owner or operator substitutes alternate financial assurance as specified in this section; or

   (2) The department releases the owner or operator from the requirements of this section in accordance with subsection 9.

2. Surety bond guaranteeing payment into a closure and postclosure trust fund.

   a. An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this subsection and submitting the bond to the department. An owner or operator of a new facility must submit the bond to the department at least sixty days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those listed as acceptable sureties on federal bonds in Circular 570 of the United States department of treasury and be authorized to do business within this state. If the surety is using reinsurance, a treasury reinsurance form must be submitted with the bond or within forty-five days thereafter. If cosureties are being used, the original bond must reflect that fact.

   b. The wording of the surety bond must be identical to the wording specified in subsection 2 of section 33-24-05-81.

   c. The owner or operator who uses a surety bond to satisfy the requirements of this section shall also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the department. This standby trust fund must meet the requirements specified in subsection 1 except that:

      (1) An originally signed duplicate of the trust agreement must be submitted to the department with the surety bond; and

      (2) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by this chapter:

(a) Payments into the trust fund as specified in subsection 1.

(b) Updating of Schedule A of the trust agreement to show current closure and postclosure cost estimates.

(c) Annual evaluations as required by the trust agreement.

(d) Notices of nonpayment as required by the trust agreement.

d. The bond must guarantee that the owner or operator will:

(1) Fund the standby trust fund in an amount equal to the penal sum of the bond before the beginning of final closure of the facility;

(2) Fund the standby trust fund in an amount equal to the penal sum within fifteen days after an order to begin final closure is issued by the department or a United States district court or other court of competent jurisdiction; or

(3) Provide alternate financial assurance as specified in this section and obtain the department's written approval of the assurance provided within ninety days after receipt by both the owner or operator of a notice of cancellation of the bond from the surety.

e. Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond.

f. The penal sum of the bond must be in an amount at least equal to the current closure and postclosure cost estimate, except as provided in subsection 7.

g. Whenever the current closure and postclosure cost estimate increases to an amount greater than the penal sum, the owner or operator within sixty days after the increase must either cause the penal sum to be increased to an amount at least equal to the current closure and postclosure cost estimate and submit evidence of such increase to the department or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure and postclosure cost estimate decreases, the penal sum may be reduced to the amount of the current closure and postclosure cost estimate following written approval by the department.

h. Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the department. Cancellation may not occur, however, during the one hundred twenty days beginning on the date of receipt of cancellation by both the owner or operator and the department as evidenced by the return receipts.

i. The owner or operator may cancel the bond if the department has given prior written consent based on its receipt of evidence of alternate financial assurance as specified in this section.

3. Surety bond guaranteeing performance of closure and postclosure care.

a. An owner or operator may satisfy the requirements of this section by obtaining a surety bond which conforms to the requirements of this subsection and submitting the bond to the department. An owner or operator of a new facility shall submit the bond to the department at least sixty days before the date on which hazardous waste is first received for treatment, storage, or disposal. The bond must be effective before this initial receipt of hazardous waste. The surety company issuing the bond must, at a minimum, be among those acceptable sureties on federal bonds in Circular 570 of the United States department of treasury and be authorized to do business within the state of North Dakota. If the surety is using reinsurance a treasury reinsurance form must be submitted with the bond or within forty-five days thereafter. If cosureties are being used, the original bond must reflect that fact.

b. The wording of the surety bond must be identical to the wording specified in subsection 3 of section 33-24-05-81.

c. The owner or operator who uses a surety bond to satisfy the requirements of this section shall also establish a standby trust fund. Under the terms of the bond, all payments made thereunder will be deposited by the surety directly into the standby trust fund in accordance with instructions from the department. This standby trust fund must meet the requirements specified in subsection 1 except that:

(1) An originally signed duplicate of the trust agreement must be submitted to the department with the surety bond; and

(2) Until the standby trust fund is funded pursuant to the requirements of this section, the following are not required by this chapter:

(a) Payments into the trust fund as specified in subsection 1.

(b) Updating of Schedule A of the trust agreement to show current closure and postclosure cost estimates.

(c) Annual valuations as required by the trust agreement.

(d) Notices of nonpayment as required by the trust agreement.

d. The bond must guarantee that the owner or operator will:

(1) Perform postclosure care and final closure in accordance with the postclosure and closure plan and other requirements of the permit for the facility when required to do so; or

(2) Provide alternate financial assurance as specified in this section and obtain the department's written approval of the assurance provided within ninety days after receipt by both the owner or operator and the department of a notice of cancellation of the bond from the surety.

e. Under the terms of the bond, the surety will become liable on the bond obligation when the owner or operator fails to perform as guaranteed by the bond. Following a determination by the department that the owner or operator has failed to perform postclosure care or final closure in accordance with the closure or postclosure plan and other permit requirements when required to do so, under the terms of the bond the surety will perform the postclosure care or final closure as guaranteed by the bond or will deposit the amount of the penal sum into the standby trust fund.

f. The penal sum of the bond must be in an amount at least equal to the current closure or postclosure cost estimate, or both.

g. Whenever the current closure or postclosure cost estimate, or both, increases to an amount greater than the penal sum, the owner or operator within sixty days after the increase must either cause the penal sum to be increased to an amount at least equal to the current closure or postclosure cost estimate, or both, and submit evidence of such increase to the department or obtain other financial assurance as specified in this section. Whenever the current closure or postclosure cost estimate, or both, decreases the penal sum may be reduced to the amount of

the current closure or postclosure cost estimate, or both, following written approval by the department.

h. During the period of postclosure care, the department may approve a decrease in the penal sum if the owner or operator demonstrates to the department that the amount exceeds the remaining cost of postclosure care.

i. Under the terms of the bond, the surety may cancel the bond by sending notice of cancellation by certified mail to the owner or operator and to the department. Cancellation may not occur, however, during the one hundred twenty days beginning on the date of receipt of this notice of cancellation by both the owner or operator and the department as evidenced by the return receipts.

j. The owner or operator may cancel the bond if the department has given prior written consent. The department will provide such written consent when:

(1) An owner or operator substitutes alternate financial assurance as specified in this section; or

(2) The department releases the owner or operator from the requirements of this section in accordance with subsection 9.

k. The surety will not be liable for deficiencies in the performance of closure or postclosure care by the owner or operator after the department releases the owner or operator from the requirements of this section in accordance with subsection 9.

4. Closure and postclosure letter of credit.

a. An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit which conforms to the requirements of this subsection and submitting the letter to the department. An owner or operator of a new facility must submit the letter of credit to the department at least sixty days before the date on which hazardous waste is first received for disposal. The letter of credit must be effective before this initial receipt of hazardous waste. The issuing institution must be an entity which has the authority to issue letters of credit in this state and whose letters of credit operations are regulated and examined by a federal agency or by the state department of banking and financial institutions.

b. The wording of the letter of credit must be identical to the wording specified in subsection 4 of section 33-24-05-81.

c. An owner or operator who uses a letter of credit to satisfy the requirements of this section shall also establish a standby trust fund. Under the terms of the letter of credit, all amounts paid pursuant to a draft by the department will be deposited by the issuing institution directly into the standby trust fund in accordance with instructions from the department. This standby trust fund must meet the requirements of the trust fund specified in subsection 1 except that:

(1) An originally signed duplicate of the trust agreement must be submitted to the department with the letter of credit.

(2) Unless the standby trust fund is funded pursuant to the requirements of this section the following are not required by this chapter:

(a) Payments into the trust fund as specified in subsection 1.

(b) Updating of Schedule A of the trust agreement to show current or postclosure, or both, cost estimates.

(c) Annual valuations as required by the trust agreement; and

(d) Notices of nonpayment as required by the trust agreement.

d. The letter of credit must be accompanied by a letter from the owner or operator referring to the letter of credit by number, issuing institution and date and providing the following information: The identification number, name, and address of the facility and the amount of funds assured for closure and postclosure care of the facility by the letter of credit.

e. The letter of credit must be irrevocable and issued for a period of at least one year. The letter of credit must provide that the expiration date will be automatically extended for a period of at least one year unless at least one hundred twenty days before the current expiration date, the issuing institution notifies both the owner or operator and the department by certified mail of a decision not to extend the expiration date. Under the terms of the letter of credit, the one hundred twenty days will begin on the date when both the owner or operator and the department have received notice as evidenced by the return receipts.

f. The letter of credit must be issued in an amount at least equal to the current closure or postclosure, or both, cost estimate, except as provided in subsection 7.

g. Whenever the current closure or postclosure or both, cost estimate, increases to an amount greater than the amount of the letter of credit during the operating life of the facility, the owner or operator within sixty days after the increase shall either cause the amount of the letter of credit to be increased so that it at least equals the current closure or postclosure, or both, cost estimate, and submit evidence of such increase to the department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure or postclosure, or both, cost estimate decreases, the amount of the credit may be reduced to the amount of the current estimate following written approval by the department.

h. During the period of postclosure care, the department may approve a decrease in the amount of the letter of credit if the owner or operator demonstrates to the department that the amount exceeds the remaining cost of postclosure care.

i. Following a determination by the department that the owner or operator has failed to perform closure or postclosure care in accordance with the closure or postclosure plan or other permit requirements, the department may draw on the letter of credit.

j. If the owner or operator does not establish alternate financial assurance as specified in this section and obtain written approval of such alternate assurance from the department within ninety days after receipt by both the owner or operator and the department of a notice from the issuing institution that it has decided not to extend the letter of credit beyond the current expiration date, the department will draw on the letter of credit. The department may delay the drawing if the issuing institution grants an extension of the term of the credit. During the last thirty days of any such extension, the department will draw on the letter of credit if the owner or operator has failed to provide alternate financial assurance as specified in this section and obtain written approval of such assurance from the department.

k. The department will return the letter of credit to the issuing institution when:

   (1) An owner or operator substitutes alternate financial assurance as specified in this section; or

(2) The department releases the owner or operator from requirements of this section in accordance with subsection 9.

5. Closure and postclosure insurance.

a. An owner or operator may satisfy the requirements of this section by obtaining closure and postclosure insurance which conforms to the requirements of this subsection and submitting a certificate of such insurance to the department. An owner or operator of a new facility must submit the certificate of insurance to the department at least sixty days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste. At a minimum, the insurer must be licensed to transact the business of insurance in this state or eligible to provide insurance as an excess or surplus lines insurer in one or more states.

b. The wording of the certificate of insurance must be identical to the wording specified in subsection 5 of section 33-24-05-81.

c. The closure and postclosure insurance policy must be issued for a face amount of at least equal to the current closure or postclosure, or both, cost estimate, except as provided in subsection 7. The term "face amount" means the total amount the insurer is obligated to pay under the policy. Actual payments by the insurer will not change the face amount, although the insurer's future liability will be lowered by the amount of the payments.

d. The closure and postclosure insurance policy must guarantee that funds will be available to close the facility or perform postclosure final care, or both, whenever final closure or the postclosure period begins. The policy must also guarantee that once final closure or postclosure begins the insurer will be responsible for paying out funds up to an amount equal to the face amount of the policy upon the direction of the department to such party or parties as the department specifies.

e. After beginning partial or final closure or during the postclosure period, or both, an owner or operator or any other person authorized to perform closure or postclosure may request reimbursement for closure or postclosure expenditures by submitting itemized bills to the department. The owner or operator may request reimbursement for partial closure only if the remaining value of the policy is sufficient to cover the maximum cost of closing the facility over its remaining operating life. Within sixty days after receiving bills for closure

or postclosure activities, the department will determine whether the expenditures are in accordance with the partial or final closure or postclosure plan or otherwise justified and if so, the department will instruct the insurer to make reimbursement in such amounts as the department specifies in writing. If the department has reason to believe that the maximum cost of closure over the remaining life of the facility will be significantly greater than the face amount of the policy, the department may withhold reimbursement of such amounts as the department deems prudent until the department determines, in accordance with subsection 9, that the owner or operator is no longer required to maintain financial assurance for final closure of the facility. If the department does not instruct the insurer to make such reimbursement, the department will provide the owner or operator with a detailed written statement of reasons.

f. The owner or operator shall maintain the policy in full force and effect until the department consents to termination of the policy by the owner or operator as specified in subdivision k. Failure to pay the premium without substitution of alternate financial assurance, as specified in this section, will constitute a significant violation of this chapter warranting such remedy as the department deems necessary. Such violation will be deemed to begin upon receipt by the department of a notice of future cancellation, termination, or failure to renew due to nonpayment of the premium, rather than upon the date of expiration.

g. Each policy must contain a provision allowing assignment of the policy to a successor, owner, or operator. Such assignment may be conditional upon consent of the insurer, provided such consent is not unreasonably refused.

h. The policy must provide that the insurer may not cancel, terminate, or fail to renew the policy, except for failure to pay the premium. The automatic renewal of the policy must, at a minimum, provide the insured with the option of renewal at the face amount of the expiring policy. If there is a failure to pay the premium, the insurer may elect to cancel, terminate, or fail to renew the policy by sending notice by certified mail to the owner or operator and the department. Cancellation, termination, or failure to renew may not occur, however, during the one hundred twenty days beginning with the date of receipt of a notice by the department and the owner or operator as evidenced by the return receipts. Cancellation, termination, or failure to renew may not occur and the policy will remain in full force and effect in the event that on or before the date of expiration:

(1) The department deems the facility abandoned;

(2) The permit is terminated or revoked or a new permit is denied;

(3) Closure is ordered by the department or a state court or other court of competent jurisdiction;

(4) The owner or operator is named as debtor in a voluntary or involuntary proceeding under United States Code Title 11 (bankruptcy); or

(5) The premium due is paid.

i. Whenever the current closure or postclosure, or both, cost estimate increases to an amount greater than the face amount of the policy, the owner or operator within sixty days after the increase must either cause the face amount to be increased to an amount at least equal to the current closure or postclosure, or both, cost estimate and submit evidence of such increase to the department, or obtain other financial assurance as specified in this section to cover the increase. Whenever the current closure or postclosure, or both, cost estimate decreases, the face amount may be reduced to the amount of the current closure or postclosure, or both, cost estimate following a written approval by the department.

j. For postclosure insurance only, commencing on the date that liability to make payments pursuant to a postclosure policy accrues, the insurer will thereafter annually increase the face amount of the policy. Such increase must be equivalent to the face amount of the policy less any payments made, multiplied by an amount equivalent to eighty-five percent of the most recent investment rate or of the equivalent coupon-issue yield announced by the United States treasury for twenty-six-week treasury securities.

k. The department will give written consent to the owner or operator that it may terminate the insurance policy when:

(1) An owner or operator substitutes alternate financial assurance as specified in this section; or

(2) The department releases the owner or operator from the requirements of this section in accordance with subsection 9.

6. Financial test and corporate guarantee for closure and postclosure care.

a. An owner or operator may satisfy the requirements of this section by demonstrating that he passes a financial test as specified in this subsection. To pass this test, the owner or operator must meet the criteria of either paragraph 1 of subdivision a of subsection 6 or paragraph 2 of subdivision a of subsection 6.

(1) The owner or operator must have:

(a) Two of the following three ratios: A ratio of total liabilities to net worth less than two; a ratio of the sum of net income plus depreciation, depletion, and amortization to total liabilities greater than one-tenth; and a ratio of current assets to current liabilities greater than one and five-tenths;

(b) Net working capital and tangible net worth each at least six times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimate;

(c) Tangible net worth of at least ten million dollars; and

(d) Assets in the United States amounting to at least ninety percent of owner's or operator's total assets or at least six times the sum of the current closure and postclosure cost estimates, and the current plugging and abandonment cost estimates.

(2) The owner or operator must have:

(a) A current rating for the owner's or operator's most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's or Aaa, Aa, A, or Baa as issued by Moody's;

(b) Tangible net worth at least six times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates;

(c) Tangible net worth of at least ten million dollars; and

(d) Assets located in the United States amounting to at least ninety percent of the owner's or operator's total assets or at least six times the sum of the current closure and postclosure cost estimates and the current plugging and abandonment cost estimates.

b. The phrase "current closure and postclosure cost estimates" as used in subdivision a of subsection 6 refers to the cost estimates required to be shown in paragraphs 1 through 4 of the letter from the owner's or operator's chief financial officer (subsection 8 of section 33-24-05-81). The phrase "current plugging and abandonment cost estimates" as used in subdivision a of subsection 6 refers to the cost estimates required to be shown in paragraphs 1 through 3 of the letter from the owner's or operator's chief financial officer (40 CFR 144.70(f)).

c. To demonstrate that the owner or operator meets the financial test, the owner or operator must submit the following items to the department:

(1) A letter signed by the owner's or operator's chief financial officer and worded as specified in subsection 8 of section 33-24-05-81;

(2) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year; and

(3) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(a) The accountant has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, yearend financial statements for the latest fiscal year with the amounts in such financial statements; and

(b) In connection with that procedure, no matters came to the accountant's attention which caused the accountant to believe that the specified data should be adjusted.

d. An owner or operator of a new facility must submit the items specified in subdivision c of subsection 6 to the department at least sixty days before the date on which hazardous waste is first received for treatment, storage, or disposal.

e. After the initial submission of items specified in subdivision c of subsection 6, the owner or operator must send updated information to the department within ninety days after the close of each succeeding fiscal year. This information must consist of all three items specified in subdivision c of subsection 6.

f. If the owner or operator no longer meets the requirements of subdivision a of subsection 6, the owner or operator must send notice to the department of intent to establish alternate financial assurance as specified in this section. The notice must be sent by certified mail within ninety days after the end of the fiscal year for which the yearend financial data show that the owner or operator no longer meets the requirements. The owner or operator must provide the alternate financial assurance within one hundred twenty days after the end of each fiscal year.

g. The department may, based on a reasonable belief that the owner or operator may no longer meet the requirements of subdivision a of subsection 6, require reports of financial condition at any time from the owner or operator in addition to those specified in subdivision c of subsection 6. If the department finds, on the basis of such reports or other information, that the owner or operator no longer meets the requirements of subdivision a of subsection 6, the owner or operator must provide alternate financial assurance specified in this section within thirty days after notification of such a finding.

h. The department may disallow use of this test on the basis of qualification in the opinion expressed by the independent certified public accountant in the accountant's report on examination of the owner's or operator's statements (see paragraph 2 of subdivision c of subsection 6). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The department will evaluate other qualifications on an individual basis. The owner or operator must provide alternate financial assurance as specified in this section within thirty days after notification of the disallowance.

i. The owner or operator is no longer required to submit the items specified in subdivision c of subsection 6 when:

   (1) An owner or operator substitutes alternate financial assurance as specified in this section; or

   (2) The department releases the owner or operator from the requirements of this section in accordance with subsection 9.

j. An owner or operator may meet the requirements of this section by obtaining a written guarantee, hereafter referred to as "corporate guarantee". The guarantor must be the parent corporation of the owner or operator. The guarantor must meet the requirements for owners or operators in subdivisions a through h of subsection 6 and must comply with the terms of the corporate guarantee. The wording of the corporate guarantee must be identical

to the wording specified in subsection 10 of section 33-24-05-81. The corporate guarantee must accompany the items sent to the department as specified in subdivision c of subsection 6. The terms of the corporate guarantee must provide that:

(1) If the owner or operator fails to perform final closure or postclosure, or both, of a facility covered by the corporate guarantee in accordance with the closure or postclosure, or both, plan and other permit requirements whenever required to do so, the guarantor will do so or establish a trust fund as specified in subsection 1 in the name of the owner or operator.

(2) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the department. Cancellation may not occur, however, during the one hundred twenty days beginning on the date of receipt of the notice of cancellation by both the owner or operator and the department, as evidenced by the return receipts.

(3) If the owner or operator fails to provide alternate financial assurance as specified in this section and fails to obtain the written approval of such alternate assurance from the department within ninety days after receipt by both the owner or operator and the department of a notice of cancellation of the corporate guarantee from the guarantor, the guarantor will provide such alternate financial assurance in the name of the owner or operator.

k. Companies not required to submit an audited financial statement to the United States securities and exchange commission must have an auditor's opinion prepared by an auditor licensed in this state.

7. **The use of multiple financial mechanisms.** An owner or operator may satisfy the requirements of this section by establishing more than one financial mechanism per facility. These mechanisms are limited to trust funds, surety bonds guaranteeing payment into a trust fund, letters of credit, and insurance. The mechanisms must be as specified in this section, except that it is the combination of mechanisms, rather than the single mechanism which must provide financial assurance for an amount at least equal to the current closure or postclosure, or both, cost estimate. If an owner or operator uses a trust fund in combination with a surety bond or a letter of credit, the owner or operator may use the trust fund as the standby trust fund for the other mechanisms. A single standby trust fund may be established for two or more

mechanisms. The department may use any or all of the mechanisms to provide for closure or postclosure, or both, care of the facility.

8. Use of a financial mechanism for multiple facilities. An owner or operator may use a financial assurance mechanism specified in this section to meet the requirements of this section for more than one facility. Evidence of financial assurance submitted to the department must include a list showing for each facility the identification number, name, address, and the amount of funds for closure or postclosure, or both, care assured by the mechanism. The amount of funds available through the mechanism must be no less than the sum of funds that would be available if a separate mechanism had been established and maintained for each facility. In directing funds available through the mechanism for closure or postclosure care of any of the facilities covered by the mechanism, the department may direct only the amount of funds designated for that facility unless the owner or operator agrees to the use of additional funds available under the mechanism.

9. Release of the owner or operator from the requirements of this section. Within sixty days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure or postclosure care, or both, has been completed in accordance with an approved closure or postclosure care plan, the department will notify the owner or operator in writing that the owner or operator is no longer required by this section to maintain financial assurance for final closure or postclosure care, or both, of the facility, unless the department has reason to believe that final closure or postclosure care, or both, has not been in accordance with the approved closure or postclosure care plans. The department shall provide the owner or operator a detailed written statement of any such reason to believe that closure or postclosure, or both, has not been in accordance with the approved closure or postclosure plans.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-79. Liability requirements.

1. Coverage for sudden accidental occurrences. ~~An owner or operator of a hazardous waste treatment, storage, or disposal facility or a group of such facilities shall demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of~~

~~facilities. The owner or operator shall have and maintain liability coverage for sudden accidental occurrences in the amount of at least one million dollars per occurrence with an annual aggregate of at least two million dollars, exclusive of legal defense costs. This liability coverage may be demonstrated in one of three ways as specified in subdivisions a, b, and c as follows~~ An owner or operator of a hazardous waste treatment, storage, or disposal facility, or a group of facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for sudden accidental occurrences in the amount of at least one million dollars per occurrence with an annual aggregate of at least two million dollars, exclusive of legal defense costs. This liability coverage may be demonstrated as specified in subdivision a, b, c, d, e, or f:

a. An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this subdivision.

   (1) Each insurance policy must be amended by attachment of the hazardous waste facility liability endorsement or evidenced by a certificate of liability insurance. The wording of the endorsement must be identical to the wording specified in subsection 6 of section 33-24-05-81. The wording of the certificate of insurance must be identical to the wording specified in subsection 7 of section 33-24-05-81. The owner or operator shall submit a signed duplicate original of the endorsement or the certificate of insurance to the department. If requested by the department, the owner or operator shall provide a signed duplicate original of the insurance policy. An owner or operator of a new facility shall submit the signed duplicate original of the hazardous waste facility liability endorsement or the certificate of liability insurance to the department at least sixty days before the day on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste.

   (2) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance or eligible to provide insurance as an excess or surplus lines insurer in one or more states.

b. ~~An owner or operator may meet the requirements of this section by passing a financial test as specified in~~

~~subsection 6 or using the corporate guarantee for liability coverage as specified in subsection 7~~ An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in subsection 7.

c. ~~An owner or operator may demonstrate the required liability coverage through use of the financial test, insurance, corporate guarantee, a combination of the financial test and insurance, or a combination of the corporate guarantee and insurance. The amounts of coverage demonstrated must total at least the minimum amounts required by this section~~ An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in subsection 8.

d. An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in subsection 9.

e. An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in subsection 10.

f. An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amounts required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this subdivision, the owner or operator shall specify at least one such assurance as "primary" coverage and shall specify other assurances as "excess" coverage.

g. An owner or operator shall notify the department in writing within thirty days:

(1) Whenever a claim for bodily injury or property damages caused by the operation of a hazardous waste treatment, storage, or disposal facility is made against the owner or operator or an instrument providing financial assurance for liability coverage under this section; and

(2) Whenever the amount of financial assurance for liability coverage under this subdivision provided by a financial instrument authorized by subdivisions a through f of subsection 1 is reduced.

2. Coverage for nonsudden accidental occurrences. ~~An owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste, or a group of such facilities, shall demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator shall have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least three million dollars per occurrence with an annual aggregate of at least six million dollars, exclusive of legal defense costs. This liability coverage may be demonstrated one of three ways as specified in subdivisions a, b, and c as follows~~ An owner or operator of a surface impoundment, landfill, land treatment facility, or miscellaneous disposal unit which is used to manage hazardous waste, or a group of such facilities, must demonstrate financial responsibility for bodily injury and property damage to third parties caused by nonsudden accidental occurrences arising from operations of the facility or group of facilities. The owner or operator must have and maintain liability coverage for nonsudden accidental occurrences in the amount of at least three million dollars per occurrence with an annual aggregate of at least six million dollars, exclusive of legal defense costs. An owner or operator who must meet the requirements of this section may combine the required per-occurrence levels for sudden and nonsudden accidental occurrences into a single per-occurrence level, and combine the required annual aggregate coverage levels for sudden and nonsudden accidental occurrences into a single annual aggregate level. Owners or operators who combine coverage levels for sudden and nonsudden accidental occurrences must maintain liability coverage in the amount of at least four million dollars per occurrence and eight million dollars annual aggregate. This liability coverage may be demonstrated as specified in subdivision a, b, c, d, e, or f of subsection 2:

a. An owner or operator may demonstrate the required liability coverage by having liability insurance as specified in this subdivision.

(1) Each insurance policy must be amended by attachment of the hazardous waste facility liability endorsement or evidenced by certificate of liability insurance. The wording of the endorsement must be identical to the wording specified in subsection 6 of section 33-24-05-81. The wording of the certificate of insurance must be identical to the wording specified

in subsection 7 of section 33-24-05-81. The owner or operator shall submit a signed duplicate original of the endorsement or the certificate of insurance to the department. If requested by the department, the owner or operator shall provide a signed duplicate original of the insurance policy. An owner or operator of a new facility shall submit the signed duplicate original of the hazardous waste facility liability endorsement or the certificate of liability insurance to the department at least sixty days before the date on which hazardous waste is first received for treatment, storage, or disposal. The insurance must be effective before this initial receipt of hazardous waste.

(2) Each insurance policy must be issued by an insurer which, at a minimum, is licensed to transact the business of insurance or eligible to provide insurance as an excess or surplus lines insurer in one or more states.

b. ~~An owner or operator may meet the requirements of this section by passing a financial test or using the corporate guarantee for liability coverage as specified in subsections 6 and 7, respectively~~ An owner or operator may meet the requirements of this section by passing a financial test or using the guarantee for liability coverage as specified in subsections 6 and 7.

c. ~~An owner or operator may demonstrate the required liability coverage through use of the financial test, insurance, the corporate guarantee, a combination of the financial test and insurance, or a combination of the corporate guarantee and insurance. The amounts of coverage demonstrated must total at least the minimum amounts required by this section~~ An owner or operator may meet the requirements of this section by obtaining a letter of credit for liability coverage as specified in subsection 8.

d. An owner or operator may meet the requirements of this section by obtaining a surety bond for liability coverage as specified in subsection 9.

e. An owner or operator may meet the requirements of this section by obtaining a trust fund for liability coverage as specified in subsection 10.

f. An owner or operator may demonstrate the required liability coverage through the use of combinations of insurance, financial test, guarantee, letter of credit, surety bond, and trust fund, except that the owner or operator may not combine a financial test covering part of

the liability coverage requirement with a guarantee unless the financial statement of the owner or operator is not consolidated with the financial statement of the guarantor. The amounts of coverage demonstrated must total at least the minimum amount required by this section. If the owner or operator demonstrates the required coverage through the use of a combination of financial assurances under this subdivision, the owner or operator shall specify at least one such assurance as "primary" coverage and shall specify other assurance as "excess" coverage.

g. An owner or operator shall notify the department in writing within thirty days:

(1) Whenever a claim for bodily injury or property damages caused by the operation of a hazardous waste treatment, storage, or disposal facility is made against the owner or operator or an instrument providing financial assurance for liability coverage under this section; and

(2) Whenever the amount of financial assurance for liability coverage under this section provided by a financial instrument authorized by subdivisions a through f of subsection 1 is reduced.

3. **Request for variance.** If an owner or operator can demonstrate to the satisfaction of the department that the levels of responsibility required by subsection 1 or 2 are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the owner or operator may obtain a variance from the department. The request for a variance must be submitted to the department as part of the permit application under chapter 33-24-06 for a facility that does not have a permit or pursuant to the procedures for permit modification under chapter 33-24-07 for a facility that has a permit. If granted, the variance will take the form of an adjusted level of required liability coverage, such level to be based on the department's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. The department may require an owner or operator who requests a variance to provide such technical and engineering information as is deemed necessary by the department to determine a level of financial responsibility other than that required by subsection 1 or 2. Any request for a variance for a permitted facility will be treated as a request for permit modification under chapters 33-24-06 and 33-24-07.

4. **Adjustments by the department.** If the department determines that the levels of financial responsibility required by

subsection 1 or 2 are not consistent with the degree and duration of risk associated with treatment, storage, or disposal at the facility or group of facilities, the department may adjust the level of financial responsibility required under subsection 1 or 2 as may be necessary to protect human health and the environment. This adjusted level will be based on the department's assessment of the degree and duration of risk associated with the ownership or operation of the facility or group of facilities. In addition, if the department determines that there is a significant risk to human health and the environment from nonsudden accidental occurrences resulting from the operation of a facility that is not a surface impoundment, landfill, or land treatment facility, it may require that an owner or operator of the facility comply with subsection 2. An owner or operator shall furnish to the department within a reasonable time any information which the department requests to determine whether cause exists for such adjustments of level or type of coverage. Any adjustment of the level or type of coverage for a type of facility that has a permit will be treated as a permit modification under chapters 33-24-06 and 33-24-07.

5. Period of coverage. Within sixty days after receiving certifications from the owner or operator and an independent registered professional engineer that final closure has been completed in accordance with the approved closure plan, the department will notify the owner or operator in writing that he is no longer required by this section to maintain liability coverage for that facility, unless the department has reason to believe that closure has not been in accordance with the approved closure plan.

6. Financial tests for liability coverage.

   a. An owner or operator may satisfy the requirements of this section by demonstrating that the owner or operator passes a financial test as specified in this section. To pass this test the owner or operator must meet the criteria of paragraph 1 of subdivision a of subsection 6 or paragraph 2 of subdivision a of subsection 6:

      (1) The owner or operator must have:

         (a) Net working capital and tangible net worth each at least six times the amount of liability coverage to be demonstrated by this test;

         (b) Tangible net worth of at least ten million dollars; and

         (c) Assets in the United States amounting to either: (1) at least ninety percent of the owner's or operator's total assets; or (2) at least six

times the amount of liability coverage to be demonstrated by this test.

(2) The owner or operator must have:

(a) A current rating for the owner's or operator's most recent bond issuance of AAA, AA, A, or BBB as issued by Standard and Poor's, or Aaa, Aa, A, or Baa as issued by Moody's;

(b) Tangible net worth of at least ten million dollars;

(c) Tangible net worth at least six times the amount of liability coverage to be demonstrated by this test; and

(d) Assets in the United States amounting to either: (1) at least ninety percent of the owner's or operator's total assets; or (2) at least six times the amount of liability coverage to be demonstrated by this test.

b. The phrase "amount of liability coverage" as used in subdivision a of subsection 6 refers to the annual aggregate amounts for which coverage is required under subsections 1 and 2.

c. To demonstrate that the owner or operator meets this test, the owner or operator must submit the following three items to the department:

(1) A letter signed by the owner's or operator's chief financial officer and worded as specified in subsection 9 of section 33-24-05-81. If an owner or operator is using the financial test to demonstrate both assurance for closure or postclosure care, as specified by subsection 6 of section 33-24-05-77, and liability coverage, the owner or operator must submit the letter specified in subsection 9 of section 33-24-05-81 to cover both forms of financial responsibility; a separate letter as specified in subsection 8 of section 33-24-05-81 is not required.

(2) A copy of the independent certified public accountant's report on examination of the owner's or operator's financial statements for the latest completed fiscal year.

(3) A special report from the owner's or operator's independent certified public accountant to the owner or operator stating that:

(a) The accountant has compared the data which the letter from the chief financial officer specifies as having been derived from the independently audited, year end financial statements for the latest fiscal year with the amounts of such financial statements; and

(b) In connection with that procedure, no matters came to the accountant's attention which cause the accountant to believe that the specified data should be adjusted.

d. An owner or operator of a new facility must submit the items specified in subdivision c of subsection 6 to the department at least sixty days before the date on which hazardous waste is first received for treatment, storage, or disposal.

e. After the initial submission of items specified in subdivision c of subsection 6, the owner or operator must send updated information to the department within ninety days after the close of each succeeding fiscal year. This information must consist of all three items specified in subdivision c of subsection 6.

f. If the owner or operator no longer meets the requirements of subdivision a of subsection 6, the owner or operator must obtain insurance for the entire amount of required liability coverage as specified in this section. Evidence of insurance must be submitted to the department within ninety days after the end of the fiscal year for which the year end financial data shows that the owner or operator no longer meets the test requirements.

g. The department may disallow use of this test on the basis of qualifications and the opinion expressed by the independent certified public accountant in the accountant's report on examination of the owner's or operator's financial statement (see paragraph 2 of subdivision c of subsection 6). An adverse opinion or a disclaimer of opinion will be cause for disallowance. The department will evaluate other qualifications on an individual basis. The owner or operator must provide evidence of insurance for the entire amount of required liability coverage as specified in this section within thirty days after notification or disallowance.

~~h. Companies not required to submit an audited financial statement to the United States securities and exchange commission must have an auditor's opinion prepared by an auditor licensed in this state.~~

~~7. Corporate guarantee for liability coverage.~~

~~a. Subject to subdivision b, an owner or operator may meet the requirements of this section by obtaining a written guarantee, hereinafter referred to as "corporate guarantee". The guarantor must be the parent corporation of the owner or operator. The guarantee must meet the requirements for owners or operators in subdivisions a through g of subsection 6. The wording of the corporate guarantee must be identical to the wording specified in subdivision b of subsection 10 of section 33-24-05-81. A certified copy of the corporate guarantee must accompany the items sent to the department as specified in subdivision c of subsection 6. The terms of the corporate guarantee must provide that:~~

7. Guarantee for liability coverage.

a. Subject to subdivision b, an owner or operator may meet the requirements of this section by obtaining a written guarantee, hereinafter referred to as "guarantee". The guarantor must be the direct or higher tier parent corporation of the owner or operator, a firm whose parent corporation is also the parent corporation of the owner or operator, or a firm with a "substantial business relationship" with the owner or operator. The guarantor must meet the requirements for owners or operators in subdivisions a through f of subsection 6. The wording of the guarantee must be identical to the wording specified in subdivision b of subsection 8 of section 33-24-05-81. A certified copy of the guarantee must accompany the items sent to the department as specified in subdivision c of subsection 6. One of these items must be the letter from the guarantor's chief financial officer. If the guarantor's parent corporation is also the parent corporation of the owner or operator, the letter must describe the value received in consideration of the guarantee. If the guarantor is a firm with a "substantial business relationship" with the owner or operator, this letter must describe this "substantial business relationship" and the value received in consideration of the new guarantee.

(1) If the owner or operator fails to satisfy a judgment based on a determination of liability for bodily injury or property damage to third parties caused by sudden or nonsudden accidental occurrences (or both as the case may be), arising from the operation of facilities covered by this corporate guarantee, or fails to pay an amount agreed to in settlement of claims arising from or alleged to arise from such injury or damage, the guarantor will do so up to the limits of the coverage.

~~(2) The corporate guarantee will remain in force unless the guarantor sends notice of cancellation by certified mail to the owner or operator and to the department. This guarantee may not be terminated unless and until the department approves alternate liability coverage complying with this section.~~

b. The following applies:

(1) In the case of corporations incorporated in the United States, a corporate guarantee may be used to satisfy the requirements of this section only if the attorneys general or insurance commissioners of (a) the state in which the guarantor is incorporated, and (b) each state in which a facility covered by the guarantee is located have submitted a written statement to the department that a corporate guarantee executed as described in this section and subdivision b of subsection 10 of section 33-24-05-81 is a legally valid and enforceable obligation in that state.

(2) In the case of corporations incorporated outside the United States, a corporate guarantee may be used to satisfy the requirements of this section only if (a) the non-United States corporation has identified a registered agent for service of process in each state in which a facility covered by the guarantee is located and in the state in which it has its principal place of business, and (b) the attorney general or insurance commissioner of each state in which a facility covered by the guarantee is located and the state in which the guarantor corporation has its principal place of business, has submitted a written statement to the department that a corporate guarantee executed as described in this section and subdivision b of subsection 10 of section 33-24-05-81 is a legally valid and enforceable obligation in that state.

8. Letter of credit for liability coverage.

a. An owner or operator may satisfy the requirements of this section by obtaining an irrevocable standby letter of credit that conforms to the requirements of this subsection and submitting a copy of the letter of credit to the department.

b. The financial institution issuing the letter of credit must be an entity that has the authority to issue letters of credit and whose letter of credit operations are regulated and examined by a federal or state agency.

c. The wording of the letter of credit must be identical to the wording specified in subsection 11 of section 33-24-05-81.

9. Surety bond for liability coverage.

a. An owner or operator may satisfy the requirements of this section by obtaining a surety bond that conforms to the requirements of this subsection and submitting a copy of the bond to the department.

b. The surety company issuing the bond must be among those listed as acceptable sureties on federal bonds in the most recent circular 570 of the United States department of the treasury.

c. The wording of the surety bond must be identical to the wording specified in subsection 12 of section 33-24-05-81.

d. A surety bond may be used to satisfy the requirements of this section only if the attorneys general or insurance commissioners of (1) the state in which the surety is incorporated, and (2) each state in which a facility covered by the surety bond is located have submitted a written statement to the department that a surety bond executed as described in this section and in subsection 12 of section 33-24-05-81 is a legally valid and enforceable obligation in that state.

12. Trust fund for liability coverage.

a. An owner or operator may satisfy the requirements of this section by establishing a trust fund that conforms to the requirements of this subsection and submitting an originally signed duplicate of the trust agreement to the department.

b. The trustee must be an entity which has the authority to act as a trustee and whose trust operations are regulated and examined by a federal or state agency.

c. The trust fund for liability coverage must be funded for the full amount of the liability coverage to be provided by the trust fund before it may be relied upon to satisfy the requirements of this section. If at any time after the trust fund is created the amount of funds in the trust fund is reduced below the full amount of the liability coverage to be provided, the owner or operator, by the anniversary date of the establishment of the fund, must either add sufficient funds to the trust fund to cause its value to equal the full amount of liability coverage to be provided or obtain other financial assurance as specified in this section to cover the difference. For purposes of

this subdivision, "the full amount of the liability coverage to be provided" means the amount of coverage for sudden or nonsudden occurrences, or both, required to be provided by the owner or operator by this section, less the amounts of financial assurance for liability coverage that is being provided by other financial assurance mechanisms being used to demonstrate financial assurance by the owner or operator.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-04

33-24-05-81. Wording of the instruments.

1. Trust agreement and certification of acknowledgement.

   a. A trust agreement for a trust fund as specified in section 33-24-05-77 must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.

      TRUST AGREEMENT, the "AGREEMENT" entered into as of [date] by and between [name of the owner or operator] a [name of state] [insert "corporation", "partnership", "association", or "proprietorship"], the "GRANTOR", and [name of corporate trustee], [insert "incorporated in the state of _____" or "a national bank"], the "TRUSTEE".

      Whereas, the North Dakota State Department of Health and Consolidated Laboratories, "DEPARTMENT" a regulatory agency of the state of North Dakota, has established certain regulations applicable to the GRANTOR requiring that an owner or operator of a hazardous waste management facility shall provide assurance that funds will be available when needed for closure or postclosure, or both, care of the facility,

      Whereas, the GRANTOR has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein,

      Whereas, the GRANTOR acting through its duly authorized officers has selected the TRUSTEE to be the trustee under this agreement and the TRUSTEE is willing to act as trustee,

      Now, therefore, the GRANTOR and the TRUSTEE agree as follows:

Section 1. Definitions. As used in this AGREEMENT:

(a) The term GRANTOR means the owner or operator who enters into this AGREEMENT and any successors or assigns of the GRANTOR.

(b) The term TRUSTEE means the TRUSTEE who enters into this AGREEMENT and any successor TRUSTEE.

Section 2. Identification of Facilities and Cost Estimate. This AGREEMENT pertains to the facilities and cost estimates identified on attached Schedule A [on Schedule A for each facility list the identification number, name, and the current closure or postclosure, or both, cost estimates or portions thereof for which financial assurance is demonstrated by this AGREEMENT].

Section 3. Establishment of Fund. The GRANTOR and the TRUSTEE hereby establish a trust fund, the FUND, for the benefit of the department. The GRANTOR and the TRUSTEE intend that no third party have access to the FUND, except as herein provided. The FUND is established initially as consisting of the property which is acceptable to the TRUSTEE and described in Schedule B attached hereto. Such property and any other property subsequently transferred to the TRUSTEE is referred to as the FUND, together with all earnings and profits thereon, less any payments or distributions made by the TRUSTEE pursuant to this AGREEMENT. The FUND must be held by the TRUSTEE, IN TRUST, as herein provided. The TRUSTEE is not responsible, nor may it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the GRANTOR any payments necessary to discharge any liabilities of the GRANTOR established by the DEPARTMENT.

Section 4. Payment for Closure and Postclosure Care. The TRUSTEE shall make payments from the FUND as the DEPARTMENT shall direct, in writing, to provide for the payment of the cost of closure, and or postclosure care of the facilities covered by this AGREEMENT. The TRUSTEE shall reimburse the GRANTOR or other persons as specified by the DEPARTMENT from the FUND for closure and postclosure expenditures in such amounts as the DEPARTMENT shall direct in writing. In addition, the TRUSTEE shall refund to the GRANTOR such amounts as the DEPARTMENT specifies in writing. Upon refund such funds no longer constitute part of the FUND as defined herein.

Section 5. Payments Comprising the FUND. Payments made to the TRUSTEE for the FUND must consist of cash or securities acceptable to the TRUSTEE.

Section 6. TRUSTEE Management. The TRUSTEE shall invest and reinvest the principle and ~~interest~~ income of the FUND and keep the FUND invested as a single FUND without distinction between principle and income in accordance with general investment policies and guidelines which the GRANTOR may communicate in writing to the TRUSTEE from time to time, subject however to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the FUND, the TRUSTEE shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(a) Securities or other obligations of the GRANTOR or any other owner or operator of the facilities or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2(a), may not be ~~required~~ acquired or held unless they are securities or other obligations of a federal or state government;

(b) The TRUSTEE is authorized to invest the FUND in time or demand deposits of the TRUSTEE, to the extent insured by an agency of the federal or state government; and

(c) The TRUSTEE is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The TRUSTEE is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the FUND to any common, commingled, or collective trust fund ~~collected~~ created by the TRUSTEE in which the FUND is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the TRUSTEE. The TRUSTEE may vote such shares in its discretion.

Section 8. Express Powers of TRUSTEE. Without, in any way, eliminating the powers and discretions conferred upon the TRUSTEE by the other provisions of this AGREEMENT or by law, the TRUSTEE is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the TRUSTEE is bound to see the application of the purchase money or to inquire into the validity or expediency of any such sale or disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the FUND in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the TRUSTEE in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a federal reserve bank, but the books and records of the TRUSTEE must at all times show that all such securities are part of the FUND;

(d) To deposit any cash in the FUND in interest bearing accounts maintained or savings certificates issued by the TRUSTEE, in its separate capacity, or in any other banking institution affiliated with the TRUSTEE to the extent insured by an agency of the federal or state government; and

(e) To comprise or otherwise adjust all claims in favor of or against the FUND.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the FUND and all brokerage commissions incurred by the

FUND shall be paid from the FUND. All other expenses incurred by the TRUSTEE in connection with the administration of this TRUST, including fees for legal services rendered to the TRUSTEE, the compensation of the TRUSTEE to the extent not paid directly by the GRANTOR, and all other proper charges and disbursements of the TRUSTEE, must be paid from the FUND.

Section 10. Annual Valuation. The TRUSTEE shall annually, at least thirty days prior to the anniversary date of establishment of the FUND, furnish to the GRANTOR and to the DEPARTMENT a statement confirming the value of the TRUST. Any securities in the FUND must be valued at market value as of no more than sixty days prior to the anniversary date of establishment of the FUND. The failure of the GRANTOR to object in writing to the TRUSTEE within ninety days after the statement has been furnished to the GRANTOR and the DEPARTMENT, constitutes a conclusively binding assent by the GRANTOR barring the GRANTOR from asserting any claim or liability against the TRUSTEE with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The TRUSTEE may from time to time consult with counsel, who may be counsel to the GRANTOR, with respect to any question arising as to construction of this AGREEMENT or any action to be taken hereunder. The TRUSTEE shall be fully protected to the extent permitted by law in acting upon the advice of counsel.

Section 12. TRUSTEE Compensation. The TRUSTEE is entitled to reasonable compensation for its services as agreed upon in writing from time to time with the GRANTOR.

Section 13. Successor TRUSTEE. The TRUSTEE may resign or the GRANTOR may replace the TRUSTEE, but such resignation or replacement is not effective until the GRANTOR has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the TRUSTEE hereunder. Upon the successful trustee's acceptance of the appointment, the TRUSTEE shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the FUND. If for any reason, the GRANTOR cannot or does not act in the event of the resignation of the TRUSTEE, the TRUSTEE may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the ~~day~~ date on which it assumes administration of the TRUST in a writing sent to the GRANTOR, the DEPARTMENT, and the present TRUSTEE by certified mail ten days before such change becomes

effective. Any expenses incurred by the TRUSTEE as a result of any of the acts contemplated by this section must be paid as provided in section 9.

Section 14. Instructions to the TRUSTEE. All orders, requests, and instructions by the GRANTOR to the TRUSTEE must be in writing, signed by such persons as are designated in the attached Exhibit A, or such other designees as the GRANTOR may designate by amendment to Exhibit A. The TRUSTEE shall be fully protected in acting without inquiry in accordance with the GRANTOR's orders, requests, and instructions. All orders, requests, and instructions by the DEPARTMENT to the TRUSTEE must be in writing, signed by an authorized DEPARTMENT representative and the TRUSTEE shall act and be fully protected in acting in accordance with such orders, requests, and instructions. The TRUSTEE shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the GRANTOR or the DEPARTMENT hereunder has occurred. The TRUSTEE shall have no duty to act in the absence of such orders, requests, and instructions from the GRANTOR or the DEPARTMENT, or both, except as provided for herein.

Section 15. Notice of Nonpayment. The TRUSTEE shall notify the GRANTOR and the DEPARTMENT by certified mail within ten days following the expiration of the thirty-day period after the anniversary of the establishment of the TRUST if no payment is received from the GRANTOR during that period. After the pay-in period is completed, the TRUSTEE is not required to send a notice of nonpayment.

Section 16. Amendment of AGREEMENT. This AGREEMENT may be amended by an instrument in writing executed by the GRANTOR, the TRUSTEE and the DEPARTMENT, or by the TRUSTEE and the DEPARTMENT, if the GRANTOR ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this AGREEMENT as provided in section 16, this TRUST is irrevocable and continues until terminated at the written agreement of the GRANTOR, the TRUSTEE, and the DEPARTMENT, or by the TRUSTEE and the DEPARTMENT, if the GRANTOR ceases to exist. Upon termination of the TRUST, all remaining trust property, less final trust administration expenses, must be delivered to the GRANTOR.

Section 18. Immunity and Indemnification. The TRUSTEE may not incur personal liability of any nature in connection with any act or commission made in good faith in the administration of this TRUST or in carrying out any directions by the GRANTOR or the DEPARTMENT issued in

accordance with this AGREEMENT. The TRUSTEE must be indemnified and saved harmless by the GRANTOR or from the TRUST FUND, or both, from and against any personal liability to which the TRUSTEE may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the GRANTOR fails to provide such defense.

Section 19. Choice of Law. This AGREEMENT must be administered, construed, and enforced according to the laws of the state of [North Dakota].

Section 20. Interpretation. As used in this AGREEMENT, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this AGREEMENT do not affect the interpretation or the legal efficacy of this AGREEMENT.

In Witness Whereof the parties have caused this AGREEMENT to be executed by their respective officers duly authorized and their corporate seals to be hereunto fixed and attested as of the date first above written: The parties below certify that the wording of this AGREEMENT is identical to the wording specified in subdivision a of subsection 1 of North Dakota Administrative Code section 33-24-05-81 as such regulation was constituted on the date first above written.

[Signature of GRANTOR]

[Title]

[Attest:]

[Title]

[Seal]

[Signature of TRUSTEE]

[Attest:]

[Title]

[Seal]

b. The following is an example of the certification of acknowledgment which must accompany the trust agreement for a trust fund as specified in subsection 1 of section 33-24-05-77.

State of _____

County of _____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

[Signature of notary public]

2. A surety bond guaranteeing payment into a trust fund as specified in subsection 2 of section 33-24-05-77 must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

FINANCIAL GUARANTEE BOND

Date bond executed: _____

Effective date: _____

Principal: [legal name and business address of owner or operator]

Type of organization: [insert "individual", "joint venture", "partnership", or "corporation"]

State of incorporation: _____

Surety(ies): [name(s) and business address(es)]

Identification number, name, address, and closure or postclosure, or both, amount for each facility guaranteed by this bond [indicate closure and postclosure amounts separately]: _____

Total penal sum of bond: $_____

Surety's bond number: _____

Know all persons by these presents that we the PRINCIPAL and SURETY(IES) hereto are firmly bound to the North Dakota State Department of Health and Consolidated Laboratories (hereinafter called the department) in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors and assignors jointly and severally: provided that where the SURETY(IES) are

corporations acting as cosureties, we, the SURETIES, bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each SURETY binds itself, jointly and severally with the PRINCIPAL, for the payment of such sum only as is set forth opposite the name of such SURETY, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas said PRINCIPAL is required under North Dakota Century Code chapter 23-20.3 to have a permit in order to own or operate each hazardous waste management facility identified above, and

Whereas said PRINCIPAL is required to provide financial assurance for closure or closure and postclosure care as a condition of the permit, and

Whereas said PRINCIPAL shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, Therefore, the conditions of the obligation are such that if the PRINCIPAL shall faithfully, before the beginning of final closure of each facility identified above, fund the standby trust fund in the amounts identified above for the facility,

Or, if the PRINCIPAL shall fund the standby trust fund in such amounts within fifteen days after an order to begin closure is issued by the DEPARTMENT or a state or other court of competent jurisdiction,

Or, if the PRINCIPAL shall provide alternate financial assurance as specified in North Dakota Administrative Code chapter 33-24-05, as applicable, and obtain the DEPARTMENT'S written approval of such assurance within ninety days after the date of notice of cancellation is received by both the PRINCIPAL and the DEPARTMENT from the SURETY(IES), then this obligation shall be null and void, otherwise it is to remain in full force and effect.

The SURETY(IES) shall become liable on this bond obligation only when the PRINCIPAL has failed to fulfill the conditions described above. Upon notification by the DEPARTMENT that the PRINCIPAL has failed to perform as guaranteed by this bond, the SURETY(IES) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the DEPARTMENT.

The liability of the SURETY(IES) shall not be discharged by any payment or any succession of payments hereunder, unless and until such payment or payments shall amount in the

aggregate to the penal sum of the bond, but in no event shall the obligation of the SURETY(IES) hereunder exceed the amount of said penal sum.

The SURETY(IES) may cancel the bond by sending notice of cancellation by certified mail to the PRINCIPAL and to the DEPARTMENT, provided, however, that cancellation shall not occur during the one hundred twenty days beginning on the date of receipt of the notice of cancellation by both the PRINCIPAL and the DEPARTMENT as evidenced by the return receipts.

The PRINCIPAL may terminate this bond by sending written notice to the SURETY(IES) provided, however, that no such notice shall become effective until the SURETY(IES) receive(s) written authorization for termination of the bond by the DEPARTMENT.

[The following paragraph is an optional rider that may be included, but is not required]

The PRINCIPAL and SURETY(IES) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure or postclosure, or both, amount, provided that the penal sum does not increase by more than twenty percent in any one year, and no decrease in the penal sum takes place without the written permission of the DEPARTMENT.

In witness whereof, the PRINCIPAL and SURETY(IES) have executed this financial guarantee bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the PRINCIPAL and SURETY(IES) and that the wording of this surety bond is identical to the wording specified in subsection 2 of North Dakota Administrative Code section 33-24-05-81 as such rule was constituted on the date this bond was executed.

PRINCIPAL
[Signature(s)]
[Name(s)]
[Title(s)]
[Corporate seal]

CORPORATE SURETY(IES)
[Name and address]
State of Incorporation: _____
Liability limit: $ _____
[Signature(s)]
[Name(s) and Title(s)]
[Corporate seal]
[For every cosurety, provide signature(s), corporate seal,

and other information in the same manner as for surety above.]

Bond premium: $ _____

3. A surety bond guaranteeing performance of closure or postclosure care as specified in subsection 3 of section 33-24-05-77 must be worded as follows, except that the instructions in brackets are to be replaced with the relevant information and the brackets deleted:

PERFORMANCE BOND

Date bond executed: _____

Effective Date: _____

PRINCIPAL: [Legal name and business address of owner or operator]

Type of organization: [Insert "Individual", "joint venture", "partnership", or "corporation"]

State of incorporation: _____

SURETY(IES): [Name(s) and business address(es)]

_____

Identification number, name, address and closure or postclosure, or both, amount(s) for each facility guaranteed by this bond.

[Indicate closure and postclosure amount separately]:

_____

Total penal sum of bond: _____

Surety's bond number: _____

Know all persons by these presents, that we the PRINCIPAL and SURETY(IES) hereto are firmly bound to the North Dakota State Department of Health and Consolidated Laboratories (hereinafter called the DEPARTMENT), in the above penal sum for the payment of which we bind ourselves, our heirs, executors, administrators, successors and assigns jointly and severally: Provided that, where the SURETY(IES) are corporations acting as cosureties, we the SURETIES bind ourselves in such sum "jointly and severally" only for the purpose of allowing a joint action or actions against any or all of us and for all other purposes each SURETY binds itself jointly and severally with the PRINCIPAL for the payment of such sum only as is set forth opposite the name of each

SURETY, but if no limit of liability is indicated, the limit of liability shall be the full amount of the penal sum.

Whereas said PRINCIPAL is required under North Dakota Century Code chapter 23-20.3 to have a permit to own or operate each hazardous waste management facility identified above, and

Whereas said PRINCIPAL is required to provide financial assurance for closure, or closure and postclosure care as a condition of the permit, and

Whereas said PRINCIPAL shall establish a standby trust fund as is required when a surety bond is used to provide such financial assurance;

Now, Therefore, the conditions of this obligation are that if the PRINCIPAL shall faithfully perform closure, whenever required to do so, of each facility for which this bond guarantees closure, in accordance with the closure plan and other requirements of the permit as such plan and permit may be amended pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended.

And if the PRINCIPAL shall faithfully perform postclosure care of each facility for which this bond guarantees postclosure care, in accordance with the postclosure plan and other requirements of the permit as such plan and permit may be amended pursuant to all applicable laws, statutes, rules, and regulations, as such laws, statutes, rules, and regulations may be amended,

Or, if the PRINCIPAL shall provide alternate financial assurance as specified in North Dakota Administrative Code chapter 33-24-05 and obtain the DEPARTMENT'S written approval of such assurance within ninety days after the date notice of cancellation is received by both the PRINCIPAL and the DEPARTMENT from the SURETY(IES) then this obligation shall be null and void, otherwise it is to remain in full force and effect.

The SURETY(IES) shall become liable on this bond obligation only when the PRINCIPAL has failed to fulfill the conditions described above.

Upon notification by the DEPARTMENT that the PRINCIPAL has been found in violation of the closure requirements of North Dakota Administrative Code chapter 33-24-05 for a facility for which this bond guarantees performance of closure, the SURETY(IES) shall either perform closure in accordance with the closure plan and other permit requirements or place the closure amount guaranteed for the facility into the standby trust fund as directed by the DEPARTMENT.

Upon notification by the DEPARTMENT that the PRINCIPAL has been found in violation of the postclosure requirements of North Dakota Administrative Code chapter 33-24-05 for a facility for which this bond guarantees performance of postclosure care, the SURETY(IES) shall either perform postclosure care in accordance with the postclosure plan and other permit requirements or place the postclosure amount guaranteed for the facility into a standby trust fund as directed by the DEPARTMENT.

Upon notification by the DEPARTMENT that the PRINCIPAL has failed to provide alternate financial assurance as specified in North Dakota Administrative Code chapter 33-24-05 and obtain written approval of such assurance from the DEPARTMENT during the ninety days following receipt by both the PRINCIPAL and the DEPARTMENT of a notice of cancellation of the bond, the SURETY(IES) shall place funds in the amount guaranteed for the facility(ies) into the standby trust fund as directed by the DEPARTMENT.

The SURETY(IES) hereby waive(s) notification of amendments to closure plans, permits, applicable laws, statutes, rules, and regulations and agree(s) that no such amendment shall in any way alleviate its (their) obligation on this bond.

The liability of the SURETY(IES) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond, but in no event shall the obligation of the SURETY(IES) hereunder exceed the amount of said penal sum.

The SURETY(IES) may cancel the bond by sending the notice of cancellation by certified mail to the PRINCIPAL and to the DEPARTMENT, provided, however, that cancellation shall not occur during the one hundred twenty days beginning on the date of receipt of the notice of cancellation by both the PRINCIPAL and the DEPARTMENT as evidenced by the return receipts.

The PRINCIPAL may terminate this bond by sending written notice to the SURETY(IES) provided, however, that no such notice shall become effective until the SURETY(IES) receive(s) written authorization for termination of the bond by the DEPARTMENT.

[The following paragraph is an optional rider that may be included, but is not required].

PRINCIPAL and SURETY(IES) hereby agree to adjust the penal sum of the bond yearly so that it guarantees a new closure or postclosure, or both, amount, provided that the penal sum does not increase by more than twenty percent in any one year, and

no decrease in the penal sum takes place without the written permission of the DEPARTMENT.

In Witness Whereof, the PRINCIPAL and SURETY(IES) have executed this performance bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the PRINCIPAL and the SURETY(IES) and that the wording of this surety bond is identical to the wording specified in subsection 3 of North Dakota Administrative Code section 33-24-05-81 as such rule was constituted on the date this bond was executed.

PRINCIPAL
[Signature(s)]
[Name(s)]
[Title(s)]
[Corporate Seal]

[CORPORATE SURETY(IES)]
[Name and Address]
State of Incorporation: _____
Liability Limit: $ _____
[Signature(s)]
[Name(s) and Title(s)]
Corporate Seal:
[For every cosurety, provide signature(s), corporate seal, and other information in the same manner as for surety above].

Bond Premium: $ _____

4. A letter of credit as specified in subsection 4 of section 33-24-05-77 must be worded as follows except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.

IRREVOCABLE STANDBY LETTER OF CREDIT

Chief, Environmental Health Section North Dakota State Department of Health and Consolidated Laboratories

Dear Sir or Madam:

We hereby establish our Irrevocable Standby Letter of Credit Number _____ in your favor, at the request and for the account of [owner's or operator's name and address] up to the aggregate amount of [in words] United States Dollars $ _____, available upon presentation by you of

(1) You sight draft bearing reference to this letter of credit number _____, and

(2) Your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under authority of North Dakota Century Code chapter 23-20.3".

This letter of credit is effective as of [date] and shall expire on [date] at least one year later, but such expiration date shall be automatically extended for a period of [at least one year] on [date] and on each successive expiration date, unless, at least one hundred twenty days before the current expiration date, we notify both you and [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for one hundred twenty days after the date of receipt by both you and [owner's or operator's name], as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of [owner's or operator's name] in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in subsection 4 of North Dakota Administrative Code section 33-24-05-81 as such rule was constituted on the date shown immediately below.

[Signature(s) and Title(s) of Official(s) of issuing institution] [Date]

This credit is subject to ["the most recent edition of the Uniform Customs and Practice for Documentary Credits, published by the International Chamber of Commerce", or "the Uniform Commercial Code"]

5. A certificate of insurance as specified in subsection 5 of section 33-24-05-77 must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.

CERTIFICATE OF INSURANCE FOR CLOSURE OR POSTCLOSURE CARE

Name and address of Insurer (hereinafter called the "INSURER"): _____

Name and address of Insured (hereinafter called the "INSURED"): _____

Facilities covered: [List for each facility: the identification number, name, address and amount of insurance for closure or the amount for postclosure care, or both. (These amounts for all facilities covered must cover the face amount shown below.)]

Face amount: _____

Policy Number: _____

Effective Date: _____

The INSURER hereby certifies that it has issued to the INSURED the policy of insurance identified above to provide financial assurance for [insert "closure" or "closure and postclosure care" or "postclosure care"] for the facilities identified above. The INSURER further warrants that such policy conforms in all respects with the requirements of subsection 5 of North Dakota Administrative Code section 33-24-05-77, as applicable and as such regulations were constituted on the date shown immediately below. It is agreed that any provision of the policy inconsistent with such rules is hereby amended to eliminate such inconsistency.

Whenever requested by the North Dakota State Department of Health and Consolidated Laboratories (DEPARTMENT) the INSURER agrees to furnish to the DEPARTMENT a duplicate original of the policy listed above, including all endorsements thereon.

I hereby certify that the wording of this certificate is identical to the wording specified in subsection 5 of North Dakota Administrative Code section 33-24-05-81 as such rule was constituted on the date shown immediately below.

[Authorized signature for INSURER]

[Name of person signing]

[Title of person signing]

Signature of witness or notary: _____

[Date]

6. A hazardous waste facility liability endorsement as required in section 33-24-05-79 must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

HAZARDOUS WASTE FACILITY LIABILITY ENDORSEMENT

1. This endorsement certifies that the policy to which the endorsement is attached provides liability insurance

covering bodily injury and property damage in connection with the Insured's obligation to demonstrate financial responsibility under North Dakota Administrative Code section 33-24-05-79. The coverage applies at [list identification number, name and address for each facility] for ["sudden accidental occurrences", "nonsudden accidental occurrences", or "sudden and nonsudden accidental occurrences"; if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences and which are insured for both]. The limits of liability are [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the Insurer's liability] exclusive of legal defense costs.

2. The insurance afforded with respect to such occurrences is subject to all of the terms and conditions of the policy; provided, however, that any provisions of the policy inconsistent with subsections (a) through (e) of this Paragraph 2 are hereby amended to conform with subsections (a) through (e):

   (a) Bankruptcy or insolvency of the Insured shall not relieve the Insurer of its obligations under the policy to which this endorsement is attached.

   (b) The Insurer is liable for the payment of amounts within any deductible applicable to this policy with a right of reimbursement by the Insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in subsection 6 of North Dakota Administrative Code section 33-24-05-79.

   (c) Whenever requested by the North Dakota State Department of Health and Consolidated Laboratories (Department), the Insurer agrees to furnish to the Department a signed duplicate original of the policy and all endorsements.

   (d) ~~Cancellation of this endorsement, whether by the Insurer or the Insured, will be effective only upon written notice and only after the expiration of sixty days after a copy of such written notice is received by the Department, as evidenced by the return receipt~~ Cancellation of this endorsement, whether by the Insurer, the Insured, a parent corporation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or

operator of the hazardous waste management facility will be effective only upon written notice and only after the expiration of sixty days after a copy of such written notice is received by the Department.

(e) Any other termination of this endorsement will be effective only upon written notice, and only after the expiration of thirty days after a copy of such written notice is received by the Department, as evidenced by the return receipt.

Attached to and forming part of policy number _____ issued by [name of Insurer] herein called the Insurer of [address of Insurer] to [name of Insured] of [address] this _____ day of _____, 19 ___. The effective date of said policy is _____ day of _____, 19 ___.

I hereby certify that the wording of this endorsement is identical to the wording specified in subsection 6 of North Dakota Administrative Code section 33-24-05-81, as such rule was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance in the State of North Dakota or eligible to provide insurance as an excess or surplus lines insurer in one or more states.

[Signature of authorized representative of Insurer]

[Type Name]

[Title], Authorized Representative of [name of Insurer]

[Address of representative]

7. A certificate of liability insurance as required in section 33-24-05-79 must be worded as follows, except that the instructions in brackets are to be replaced with the relevant information and the brackets deleted:

HAZARDOUS WASTE FACILITY CERTIFICATE OF LIABILITY INSURANCE

1. [Name of Insurer, (the "Insurer") of [address of Insurer] hereby certifies that it has issued liability insurance covering bodily injury and property damage to [name of Insured], (the "Insured"), of [address of Insured] in connection with the Insured's obligation to demonstrate financial responsibility under North Dakota Administrative Code section 33-24-05-79. The coverage applies at [list identification number, name and address for each facility] for [insert "sudden accidental occurrences", "nonsudden

accidental occurrences", or "sudden and nonsudden accidental occurrences"; if coverage is for multiple facilities and the coverage is different for different facilities, indicate which facilities are insured for sudden accidental occurrences, which are insured for nonsudden accidental occurrences and which are insured for both]. The limits of liability are [insert the dollar amount of the "each occurrence" and "annual aggregate" limits of the Insurer's liability], exclusive of legal defense costs. The coverage is provided under policy number _____, issued on [date] the effective date of said policy is [date].

2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:

   (a) Bankruptcy or insolvency of the Insured shall not relieve the Insurer of its obligations under the policy.

   (b) The Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the Insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in subsection 6 of North Dakota Administrative Code section 33-24-05-79.

   (c) Whenever requested by the North Dakota State Department of Health and Consolidated Laboratories (Department), the Insurer agrees to furnish to the Department a signed duplicate original of the policy and all endorsements.

   (d) ~~Cancellation of the insurance, whether by the Insured or the Insurer, will be effective only upon written notice, and only after expiration of sixty days after a copy of such written notice is received by the Department, as evidenced by the return receipt~~ Cancellation of the insurance, whether by the Insurer, the Insured, a parent corporation providing insurance coverage for its subsidiary, or by a firm having an insurable interest in and obtaining liability insurance on behalf of the owner or operator of the hazardous waste management facility, will be effective only upon written notice, and only after the expiration of sixty days after a copy of such written notice is received by the Department.

   (e) Any other termination of the insurance will be effective only upon written notice, and only after the expiration of thirty days after a copy of such

written notice is received by the Department, as evidence by the return receipt.

I hereby certify that the wording of this instrument is identical to the wording specified in subsection 7 of North Dakota Administrative Code section 33-24-05-81, as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, in the State of North Dakota or eligible to provide insurance as an excess or surplus lines insurer in one or more states.

[Signature of authorized representative of Insurer]

[Type name]

[Title], Authorized Representative of [name of Insurer]

[Address of representative]

8. A letter from the chief financial officer, as specified in subsection 6 of section 33-24-05-77, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

LETTER FROM CHIEF FINANCIAL OFFICER

[Address to North Dakota State Department of Health and Consolidated Laboratories.]

I am the chief financial officer of [name and address of firm]. This letter is in support of this firm's use of the financial test to demonstrate financial assurance, as specified in sections 33-24-05-74 through 33-24-05-82.

[Fill out the following ~~four~~ two paragraphs regarding facilities and associated cost estimates. If your firm has no facilities that belong in a particular paragraph, write "none" in the space indicated. For each facility, include the state/environmental protection agency identification number, name, address, and current closure or postclosure, or both, cost estimates. Identify each cost estimate as to whether it is for closure or postclosure care.]

1. This firm is the owner or operator of the following facilities for which financial assurance for closure or postclosure care is demonstrated through the financial test specified in sections 33-24-05-74 through 33-24-05-82. The current closure or postclosure, or both, cost estimates

covered by the tests are shown for each facility: _____.

2. This firm guarantees, through the corporate guarantee specified in sections 33-24-05-74 through 33-24-05-82, the closure or postclosure care of the following facilities owned or operated by subsidiaries of this firm. The current cost estimates for the closure or postclosure care so guaranteed are shown for each facility: _____.

This firm [insert "is required" or "is not required"] to file a form 10K with the securities and exchange commission for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, yearend financial statements for the latest completed fiscal year, ended [date].

[Fill in alternative I if the criteria of paragraph 1 of subdivision a of subsection 6 of section 33-24-05-77 are used. Fill in alternative II if the criteria of paragraph 2 of subdivision a of subsection 6 of section 33-24-05-77 are used.]

3. This firm is the owner or operator of the following underground injection control for which financial assurance for plugging and abandonment is required under 40 CFR 144. The current closure cost estimates as required by 40 CFR 144.62 are shown for each facility:

ALTERNATIVE I

1. Sum of current closure and postclosure cost estimates [total of all cost estimates shown in the four paragraphs above].....$_____

* 2. Total liabilities [if any portion of the closure or postclosure cost estimates is included in total liabilities, you may deduct the amount of that portion from this line and add that amount to lines 3 and 4].....

* 3. Tangible net worth.....

* 4. Net worth.....

* 5. Current assets.....

* 6. Current liabilities.....

* 7. Net working capital [line 5 minus line 6].....

* 8. The sum of net income plus depreciation, depletion, and amortization.....

* 9. Total assets in United States (required only if less than ninety percent of firm's assets are located in the United States).....

	Yes	No
10. Is line 3 at least ten million dollars?.....	____	____
11. Is line 3 at least six times line 1?.....	____	____
12. Is line 7 at least six times line 1?.....	____	____
*13. Are at least ninety percent of firm's assets located in the United States? If not, complete line 14.....	____	____
14. Is line 9 at least six times line 1?.....	____	____
15. Is line 2 divided by line 4 less than two?.....	____	____
16. Is line 8 divided by line 2 greater than one-tenth?.....	____	____
17. Is line 5 divided by line 6 greater than one and one-half?.....	____	____

ALTERNATIVE II

1. Sum of current closure and postclosure cost estimates [total of all cost estimates shown in the four paragraphs above].....$_____

2. Current bond rating of most recent issuance of this firm and name of rating service.....

3. Date of issuance of bond.....

4. Date of maturity of bond.....

* 5. Tangible net worth (if any portion of the closure and postclosure cost estimates is included in the "total liabilities" on your firm's financial statements, you may add the amount of that portion to this line).....

* 6. Total assets in United States (required only if less than ninety percent of firm's assets are located in the United States).....

	Yes	No
7. Is line 5 at least ten million dollars?.....	____	____
8. Is line 5 at least six times line 1?.....	____	____
* 9. Are at least ninety percent of firm's assets located in the United States? If not, complete line 10.....	____	____
10. Is line 6 at least six times line 1?.....	____	____

I hereby certify that the wording of this letter is identical to the wording specified in subsection 8 of section 33-24-05-81 as such regulations were constituted on the date shown immediately below.

[Signature]

[Name]

[Title]

[Date]

9. ~~A letter from the chief financial officer, as specified in subsection 6 of section 33-24-05-79, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:~~ A letter from the chief financial officer, as specified in subsection 6 of section 33-24-05-79, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted.

LETTER FROM CHIEF FINANCIAL OFFICER
(to demonstrate liability coverage or to demonstrate both liability coverage and assurance of closure and postclosure care).

[Address to North Dakota State Department of Health and Consolidated Laboratories]

I am the chief financial officer of [firm's name and address]. This letter is in support of the use of the financial test to demonstrate financial responsibility for liability coverage [insert "and closure and/or postclosure care" if applicable] as specified in sections 33-24-05-74 through 33-24-05-82.

[Fill out the following paragraphs regarding facilities and liability coverage. If there are no facilities that belong in a particular paragraph, write "none" in the space indicated. For each facility, include its state environmental protection agency number, name, and address.]

The firm identified above is the owner or operator of the following facilities for which liability coverage for ["sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences is being demonstrated through the financial test specified in sections 33-24-05-74 through 33-24-05-82: _____.

The firm identified above guarantees, through the ~~corporate~~ guarantee specified in section 33-24-05-74 through 33-24-05-82, liability coverage for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences at the following facilities owned or operated by the following ~~subsidiaries of the firm~~: _____. The firm identified above is [insert one or more: (1) the direct or higher-tier parent corporation of the owner or operator; (2) owned by the same parent corporation as the parent corporation of the owner or operator, and receiving the following value in consideration of this guarantee _____; or (3) engaged in the following substantial business relationship with the owner or operator _____, and receiving the following value in consideration of this guarantee _____.] [Attach a written description of the

business relationship or a copy of the contract establishing such relationship to this letter.]

[If you are using the financial test to demonstrate coverage of both liability and closure and postclosure care, fill in the following four paragraphs regarding facilities and associated closure and postclosure cost estimates. If there are no facilities that belong in a particular paragraph, write "none" in the space indicated. For each facility, include its state/environmental protection agency identification number, name, address, and current closure or postclosure cost estimates, or both. Identify each cost estimate as to whether it is for closure or postclosure care.]

1. The firm identified above owns or operates the following facilities for which financial assurance for closure or postclosure care or liability coverage is demonstrated through the financial test specified in sections 33-24-05-74 through 33-24-05-82. The current closure or postclosure, or both, cost estimates covered by the test are shown for each facility: _____.

2. The firm identified above guarantees, through the ~~corporate~~ guarantee specified in sections 33-24-05-74 through 33-24-05-82, the closure and postclosure care or liability coverage of the following facilities owned or operated by its subsidiaries. The current cost estimates for the closure or postclosure care so guaranteed are shown for each facility: _____.

3. In states where the environmental protection agency is not administering the financial requirements of subpart ~~A~~ H chapter 40 CFR parts 264 and 265, this firm is demonstrating financial assurance for the closure or postclosure care of the following facilities through the use of a test equivalent or substantially equivalent to the financial test specified in subpart H of 40 CFR parts 264 and 265. The current closure or postclosure cost estimates covered by such a test are shown for each facility: _____.

4. The firm identified above owns or operates the following hazardous waste management facilities for which financial assurance for closure or, if a disposal facility, postclosure care is not demonstrated either to the environmental protection agency or a state through the financial test or any other financial assurance mechanism specified in sections 33-24-05-74 through 33-24-05-82 or equivalent or substantially equivalent state mechanisms. The current closure or postclosure, or both, cost estimates not covered by such financial assurance are shown for each facility: _____.

5. This firm is the owner or operator of the following underground injection control facilities for which financial assurance for plugging and abandonment is required under part 144. The current closure cost estimates as required by 40 CFR 144.62 are shown for each facility: _____.

This firm [insert "is required" or is "not required"] to file a form 10K with the securities and exchange commission for the latest fiscal year.

The fiscal year of this firm ends on [month, day]. The figures for the following items marked with an asterisk are derived from this firm's independently audited, yearend financial statements for the latest completed fiscal year, ended [date].

[Fill in part A if you are using the financial test to demonstrate coverage only for the liability requirements.]

PART A. LIABILITY COVERAGE FOR ACCIDENTAL OCCURRENCES

[Fill in alternative I if the criteria of paragraph 1 of subdivision a of subsection 6 of section 33-24-05-79 are used. Fill in alternative II if the criteria of paragraph 2 of subdivision a of subsection 6 of section 33-24-05-79 are used.]

ALTERNATIVE I

1. Amount of annual aggregate liability coverage to be demonstrated.....$_____

* 2. Current assets ....._____

* 3. Current liabilities....._____

4. Net working capital (line 2 minus line 3)....._____

* 5. Tangible net worth....._____

* 6. If less than ninety percent of assets are located in the United States, give total United States assets ....._____

	Yes	No
7. Is line 5 at least ten million dollars?.....	____	____
8. Is line 4 at least six times line 1?.....	____	____
9. Is line 5 at least six times line 1?.....	____	____
*10. Are at least ninety percent of assets located in the United States? If not, complete line 11	____	____
11. Is line 6 at least six times line 1?.....	____	____

ALTERNATIVE II

1. Amount of annual aggregate liability coverage to be demonstrated.....$_____

2. Current bond rating of most recent issuance and name of rating service.....

3. Date of issuance of bond.....

4. Date of maturity of bond.....

* 5. Tangible net worth.....

* 6. Total assets in United States (required only if less than ninety percent of assets are located in the United States).....

	Yes	No
7. Is line 5 at least ten million dollars?.....	____	____
8. Is line 5 at least six times line 1?.....	____	____
* 9. Are at least ninety percent of assets located in the United States? If not, complete line 10.....	____	____
10. Is line 6 at least six times line 1?.....	____	____

[Fill in part B if you are using the financial test to demonstrate assurance of both liability coverage and closure or postclosure care.]

PART B. CLOSURE OR POSTCLOSURE CARE AND LIABILITY COVERAGE

[Fill in alternative I if the criteria of paragraph 1 of subdivision a of subsection 6 of section 33-24-05-77 is used. Fill in alternative II if the criteria of paragraph 2 of subdivision a of subsection 6 of section 33-24-05-77 is used.]

ALTERNATIVE I

1. Sum of current closure and postclosure cost estimates (total of all cost estimates listed above).....$_____

2. Amount of annual aggregate liability coverage to be demonstrated.....$_____

3. Sum of lines 1 and 2.....$_____

* 4. Total liabilities (if any portion of your closure or postclosure cost estimates is included in your total liabilities, you may deduct that portion from this line and add that amount to lines 5 and 6).....$_____

* 5. Tangible net worth.....$_____

* 6. Net worth.....$_____

* 7. Current assets.....$_____

* 8. Current liabilities.....$_____

9. Net working capital (line 7 minus line 8).....$_____

*10. The sum of net income plus depreciation, depletion, and amortization.....$_____

*11. Total assets in United States (required only if less than ninety percent of assets are located in the United States).....$_____

	Yes	No
12. Is line 5 at least ten million dollars?.....	____	____
13. Is line 5 at least six times line 3?.....	____	____
14. Is line 9 at least six times line 3?.....	____	____
*15. Are at least ninety percent of assets located in the United States? If not, complete line 16.....	____	____
16. Is line 11 at least six times line 3?.....	____	____
17. Is line 4 divided by line 6 less than two?.....	____	____

18. Is line 10 divided by line 4 greater than one-tenth?.....____ ____

19. Is line 7 divided by line 8 greater than one and one-half?.....____ ____

ALTERNATIVE II

1. Sum of current closure and postclosure cost estimates (total of all cost estimates listed above).....$_____

2. Amount of annual aggregate liability coverage to be demonstrated.....$_____

3. Sum of lines 1 and 2.....$_____

4. Current bond rating of most recent issuance and name of rating service.....$_____

5. Date of issuance of bond.....$_____

6. Date of maturity of bond.....$_____

* 7. Tangible net worth (if any portion of the closure or postclosure cost estimates is included in "total liabilities" on your financial statements you may add that portion to this line) .....$_____

* 8. Total assets in the United States (required only if less than ninety percent of assets are located in the United States).....$_____

	Yes	No
9. Is line 7 at least ten million dollars?.....	____	____
10. Is line 7 at least six times line 3?.....	____	____

*11. Are at least ninety percent of assets located in the United States? If not, complete line 12.....____ ____

12. Is line 8 at least six times line 3?.....____ ____

I hereby certify that the wording of this letter is identical to the wording specified in subsection 9 of section 33-24-05-81 as such regulations were constituted on the date shown immediately below.

[Signature]

[Name]

[Title]

[Date]

10. Corporate guarantee.

a. A corporate guarantee, as specified in subsection 6 of section 33-24-05-77, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CORPORATE GUARANTEE FOR CLOSURE OR POSTCLOSURE CARE

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of the state of [insert name of state], herein referred to as guarantor, to the North Dakota State Department of Health and Consolidated Laboratories, obligee, on behalf of our subsidiary [owner or operator] of [business address].

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in subsection 6 of section 33-24-05-77.

2. [Owner or operator] owns or operates the following hazardous waste management facility(ies) covered by this guarantee: [list for each facility: state/environmental protection agency identification number, name, and address. Indicate for each whether guarantee is for closure, postclosure care, or both.]

3. "Closure plans" and "postclosure plans" as used below refer to the plans maintained as required by sections 33-24-05-59 through 33-24-05-68 for the closure and postclosure care of facilities as identified above.

4. For value received from [owner or operator], guarantor guarantees to North Dakota State Department of Health and Consolidated Laboratories that in the event that [owner or operator] fails to perform [insert "closure", "postclosure care", or "closure and postclosure care"] of the facility(ies) in accordance with the closure or postclosure plans and other permit or interim status requirements whenever required to do so, the guarantor shall do so or establish a trust fund as specified in sections 33-24-05-74 through 33-24-05-82, as applicable, in the name of [owner or operator] in the amount of the current closure or postclosure cost estimates as specified in sections 33-24-05-74 through 33-24-05-82.

5. Guarantor agrees that if, at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within ninety days, by certified mail, notice to the North Dakota State Department of Health and Consolidated Laboratories and

to [owner or operator] that he intends to provide alternate financial assurance as specified in sections 33-24-05-74 through 33-24-05-82, as applicable, in the name of [owner or operator]. Within one hundred twenty days after the end of such fiscal year, the guarantor shall establish such financial assurance unless [owner or operator] has done so.

6. The guarantor agrees to notify the North Dakota State Department of Health and Consolidated Laboratories by certified mail, of a voluntary or involuntary proceeding under United States Code title 11 (bankruptcy) naming guarantor as debtor, within ten days after commencement of the proceeding.

7. Guarantor agrees that within thirty days after being notified by the North Dakota State Department of Health and Consolidated Laboratories of a determination that guarantor no longer meets the financial test criteria or that guarantor is disallowed from continuing as a guarantor of closure or postclosure care, he or she shall establish alternate financial assurance as specified in sections 33-24-05-74 through 33-24-05-82, as applicable, in the name of [owner or operator] unless [owner or operator] has done so.

8. Guarantor agrees to remain bound under this guarantee notwithstanding any or all of the following: amendment or modification of the closure or postclosure plan, amendment or modification of the permit, the extension or reduction of the time of performance of closure or postclosure, or any other modification or alteration of an obligation of the owner or operator pursuant to chapter 33-24-05.

9. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable financial assurance requirements of sections 33-24-05-74 through 33-24-05-82 for the above-listed facilities, except that guarantor may cancel this guarantee by sending notice by certified mail to the North Dakota State Department of Health and Consolidated Laboratories and to [owner or operator], such cancellation to become effective no earlier than one hundred twenty days after receipt of such notice by both North Dakota State Department of Health and Consolidated Laboratories and [owner or operator], as evidenced by the return receipts.

10. Guarantor agrees that if [owner or operator] fails to provide alternate financial assurance as specified in sections 33-24-05-74 through 33-24-05-82, as applicable, and obtain written approval of such assurance from the North Dakota State Department of Health and Consolidated Laboratories within ninety days after a notice of cancellation by the guarantor is received by the North Dakota State Department of Health and Consolidated Laboratories from guarantor, guarantor shall provide such alternate financial assurance in the name of [owner or operator].

11. Guarantor expressly waives notice of acceptance of this guarantee by the department or by [owner or operator]. Guarantor also expressly waives notice of amendments or modifications of the closure or postclosure, or both, plan and of amendments or modifications of the facility permit(s).

I hereby certify that the wording of this guarantee is identical to the wording specified in subsection 10 of section 33-24-05-81 as such regulations were constituted on the date first above written.

Effective date: _____
[Name of guarantor]
[Authorized signature for guarantor]
[Name of person signing]
[Title of person signing]
Signature of witness or notary: _____

b. A corporate guarantee, as specified in subsection 7 of section ~~33-24-05-81~~ 33-24-05-79, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

~~CORPORATE~~ GUARANTEE FOR LIABILITY COVERAGE

Guarantee made this [date] by [name of guaranteeing entity], a business corporation organized under the laws of [if incorporated with the United States insert "the state of _____" and insert name of state: if incorporated outside the United States insert name of country in which incorporated, the principal place of business within the United States, and the name and address of the registered agent in the state of the principal place of business], herein referred to as guarantor. This guarantee is made on behalf of our subsidiary [owner or operator] of [business address] to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden or nonsudden, or both] accidental occurrences arising from operation of the facility(ies) covered by this guarantee.

Recitals

1. Guarantor meets or exceeds the financial test criteria and agrees to comply with the reporting requirements for guarantors as specified in subsection 7 of section 33-24-05-79.

2. [Owner or operator] owns or operates the following hazardous waste management facilities covered by this guarantee: [List for each facility: State/environmental protection agency identification number, name, and address; and if guarantor is incorporated outside the United States

list the name and address of the guarantor's registered agent in each state.] This corporate guarantee satisfies hazardous waste third-party liability requirements for [insert "sudden" or "nonsudden" or "both sudden and nonsudden"] accidental occurrences in above-named owner or operator facilities for coverage in the amount of [insert dollar amount] for each occurrence and [insert dollar amount] annual aggregate.

3. For value received from [owner or operator], guarantor guarantees to any and all third parties who have sustained or may sustain bodily injury or property damage caused by [sudden or nonsudden, or both] accidental occurrences arising from operations of the facilities covered by this guarantee that in the event that [owner or operator] fails to satisfy a judgment or award based on a determination of liability for bodily injury or property damage to third parties caused by [sudden or nonsudden, or both] accidental occurrences, arising from the operation of the above-named facilities, or fails to pay an amount agreed to in settlement of a claim arising from or alleged to arise from such injury or damage, the guarantor will satisfy such judgments, awards, or settlement agreements up to the limits of coverage identified above.

4. Such obligation does not apply to any of the following:

(i) Bodily injury or property damage for which [insert owner or operator] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert owner or operator] would be obligated to pay in the absence of the contract or agreement.

(ii) Any obligation of [insert owner or operator] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(iii) Bodily injury to:

(A) An employee of [insert owner or operator] arising from, and in the course of, employment by [insert owner or operator]; or

(B) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert owner or operator].

This exclusion applies:

(1) Whether [insert owner or operator] may be liable as an employer or in any other capacity; and

(2) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(iv) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or water craft.

(v) Property damage to:

(A) Any property owned, rented, or occupied by [insert owner or operator];

(B) Premises that are sold, given away or abandoned by [insert owner or operator] if the property damage arises out of any part of those premises;

(C) Property loaned to [insert owner or operator];

(D) Personal property in the care, custody, or control of [insert owner or opertor];

(E) That particular part of real property on which [insert owner or operator] or any contractors or subcontractors working directly or indirectly on behalf of [insert owner or operator] are performing operations, if the property damage arises out of these operations.

~~4.~~ 5. Guarantor agrees that if at the end of any fiscal year before termination of this guarantee, the guarantor fails to meet the financial test criteria, guarantor shall send within ninety days, by certified mail, notice to the department and to [owner or operator] that guarantor intends to provide alternate liability coverage as specified in section 33-24-05-79 as applicable in the name of [owner or operator]. Within one hundred twenty days after the end of such fiscal year, the guarantor shall establish such liability coverage unless [owner or operator] has done so.

~~5.~~ 6. The guarantor agrees to notify the department by certified mail of a voluntary or involuntary proceeding under title 11 (bankruptcy), United States Code, naming guarantor as debtor, within ten days after commencement of the proceeding.

~~6.~~ 7. Guarantor agrees that within thirty days after being notified by the department of a determination that guarantor no longer meets the financial test criteria or that guarantor is disallowed from continuing as a guarantor, guarantor shall establish alternate liability coverage as specified in section 33-24-05-79 in the name of [owner or operator], unless [owner or operator] has done so.

~~7.~~ 8. Guarantor reserves the right to modify this agreement to take into account amendment or modification of the liability requirements set by section 33-24-05-79 provided that such modification shall become effective only if the department does not disapprove the modification within thirty days of receipt of notification of the modification.

~~8.~~ 9. Guarantor agrees to remain bound under this guarantee for so long as [owner or operator] must comply with the applicable requirements of section 33-24-05-79 for the above-listed facilities, except as provided in paragraph 9 of this agreement.

~~9. Guarantor may terminate this guarantee by sending notice by certified mail to the department and to [owner or operator], provided that this guarantee may not be terminated unless and until [the owner or operator] obtains, and the department approves alternate liability coverage complying with section 33-24-05-79.~~

10. [Insert the following language if the guarantor is:

(A) A direct or higher-tier corporate parent, or

(B) A firm whose parent corporation is also the parent corporation of the owner or operator]:

Guarantor may terminate this guarantee by sending notice by certified mail to the department and to [owner or operator] provided that this guarantee may not be terminated unless and until [the owner or operator] obtains, and the department approves alternate liability coverage complying with section 33-24-05-79.

[Insert the following language if the guarantor is a firm qualifying as a guarantor due to its "substantial business relationship" with the owner or operator]:

Guarantor may terminate this guarantee one hundred and twenty (120) days following receipt of notification through certified mail, by the department and by [the owner or operator].

~~10.~~ 11. Guarantor hereby expressly waives notice of acceptance of this guarantee by any party.

~~11.~~ 12. Guarantor agrees that this guarantee is in addition to and does not affect any other responsibility or liability of the guarantor with respect to the covered facilities.

~~12. Exclusions. This corporate guarantee does not apply to:~~

~~a. Bodily injury or property damage for which the owner or operator is obligated to pay damages by reason of the~~

assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that the owner or operator would be obligated to pay in the absence of the contract or agreement.

b. Any obligation of the owner or operator under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

c. Bodily injury to:

(1) An employee of the owner or operator arising from, and in the course of, employment by the owner or operator; or

(2) The spouse, child, parent, brother, or sister of that employee as a consequence of, or arising from, and in the course of, employment by the owner or operator.

This exclusion applies whether the owner or operator may be liable as an employer or in any other capacity and to any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs 1 and 2.

d. Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle, or watercraft.

e. Property damage to:

(1) Any property owned, rented, or occupied by the owner or operator;

(2) Premises that are sold, given away, or abandoned by the owner or operator if the property damage arises out of any part of those premises;

(3) Property loaned to the owner or operator;

(4) Personal property in the care, custody, or control of the owner or operator; and

(5) That particular part of real property on which the owner or operator or any contractors or subcontractors working directly or indirectly on behalf of the owner or operator are performing operations, if the property damage arises out of these operations.

I hereby certify that the wording of the guarantee is identical to the wording specified in subdivision b of subsection 10 of section 33-24-05-01.

~~Effective date:~~ _____
~~[Name of guarantor]~~
~~[Authorized signature for guarantor]~~
~~[Name of person signing]~~
~~[Title of person signing]~~
~~Signature of witness or notary:~~ _____

13. The guarantor shall satisfy a third party liability claim only on receipt of one of the following documents:

(i) Certification from the principal and the third party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets must be placed with the relevant information and the brackets deleted:

CERTIFICATION OF VALID CLAIM

The undersigned, as parties [insert principal] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Principal's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $[_____].

[Signature(s)]
[Principal]
[Notary] [Date]
[Signature(s)]
[Claimant(s)]
[Notary] [Date]

(ii) A valid final court order establishing a judgment against the Principal for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Principal's facility or group of facilities.

14. In the event of combination of this guarantee with another mechanism to meet liability requirements, this guarantee will be considered [insert "primary" or "excess"] coverage.

I hereby certify that the wording of the guarantee is identical to the wording specified in subdivision b of subsection 8 of section 33-24-05-81 as such regulations were constituted on the date shown immediately below.

Effective date:_____
[Name of guarantor]
[Authorized signature for guarantor]
[Name of person signing]

[Title of person signing]
[Signature of witness or notary:_____]

11. A letter of credit, as specified in subsection 8 of section 33-24-05-79, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

IRREVOCABLE STANDBY LETTER OF CREDIT

Name and Address of Issuing Institution
North Dakota State Department of Health and Consolidated Laboratories

Dear Sir or Madam: We hereby establish our Irrevocable Standby Letter of Credit No. in the favor of any and all third-party liability claimants, at the request and for the account of [owner's or operator's name and address] for third-party liability awards or settlements up to [in words] U.S. dollars $, per occurrence and the annual aggregate amount of [in words] U.S. dollars $, for sudden accidental occurrences and/or for third-party liability awards or settlements up to the amount of [in words] U.S. dollars $ per occurrence, and the annual aggregate amount of [in words] U.S. dollars $, for nonsudden accidental occurrences available upon presentation of a sight draft, bearing reference to this letter of credit No. , and (1) a signed certificate reading as follows:

CERTIFICATION OF VALID CLAIM

The undersigned, as parties [insert principal] and [insert name and address of third-party claimants], hereby certify that the claim of bodily injury [and/or] property damage caused by a [sudden or nonsudden] accidental occurrence arising from operations of [principal's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $. We hereby certify that the claim does not apply to any of the following:

(a) Bodily injury or property damage for which [insert principal] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert principal] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert principal] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert principal] arising from, and in the course of, employment by [insert principal]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert principal].

This exclusion applies:

(A) Whether [insert principal] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use or entrustment to other of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert principal];

(2) Premises that are sold, given away or abandoned by [insert principal] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert principal];

(4) Personal property in the care, custody or control of [insert principal];

(5) That particular part of real property on which [insert principal] or any contractors or subcontractors working directly or indirectly on behalf of [insert principal] are performing operations, if the property damage arises out of these operations.

[Signatures]
Principal
[Signatures]
Claimant(s)

or (2) a valid final court order establishing a judgment against the principal for bodily injury or property damage caused by a sudden or nonsudden accidental occurrence arising from operation of the principal's facility or group of facilities.

This letter of credit is effective as of [date] and shall expire on [date at least one year later], but such expiration date shall be automatically extended for a period of [at least one year] on [date] and on each successive expiration date, unless, at least one hundred twenty days before the current expiration date, we notify you, the Department, and [owner's or operator's name] by certified mail that we have decided not to extend this letter of credit beyond the current expiration date.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us.

In the event that this letter of credit is used in combination with another mechanism for liability coverage, this letter of credit shall be considered [insert "primary" or "excess"] coverage.

We certify that the wording of this letter of credit is identical to the wording specified in subsection 11 of section 33-24-05-81 constituted on the date shown immediately below.

[Signature(s) and title(s) of official(s) of issuing institution]
[Date]

This credit is subject to [insert "the most recent edition of the Uniform Customs and Practice for Documentary Credits, published by the International Chamber of Commerce" or "the Uniform Commercial Code"].

12. A surety bond, as specified in subsection 8 of section 33-24-05-79, must be worded as follows: except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

PAYMENT BOND

Surety Bond No. [Insert number]

Parties [Insert name and address of owner or operator], Principal, incorporated in [Insert State of incorporation] of[Insert city and State of principal place of business] and [Insert name and address of surety company(ies)], Surety Company(ies), of [Insert surety(ies) place of business].

State/EPA Identification Number, name, and address or each facility guaranteed by this bond:

	Sudden accidental occurrences	Nonsudden accidental occurrences
Penal Sum Per Occurrence	[insert amount]	[insert amount]
Annual Aggregate	[insert amount]	[insert amount]

Purpose: This is an agreement between the Surety(ies) and the Principal under which the Surety(ies), its(their) successors and assignees, agree to be responsible for the payment of claims against the Principal for bodily injury and/or property damage to third parties caused by ["sudden" and/or "nonsudden"] accidental occurrences arising from operations of the facility or group of facilities in the sums prescribed herein; subject to the governing provisions and the following conditions.

Governing Provisions:

(1) Section 3004 of the Resource Conservation and Recovery Act of 1976, as amended.

(2) Rules and regulations of the U.S. Environmental Protection Agency (EPA), particularly 40 CFR ["264.147" or "265.147"] (if applicable).

(3) Rules and regulations of the governing State Agency (if applicable) [insert citation].

Conditions:

(1) The Principal is subject to the applicable governing provisions that require the Principal to have and maintain liability coverage for bodily injury and property damage to third parties caused by ["sudden" and/or "nonsudden" accidental occurrences arising from operations of the facility or group of facilities. Such obligation does not apply to any of the following:

(a) Bodily injury or property damage for which [insert principal] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert principal] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert principal] under a workers' compensation, disability benefits, or unemployment compensation law or similar law.

(c) Bodily injury to:

(1) An employee of [insert principal] arising from, and in the course of, employment by [insert principal]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert principal]. This exclusion applies:

(A) Whether [insert principal] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or occupied by [insert principal];

(2) Premises that are sold, given away or abandoned by [insert principal] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert principal];

(4) Personal property in the care, custody or control of [insert principal];

(5) That particular part of real property on which [insert principal] or any contractors or subcontractors working directly or indirectly on behalf of [insert principal] are performing operations, if the property damage arises out of these operations.

(2) This bond assures that the Principal will satisfy valid third party liability claims, as described in condition 1.

(3) If the Principal fails to satisfy a valid third party liability claim, as described above, the Surety(ies) becomes liable on this bond obligation.

(4) The Surety(ies) shall satisfy a third party liability claim only upon the receipt of one of the following documents:

(a) Certification from the Principal and the third party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATION OF VALID CLAIM

The undersigned, as parties [insert name of principal] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Principal's] hazardous waste treatment, storage, or disposal facility should be paid in the amount of $[ ].

[Signature]
Principal
[Notary] [Date]

[Signature(s)]
Claimant(s)
[Notary] [Date]

or (b) A valid final court order establishing a judgment against the Principal for bodily injury or property damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Principal's facility or group of facilities.

(5) In the event of combination of this bond with another mechanism for liability coverage, this bond will be considered [insert "primary" or "excess"] coverage.

(6) The liability of the Surety(ies) shall not be discharged by any payment or succession of payments hereunder, unless and until such payment or payments shall amount in the aggregate to the penal sum of the bond. In no event shall the obligation of the Surety(ies) hereunder exceed the amount of said annual aggregate penal sum, provided that the Surety(ies) furnish(es) notice to the Department forthwith of all claims filed and made by the Surety(ies) under this bond.

(7) The Surety(ies) may cancel the bond by sending notice of cancellation by certified mail to the Principal and the Department provided, however, the cancellation shall not occur during the one hundred twenty days beginning on the date of receipt of the notice of cancellation by the Principal and the Department, as evidenced by the return receipt.

(8) The Principal may terminate this bond by sending written notice to the Surety(ies) and to the Department.

(9) The Surety(ies) hereby waive(s) notification of amendments to applicable laws, statutes, rules and regulations and agree(s) that no such amendment shall in any way alleviate its (their) obligation on this bond.

(10) This bond is effective from [insert date] [12:01 a.m., standard time, at the address of the Principal as stated herein] and shall continue in force until terminated as described above.

In Witness Whereof, the Principal and Surety(ies) have executed this Bond and have affixed their seals on the date set forth above.

The persons whose signatures appear below hereby certify that they are authorized to execute this surety bond on behalf of the Principal and Surety(ies) and that the wording of this surety bond is identical to the wording specified in 40 CFR 264.151(1), as such regulations were constituted on the date this bond was executed.

PRINCIPAL
[Signature(s)]
[Name(s)]
[Title(s)]
[Corporate Seal]

CORPORATE SURETY(IES)

[Name and address]
State of incorporation:
Liability Limit: $
[Signature(s)]
[Name(s) and title(s)]
[Corporate seal]
[For every co-surety, provide signature(s), corporate seal, and other information in the same manner as for Surety above.]
Bond premium: $

13. Trust Agreement

a. A trust agreement, as specified in subsection 10 of section 33-24-05-79, must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

TRUST AGREEMENT

Trust Agreement, the "Agreement", entered into as of [date] by and between [name of the owner or operator] a [name of State] [insert "corporation", "partnership", "association", or "proprietorship"], the "Grantor", and [name of corporate trustee], [insert, "incorporated in the State of " or "a national bank"], the "trustee".

Whereas, the Department has established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility or group of facilities must demonstrate financial responsibility for bodily injury and property damage to third parties caused by sudden accidental and/or nonsudden accidental occurrences arising from operations of the facility or group of facilities.

Whereas, the Grantor has elected to establish a trust to assure all or part of such financial responsibility for the facilities identified herein.

Whereas, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement, and the Trustee is willing to act as trustee.

Now, therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions. As used in this Agreement:

(a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities. This agreement pertains to the facilities identified on attached schedule A [on schedule A, for each facility list the EPA Identification Number, name, and address of the facility(ies) and the amount of liability coverage, or portions thereof, if more than one instrument affords combined coverage as demonstrated by this Agreement].

Section 3. Establishment of Fund. The Grantor and the Trustee hereby establish a trust fund, hereinafter the "Fund", for the benefit of any and all third parties injured or accidental occurrences arising from operation of the facility(ies) covered by this guarantee, in the amount of [up to $1 million] per occurrence and [up to $2 million] annual aggregate for sudden

accidental occurrences and [up to $3 million] per occurrence and [up to $6 million] annual aggregate for nonsudden occurrences, except that the Fund is not established for the benefit of third parties for the following:

(a) Bodily injury or property damage for which [insert Grantor] is obligated to pay damages by reason of the assumption of liability in a contract or agreement. This exclusion does not apply to liability for damages that [insert Grantor] would be obligated to pay in the absence of the contract or agreement.

(b) Any obligation of [insert Grantor] under a workers' compensation, disability benefits, or unemployment compensation law or any similar law.

(c) Bodily injury to:

(1) An employee of [insert Grantor] arising from, and in the course of, employment by [insert Grantor]; or

(2) The spouse, child, parent, brother or sister of that employee as a consequence of, or arising from, and in the course of employment by [insert Grantor].

This exclusion applies:

(A) Whether [insert Grantor] may be liable as an employer or in any other capacity; and

(B) To any obligation to share damages with or repay another person who must pay damages because of the injury to persons identified in paragraphs (1) and (2).

(d) Bodily injury or property damage arising out of the ownership, maintenance, use, or entrustment to others of any aircraft, motor vehicle or watercraft.

(e) Property damage to:

(1) Any property owned, rented, or abandoned by [insert Grantor];

(2) Premises that are sold, given away or abandoned by [insert Grantor] if the property damage arises out of any part of those premises;

(3) Property loaned to [insert Grantor];

(4) Personal property in the care, custody or control of [insert Grantor];

(5) That particular part of real property on which [insert Grantor] or any contractors or subcontractors working directly or indirectly on behalf of [insert Grantor] are performing operations, if the property damage arises out of these operations.

In the event of combination with another mechanism for liability coverage, the Fund shall be considered [insert "primary" or "excess"] coverage.

The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilities of the Grantor established by the Department.

Section 4. Payment for Bodily Injury or Property Damage. The Trustee shall satisfy a third party liability claim by making payments from the Fund only upon receipt of one of the following documents:

(a) Certification from the Grantor and the third party claimant(s) that the liability claim should be paid. The certification must be worded as follows, except that instructions in brackets are to be replaced with the relevant information and the brackets deleted:

CERTIFICATION OF VALID CLAIM

The undersigned, as parties [insert Grantor] and [insert name and address of third party claimant(s)], hereby certify that the claim of bodily injury and/or property damage caused by a [sudden or nonsudden] accidental occurrence arising from operating [Grantor's] hazardous waste treatment, storage or disposal facility should be paid in the amount of $[ ].

[Signatures]
Grantor

[Signatures]
Claimant(s)

(b) A valid final court order establishing a judgment against the Grantor for bodily injury or property

damage caused by sudden or nonsudden accidental occurrences arising from the operation of the Grantor's facility or group of facilities.

Section 5. Payments Comprising the Fund. Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management. The Trustee shall invest and reinvest the principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstance then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held unless they are securities or other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee, to the extent insured by an agency of the Federal or State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment. The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common commingled, or collective trust fund created by the Trustee in which the fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 81a-1 et seq., including one which may be created,

managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee. Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition;

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depository even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depository with other securities deposited therein by another person, or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses. All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the

administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursements of the Trustee shall be paid from the Fund.

Section 10. Annual Valuations. The Trustee shall annually, at least thirty days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the Department a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than sixty days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within ninety days after the statement has been furnished to the Grantor and the Department shall constitute a conclusively binding assent by the Grantor barring the Grantor from asserting any claim or liability against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel. The Trustee may from time to time consult with counsel, who may be counsel to the grantor with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation. The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee. The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trustee shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the Department, and the present Trustee by certified mail ten days before such change becomes effective. Any expenses incurred by the Trustee as a

result of any of the acts contemplated by this section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee. All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor may designate by amendments to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the Department to the Trustee shall be in writing, signed by the Department, or its designees, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or Department hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or EPA, except as provided for herein.

Section 15. Notice of Nonpayment. If a payment for bodily injury or property damage is made under Section 4 of this trust, the Trustee shall notify the Grantor of such payment and the amount(s) thereof within five working days. The Grantor shall, on or before the anniversary date of the establishment of the Fund following such notice, either make payments to the Trustee in amounts sufficient to cause the trust to return to its value immediately prior to the payment of claims under Section 4, or shall provide written proof to the Trustee that other financial assurance for liability coverage has been obtained equaling the amount necessary to return the trust to its value prior to the payment of claims. If the Grantor does not either make payments to the Trustee or provide the Trustee with such proof, the Trustee shall within ten working days after the anniversary date of the establishment of the Fund provide a written notice of nonpayment to the Department.

Section 16. Amendment of Agreement. This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the appropriate Department Administrator if the Grantor ceases to exist.

Section 17. Irrevocability and Termination. Subject to the right of the parties to amend this Agreement as provided in Section 16, this Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the Department,

or by the Trustee, and the Department, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

The Department will agree to termination of the Trust when the owner or operator substitutes alternate financial assurance as specified in this section.

Section 18. Immunity and Indemnification. The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the Department issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law. This Agreement shall be administered, construed, and enforced according to the laws of the State of [enter name of State].

Section 20. Interpretation. As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive headings for each section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as to the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in 40 CFR 264.151(m) as such regulations were constituted on the date first above written.

[Signature of Grantor]
[Title]

Attest:

[Title]
]Seal]

[Signature of Trustee]

Attest:

[Title]
[Seal]

(2) The following is an example of the certification of acknowledgment which must accompany the trust agreement for a trust fund as specified in subsection or of this chapter. State requirements may differ on the proper content of this acknowledgment.

State of _____
County of _____

On this [date], before me personally came [owner or operator] to me known, who, being by me duly sworn, did depose and say that she/he resides at [address], that she/he is [title] of [corporation], the corporation described in and which executed the above instrument; that she/he knows the seal of said corporation; that the seal affixed to such instrument is such corporate seal; that it was so affixed by order of the Board of Directors of said corporation, and that she/he signed her/his name thereto by like order.

_____
[Signature of Notary Public]

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-103. Applicability of tank requirements. The requirements of sections 33-24-05-103 through 33-24-05-114 apply to owners and operators of facilities that use tank systems for storing or treating hazardous waste except as otherwise provided in subsections 1 and 2 or in section 33-24-05-01.

1. ~~Tanks~~ Tank systems that are used to treat or store hazardous waste which contains no free liquids and are situated inside a building with an impermeable floor are exempted from the requirements in section 33-24-05-106. To demonstrate the absence or presence of free liquids in the stored/treated waste, environmental protection agency method 9095 (paint filter liquids test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods"

(environmental protection agency publication number SW-846) must be used.

2. ~~Tanks~~ Tank systems, including sumps, as defined in section 33-24-01-04, that serve as part of a secondary containment system to collect or contain releases of hazardous wastes are exempted from the requirements in section 33-24-05-106.

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-106. Containment and detection of releases.

1. In order to prevent the release of hazardous waste or hazardous constituents to the environment, secondary containment that meets the requirements of this section must be provided (except as provided in subsections 6 and 7):

   a. For all new tank systems or components, prior to being put into service;

   b. For all existing tank systems used to store or treat hazardous waste numbers F020, F021, F022, F023, F026, and F027 within one year after the effective date of these rules;

   c. For those existing tank systems of known documented age within one year after the effective date of these rules or when the tank system has reached fifteen years of age, whichever comes later;

   d. For those existing tank systems for which the age cannot be documented, within eight years of the effective date of these rules; but if the age of the facility is greater than seven years, secondary containment must be provided by the time the facility reaches fifteen years of age or within one year of the effective date of these rules, whichever comes later; and

   e. For tank systems that store or treat materials that become hazardous wastes subsequent to January 12, 1987, within the time intervals required in subdivisions a through d of subsection 1, except that the date a material becomes a hazardous waste must be used in place of January 12, 1987.

2. Secondary containment systems must be:

   a. Designed, installed, and operated to prevent any migration of wastes or accumulated liquid out of the system to the

soil, ground water, or surface water at any time during the use of the tank system; and

b. Capable of detecting and collecting releases and accumulated liquids until the collected material is removed.

3. To meet the requirements of subsection 2, secondary containment systems must be at a minimum:

a. Constructed of or lined with materials that are compatible with the wastes to be placed in the tank system and must have sufficient strength and thickness to prevent failure owing to pressure gradients (including static head and external hydrological forces), physical contact with the waste to which it is exposed, climatic conditions, and the stress of daily operation (including stresses from nearby vehicular traffic);

b. Placed on a foundation or base capable of providing support to the secondary containment system, resistance to pressure gradients above and below the system, and capable of preventing failure due to settlement, compression, or uplift;

c. Provided with a leak-detection system that is designed and operated so that it will detect the failure of either the primary or secondary containment structure or the presence of any release of hazardous waste or accumulated liquid in the secondary containment system within twenty-four hours, or at the earliest practicable time if the owner or operator can demonstrate to the department that the existing detection technologies or site conditions will not allow detection of a release within twenty-four hours; and

d. Sloped or otherwise designed or operated to drain and remove liquids resulting from leaks, spills, or precipitation. Spilled or leaked waste and accumulated precipitation must be removed from the secondary containment system within twenty-four hours, or in as timely a manner as possible to prevent harm to human health and the environment, if the owner or operator can demonstrate to the department that removal of the released waste or accumulated precipitation cannot be accomplished within twenty-four hours. (Note: If the collected material is a hazardous waste under chapter 33-24-02, it is subject to management as a hazardous waste in accordance with all applicable requirements of chapters 33-24-03 through 33-24-05. If the collected material is discharged through a point source to waters of the United States, it is subject to the requirements of sections 301, 304, and 402 of the Clean Water Act, as amended. If

discharged to a publicly owned treatment works, it is subject to the requirements of section 307 of the Clean Water Act, as amended. If the collected material is released to the environment, it may be subject to the reporting requirements of 40 CFR 302.)

4. Secondary containment for tanks must include one or more of the following devices:

   a. A liner (external to the tank);

   b. A vault;

   c. A double-walled tank; or

   d. An equivalent device as approved by the department.

5. In addition to the requirements of subsections 2, 3, and 4, secondary containment systems must satisfy the following requirements:

   a. External liner systems must be:

      (1) Designed or operated to contain one hundred percent of the capacity of the largest tank within its boundary;

      (2) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or infiltration. Such additional capacity must be sufficient to contain precipitation from a twenty-five-year, twenty-four-hour rainfall event;

      (3) Free of cracks or gaps; and

      (4) Designed and installed to surround the tank completely and to cover all surrounding earth likely to come into contact with the waste if the waste is released from the tanks (i.e., capable of preventing lateral as well as vertical migration of the waste).

   b. Vault systems must be:

      (1) Designed or operated to contain one hundred percent of the capacity of the largest tank within its boundary;

      (2) Designed or operated to prevent run-on or infiltration of precipitation into the secondary containment system unless the collection system has sufficient excess capacity to contain run-on or

infiltration. Such additional capacity must be sufficient to contain precipitation from a twenty-five-year, twenty-four-hour rainfall event;

(3) Constructed with chemical resistant water stops in place at all joints (if any);

(4) Provided with an impermeable interior coating or lining that is compatible with the stored waste and that will prevent migration of waste into the concrete;

(5) Provided with a means to protect against the formation of and ignition of vapors within the vault, if the waste being stored or treated:

(a) Meets the definition of ignitable wastes under section 33-24-02-11, or

(b) Meets the definition of reactive wastes under section 33-24-02-13, and may form an ignitable or explosive vapor; and

(6) Provided with an exterior moisture barrier or be otherwise designed or operated to prevent migration of moisture into the vault if the vault is subject to hydraulic pressure.

c. Double-walled tanks must be:

(1) Designed as an integral structure (i.e., an inner tank completely enveloped within an outer shell) so that any release from the inner tank is contained by the outer shell;

(2) Protected, if constructed of metal, from both corrosion of the primary tank interior and of the external surface of the outer shell; and

(3) Provided with a built-in continuous leak detection system capable of detecting a release within twenty-four hours, or at the earliest practical time if the owner or operator can demonstrate to the department, and the department concludes, that the existing detection technology or site conditions would not allow detection with a release within twenty-four hours. (Note: The provisions outlined in the steel tank institute's "standard for dual wall underground steel storage tanks" may be used as guidelines for aspects of the design of underground steel double-walled tanks.)

6. Ancillary equipment must be provided with secondary containment (e.g., trench, jacketing, double-walled piping) that meets the requirements of subsections 2 and 3 except for:

   a. Aboveground piping (exclusive of flanges, joints, valves, and other connections) that are visually inspected for leaks on a daily basis;

   b. Welded flanges, welded joints, and welded connections that are visually inspected for leaks on a daily basis;

   c. Sealless or magnetic coupling pumps, and sealless valves, that are visually inspected for leaks on a daily basis; and

   d. Pressurized aboveground piping systems with automatic shutoff devices (e.g., excess flow check valves, flow metering shutdown devices, loss of pressure actuated shutoff devices) that are visually inspected for leaks on a daily basis.

7. The owner or operator may obtain a variance from the requirements of this section if the department finds, as a result of a demonstration by the owner or operator that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous waste or hazardous constituent into the ground water; or surface water at least as effectively as secondary containment during the active life of the tank system or that in the event of a release that does migrate to ground water or surface water, no substantial present or potential hazard will be posed to human health or the environment. New underground tank systems may not, per a demonstration in accordance with subdivision b of subsection 7, be exempted from secondary containment requirements of this section.

   a. In deciding whether to grant a variance based on a demonstration of equivalent protection of ground water and surface water, the department will consider:

      (1) The nature and quantity of the wastes;

      (2) The proposed alternate design and operation;

      (3) The hydrogeologic setting of the facility, including the thickness of soils present between the tank system and ground water; and

      (4) All other factors that would influence the quality and mobility of the hazardous constituents and the potential for them to migrate to ground water or surface water.

b. In deciding whether to grant a variance based on a demonstration of no substantial present or potential hazard, the department will consider:

(1) The potential adverse effects on ground water, surface water, and land quality taking into account:

(a) The physical and chemical characteristics of the waste in the tank system, including its potential for migration;

(b) The hydrogeological characteristics of the facility and surrounding land;

(c) The potential for health risks caused by human exposure to waste constituents;

(d) The potential for damage to wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents; and

(e) The persistence and permanence of potential adverse effects;

(2) The potential adverse effects of a release on ground water quality, taking into account:

(a) The quantity and quality of ground water and the direction of ground water flow;

(b) The proximity and withdrawal rates of ground water users;

(c) The current and future uses of ground water in the area; and

(d) The existing quality of ground water, including other sources of contamination and their cumulative impact on the ground water quality;

(3) The potential adverse effects of a release on surface water quality, taking into account:

(a) The quantity and quality of ground water and the direction of ground water flow;

(b) The patterns of rainfall in the region;

(c) The proximity of the tank system to surface waters;

(d) The current and future uses of surface waters in the area and any water quality standards established for those surface waters; and

(e) The existing quality of surface water, including other sources of contamination and cumulative impact on surface water quality; and

(4) The potential adverse effects of a release on the land surrounding the tank system, taking into account:

(a) The patterns of rainfall in the region; and

(b) The current and future uses of the surrounding land.

c. The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of subdivision a of subsection 7, at which a release of hazardous waste has occurred from the primary tank system, but has not migrated beyond the zone of engineering control (as established in the variance), must:

(1) Comply with the requirements of section 33-24-05-109, except subsection 4; and

(2) Decontaminate or remove contaminated soil to the extent necessary to:

(a) Enable the tank system for which the variance was granted to resume operation with the capability for the detection of releases at least equivalent to the capability it had prior to the release; and

(b) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water; and

(3) If contaminated soil cannot be removed or decontaminated in accordance with paragraph 2 of subdivision c of subsection 7, comply with the requirements of subsection 2 of section 33-24-05-110.

d. The owner or operator of a tank system, for which a variance from secondary containment had been granted in accordance with the requirements of subdivision a of subsection 7, at which a release of hazardous waste has occurred from the primary tank system and has migrated beyond the zone of engineering control (as established in the variance), shall:

(1) Comply with the requirements of subsections 1, 2, 3, and 4 of section 33-24-05-109;

(2) Prevent the migration of hazardous waste or hazardous constituents to ground water or surface water, if possible, and decontaminate or remove contaminated soil. If contaminated soil cannot be decontaminated or removed or if ground water has been contaminated, the owner or operator shall comply with the requirements of subsection 2 of section 33-24-05-110; and

(3) If repairing, replacing, or reinstalling the tank system, provides secondary containment in accordance with the requirements of subsection 1 or reapply for a variance from the secondary containment and meet the requirements for new tank systems in section 33-24-05-105 if the tank system is replaced. The owner or operator shall comply with these requirements even if contaminated soil can be decontaminated or removed and ground water or surface water has not been contaminated.

8. The following procedures must be followed in order to request a variance from secondary containment:

a. The department must be notified in writing by the owner or operator that the owner or operator intends to conduct and submit a demonstration for a variance from secondary containment as allowed in subsection 7 according to the following schedule:

(1) For existing tank systems, at least twenty-four months prior to the date that secondary containment must be provided in accordance with subsection 1; or

(2) For new tank systems, at least thirty days prior to entering into a contract for installation; and

b. As part of the notification, the owner or operator shall also submit to the department a description of the steps necessary to conduct the demonstration and a timetable for completing each of the steps. The demonstration must address each of the factors listed in subdivision a or b of subsection 7;

c. The demonstration for a variance must be completed within one hundred eighty days after notifying the department of an intent to conduct the demonstration; and

d. If a variance is granted under this section, the department will require the permittee to construct and

operate the tank system in the manner that was demonstrated to meet the requirements for the variance.

9. All tank systems, until such time as secondary containment that meet the requirements of this section is provided, must comply with the following:

   a. For nonenterable underground tanks, a leak test that meets the requirements of subdivision e of subsection 2 of section 33-24-05-104 or other tank integrity method, as approved or required by the department must be conducted at least annually;

   b. For other than nonenterable underground tanks, the owner or operator shall either conduct a leak test as in subdivision a or develop a schedule and procedure for an assessment of the overall condition of the tank system by an independent, qualified, registered professional engineer. The schedule and procedure must be adequate to detect obvious cracks, leaks, and corrosion or erosion that may lead to cracks and leaks. The owner or operator shall remove the stored waste from the tank, if necessary, to allow the condition of all internal tank surfaces to be assessed. The frequency of these assessments must be based on the material of construction of the tank and its ancillary equipment, the age of the system, the type of corrosion or erosion protection used, the rate of corrosion or erosion observed during the previous inspection, and the characteristics of the waste being stored or treated;

   c. For ancillary equipment, a leak test for other integrity assessment as approved by the department must be conducted at least annually;

      [Note: The practices described in the American petroleum institute publication guide for inspection of refinery equipment, chapter XIII, "Atmospheric and Low-Pressure Storage Tanks", fourth edition 1981, may be used, where applicable, as guidelines for assessing the overall condition of the tank system.]

   d. The owner or operator shall maintain on file at the facility a record of the results of the assessments conducted in accordance with subdivisions a through c; and

   e. If a tank system or component is found to be leaking or unfit for use as a result of the leak test or assessment in subdivisions a through c, the owner or operator shall comply with the requirements of section 33-24-05-109.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.

General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-120. Special requirements for ignitable or reactive waste. Ignitable or reactive waste may not be placed in a surface impoundment, unless: the waste and impoundment satisfy all applicable requirements of sections 33-24-05-250 through 33-24-05-299.

1. The waste is treated, rendered, or mixed before or immediately after placement in the impoundment so that:

   a. The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive wastes under section 33-24-02-11 or 33-24-02-13; and

   b. Subsection 2 of section 33-24-05-08 is complied with; or

2. The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react; or

3. The surface impoundment is used solely for emergencies.

History: Effective January 1, 1984; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-133. Special requirements for ignitable or reactive waste. Ignitable or reactive waste may not be placed in a waste pile unless: the waste or waste pile satisfies all applicable requirements of sections 33-24-05-250 through 33-24-05-299.

1. The waste is treated, rendered, or mixed before or immediately after placement in the pile so that:

   a. The resulting waste, mixture, or dissolution of material no longer meets the definition of ignitable or reactive waste under section 33-24-02-11 or 33-24-02-13; and

   b. Subsection 2 of section 33-24-05-08 is complied with; or

2. The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

History: Effective January 1, 1984; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-168. Special requirements for ignitable or reactive waste. The owner or operator may not apply ignitable or reactive waste to the treatment zone unless: the waste and the treatment zone meet all applicable requirements of sections 33-24-05-250 through 33-24-05-299.

1. The waste is immediately incorporated into the soil so that:

   a. The resulting waste mixture or dissolution of material no longer meets the definition of ignitable or reactive waste under section 33-24-02-11 or 33-24-02-13; and

   b. Subsection 2 of section 33-24-05-08 is complied with; or

2. The waste is managed in such a way that it is protected from any material or conditions which may cause it to ignite or react.

History: Effective January 1, 1984; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-177. Design and operating requirements.

1. Any landfill that is not covered by subsection 3 must have a liner system for all portions of the landfill (except for existing portions of such landfill which qualifies for an exemption in accordance with subsection 5). The liner system must have:

   a. A liner that is designed, constructed, and installed to prevent any migration of wastes out of the landfill to the adjacent subsurface soil or ground water or surface water at any time during the active life (including the closure period) of the landfill. The liner must be constructed of materials that prevent wastes from passing into the liner during the active life of the facility. The liner must be:

      (1) Constructed of materials that have appropriate chemical properties and sufficient strength and thickness to prevent failure due to pressure gradients (including static head and external hydrogeologic forces), physical contact with the waste or leachate to which they are exposed, climatic conditions, the stress of installation, and the stress of daily operation;

      (2) Placed upon a foundation or base capable of providing support to the liner and resistance to pressure gradients above and below the liner to prevent failure of the liner due to settlement, compression, or uplift; and

(3) Installed to cover all surrounding earth likely to be in contact with the waste or leachate.

b. A leachate collection and removal system immediately above the liner that is designed, constructed, maintained, and operated to collect and remove leachate from the landfill. The department will specify design and operating conditions in the permit to ensure that the leachate depth over the liner does not exceed thirty centimeters [1 foot]. The leachate collection and removal system must be:

(1) Constructed of materials that are:

(a) Chemically resistant to the waste managed in the landfill and the leachate expected to be generated; and

(b) Of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the landfill; and

(2) Designed and operated to function without clogging through the scheduled closure of the landfill.

2. The owner or operator will be exempted from the requirements of subsection 1 if the department finds, based on a demonstration by the owner or operator, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituents (see section 33-24-05-50) into the ground water or surface water at any future time. In deciding whether to grant an exemption, the department will consider:

a. The nature and quantity of the waste;

b. The proposed alternate design and operation;

c. The hydrogeologic setting of the facility, including the attenuative capacity and thickness of the liners and soils present between the landfill and ground water and surface water; and

d. All other factors which would influence the quality and mobility of the leachate produced and the potential for it to migrate to ground water or surface water.

3. The owner or operator of each new landfill, each new landfill unit at an existing facility, each replacement of an existing landfill unit, and each lateral expansion of an existing landfill unit, must install two or more liners and a leachate collection system above and between the liners. The liners

and leachate collection systems must protect human health and the environment. The requirement for the installation of two or more liners in this section may be satisfied by the installation of a top liner designed, operated, and constructed of materials to prevent the migration of any constituent into such liner during the period such facility remains in operation (including any postclosure monitoring period), and a lower liner designed, operated, and constructed to prevent the migration of any constituent through such liner during such period. For the purpose of the preceding sentence, a lower liner is deemed to satisfy such requirement if it is constructed of at least a three-foot [.91-meter] layer of recompacted clay or other natural material with a permeability of no more than one times ten to the minus seven centimeters per second.

4. Subsection 3 will not apply if the owner or operator demonstrates to the department, and the department finds for such landfill, that alternative design and operating practices, together with location characteristics, will prevent the migration of any hazardous constituent into the ground water or surface water at least as effectively as such liners and leachate collection systems.

5. ~~The department, on a case-by-case basis, may exempt an existing portion of a hazardous waste landfill from subsection 1 if the owner or operator demonstrates that the owner's or operator's existing design and operating practices, together with the location of the facility, will prevent migration of any hazardous constituents into the ground water or surface water during the active life of the facility (including the closure period) and the postclosure care period.~~ The double liner requirements set forth in subsection 3 may be waived by the department for any monofill, if:

   a. The monofill contains only hazardous waste from foundry furnace emission controls or metal casting molding sand and such wastes do not contain constituents which would render the wastes hazardous for reasons other than the toxicity characteristics in section 33-24-02-14; and

   b. Monofill liner.

      (1) Evidence of leaking.

         (a) The monofill has at least one liner for which there is no evidence that such liner is leaking;

         (b) The monofill is located more than one-quarter mile from an underground source of drinking water (as that term is defined in 40 CFR part 144.3); and

(c) The monofill is in compliance with generally acceptable ground water monitoring requirements for facilities with permits; or

(2) The owner or operator demonstrates that the monofill is located, designed, and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

6. The owner or operator shall design, construct, operate, and maintain a run-on control system capable of preventing flow onto the active portion of the landfill during peak discharge from at least a twenty-five-year storm.

7. The owner or operator shall design, construct, operate, and maintain a runoff management system to collect and control at least the water volume resulting from a twenty-four-hour, twenty-five-year storm.

8. Collection and holding facilities (e.g., tanks or basins) associated with run-on and runoff control systems must be emptied or otherwise managed expeditiously after storms to maintain design capacity of this system.

9. If the landfill contains any particulate matter which may be subject to wind dispersal, the owner or operator shall cover or otherwise manage the landfill to control wind dispersal.

10. The department will specify in the permit all design and operating practices that are necessary to ensure that the requirements of this section are satisfied.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-181. Special requirements for ignitable or reactive waste.

1. Except as provided in subsection 2 and in section 33-24-05-185, ignitable or reactive waste may not be placed in a landfill, unless the waste ~~is treated, rendered, or mixed before or immediately after placement in the landfill so that~~ and landfill meet all applicable requirements of sections 33-24-05-250 through 33-24-05-299, and:

   a. The resulting waste mixture or dissolution of material no longer meets the definition of ignitable or reactive waste under section 33-24-02-11 or 33-24-02-13; and

b. Subsection 2 of section 33-24-05-08 is complied with.

2. ~~Ignitable wastes in containers may be landfilled without meeting the requirements of subsection 1, provided that the wastes are disposed of in such a way that they are protected from any material~~ Except for prohibited wastes which remain subject to treatment standards in sections 33-24-05-280 through 33-24-05-289, ignitable wastes in containers may be landfilled without meeting the requirements of subsection 1, provided that the wastes are disposed of in such a way that they are protected from any material or conditions which may cause them to ignite. At a minimum, ignitable wastes must be disposed of in nonleaking containers which are carefully handled and placed so as to avoid heat, sparks, rupture, or any other condition that might cause ignition of the wastes; must be covered daily with soil or other noncombustible material to minimize the potential for ignition of the wastes; and may not be disposed of in cells that contain or will contain other wastes which may generate heat sufficient to cause ignition of the waste.

History: Effective January 1, 1984; amended December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-04

33-24-05-185. Disposal of small containers of hazardous waste in overpacked drums (lab packs). Small containers of hazardous waste in overpacked drums (lab packs) may be placed in a landfill if the following requirements are met:

1. Hazardous waste must be packaged in nonleaking inside containers. The inside containers must be of a design and constructed of a material that will not react dangerously with, be decomposed by, or be ignited by the contained waste. Inside containers must be tightly and securely sealed. The inside containers must be of the size and type specified in the department of transportation hazardous materials regulations [49 CFR, parts 173, 178, and 179] if those regulations specify particular inside container for the waste.

2. The inside containers must be overpacked in an open head department of transportation specification metal shipping container [49 CFR, parts 178 and 179] of no more than four hundred sixteen-liter [110-gallon] capacity and surrounded by, at a minimum, a sufficient quantity of absorbent material to completely absorb all of the liquid contents of the inside containers. The metal outer container must be full after packing with inside containers and absorbent material.

3. The absorbent material used must not be capable of reacting dangerously with, being decomposed by, or being ignited by the

contents of the inside containers in accordance with subsection 2 of section 33-24-05-08.

4. Incompatible wastes as defined in section 33-24-01-04 may not be placed in this same outside container.

5. Reactive wastes, other than cyanide-bearing or sulfide-bearing waste, as defined in subdivision e of subsection 1 of section 33-24-02-13 must be treated or rendered nonreactive prior to packaging in accordance with subsections 1 through 4. Cyanide-bearing and sulfide-bearing reactive waste may be packed in accordance with subsections 1 through 4 without first being treated or rendered nonreactive.

6. Such disposal is in compliance with the requirements of sections 33-24-05-250 through 33-24-05-299. Persons who incinerate lab packs according to the requirements in subdivision a of subsection 3 of section 33-24-05-282 may use fiber drums in place of metal outer containers. Such fiber drums must meet the department of transportation specifications in 49 CFR 173.12 and be overpacked according to the requirements in subsection 2.

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-201. Applicability to recyclable materials used in a manner constituting disposal.

1. Sections 33-24-05-201 through 33-24-05-204 apply to recyclable materials that are applied to or placed on the land:

   a. Without mixing with any other substances; or

   b. After mixing or combination with any other substances, these materials will be referred to throughout sections 33-24-05-201 through 33-24-05-204 as "materials used in a manner that constitutes disposal".

2. ~~Products produced for the general public's use that are used in a manner that constitutes disposal and that contain recyclable materials are not presently subject to regulation if the recyclable materials have undergone a chemical reaction in the course of producing a product so as to become inseparable by physical means. Commercial fertilizers that are produced for the general public's use that contain recyclable materials also are not presently subject to regulation.~~ Products produced for the general public's use that are used in a manner that constitutes disposal and that contain recyclable materials are not presently subject to

regulation if the recyclable materials have undergone a chemical reaction in the course of producing the products so as to become inseparable by physical means and if such products meet the applicable treatment standards in sections 33-24-05-280 through 33-24-05-289 (or applicable prohibition levels in section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d), where no treatment standards have been established) for each recyclable material (i.e., hazardous waste) that they contain. Commercial fertilizers that are produced for the general public's use that contain recyclable materials also are not presently subject to regulation provided they meet the same treatment standards or prohibition levels for each recyclable material that they contain. However, zinc-containing fertilizers using hazardous waste K061 that are produced for the general public's use are not presently subject to regulation.

History: Effective October 1, 1986; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-210. Applicability to hazardous waste burned for energy recovery.

1. The regulations of sections 33-24-05-210 through 33-24-05-219 apply to hazardous wastes that are burned for energy recovery in any boiler or industrial furnace that is not regulated under sections ~~33-24-05-14~~ 33-24-05-144 through 33-24-05-159, except as provided in subsection 2. Such hazardous wastes burned for energy recovery are termed "hazardous waste fuel". Fuel produced from hazardous waste by processing, blending, or other treatment is also hazardous waste fuel. (These regulations do not apply, however, to gas recovered from hazardous waste management activities when such gas is burned for energy recovery.)

2. The following hazardous wastes are not regulated under sections 33-24-05-210 through 33-24-05-216:

   a. Used oil burned for energy recovery that is also a hazardous waste solely because it exhibits a characteristic of hazardous waste identified in chapter 33-24-02. Such used oil is subject to regulation under sections 33-24-05-219 through 33-24-05-229 rather than sections 33-24-05-210 through 33-24-05-216.

   b. Hazardous wastes that are exempt from regulation under section 33-24-02-04 and paragraphs 5 through 9 of subdivision c of subsection 1 of section 33-24-02-06, and hazardous wastes that are subject to the special

requirements for small quantity generators under section 33-24-02-05.

History: Effective October 1, 1986; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-219. ~~Used oil burned for energy recovery.~~ [Reserved]

33-24-05-220. ~~[Reserved]~~ Applicability to used oil burned for energy recovery.

1. The rules of sections 33-24-05-220 through 33-24-05-229 apply to used oil that is burned for energy recovery in any boiler or industrial furnace that is not regulated under sections 33-24-05-144 through 33-24-05-159, except as provided by subsections 3 and 5. Such used oil is termed "used oil fuel". Used oil fuel includes any fuel produced from used oil by processing, blending, or other treatment.

2. "Used oil" means any oil that has been refined from crude oil, used, and, as a result of such use, is contaminated by physical or chemical impurities.

3. Except as provided by subsection 4, used oil that is mixed with hazardous waste and burned for energy recovery is subject to regulation as hazardous waste fuel under sections 33-24-05-210 through 33-24-05-219. Used oil containing more than one thousand parts per million of total halogens is presumed to be a hazardous waste because it has been mixed with halogenated hazardous waste listed in sections 33-24-02-15 through 33-24-02-18. Persons may rebutt this presumption by demonstrating that the used oil does not contain hazardous waste (for example, by showing that the used oil does not contain significant concentrations of halogenated hazardous constituents listed in appendix V of chapter 33-24-02).

4. Used oil burned for energy recovery subject to regulation under sections 33-24-05-220 through 33-24-05-229 rather than as hazardous waste fuel under sections 33-24-05-210 through 33-24-05-219 if it is a hazardous waste solely because it:

   a. Exhibits a characteristic of hazardous waste identified in sections 33-24-02-10 through 33-24-02-14 of chapter 33-24-02, provided that it is not mixed with a hazardous waste; or

b. Contains hazardous waste generated only by a person subject to the special requirements for small quantity generators under section 33-24-02-05.

5. Except as provided by subsection 3, used oil burned for energy recovery, and any fuel produced from used oil by processing, blending, or other treatment, is subject to regulation under sections 33-24-05-220 through 33-24-05-229 unless it is shown not to exceed any of the allowable levels of the constituents and properties in the specifications shown in the following table. Used oil fuel that meets the specification is subject only to the analysis and recordkeeping requirements under subdivisions a and f of subsection 2 of section 33-24-05-223. Used oil fuel that exceeds any specification level is termed "off-specification used oil fuel".

USED OIL EXCEEDING ANY SPECIFICATION LEVEL IS SUBJECT TO SECTIONS 33-24-05-220 THROUGH 33-24-05-229 WHEN BURNED FOR ENERGY RECOVERY[a]

Constituent/property	Allowable level
Arsenic	5 ppm maximum
Cadmium	2 ppm maximum
Chromium	10 ppm maximum
Lead	100 ppm maximum
Flashpoint	100 °F minimum
Total Halogens	4,000 ppm maximum[b]

[a]The specification does not apply to used oil fuel mixed with a hazardous waste other than small quantity generator hazardous waste.

[b]Used oil containing more than 1,000 ppm total halogens is presumed to be a hazardous waste under the rebuttable presumption provided under subsection 3 of section 33-24-05-220. Such used oil is subject to sections 33-24-05-210 through 33-24-05-219 rather than sections 33-24-05-220 through 33-24-05-229 when burned for energy recovery unless the presumption of mixing can be successfully rebutted.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-04

33-24-05-221. ~~[Reserved]~~ Prohibitions.

1. A person may market off-specification used oil for energy recovery only:

   a. To burners or other marketers who have notified the department of their used oil management activities stating

the location and general description of such activities, and who have an identification number; and

b. To burners who burn the used oil in an industrial furnace or boiler identified in subsection 2.

2. Off-specification used oil may be burned for energy recovery in only the following devices:

a. Industrial furnaces identified in section 33-24-01-04; and

b. Boilers, as defined in section 33-24-01-04, that are identified as follows:

(1) Industrial boilers located on the site of a facility engaged in a manufacturing process where substances are transformed into new products, including the component parts of product, by mechanical or chemical processes;

(2) Utility boilers used to produce electric power, steam, or heated or cooled air or other gases or fluids for sale; or

(3) Used oil-fired space heaters provided that:

(a) The heater burns only used oil that the owner or operator generates or used oil received from do-it-yourself oil changers who generate used oil as household waste;

(b) The heater is designed to have a maximum capacity of not more than 0.5 Btu per hour; and

(c) The combustion gases from the heater are vented to the ambient air.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-222. ~~[Reserved]~~ Standards applicable to generators of used oil burned for energy recovery.

1. Except as provided in subsections 2 and 3, generators of used oil are not subject to sections 33-24-05-220 through 33-24-05-229.

2. Generators who market used oil directly to a burner are subject to section 33-24-05-223.

3. Generators who burn used oil are subject to section 33-24-05-224.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-04

33-24-05-223. ~~[Reserved]~~ Standards applicable to marketers of used oil burned for energy recovery.

1. Persons who market used oil fuel are termed "marketers". However, the following persons are not marketers subject to sections 33-24-05-220 through 33-24-05-229:

   a. Used oil generators, and collectors who transport used oil received only from generators, unless the generator or collector markets the used oil directly to a person who burns it for energy recovery. However, persons who burn some used oil fuel for purposes of processing or treatment to produce used oil fuel for marketing are considered to be burning incidentally to processing. Thus, generators and collectors who market to such incidental burners are not marketers subject to this subpart.

   b. Persons who market only used oil fuel that meet the specification under subsection 5 of section 33-24-05-220 and who are not the first person to claim the oil meets the specification (i.e., marketers who do not receive used oil from generators or initial transporters and marketers who neither receive nor market off-specification used oil fuel).

2. Marketers are subject to the following requirements:

   a. Analysis of used oil fuel. Used oil is subject to regulation under sections 33-24-05-220 through 33-24-05-229 unless the marketer obtains analysis or other information documenting that the used oil fuel meets the specification documented provided under subsection 5 of section 33-24-05-220.

   b. The prohibitions under subsection 1 of section 33-24-05-221.

   c. Notification. Notification to the department stating the location and general description of used oil management activities. Even if a marketer has previously notified the department of the marketer's hazardous waste activities and obtained an identification number, the marketer must renotify to identify the marketer's used oil management activities.

d. Invoice system. When a marketer initiates a shipment of off-specification used oil, the marketer must prepare and send the receiving facility an invoice containing the following information:

(1) An invoice number;

(2) The marketer's own identification number and the identification number of the receiving facility;

(3) The names and addresses of the shipping and receiving facility;

(4) The quantity of off-specification used oil to be delivered;

(5) The dates of shipment or delivery; and

(6) The following statement: "This used oil is subject to regulation under sections 33-24-05-210 through 33-24-05-229."

Note: used oil that meets the definition of combustible liquid (flashpoint below two hundred degrees Fahrenheit or greater than one hundred degrees Fahrenheit or flammable liquid) flashpoint below one hundred degrees Fahrenheit is subject to department of transportation hazardous materials regulation at 49 CFR part 100-177.

e. Required notices.

(1) Before a marketer initiates the first shipment of off-specification used oil to a burner or other marketer, the marketer must obtain a one-time written and signed notice from the burner or marketer certifying that:

(a) The burner or marketer has notified the department stating the location and general description of his used oil management activities; and

(b) If the recipient is a burner, the burner will burn the off-specification used oil only in an industrial furnace or boiler identified in subsection 2 of section 33-24-05-221; and

(2) Before a marketer accepts the first shipment of off-specification used oil from another marketer subject to the requirements of this section, he must provide the marketer with a one-time written and

signed notice certifying that he has notified the department of his used oil management activities.

f. Recordkeeping.

(1) Used oil fuel that meets the specification. A marketer who first claims under subdivision a of subsection 2 that used oil fuel meets the specification must keep copies of analysis (or other information used to make the determination) have used oil for three years. Such marketers must also record in an operating log and keep for three years the following information on each shipment of used oil fuel that meets the specification. Such used oil fuel is not subject to further regulation, unless it is subsequently mixed with hazardous waste or unless it is mixed with used oil so that it no longer meets the specification.

(a) The name and address of the facility receiving the shipment;

(b) The quantity of used oil fuel delivered;

(c) The date of shipment delivery; and

(d) A cross-reference to the record of used oil analysis (or other information used to make the determination that this oil meets the specification) required under paragraph 1 of subdivision f of subsection 2.

(2) Off-specification used oil fuel. A marketer who receives or initiates an invoice under the requirements of this section must keep a copy of each invoice for three years from the date the invoice is received or prepared. In addition, a marketer must keep a copy of each certification notice that the marketer receives or sends for three years from the date the marketer last engages in an off-specification used oil fuel marketing transaction with the person who sends or receives their certification notice.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-04

33-24-05-224. ~~[Reserved]~~ Standards applicable to burners of used oil burned for energy recovery. Owners and operators of facilities that burn used oil fuel are "burners" and are subject to the following requirements:

1. Prohibition. The prohibition under section 1 of section 33-24-05-221.

2. Notification. Burners of off-specification used oil fuel must notify the department stating the location and general description of used oil management activities, except that owners and operators of used oil-fired space heaters that burn used oil fuel under the provisions of subdivision b of subsection 2 are exempt from these notification requirements. Even if a burner has previously notified the department of the burner's hazardous waste management activities and obtained an identification number, the burner must notify to identify the burner's used oil management activities.

3. Required notices. Before a burner accepts the shipment of off-specification used oil fuel from a marketer, the burner must provide the marketer a one-time written and signed notice certifying that:

   a. The burner has notified the department stating the location and general description of his used oil management activities; and

   b. The burner will burn the used oil only in an industrial furnace or boiler identified in subsection 2 of section 33-24-05-221.

4. Used oil fuel analysis.

   a. Used oil fuel burned by the generator is subject to regulation under sections 33-24-05-220 through 33-24-05-229 unless the burner obtains analysis (or other information) documenting that the used oil meets the specification provided under subsection 5 of section 33-24-05-240.

   b. Burners who treat off-specification used oil fuel by processing, blending, or other treatment to meet the specification provided under subsection 5 of section 33-24-05-220 must obtain analysis or other information documenting that the used oil meets the specification.

5. Recordkeeping. A burner who receives an invoice under the requirements of this section must keep a copy of each invoice for three years from the date the invoice is received. Burners must also keep for three years copies of analysis of used oil fuel as may be required by subsection 4. In addition, the burner must keep a copy of each certification notice that the burner sends to a marketer for three years from the date the burner last receives off-specification used oil from that marketer.

History: Effective December 1, 1991.

General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-250. Purpose, scope, and applicability to land disposal restrictions.

1. Sections 33-24-05-250 through 33-24-05-300 identify hazardous wastes that are restricted from land disposal and defines those limited circumstances under which an otherwise prohibited waste may continue to be land disposed.

2. Except as specifically provided otherwise in sections 33-24-05-250 through 33-24-05-300 or chapter 33-24-02, the requirements of sections 33-24-05-250 through 33-24-05-300 apply to persons who generate or transport hazardous waste and owners and operators of hazardous waste treatment, storage, and disposal facilities.

3. ~~Prohibited~~ Restricted wastes may continue to be land disposed as follows:

   a. Where persons have been granted an extension from the effective date of a prohibition under sections 33-24-05-270 through 33-24-05-279 or pursuant to section 33-24-05-254, with respect to those wastes covered by the extension;

   b. Where persons have been granted an exemption from a prohibition pursuant to a petition under section 33-24-05-255, with respect to those wastes and units covered by the petition; and

   c. ~~Until November 8, 1988, where the wastes are contaminated soil or debris resulting from a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 or a corrective action required under the Resource Conservation and Recovery Act; or~~ Wastes that are hazardous only because they exhibit a hazardous characteristic, and which are otherwise prohibited from land disposal under this section, are not prohibited from land disposal if the wastes:

      (1) Are disposed into a nonhazardous or hazardous injection well as defined in 40 CFR 144.6(a); and

      (2) Do not exhibit any prohibited characteristic of hazardous waste at the point of injection.

   d. ~~Where the waste is generated by small quantity generators of less than one hundred kilograms of nonacute hazardous wastes per month or less than one kilogram acute hazardous~~

~~waste per month as defined in section 33-24-02-05 of this article; or~~ Removed and reserved.

~~c. Where a farmer is disposing of waste pesticides in accordance with section 33-24-03-40.~~

4. The requirements of this section do not affect the availability of a waiver under section 121(d)(4) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980.

5. The following hazardous wastes are not subject to any provision of sections 33-24-05-250 through 33-24-05-290:

   a. Waste generated by small quantity generators of less than one hundred kilograms of nonacute hazardous waste or less than one kilogram of acute hazardous waste per month, as defined in section 33-24-02-05.

   b. Waste pesticides that a farmer disposes of pursuant to section 33-24-03-40.

   c. Wastes identified or listed as hazardous after November 8, 1984, for which the department has not promulgated land disposal prohibitions or treatment standards.

History: Effective December 1, 1988; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-251. Definitions applicable to sections 33-24-05-250 through 33-24-05-300. When used in sections 33-24-05-250 through 33-24-05-300, the following terms have the meanings given below:

1. "Halogenated organic compounds or HOCs" mean those compounds having a carbon-halogen bond which are listed under appendix VII.

2. "Hazardous constituent or constituents" means those constituents listed in appendix V to chapter 33-24-02.

3. "Inorganic solid debris" are nonfriable inorganic solids that are incapable of passing through a nine and five-tenths millimeter standard sieve that require cutting, or crushing and grinding in mechanical sizing equipment prior to stabilization, limited to the following inorganic or metal materials:

   a. Metal slags, either dross or scoria.

   b. Glassified slag.

c. Glass.

d. Concrete, excluding cementitious or pozzolanic stabilized hazardous wastes.

e. Masonry and refractory bricks.

f. Metal cans, containers, drums, or tanks.

g. Metal nuts, bolts, pipes, pumps, valves, appliances, or industrial equipment.

h. Scrap metal as defined in subdivision f of subsection 1 of section 33-24-02-01.

4. "Land disposal" means placement in or on the land and includes, but is not limited to, placement in a landfill, surface impoundment, waste pile, injection well, land treatment facility, salt dome formation, salt bed formation, underground mine or cave, or placement in a concrete vault or bunker intended for disposal purposes.

5. "Nonwastewaters" are wastes that do not meet the criteria for wastewaters in subdivision f of subsection 7.

6. "Polychlorinated biphenyls or PCBs" are halogenated organic compounds defined in accordance with 40 CFR 761.3.

~~2. All other terms have the meanings given under section 33-24-01-04, 33-24-02-02, or 33-24-02-03.~~

7. "Wastewaters" are wastes that contain less than one percent by weight total organic carbon and less than one percent by weight total suspended solids, with the following exceptions:

a. F001, F002, F003, F004, F005 solvent-water mixtures that contain less than one percent by weight total organic carbon or less than one percent by weight total F001, F002, F003, F004, F005 solvent constituents listed in section 33-24-05-281, table CCWE.

b. K011, K013, K014 wastewaters (as generated) that contain less than five percent by weight total organic carbon and less than one percent by weight total suspended solids.

c. K103 and K104 wastewaters contain less than four percent by weight total organic carbon and less than one percent by weight total suspended solids. "Inorganic solid debris" are nonfriable inorganic solids that are incapable of passing through a nine and five-tenths millimeter standard sieve that require cutting, or crushing and grinding in mechanical sizing equipment prior to

stabilization, limited to the following inorganic or metal materials.

History: Effective December 1, 1988; amended efffective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-252. Dilution prohibited as a substitute for treatment.

1. ~~No~~ Except as provided in subsection 2, no generator, transporter, handler, or owner or operator of a treatment, storage, or disposal facility may in any way dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with sections 33-24-05-280 through 33-24-05-289, to circumvent the effective date of a prohibition in sections 33-24-05-270 through 33-24-05-279, to otherwise avoid a prohibition in sections 33-24-05-270 through 33-24-05-279, or to circumvent a land disposal prohibition imposed by Resource Conservation and Recovery Act section 3004.

2. Dilution of wastes that are hazardous only because they exhibit a characteristic in a treatment system which treats wastes subsequently discharged to a water of the United States pursuant to a permit issued under section 402 of the Clean Water Act or which treats wastes for purposes of pretreatment requirements under section 307 of the Clean Water Act is not impermissible dilution for purposes of this section unless a method has been specified as the treatment standard in section 33-24-05-282.

History: Effective December 1, 1988 ; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-253. Treatment surface impoundment exemption.

1. Wastes which are otherwise prohibited from land disposal under sections 33-24-05-250 through 33-24-05-300 may be treated in a surface impoundment or series of impoundments provided that:

   a. Treatment of such wastes occurs in the impoundments;

   b. ~~The residues of the treatment are analyzed, as specified in section 33-24-05-256 or 33-24-05-272, to determine if they meet the applicable treatment standards in sections 33-24-05-280 through 33-24-05-289, or, where no treatment standards have been established for the waste, the~~

~~applicable prohibition levels specified in sections 33-24-05-270 through 33-24-05-279 or Resource Conservation and Recovery Act section 3004(d). The sampling methods, specified in the waste analysis plan under section 33-24-05-04, must be designed such that representative samples of the sludge and the supernatant are tested separately rather than mixed to form homogenous samples. The treatment residues (including any liquid waste) that do not meet the treatment standard promulgated under sections 33-24-05-280 through 33-24-05-289, or the applicable prohibition levels promulgated under sections 33-24-05-270 through 33-24-05-279 or imposed by statute (where no treatment standards have been established), or which are not listed under section 33-24-01-08 and no longer exhibits a characteristic of hazardous waste, must be removed at least annually. These residues may not be placed in any other surface impoundment for subsequent management. If the volume of liquid flowing through the impoundment or series of impoundments annually is greater than the volume of the impoundment or impoundments, this flowthrough constitutes removal of the supernatant for the purpose of this requirement. The procedures and schedule for the sampling of impoundment contents, the analysis of test data, and the annual removal of residue which does not meet sections 33-24-05-280 through 33-24-05-289 treatment standards, or sections 33-24-05-270 through 33-24-05-279 or Resource Conservation and Recovery Act section 3004(d) prohibition levels where no treatment standards have been established, must be specified in the facility's waste analysis plan as required under section 33-24-05-04.~~ The following conditions are met:

(1) Sampling and testing. For wastes with treatment standards in sections 33-24-05-280 through 33-24-05-289 or prohibition levels in sections 33-24-05-270 through 33-24-05-279, or both, or Resource Conservation and Recovery Act section 3004(d), the residues from treatment are analyzed as specified in section 33-24-05-256 or 33-24-05-272, to determine if they meet applicable treatment standards or where no treatment standards have been established for the waste, the applicable prohibition levels. The sampling methods specified in the waste analysis plan under section 33-24-05-04 must be designed such that representative samples of the sludge and the supernatant are tested separately rather than mixed to form homogenous samples.

(2) Removal. The following treatment residues, including any liquid waste, must be removed at least annually: residues which do not meet the treatment standards promulgated under sections 33-24-05-280 through 33-24-05-289; residues which do not meet the

prohibition levels established under sections 33-24-05-270 through 33-24-05-279 or imposed by statute (where no treatment standards have been established); residues which are from the treatment of wastes prohibited from land disposal under sections 33-24-05-270 through 33-24-05-279 (where no treatment standards have been established and no prohibition levels apply); or residues from managing listed wastes which are not delisted under section 33-24-01-08. However, residues which are the subject of a valid certification under section 33-24-05-257 made no later than a year after placement of the wastes in an impoundment are not required to be removed annually. If the volume of liquid flowing through the impoundment or series of impoundments annually is greater than the volume of the impoundment or impoundments, this flowthrough constitutes removal of the supernatant for the purpose of this requirement.

(3) Subsequent management. Treatment residues may not be placed in any other surface impoundment for surface impoundment unless the residues are the subject of a valid certification under section 33-24-05-257 which allows disposal in surface impoundments meeting the requirements of subsection 1 of section 33-24-05-257.

(4) Recordkeeping. The procedures and schedule for the sampling of impoundment contents, the analysis of test data, and the annual removal of residues which do not meet the treatment standards or prohibition levels (where no treatment standards have been established), or which are from the treatment of waste prohibited from land disposal under sections 33-24-05-270 through 33-24-05-279 (where no treatment standards have been established and no prohibition levels apply), must be specified in the facility's waste analysis plan as required under section 33-24-05-04.

c. The impoundment meets the design requirements of subsection 3 of section 33-24-05-116, regardless that the unit may not be new, expanded, or a replacement, and be in compliance with the applicable ground water monitoring requirements of chapter 33-24-05 unless:

(1) Exempted pursuant to subsection 4 or 5 of section 33-24-05-116;

(2) Upon application by the owner or operator, the department, after notice and opportunity to comment, has granted a waiver of the requirements on the basis that the surface impoundment:

(a) Has at least one liner, for which there is no evidence that such liner is leaking;

(b) Is located more than one-quarter mile from an underground source of drinking water; and

(c) Is in compliance with generally applicable ground water monitoring requirements for facilities with permits; or

(3) Upon application by the owner or operator, the department, after notice of an opportunity to comment, has granted a modification to the requirements on the basis of a demonstration that the surface impoundment is located, designed, and operated so as to assure that there will be no migration of any hazardous constituent into ground water or surface water at any future time.

d. The owner or operator submits to the department a written certification that the requirements of subdivision c of subsection 1 of section 33-24-05-253 have been met and submits a copy of the waste analysis plan required under subdivision b of subsection 1 of section 33-24-05-253. The following certification is required: I certify under penalty of law that the requirements of subdivision c of subsection 1 of section 33-24-05-253 have been met for all surface impoundments and used to treat restricted wastes. I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

2. Evaporation of hazardous constituents as the principal means of treatment is not considered to be treatment for purposes of an exemption under this section.

History: Effective December 1, 1988; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-254. Procedures for case-by-case extensions for an effective date.

1. Any person who generates, treats, stores, or disposes of a hazardous waste may submit an application to the department for an extension to the effective date of any applicable restriction established under sections 33-24-05-270 through 33-24-05-279. The applicant shall demonstrate the following:

a. The applicant has made a good faith effort to locate and contract with treatment, recovery, or disposal facilities nationwide to manage the applicant's waste in accordance with the effective date of the applicable restrictions established under sections 33-24-05-270 through 33-24-05-279;

b. The applicant has entered into a binding contractual commitment to construct or otherwise provide alternative treatment, recovery, (e.g., recycling), or disposal capacity that meets the treatment standards specified in sections 33-24-05-280 through 33-24-05-289 or, where treatment standards have not been specified, such treatment, recovery, or disposal capacity is protective of human health and the environment;

c. Due to circumstances beyond the applicant's control, such alternative capacity cannot reasonably be made available by the applicable effective date. This demonstration may include a showing that the technical and practical difficulties associated with providing the alternative capacity will result in the capacity not being available by the applicable effective date;

d. The capacity being constructed or otherwise provided by the applicant will be sufficient to manage the entire quantity of waste that is the subject of the application;

e. The applicant provides a detailed schedule for obtaining required operating and construction permits or an outline of how and when alternative capacity will be available;

f. The applicant has arranged for adequate capacity to manage the applicant's waste during an extension and has documented in the application the location of all sites at which the waste will be managed; and

g. Any waste managed in a surface impoundment or landfill during the extension period will meet the requirements of subdivision b of subsection 8.

2. An authorized representative signing an application described under subsection 1 shall make the following certification: I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

3. After receiving an application for an extension, the department may request any additional information which the department deems as necessary to evaluate the application.

4. An extension will apply only to the waste generated at the individual facility covered by the application and will not apply to restricted waste from any other facility.

5. On the basis of the information referred to in subsection 1, after notice and opportunity for comment, and after consultation with appropriate state agencies in all affected states, the department may grant an extension of up to one year from the effective date. The department may renew this extension for up to one additional year upon the request of the applicant if the demonstration required in subsection 1 can still be made. In no event will an extension extend beyond twenty-four months from the applicable effective date specified in sections 33-24-05-270 through 33-24-05-279. The length of any extension authorized will be determined by the department based on the time required to construct or obtain the type of capacity needed by the applicant as described in the completion schedule discussed in subdivision e of subsection 1. The department will give public notice of the intent to approve or deny a petition and provide an opportunity for public comment.

6. Any person granted an extension under this section shall immediately notify the department as soon as that person has knowledge of any change in the conditions certified to in the application.

7. Any person granted an extension under this section shall submit written progress reports at intervals designated by the department. Such reports must describe the overall progress made toward constructing or otherwise providing alternative treatment, recovery, or disposal capacity; must identify any event which may cause or has caused a delay in the development of the capacity; and must summarize the steps taken to mitigate the delay. The department can revoke an extension at any time if the applicant does not demonstrate a good faith effort to meet the schedule for completion, if the department denies or revokes any required permit, if conditions certified in the application change, or for any violation of this chapter.

8. Whenever the department establishes an extension to an effective date under this section, during the period for which such extension is in effect:

   a. The storage restrictions under subsection 1 of section 33-24-05-290 do not apply; and

b. ~~Such hazardous waste may be disposed of at a facility only if each new landfill or surface impoundment unit, each replacement of an existing landfill or surface impoundment unit, and each lateral expansion of an existing landfill or surface impoundment unit at the facility is in compliance with the following requirements:~~ Such hazardous waste may be disposed in a landfill or surface impoundment only if such unit is in compliance with the technical requirements of the following provisions regardless of whether such unit is existing, new, or a replacement or lateral expansion.

(1) The landfill, if in interim status, is in compliance with the requirements of 40 CFR 265; or

(2) The landfill, if permitted, is in compliance with the requirements of sections 33-24-05-47 through 33-24-05-58 and subsections 3, 4, and 5 of section 33-24-05-177;

(3) The surface impoundment, if in interim status, is in compliance with the requirements of sections 33-24-05-47 through 33-24-05-58, subsections 1, 3, and 4 of section 33-24-05-116, and Resource Conservation and Recovery Act section 3005(j)(1); or

(4) The surface impoundment, if permitted, is in compliance with the requirements of sections 33-24-05-47 through 33-24-05-58 and subsections 3, 4, and 5 of section 33-24-05-116.

(5) The landfill, if disposing of containerized liquid hazardous wastes containing polycholorinated biphenyls of concentrations greater than or equal to fifty parts per million but less than five hundred parts per million, is also in compliance with the requirements of 40 CFR 761.75 and this article.

9. Pending a decision on an application, the applicant is required to comply with all restrictions on land disposal under sections 33-24-05-250 through 33-24-05-290 once the effective date for the waste has been reached.

History: Effective December 1, 1988; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-255. Petitions to allow land disposal of a waste prohibited under sections 33-24-05-270 through 33-24-05-279.

1. Any person seeking an exemption from a prohibition under sections 33-24-05-270 through 33-24-05-279 for the disposal of a restricted hazardous waste in a particular unit or units shall submit a petition to the department demonstrating, to a reasonable degree of certainty, that there will be no migration of hazardous constituents from the disposal unit or injection zone for as long as the wastes remain hazardous. The demonstration must include the following components:

   a. An identification of the specific waste and the specific unit for which the demonstration will be made;

   b. A waste analysis to describe fully the chemical and physical characteristics of the subject waste; ~~and~~

   c. A comprehensive characterization of the disposal unit site including an analysis of background air, soil, and water quality~~.~~;

   d. A monitoring plan that detects migration at the earliest practicable time; and

   e. Sufficient information to assure the department that the owner or operator of a land disposal unit receiving restricted wastes will comply with other applicable federal, state, and local laws.

2. The demonstration referred to in subsection 1 must meet the following criteria:

   a. All waste and environmental sampling, test, and analysis data must be accurate and reproducible to the extent that state of the art techniques allow;

   b. All sampling, testing, and estimation techniques for chemical and physical properties of the waste and all environmental parameters must have been approved by the department;

   c. Simulation models must be calibrated for the specific waste and site conditions, and verified for accuracy by comparison with actual measurements;

   d. A quality assurance and quality control plan that addresses all aspects of the demonstration must be approved by the department; and

   e. An analysis must be performed to identify and quantify any aspects of the demonstration that contribute significantly to uncertainty. This analysis must include an evaluation of the consequences of predictable future events, including, but not limited to, earthquakes, floods, severe storm events, droughts, or other natural phenomena.

3. ~~Each petition must be submitted to the department.~~ Each petition referred to in subsection 1 must include the following:

a. A monitoring plan that describes the monitoring program installed at or around the unit to verify continued compliance with the conditions of the variance. This monitoring plan must provide information on the monitoring of the unit or the environment around the unit, or both. The following specific information must be included in the plan:

(1) The media monitored in the cases where monitoring of the environment around the unit is required;

(2) The type of monitoring conducted at the unit, in the cases where monitoring of the unit is required;

(3) The location of the monitoring station;

(4) The monitoring interval (frequency of monitoring at each station);

(5) The specific hazardous constituents to be monitored;

(6) The implementation schedule for the monitoring program;

(7) The equipment used at the monitoring station;

(8) The sampling and analytical techniques employed; and

(9) The data recording and reporting procedures.

b. Where applicable, the monitoring program described in subdivision a must be in place for a period of time specified by the department, as part of his approval of the petition, prior to receipt of prohibited waste at the unit.

c. The monitoring data collected according to the monitoring plan specified under subdivision a must be sent to the department according to a format and schedule specified and approved in the monitoring plan.

d. A copy of the monitoring data collected under the monitoring plan specified under subdivision a must be kept onsite at the facility in the operating record.

e. The monitoring program specified under subdivision a meets the following criteria:

(1) All sampling, testing, and analytical data must be approved by the department and must provide data that is accurate and reproducible.

(2) All estimation and monitoring techniques must be approved by the department.

(3) A quality assurance and quality control plan addressing all aspects of the monitoring program must be provided to and approved by the department.

4. Each petition must be submitted to the department.

5. After a petition has been approved, the owner or operator must report any changes in conditions at the unit or the environment around the unit, or both, that significantly depart from the conditions described in the variance and affect the potential for migration of hazardous constituents from the units as follows:

   a. If the owner or operator plans to make changes to the unit design, construction, or operation, such a change must be proposed in writing and the owner or operator must submit a demonstration to the department at least thirty days prior to making the change. The department will determine whether the proposed change invalidates the terms of the petition and will determine the appropriate response. Any change must be approved by the department prior to being made.

   b. If the owner or operator discovers that a condition at the site which was modeled or predicted in the petition does not occur as predicted, this change must be reported, in writing, to the department within ten days of discovering the change. The department will determine whether the reported change from the terms of the petition requires further action which may include termination of waste acceptance and revocation of the petition, petition modifications, or other responses.

6. If the owner or operator determines that there is migration of hazardous constituents from the unit, the owner or operator must:

   a. Immediately suspend receipt of prohibited waste at the unit.

   b. Notify the department in writing, within ten days of the determination that a release has occurred.

   c. Following receipt of the notification the department will determine, within sixty days of receiving notification, whether the owner or operator can continue to receive

prohibited waste in the unit and whether the variance is to be revoked. The department shall also determine whether further examination of any migration is warranted under applicable provisions of chapter 33-24-05.

~~4.~~ 7. Each petition must include the following statement signed by the petitioner or an authorized representative: (I certify under penalty of law that I have personally examined and am familiar with the information submitted in this petition and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.)

~~5.~~ 8. After receiving a petition, the department may request any additional information that reasonably may be required to evaluate the demonstration.

~~6.~~ 9. If approved, the petition will apply to land disposal of the specific restricted waste at the individual disposal unit described in the demonstration and will not apply to any other restricted waste at that disposal unit, or to that specific restricted waste at any other disposal unit.

~~7.~~ 10. The department will give public notice of the intent to approve or deny a petition and provide an opportunity for public comment.

~~8.~~ 11. The term of a petition granted under this section may be no longer than the term of the hazardous waste permit if the disposal unit is operating under a hazardous waste permit, or up to a maximum of five years from the date of approval provided under subsection 7 if the unit is operating under interim status. In either case, the term of the granted petition expires upon the termination or denial of a hazardous waste permit, or upon the termination of interim status or when the volume limit of waste to be land disposed during the term of petition is reached.

~~9.~~ 12. Prior to the department's decision, the applicant is required to comply with all restrictions on land disposal under sections 33-24-05-250 through 33-24-05-300 once the effective date for the waste has been reached.

~~10.~~ 13. The petition granted by the department does not relieve the petitioner of the petitioner's responsibility in the management of hazardous waste under chapters 33-24-01 through 33-24-07.

~~11.~~ 14. Liquid hazardous wastes containing polychlorinated biphenyls of concentrations greater than or equal to five hundred parts

per million are not eligible for an exemption under this section.

History: Effective December 1, 1988; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-256. Waste analyses and recordkeeping.

~~1. Except as specified in section 33-24-05-272, the generator shall test the generator's waste or an extract developed using the test method described in appendix V, or use knowledge of the waste, to determine if the waste is restricted from land disposal under sections 33-24-05-250 through 33-24-05-300.~~

~~a. If a generator determines that the generator is managing a restricted waste under sections 33-24-05-250 through 33-24-05-300 and the waste does not meet the applicable treatment standards, or where the waste does not comply with the applicable prohibitions set forth in section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(e), with each shipment of waste, the generator shall notify the treatment facility in writing of the appropriate treatment standards set forth in sections 33-24-05-280 through 33-24-05-289 and any applicable prohibitions set forth in section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d). The notice must include the following information:~~

~~(1) Hazardous waste number;~~

~~(2) The corresponding treatment standards and all applicable prohibitions set forth in section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d);~~

~~(3) The manifest number associated with the shipment of the waste; and~~

~~(4) Waste analysis data, where available.~~

~~b. If a generator determines that the generator is managing a restricted waste under sections 33-24-05-250 through 33-24-05-300, and determines that the waste can be land disposed without further treatment, with each shipment of waste the generator shall submit, to the land disposal facility, a notice and a certification stating that the waste meets the applicable treatment standards set forth insections 33-24-05-280 through 33-24-05-289 and the applicable prohibitions set forth in section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d).~~

(1) The notice must include the following information:

(a) Hazardous waste number;

(b) Corresponding treatment standards and all applicable prohibitions set forth in section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d);

(c) The manifest number associated with the shipment of waste; and

(d) Waste analysis data, where available.

(2) The certification must be signed by an authorized representative and must state the following: (I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standard specified in sections 33-24-05-280 through 33-24-05-289 and all applicable prohibitions set forth in section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d). I believe that the information I submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.)

c. If a generator's waste is subject to a case-by-case extension under section 33-24-05-254, an exemption under section 33-24-05-255, an extension under subdivision c of subsection 3 of section 33-24-05-250, or a nationwide variance under sections 33-24-05-270 through 33-24-05-279, the generator shall forward a notice with the waste to the land disposal facility receiving the waste, stating that the waste is exempt from the land disposal restrictions.

d. If a generator determines whether the waste is restricted based solely on the generator's knowledge of the waste, all supporting data used to make this determination must be maintained onsite in the generator's files.

2. For wastes with treatment standards expressed as concentrations in the waste extract (section 33-24-05-281), the owner or operator of the treatment facility shall test the treatment residues or an extract of such residues developed using the test method described in appendix V to assure that the treatment residues or extract meet the applicable treatment standards. For waste prohibited under section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d) which are not subject to any treatment

standards under sections 33-24-05-280 through 33-24-05-289, the owner or operator of the treatment facility shall test the treatment residues according to the generator testing requirements specified in section 33-24-05-272 to assure that the treatment residues comply with the applicable prohibitions. For both circumstances described above, such testing must be performed according to the frequency specified in the facility's waste analysis plan as required by section 33-24-05-04. Where the treatment residues do not comply with the applicable treatment standards or prohibitions, the treatment facility shall comply with notice requirements applicable to generators in subdivision a of subsection 1 if the treatment residues will be further managed at a different treatment facility.

a. A notice must be sent with each shipment to the land disposal facility which includes the following information:

(1) Hazardous waste number;

(2) The corresponding treatment standards and all applicable prohibitions set forth in section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d);

(3) The manifest number associated with the shipment of waste; and

(4) Waste analysis data, where available.

b. The treatment facility shall submit a certification with each shipment of waste or treatment residue of a restricted waste to the land disposal facility stating that the waste or treatment residue has been treated in compliance with the applicable performance standard specified in sections 33-24-05-280 through 33-24-05-289 and the applicable prohibitions set forth in section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(b).

(1) For wastes with treatment standards expressed as concentrations in the waste extract or in the waste (section 33-24-05-281 or 33-24-05-283), or for wastes prohibited under section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d) which are not subject to any treatment standards under sections 33-24-05-280 through 33-24-05-289, the certification must be signed by an authorized representative and must state the following: (I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process

~~used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the conformance levels specified in sections 33-24-05-280 through 33-24-05-289 and all applicable prohibitions set forth in section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d) without dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.)~~

~~(2) For wastes with treatment standards expressed as technologies (section 33-24-05-282), the certification must be signed by an authorized representative and must state the following: (I certify under penalty of law that the waste has been treated in accordance with the requirements of section 33-24-05-282. I am aware that there are significant penalties for submitting a false certification including the possibility of fine and imprisonment.)~~

~~3. The owner or operator of any land disposal facility disposing any waste subject to restrictions under sections 33-24-05-250 through 33-24-05-300 shall have records of the notice and certification specified in either subsection 1 or 2. The owner or operator of the land disposal facility shall test the waste or an extract of the waste or treatment residue developed using the test method described in appendix V, or using any method required by generators under section 33-24-05-272, to assure that the wastes or treatment residues are in compliance with the applicable treatment standards set forth in sections 33-24-05-280 through 33-24-05-289 and all applicable prohibitions set forth in section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d). Such testing must be performed according to the frequency specified in the facility's waste analysis plan as required by section 33-24-05-04.~~

1. Except as specified in section 33-24-05-272 or 33-24-05-283, the generator must test the generator's waste, or test an extract developed using the test method described in appendix I, or use knowledge of the waste, to determine if the waste is restricted from land disposal under sections 33-24-05-250 through 33-24-05-299.

   a. If a generator determines that the generator is managing a restricted waste under this chapter and the waste does not meet the applicable treatment standards set forth in sections 33-24-05-280 through 33-24-05-289 or exceeds the

applicable prohibition levels set forth in section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d), with each shipment of waste, the generator must notify the treatment or storage facility in writing of the appropriate treatment standards set forth in sections 33-24-05-280 through 33-24-05-289 and any applicable prohibition levels set forth in section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d). The notice must include the following information:

(1) Environmental protection agency state hazardous waste number.

(2) The corresponding treatment standards for wastes F001-F005, F039, and wastes prohibited pursuant to section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d). Treatment standards for all other restricted wastes may be referenced by including on the notification the subcategory of the waste, the treatability groups of the wastes, and the sections and subsections where the treatment standards appear. Where the applicable treatment standards are expressed as specified technologies in section 33-24-05-282, the applicable five-letter treatment code found in table 1 of section 33-24-05-282 (e.g., INCIN, WETOX) also must be listed on the notification.

(3) The manifest number associated with the shipment of wastes.

(4) Waste analysis of data, where available.

b. If a generator determines that he is managing a restricted waste under this chapter, and determines that the waste can be land disposed without further treatment, with each shipment of waste he must submit, to the treatment, storage, or land disposal facility, a notice and a certification stating that the waste meets the applicable treatment standards set forth in sections 33-24-05-280 through 33-24-05-289 and the applicable prohibition levels set forth in section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d).

(1) The notice must include the following information:

(a) Hazardous waste number.

(b) The corresponding treatment standards for wastes F001-F005, F039, and wastes prohibited pursuant to section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d). Treatment

standards for all other restricted wastes may be referenced by including on the notifications the subcategory of the waste, the treatability groups of the wastes and the sections and subsections where the treatment standards appear. Where the applicable treatment standards are expressed as specified technologies in section 33-24-05-282, the applicable five-letter treatment code found in table 1 of section 33-24-05-282 (e.g., INCIN, WETOX) also must be listed on the notification.

(c) The manifest number associated with the shipment of waste.

(d) Waste analysis data, where available.

(2) The certification must be signed by an authorized representative and must state the following:

I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste to support this certification that the waste complies with the treatment standards specified in sections 33-24-05-280 through 33-24-05-289 and all applicable prohibitions set forth in section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d). I believe that the information I submitted is true, accurate, and complete. I am aware that there are significant penalties for submitting a false certification, including the possibility of a fine and imprisonment.

c. If a generator's waste is subject to an exemption from a prohibition on the type of land disposal methods utilized for the wastes (such as, but not limited to, a case-by-case extension under section 33-24-05-254, an exemption under section 33-24-05-255, or a nationwide capacity variance under sections 33-24-05-270 through 33-24-05-279), with each shipment of waste the generator must submit a notice to the facility receiving his waste stating that the waste is not prohibited from land disposal. The notice must include the following information:

(1) Hazardous waste number.

(2) The corresponding treatment standards for wastes F001-F005, F039, and wastes prohibited pursuant to section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d). Treatment standards for all other restricted wastes may be referenced by

including on the notification the subcategory of the waste, the treatability groups of the wastes, and the sections and subsections where the treatment standards appear. Where the applicable treatment standards are expressed as specified technologies in section 33-24-05-282, the applicable five-letter treatment code found in table 1 of section 33-25-05-282 (e.g., INCIN, WETOX) also must be listed on the notification.

(3) The manifest number associated with the shipment of waste.

(4) Waste analysis data, where available.

(5) The date the waste is subject to the prohibitions.

d. If a generator determines that the generator is managing a restricted waste in tanks or containers regulated under section 33-24-05-282, and is treating such waste in such tanks or containers to meet applicable treatment standards under sections 33-24-05-280 through 33-24-05-289, the generator must develop and follow a written waste analysis plan which describes the procedures the generator will carry out to comply with the treatment standards. The plan must be kept onsite in the generator's records, and the following requirements must be met:

(1) The waste analysis plan must be based on a detailed chemical and physical analysis of a representative sample of the prohibited wastes being treated, and contain all information necessary to treat the wastes in accordance with the requirements of sections 33-24-05-250 through 33-24-05-290, including the selected testing frequency.

(2) Such plan must be filed with the department a minimum of thirty days prior to the treatment activity, with delivery verified.

(3) Wastes shipped offsite pursuant to this paragraph must comply with the notification requirements of subdivision b of subsection 1 of section 33-24-05-257.

e. If a generator determines whether the waste is restricted based solely on the generator's knowledge of the waste, all supporting data used to make this determination must be retained onsite in the generator's files. If a generator determines whether the waste is restricted based on testing this waste or an extract developed using the test method described in appendix I of this chapter, all

waste analysis data must be retained onsite in the generator's files.

f. Generators must retain onsite a copy of all notices, certifications, demonstrations, waste analysis data, and other documentation produced pursuant to this section for at least five years from the date that the waste that is the subject of such documentation was last sent to onsite or offsite treatment, storage, or disposal. The five-year record retention is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the department.

g. If a generator is managing a lab pack that contains waste identified in appendix VIII and wishes to use the alternative treatment standards under section 33-24-05-282, with each shipment of waste, the generator must submit a notice to the treatment facility in accordance with subdivision a of subsection 1. The generator must also comply with the requirements in subdivisions e and f of subsection 1, and must submit the following certification, which must be signed by an authorized representative:

I certify under penalty of law that I personally have examined and am familiar with the waste and that the lab pack contains only the wastes specified in appendix VIII of chapter 33-24-05 or solid wastes not subject to regulation under chapter 33-24-02. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine or imprisonment.

h. If a generator is managing a lab pack that contains organic wastes specified in appendix IX and wishes to use the alternative treatment standards under section 33-24-05-282, with each shipment of waste the generator must submit a notice to the treatment facility in accordance with subdivision a of subsection 1. The generator also must comply with the requirements in subdivisions e and f of subsection 1 and must submit the following certification which must be signed by an authorized representative:

I certify under penalty of law that I personally have examined and am familiar with the waste through analysis and testing or through knowledge of the waste and that the lab pack contains only organic waste specified in appendix IX to chapter 33-24-05 or solid wastes not subject to regulation under chapter 33-24-02. I am aware that there are significant penalties for submitting a false certification including the possibility of fine or imprisonment.

i. Small quantity generators with tolling agreements pursuant to subsection 5 of section 33-24-03-04 must comply with the applicable notification and certification requirements of subsection 1 for the initial shipment of the waste subject to the agreement. Such generators must retain onsite a copy of the notification and certification, together with the tolling agreement, for at least three years after termination or expiration of the agreement. The three-year record retention period is automatically extended during the course of any unresolved enforcement action regarding the regulated activity or as requested by the department.

2. Treatment facilities must test their wastes according to the frequency specified in their waste analysis plans as required by section 33-24-05-04. Such testing must be performed as provided in subdivisions a, b, and c of this subsection.

a. For wastes with treatment standards expressed as concentrations in the waste extract (section 33-24-05-281), the owner or operator of the treatment facility must test the treatment residues, or an extract of such residues developed using the test method described in appendix I, to assure that the treatment residues or extract meet the applicable treatment standards.

b. For wastes that are prohibited under section 33-24-05-272 of this chapter or Resource Conservation and Recovery Act section 3004(d) but not subject to any treatment standards under sections 33-24-05-280 through 33-24-05-289, the owner or operator of the treatment facility must test treatment residues according to the generator testing requirements specified in section 33-24-05-272 to assure that the treatment residues comply with the applicable prohibitions.

c. For wastes with treatment standards expressed as concentrations in the waste (section 33-24-05-283), the owner or operator of the treatment facility must test the treatment residues (not an extract of such residues) to assure that the treatment residues meet the applicable treatment standards.

d. A notice must be sent with each waste shipment to the land disposal facility which includes the following information:

(1) Hazardous waste number.

(2) The corresponding treatment standards for wastes F001-F005, F039, and wastes prohibited pursuant to section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d). Treatment standards

for all other restricted wastes may be referenced by including on the notification the subcategory of the waste, the treatability groups of the wastes, and cite the section of the rules where the treatment standards appear. Where the applicable treatment standards are expressed as specified technologies in section 33-24-05-282, the applicable five-letter treatment code found in table 1 of section 33-24-05-282 (e.g., INCIN, WETOX) also must be listed on the notification.

(3) The manifest number associated with the shipment of waste.

(4) Waste analysis date, where available.

e. The treatment facility must submit a certification with shipment of waste or treatment residue of a restricted waste to the land disposal facility stating that the waste or treatment residue has been treated in compliance with the applicable performance standards specified in sections 33-24-05-280 through 33-24-05-289 and the applicable prohibitions set forth in section 33-24-05-272 for Resource Conservation and Recovery Act section 3004(d).

(1) For wastes with treatment standards expressed as concentrations in the waste extract or in the waste (section 33-24-05-281 or 33-24-05-283), or for wastes prohibited under section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d) which are not subject to any treatment standards under sections 33-24-05-280 through 33-24-05-289, the certification must be signed by an authorized representative and must state the following:

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the treatment process has been operated and maintained properly so as to comply with the performance level specified in sections 33-24-05-280 through 33-24-05-289, and all applicable prohibitions set forth in section 33-24-05-272 or Resource Conservation and Recovery Act section 3004(d) without impermissible dilution of the prohibited waste. I am aware that there are significant penalties for submitting a false certification including the possibility of fine and imprisonment.

(2) For wastes with treatment standards expressed as technologies (section 33-24-05-282), the certification must be signed by an authorized representative and must state the following:

I certify under penalty of law that the waste has been treated in accordance with the requirements of section 33-24-05-282. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

(3) For waste with treatment standards expressed as concentration in the waste pursuant to section 33-24-05-283, if compliance with the treatment standards in sections 33-24-05-280 through 33-24-05-289 is based in part or in whole on the analytical detection limit alternative specified in subsection 3 of section 33-24-05-283, the certification also must state the following:

I certify under penalty of law that I have personally examined and am familiar with the treatment technology and operation of the treatment process used to support this certification and that, based on my inquiry of those individuals immediately responsible for obtaining this information, I believe that the nonwastewater organic constituents have been treated by incineration in units operated in accordance with sections 33-24-05-144 through 33-24-05-151, or by combustion in fuel substitution units operating in accordance with applicable technical requirements, and I have been unable to detect the nonwastewater organic constituents despite having used best good faith efforts to analyze for such constituents. I am aware that there are significant penalties for submitting a false certification, including the possibility of fine and imprisonment.

f. If the waste or treatment residue will be further managed at a different treatment or storage facility, the treatment, storage, or disposal facility sending the waste or treatment residue offsite must comply with the notice and certification requirements applicable to generators under this chapter.

g. Where the wastes are recyclable materials used in a manner constituting disposal subject to the provisions of subsection 2 of section 33-24-05-201 regarding treatment standards and prohibition levels, the owner or operator of a treatment facility, i.e., the recycler is not required to notify the receiving facility, pursuant to

subdivision d of subsection 2. With each shipment of such wastes, the owner or operator of the recycling facility must submit a certification described in subdivision e of subsection 2, and a notice which includes the information listed in subdivision d of subsection 2 except the manifest number to the department, or his delegated representative. The recycling facility also must keep records of the name and location of each entity receiving the hazardous waste-derived product.

3. Except where the owner or operator is disposing of any waste that is a recyclable material used in a manner constituting disposal pursuant to subsection 2 of section 33-24-05-201, the owner or operator of any land disposal facility disposing any waste subject to restrictions under this part must:

   a. Have copies of the notice and certifications specified in subsection 1 or 2, and the certification specified in section 33-24-05-257 if applicable.

   b. Test the waste, or an extract of the waste or treatment residue developed using the test method described in appendix I or using any method required by generators under section 33-24-05-272, to assure that the wastes or treatment residues are in compliance with the applicable treatment standards set forth in sections 33-24-05-280 through 33-24-05-289 and all applicable prohibitions set forth in section 33-24-05-272 or in Resource Conservation and Recovery Act section 3004(d). Such testing must be performed according to the frequency specified in the facility's waste analysis plan as required by section 33-24-05-04.

History: Effective December 1, 1988; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-258. ~~[Reserved]~~ Special rules regarding wastes that exhibit a characteristic.

1. The initial generator of a solid waste must determine each waste code applicable to the waste in order to determine the applicable treatment standards under sections 33-24-05-280 through 33-24-05-289. For purposes of sections 33-24-05-250 through 33-24-05-299, the waste will carry a waste code designation for any applicable listing under sections 33-24-02-15 through 33-24-02-18, and also one or more waste code designations under sections 33-24-02-10 through 33-24-02-14 where the waste exhibits the relevant characteristic.

2. Where a prohibited waste is both listed under sections 33-24-02-15 through 33-24-02-18 and exhibits a characteristic under sections 33-24-02-10 through 33-24-02-14, the treatment standard for the waste code listed in sections 33-24-02-15 through 33-24-02-18 will operate in lieu of the standard for the waste code under sections 33-24-02-10 through 33-24-02-14 provided that the treatment standard for the listed waste includes a treatment standard for the constituent that causes the waste to exhibit the characteristic. Otherwise, the waste must meet the treatment standards for all applicable listed and characteristic waste codes.

3. In addition to any applicable standards determined from the initial point of generation, no prohibited waste which exhibits a characteristic under sections 33-24-02-10 through 33-24-02-14 may be land disposed unless the waste complies with the treatment standards under sections 33-24-05-280 through 33-24-05-289.

4. Wastes that exhibit a characteristic are also subject to section 33-24-05-256 requirements, except that once the waste is no longer hazardous, for each shipment of such waste to a subtitle D facility the initial generator or the treatment facility need not send a section 33-24-05-256 notification to such facility. In such circumstances a notification and certification must be sent to the department.

   a. The notification must include the following information:

      (1) The name and address of the subtitle D facility receiving the waste shipment.

      (2) A description of the waste as initially generated including the applicable hazardous waste numbers and treatability groups.

      (3) The treatment standards applicable to the waste at the initial point of generation.

   b. The certification must be signed by an authorized representative and must state the language found in paragraph 1 of subdivision e of subsection 2 of section 33-24-05-256.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-270. Waste specific prohibitions - Solvent wastes.

~~1. The spent solvent wastes specified in section 33-24-02-16 as hazardous waste numbers F001, F002, F003, F004, and F005 are~~

prohibited from land disposal (except in an injection well) unless one or more of the following conditions apply:

a. The generator of the solvent waste is a small quantity generator of one hundred to one thousand kilograms of hazardous waste per month.

b. The solvent waste is generated from any response action taken under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 or any corrective action taken under the North Dakota Hazardous Waste Management Act, except where the waste is contaminated soil or debris not subject to the provisions of this article until November 8, 1988.

c. The initial generators solvent waste is a solvent water mixture, solvent containing sludge or solid, or solvent contaminated soil (Non comprehensive Environmental Response, Compensation and Liability Act or North Dakota Hazardous Waste Management Act) containing less than one percent total F001, F005 solvent constituents listed in table CCWE of section 33-24-05-281.

d. The solvent waste is a residue from treating a waste described in subdivision a, b, or c of subsection 1, or the solvent waste is a residue from treating a waste not described in subdivision a, b, or c of subsection 1 provided such residue belongs to a different treatability group than the waste as initially generated and wastes belonging to such a treatability group are described in subdivision c of subsection 1.

2. The F001 - F005 solvent wastes listed in subdivisions a, b, and c of subsection 1 are prohibited from land disposal. Between November 8, 1986, and November 8, 1988, wastes included in subdivisions a, b, and c of subsection 1 may be disposed of in a landfill or surface impoundment only if the facility is in compliance with the requirements specified in subdivision b of subsection 8 of section 33-24-05-254.

3. The requirements of subsections 1 and 2 do not apply if:

a. The wastes meet the standards of sections 33-24-05-280 through 33-24-05-289;

b. Persons have been granted an exemption from a prohibition pursuant to a petition under section 33-24-05-255, with respect to those wastes and units covered by the petition; or

c. Persons have been granted an extension to the effective date of a prohibition pursuant to section 33-24-05-254, with respect to those wastes covered by the extension.

1. Effective November 8, 1986, the spent solvent wastes specified in section 33-24-02-16 as hazardous waste numbers F001, F002, F003, F004, and F005 are prohibited under this chapter from land disposal (except in an injection well) unless one or more of the following conditions apply:

   a. A generator of the solvent waste is a small quantity generator of one hundred to one thousand kilograms of hazardous waste per month;

   b. The solvent waste is generated from any response action taken under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 or any corrective action taken under the Resource Conservation and Recovery Act, except where the waste is contaminated soil or debris;

   c. The initial generator's solvent waste is a solvent water mixture, solvent ash containing sludge or solid, or solvent contaminated soil (non-Comprehensive Environmental Response, Compensation, and Liability Act or Resource Conservation and Recovery Act corrective action) containing less than one percent total F001-F005 solvent constituents listed in table CCWE of section 33-24-05-281; or

   d. The solvent waste is a residue from treating a waste described in subdivision a, b, or c of subsection 1; or the solvent waste is a residue from treating a waste not described in subdivision a, b, or c of subsection 1 provided such residue belongs to a different treatability group than the waste as initially generated and wastes belonging to such a treatability group are described in subdivision c of subsection 1.

2. Effective November 8, 1988, the F001-F005 solvent wastes listed in subdivisions a, b, c, or d of subsection 1 are prohibited from land disposal.

3. Effective November 8, 1990, the F001-F005 solvent wastes which are contaminated soil and debris resulting from a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 or a corrective action required under subtitle C of the Resource Conservation and Recovery Act and the residues from treating these wastes are prohibited from land disposal. Between November 8, 1988, and November 8, 1990, these wastes may be disposed in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in subdivision b of subsection 8 of section 33-24-05-254.

4. The requirements of subsection 1, 2, or 3 do not apply if:

a. The wastes meet the standards of sections 33-24-05-280 through 33-24-05-289;

b. Persons have been granted an exemption from a prohibition pursuant to a petition under section 33-24-05-255 with respect to those wastes and units covered by the petition; or

c. Persons have been granted an extension to the effective date of a prohibition pursuant to section 33-24-05-254, with respect to those wastes and units covered by the extension.

History: Effective December 1, 1988; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-271. Waste specific prohibitions - Dioxin-containing wastes.

~~1. Effective November 8, 1988, the dioxin-containing wastes specified in section 33-24-02-16 as hazardous waste numbers F020, F021, F022, F023, F026, F027, and F028 are prohibited from land disposal.~~

~~2. The requirements of subsection 1 do not apply if:~~

~~a. The wastes meet the standards of section 33-24-05-280 through 33-24-05-289;~~

~~b. Persons have been granted an exemption from a prohibition pursuant to a petition under section 33-24-05-255, with respect to those wastes and units covered by the petition; or~~

~~c. Persons have been granted an extension from the effective date of a prohibition pursuant to section 33-24-05-254, with respect to those wastes covered by the extension.~~

~~3. Between November 8, 1986, and November 8, 1988, wastes included in subsection 1 may be disposed in a landfill or surface impoundment only if the facility is in compliance with the requirements in subdivision b of subsection 8 of section 33-24-05-254 and all other applicable requirements of chapter 33-24-05.~~

1. Effective November 8, 1988, the dioxin-containing wastes specified in section 33-24-02-16 as hazardous waste numbers F020, F021, F022, F023, F026, F027, and F028 are prohibited from land disposal unless the following condition applies:

a. The F020-F023 and F026-F028 dioxin-containing waste is contaminated soil and debris resulting from a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 or a corrective action taken under subtitle C of the Resource Conservation and Recovery Act.

2. Effective November 8, 1990, the F020-F023 and F026-F028 dioxin-containing wastes listed in subdivision a of subsection 1 are prohibited from land disposal.

3. Between November 8, 1988, and November 8, 1990, wastes included in subdivision a of subsection 1 may be disposed in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in subdivision b of subsection 8 of section 33-24-05-254 and all other applicable requirements of chapter 33-24-05.

4. The requirements of subsections 1 and 2 do not apply if:

a. The wastes meet the standards of sections 33-24-05-280 through 33-24-05-289;

b. Persons have been granted an exemption from a prohibition pursuant to a petition under section 33-24-05-255, with respect to those wastes and units covered by the petition; or

c. Persons have been granted an extension to the effective date of a prohibition pursuant to section 33-24-05-254, with respect to those wastes covered by the extension.

History: Effective December 1, 1988; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-272. Waste specific prohibitions - California list wastes.

1. The following hazardous wastes are prohibited from land disposal (except in injection wells):

a. Liquid hazardous wastes having a pH less than or equal to two.

b. Liquid hazardous wastes containing polychlorinated biphenyls at concentrations greater than or equal to fifty parts per million.

c. Liquid hazardous wastes that are primarily water and contain halogenated organic compounds in total concentration greater than or equal to one thousand

milligram/liter and less than ten thousand milligram/liter halogenated organic compounds.

2. [Reserved]

3. [Reserved]

4. The requirements of subsection 1 do not apply until November 8, 1988, where the wastes are contaminated soil or debris resulting from a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation, and Liability Act or a corrective action required under the North Dakota Hazardous Waste Management Act or this article.

5. Effective July 8, 1989, the following hazardous wastes are prohibited from land disposal (subject to any regulations that may be promulgated with respect to disposal in injection wells):

   a. Liquid hazardous wastes that contain halogenated organic compounds in total concentration greater than or equal to one thousand milligram/liter and are not prohibited under subdivision c of subsection 1; and

   b. Nonliquid hazardous waste containing halogenated organic compounds in total concentration greater than or equal to one thousand milligram/kilogram.

6. Until July 8, 1989, the waste described in subdivisions a and b of subsection 5 may be disposed in a landfill or surface impoundment only if the facility is in compliance with the requirement specified in subdivision b of subsection 8 of section 33-24-05-254.

7. The requirements of subsections 1 and 5 do not apply if:

   a. Persons have been granted an exemption from a prohibition pursuant to a petition under section 33-24-05-255, with respect to those wastes and units covered by the petition (except for liquid hazardous wastes containing polychlorinated biphenyls at concentrations greater than or equal to five hundred parts per million which are not eligible for such exemptions);

   b. Persons have been granted an extension to the effective date of a prohibition pursuant to section 33-24-05-254, with respect to those wastes covered by the extension; or

   c. The wastes meet the applicable standard specified in sections 33-24-05-280 through 33-24-05-289 or, where treatment standards are not specified, the wastes are in compliance with the applicable prohibitions set forth in

~~this section or Resource Conservation and Recovery Act section 3004(b).~~

~~8. The prohibitions and effective date specified in subdivision c of subsection 1 and subsection 5 do not apply where the waste is subject to prohibition under sections 33-24-05-270 through 33-24-05-279 and effective date for a specified halogenated organic compound (such as a hazardous waste chlorinated solvent, see e.g., subsection 1 of section 33-24-05-270).~~

4. The requirements of subsections 1 and 5 do not apply until:

   a. July 8, 1989, where the wastes are contaminated soil or debris not resulting from a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation, and Liability Act or a corrective action taken under subtitle C of the Resource Conservation and Recovery Act between July 8, 1987, and July 8, 1989, the wastes may be disposed in a landfill or surface impoundment only if such disposal is in compliance with the requirements specified in subdivision b of subsection 8 of section 33-24-05-254.

   b. November 8, 1990, where the wastes are contaminated soil or debris resulting from a response action taken under section 104 or 106 of the Comprehensive Environmental Response, Compensation, and Liability Act or a corrective action taken under subtitle C of the Resource Conservation and Recovery Act. Between November 8, 1988, and November 8, 1990, the wastes may be disposed in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in subdivision b of subsection 8 of section 33-24-05-254.

5. Effective November 8, 1988, the following hazardous wastes are prohibited from land disposal (subject to any regulations that may be promulgated with respect to disposal in injection wells):

   a. Liquid hazardous wastes that contain halogenated organic compounds in total concentration greater than or equal to one thousand milligram/1 and are not prohibited under subdivision c of subsection 1; and

   b. Nonliquid hazardous wastes containing halogenated organic compounds in total concentration greater than or equal to one thousand/kilograms and are not wastes described in subsection 4.

6. Between July 8, 1987, and November 8, 1988, the wastes included in subdivisions a and b of subsection 5 may be disposed in a landfill or surface impoundment only if such

unit is in compliance with the requirements specified in subdivision b of subsection 8 of section 33-24-05-254.

7. The requirements of subsections 1, 4, and 5 do not apply if:

   a. Persons have been granted an exemption from a prohibition pursuant to a petition under section 33-24-05-255, with respect to those wastes and units covered by the petition (except for liquid hazardous wastes containing polychlorinated biphenyls at concentrations greater than or equal to five hundred parts per million which are not eligible for such exemptions);

   b. Persons have been granted an extension to the effective date of a prohibition pursuant to section 33-24-05-254, with respect to those wastes covered by the extension;

   c. The wastes meet the applicable standard specified in sections 33-24-05-280 through 33-24-05-289 or, where treatment standards are not specified, the wastes are in compliance with the applicable prohibitions set forth in this section or Resource Conservation and Recovery Act 3004(b).

8. The prohibitions and effective dates specified in subdivision c of subsection 1 and subsections 4 and 5 do not apply where the waste is subject to sections 33-24-05-280 through 33-24-05-289 prohibition and effective date for a specified halogenated organic compound (such as a hazardous waste chlorinated solvent, see e.g., subsection 1 of section 33-24-05-270).

9. To determine whether or not a waste is a liquid under subsections 1 and 5 and under Resource Conservation and Recovery Act section 3004(d), the following test must be used: Method 9095 (paint filter liquids test) as described in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" environmental protection agency publication number SW-846. (Incorporated by reference, see section 33-24-01-05.)

10. Except as otherwise provided in this section, the waste analysis and recordkeeping requirements of section 33-24-05-256 are applicable to wastes prohibited under sections 33-24-05-250 through 33-24-05-300 or Resource Conservation and Recovery Act section 3004(d):

    a. The initial generator of a liquid hazardous waste must test the generator's waste (not an extract or filtrate) in accordance with the procedure specified in subdivision a of subsection 1 of section 33-24-02-12, or use knowledge of the waste, to determine if the waste has a pH less than

or equal to two. If the liquid waste has a pH less than or equal to two, it is restricted from land disposal and all requirements of sections 33-24-05-250 through 33-24-05-300 are applicable, except as otherwise specified in this section.

b. The initial generator of either a liquid hazardous waste containing polychlorinated biphenyls or a liquid or nonliquid hazardous waste containing halogenated organic compounds shall test the generator's waste (not an extract or filtrate), or use knowledge of the waste, to determine whether the concentration levels in the waste equal or exceed the prohibition levels specified in this section. If the concentration of polychlorinated biphenyls or halogenated organic compounds in the waste is greater than or equal to the prohibition level specified in this section, the waste is restricted from land disposal and all requirements of sections 33-24-05-250 through 33-24-05-300 are applicable, except as otherwise specified in this section.

History: Effective December 1, 1988; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-04

33-24-05-273. ~~[Reserved]~~ Waste specific prohibitions - First third wastes.

1. Effective August 8, 1988, the wastes specified in section 33-24-02-17 as hazardous waste numbers F006 (nonwastewater), K001 (nonwastewater), K004 wastes specified in subsection 1 of section 33-24-05-283, K008 wastes specified in subsection 1 of section 33-24-05-283, K016, K018, K019, K020 (nonwastewater), K021 wastes specified in subsection 1 of section 33-24-04-283, K022 (nonwastewater), K024 (nonwastewater), K025 nonwastewaters specified in subsection 1 of section 33-24-05-283, K030, K036 (nonwastewaters), K037, K044, K045, nonexplosive K046 (nonwastewater), K047, K060 (nonwastewater), K061 nonwastewaters containing less than fifteen percent zinc, K062, noncalcium sulfate K069 (nonwastewaters), K086 (solvent washes), K100 nonwastewater specified in subsection 1 of section 33-24-05-283, K101 (wastewater), K101 (nonwastewater, low arsenic subcategory-less than one percent total arsenic), K102 (wastewater), K102 (nonwastewater, low arsenic subcategory-less than one percent total arsenic), K087, K099, K103, and K104 are prohibited from land disposal (except in an injection well). Effective August 8, 1988, and continuing until August 7, 1990, K061 wastes containing fifteen percent zinc or greater are prohibited from land disposal pursuant to the treatment standards specified in section 33-24-05-281

applicable to K061 wastes that contain less than fifteen percent zinc.

2. Effective August 8, 1990, the waste specified in section 33-24-02-17 as hazardous waste numbers K048, K049, K050, K051, K052, K061 (containing fifteen percent zinc or greater), and K071 are prohibited from land disposal.

3. Effective August 8, 1990, the waste specified in section 33-24-05-261 having a treatment standard in sections 33-24-05-280 through 33-24-05-289 based on incineration and which are contaminated soil and debris are prohibited from land disposal.

4. Between November 8, 1988, and August 8, 1990, wastes included in subsections 2 and 3 may be disposed of in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in subdivision b of subsection 8 of section 33-24-05-254.

5. The requirements of subsections 1, 2, 3, and 4 do not apply if:

   a. The wastes meet the applicable standards specified in sections 33-24-05-280 through 33-24-05-289;

   b. Persons have been granted an exemption from a prohibition pursuant to a petition under section 33-24-05-255, with respect to those wastes and units covered by the petition; or

   c. Persons have been granted an extension to the effective date of a prohibition pursuant to section 33-24-05-254, with respect to those wastes covered by the extension.

6. Between August 8, 1988, and May 8, 1990, the wastes specified in 40 CFR 268.10 for which treatment standards under sections 33-24-05-280 through 33-24-05-289 are not applicable, including those wastes which are subject to the statutory prohibitions of Resource Conservation and Recovery Act section 3004(d) or codified prohibitions under section 33-24-05-272, but not including wastes subject to a treatment standard under section 33-24-05-272, are prohibited from disposal in a landfill or surface impoundment unless a demonstration and certification have been submitted.

7. To determine whether a hazardous waste listed in 40 CFR part 268.10 exceeds the applicable treatment standards specified in section 33-24-05-281 and 33-24-05-283, the initial generator must test a representative sample of the waste extract or the entire waste depending on whether the treatment standards are expressed as concentrations in the waste extract of the waste or the generator may use knowledge

of the waste. If the waste contains constituents in excess of the applicable section 33-24-05-280 through 33-24-05-289 levels, the waste is prohibited from land disposal and all requirements of sections 33-24-05-250 through 33-24-05-290 are applicable, except as otherwise specified.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-274. ~~[Reserved]~~ Waste specific prohibitions - Second third wastes.

1. The following wastes specified in section 33-24-02-16 as hazardous waste numbers F010; F024; the wastes specified in 33-24-02-17 as hazardous waste numbers K005; K007; K009 (nonwastewaters); K010; K023; K027; K028; K029 (nonwastewaters); K036 (wastewaters); K038; K039; K040; K043; K093; K094; K095 (nonwastewaters); K096 (nonwastewaters); K113; K114; K115; K116; and the wastes specified in section 33-24-02-18 as hazardous waste numbers P013; P021; P029; P030; P039; P040; P041; P043; P044; P062; P063; P071; P074; P085; P089; P094; P097; P098; P099; P104; P106; P109; P111; P121; U028; U058; U069; U087; U088; U102; U107; U221; U223; and U235 are prohibited from land disposal.

2. The following wastes specified in section 33-24-02-17 as hazardous waste numbers K009 (wastewaters), K011 (nonwastewaters), K013 (nonwastewaters), and K014 (nonwastewaters) are prohibited from land disposal except when they are underground injected pursuant to 40 CFR 148.14(f) and 148.15(d).

3. The wastes specified in section 33-24-02-16 as hazardous waste numbers F006-cyanide (nonwastewater); F008; F009; F011 (wastewaters) and F012 (wastewaters) are prohibited from land disposal.

   a. The following waste specified in section 33-24-02-16 as hazardous waste number F007 is prohibited from land disposal except when it is underground injected pursuant to 40 CFR 148.14(f).

   b. The wastes F011 (nonwastewaters) and F012 (nonwastewaters) are prohibited from land disposal pursuant to the treatment standards specified in sections 33-24-05-281 and 33-24-05-283 applicable to F011 (nonwastewaters) and F012 (nonwastewaters).

4. Effective June 8, 1991, the wastes specified in this section having a treatment standard in sections 33-24-05-280 through

33-24-05-289 based on incineration, and which are contaminated soil and debris are prohibited from land disposal.

5. Between June 8, 1989, and June 8, 1991, (for wastes F007, F008, F009, F011, and F012 between June 8, 1989, and July 8, 1989) wastes included in subsections 3 and 4 may be disposed in a landfill or surface impoundment, regardless whether such unit is a new, replacement, or lateral expansion unit, only if such unit is in compliance with the technical requirements specified in subdivision b of subsection 8 of section 33-24-05-254.

6. The requirements of subsections 1, 2, 3, and 4 do not apply if:

   a. The wastes meet the applicable standards specified in sections 33-24-05-280 through 33-24-05-289; or

   b. Persons have been granted an exemption from a prohibition pursuant to a petition under section 33-24-05-255 with respect to those wastes and units covered by the petition.

7. The requirements of subsections 1, 2, and 3 do not apply if persons have been granted an extension to the effective date of a prohibition pursuant to section 33-24-05-254, with respect to those wastes covered by the extension.

8. Between June 8, 1989, and May 8, 1990, the wastes specified in section 33-24-05-262 for which treatment standards under sections 33-24-05-280 through 33-24-05-289 are not applicable, including California list wastes subject to the statutory prohibitions of Resource Conservation and Recovery Act section 3004(d) or codified prohibitions under section 33-24-05-272, are prohibited from disposal in a landfill or surface impoundment unless the wastes are the subject of a valid demonstration and certification pursuant to 40 CFR 268.8.

9. To determine whether a hazardous waste listed in 40 CFR sections 268.10, 268.11, and 268.12 exceed the applicable treatment standards specified in sections 33-24-05-281 and 33-24-05-283, the initial generator must test a representative sample of the waste extract for the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable sections 33-24-05-280 through 33-24-05-289 levels, the waste is prohibited from land disposal and all requirements of sections 33-24-05-250 through 33-24-05-290 are applicable, except as otherwise specified.

History: Effective December 1, 1991.

General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-275. ~~[Reserved]~~ Waste specific prohibitions - Third third wastes.

1. The following wastes specified in section 33-24-02-16 as hazardous waste numbers F006 (wastewaters), F019, and F039 (wastewaters); the wastes specified in section 33-24-02-17 as hazardous waste numbers K002; K003; K004 (wastewaters); K005 (wastewaters); K006; K008 (wastewaters); K011 (wastewaters); K013 (wastewaters); K014 (wastewaters); K017; K021 (wastewaters); K022 (wastewaters); K025 (wastewaters); K026; K029 (wastewaters); K031 (wastewaters); K032; K033; K034; K035; K041; K042; K046 (wastewaters); K048 (wastewaters); K049 (wastewaters); K050 (wastewaters); K051 (wastewaters); K052 (wastewaters); K060 (wastewaters); K061 (wastewaters); K069 (wastewaters); K073; K083 (wastewaters); K084 (wastewaters); K085; K095 (wastewaters); K096 (wastewaters); K097; K098; K100 (wastewaters); K101 (wastewaters); K102 (wastewaters); K105; and K106 (wastewaters); the wastes specified in subsection 5 of section 33-24-02-18 as hazardous waste numbers P001; P002; P003; P004; P005; P006; P007; P008; P009; P010 (wastewaters); P011 (wastewaters); P012 (wastewaters); P014; P015; P016; P017; P018 (wastewaters); P020; P022; P023; P024; P027; P028; P031; P033; P034; P036 (wastewaters); P037; P038 (wastewaters); P042; P045; P046; P047; P048; P049; P050; P051; P054; P056; P057; P058; P059; P060; P064; P065 (wastewaters); P066; P067; P068; P069; P070; P072; P073; P075; P076; P077; P078; P081; P082; P084; P088; P092 (wastewaters); P093; P095; P096; P101; P102; P103; P105; P108; P109; P110; P112; P113; P114; P115; P116; P118; P119; P120; P122; and P123; and the wastes specified in subsection 6 of section 33-24-02-18 as hazardous waste numbers U001; U002; U003; U004; U005; U006; U007; U008; U009; U010; U011; U012; U014; U015; U016; U017; U018; U019; U020; U021; U022; U023; U024; U025; U026; U027; U028; U029; U030; U031; U032; U033; U034; U035; U036; U037; U038; U039; U041; U042; U043; U044; U045; U046; U047; U048; U049; U050; U051; U052; U053; U055; U056; U057; U059; U060; U061; U062; U063; U064; U066; U067; U068; U070; U071; U072; U073; U074; U075; U076; U077; U078; U079; U080; U081; U082; U083; U084; U085; U086; U089; U090; U091; U092; U093; U094; U095; U096; U097; U098; U099; U101; U103; U105; U106; U108; U109; U110; U111; U112; U113; U114; U115; U116; U117; U118; U119; U120 (wastewaters); U121; U122; U123; U124; U125; U126; U127; U128; U129; U130; U131; U132; U133; U134; U135; U136 (wastewaters); U137; U138; U140; U141; U142; U143; U144; U145; U146; U147; U148; U149; U150; U151 (wastewaters); U152; U153; U154; U155; U156; U157; U158; U159; U160; U161; U162; U163; U164; U165; U166; U167; U168; U169; U170; U171; U172; U173; U174; U176; U177; U178; U179; U180; U181; U182; U183; U184; U185; U186; U187; U188; U189; U191; U192; U193; U194; U196;

U197; U200; U201; U202; U203; U204; U205; U206; U207; U208; U209; U210; U211; U213; U214; U215; U216; U217; U218; U219; U220; U222; U225; U226; U227; U228; U234; U236; U237; U238; U239; U240; U243; U244; U246; U247; U248; U249; and the following waste identified as hazardous based on a characteristic alone: D001; D002; D003; D004 (wastewaters); D005; D006; D007; D008 (except for lead material stored before secondary smelting); D009 (wastewaters); D010; D011; D012; D013; D014; D015; D016; and D017 are prohibited from land disposal.

2. The following wastes specified in section 33-24-02-17 as hazardous waste numbers K048 (nonwastewaters), K049 (nonwastewaters), K050 (nonwastewaters), K051 (nonwastewaters), and K052 (nonwastewaters) are prohibited from land disposal.

3. Effective May 8, 1992, the following wastes specified in section 33-24-02-16 as hazardous waste numbers F039 (nonwastewaters); the waste specified insection 33- 4-02-17 as hazardous waste numbers K031 (nonwastewaters); K084 (nonwastewaters); K101 (nonwastewaters); K102 (nonwastewaters); K106 (nonwastewaters); the wastes specified in subsection 5 of section 33-24-02-18 as hazardous waste numbers P010 (nonwastewaters); P011 (nonwastewaters); P012 (nonwastewaters); P036 (nonwastewaters); P038 (nonwastewaters); P065 (nonwastewaters); P087 (nonwastewaters); and P092 (nonwastewaters); the wastes specified in subsection 6 of section 33-24-02-18 as hazardous waste numbers U136 (nonwastewaters); and U151 (nonwastewaters); and the following wastes identified as hazardous based on a characteristic alone: D004 (nonwastewaters); D008 (lead materials stored before secondary smelting); and D009 (nonwastewaters); inorganic solids debris as defined in subdivision g of subsection 3 of section 33-24-05-251 (which also applies to chromium refractory bricks carrying the hazardous waste numbers K048-K052); and Resource Conservation and Recovery Act hazardous wastes that contain naturally occurring radioactive materials are prohibited from land disposal.

4. Effective May 8, 1992, hazardous wastes listed in 40 CFR 268.12 that are mixed radioactive hazardous wastes are prohibited from land disposal.

5. Effective May 8, 1992, the wastes specified in this section having a treatment standard in sections 33-24-05-280 through 33-24-05-289 based on incineration, mercury retorting, or vitrofication, in which are contaminated or debris are prohibited from land disposal.

6. Between May 8, 1990, and August 8, 1990, the wastes included in subsection 1 may be disposed of in a landfill or surface

impoundment only if such unit is in compliance with the requirements specified in subdivision b of subsection 8 of section 33-24-05-254.

7. Between May 8, 1990, and November 8, 1990, wastes included in subsection 1 may be disposed of in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in subdivision b of subsection 8 of section 33-24-05-254.

8. Between May 8, 1990, and May 8, 1992, wastes included in subsections 3, 4, and 5 may be disposed of in a landfill or surface impoundment only if such unit is in compliance with the requirements specified in subdivision b of subsection 8 of section 33-24-05-254.

9. The requirements of subsections 1, 2, 3, 4, and 5 do not apply if:

   a. The wastes meet the applicable standards specified in sections 33-24-05-280 through 33-24-05-289.

   b. Persons have been granted an exemption from a prohibition pursuant to a petition under section 33-24-05-255, with respect to those wastes in units covered by the petition.

   c. The wastes meet the applicable alternate standards established pursuant to a petition granted under section 33-24-05-284.

   d. Persons have been granted an extension to the effective date of a prohibition pursuant to section 33-24-05-254, with respect to these wastes covered by the extension.

10. To determine whether a hazardous waste listed in 40 CFR 268.10, 268.11, or 268.12 exceeds the applicable treatment standards specified in sections 33-24-05-281 and 33-24-05-283, the initial generator must test a representative sample of the waste extract or the entire waste, depending on whether the treatment standards are expressed as concentrations in the waste extract or the waste, or the generator may use knowledge of the waste. If the waste contains constituents in excess of the applicable section 33-24-05-280 through 33-24-05-289 levels, the waste is prohibited from land disposal, and all requirements of sections 33-24-05-250 through 33-24-05-290 are applicable, except as otherwise specified.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-280. Applicability of treatment standards.

1. ~~A restricted waste identified in sections 33-24-05-280 through 33-24-05-289 may be land disposed without further treatment only if an extract of the waste or of the treatment residue of the waste developed using the test method in appendix V of this chapter does not exceed the value shown in table CCWE of section 33-24-05-281 for any hazardous constituent listed in the table CCWE for that waste.~~ A restricted waste identified in section 33-24-05-281 may be land disposed only if an extract of the waste or of the treatment residue of the waste developed using the test method in appendix V of this chapter does not exceed the value shown in table CCWE of section 33-24-05-281 for any hazardous constituent listed in table CCWE for that waste, with the following exceptions: D004, D008, K031, K084, K101, K102, P010, P011, P012, P036, P038, and U136. Wastes D004, D008, K031, K084, K101, K102, P010, P011, P012, P036, P038, and U136 may be land disposed only if an extract of the waste or of the treatment residue of the waste developed using either the test method in appendix V of this chapter or the test method in appendix II of chapter 33-24-02 does not exceed the value shown in table CCWE of section 33-24-05-281 for any hazardous constituent listed in table CCWE for that waste.

2. A restricted waste for which a treatment technology is specified under subsection 1 of section 33-24-05-282 may be land disposed after it is treated using that specified technology or an equivalent treatment method approved by the department under the procedure set forth in subsection 2 of section 33-24-05-282.

3. Except as otherwise specified in subsection 3 of section 33-24-05-283, a restricted waste identified in section 33-24-05-283 may be land disposed only if the constituent concentrations in the waste or treatment residue of the waste do not exceed the value shown in table CCW of section 33-24-05-283 for any hazardous constituents listed in table CCW for that waste.

History: Effective December 1, 1988; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-281. Treatment standards expressed as concentrations in waste extract.

1. Table CCWE identifies the restricted wastes and the concentrations of their associated consitutents which may not be exceeded by the extract of a waste or waste treatment residual developed using the test method in appendix V for the allowable land disposal of such waste with the exception of wastes D004, D008, K031, K084, K101, K102, P010, P011, P012,

P036, P038, and U136. Table CCWE identifies the restricted wastes D004, D008, K031, K084, K101, K102, P010, P011, P012, P036, P038, and U136 and the concentrations of their associated constituents which may not be exceeded by the extract of a waste or waste treatment residual developed using the test method in appendix V or appendix II of chapter 33-24-02 for the allowable land disposal of such wastes. (Appendix VI of this chapter provides guidance on treatment methods that have been shown to achieve the table CCWE levels for the respective wastes. Appendix VI of this chapter is not a regulatory requirement but is provided to assist generators and owners or operators in their selection of appropriate treatment methods). Compliance with these concentrations is required based upon grab samples.

2. When wastes with differing treatment standards for a consitutent of concern are combined for purposes of treatment, the treatment residue must meet the lowest treatment standard for the constituent of concern.

History: Effective December 1, 1988; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

TABLE CCWE

CONSTITUENT CONCENTRATIONS IN WASTE EXTRACT

Waste code	See also	Regulated hazardous constituent	CAS number for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/l)
D004	Table CCW in 33-24-05-283	Arsenic	7440-38-2	NA	5.0
D005	Table CCW in 33-24-05-283	Barium	7440-39-3	NA	100
D006	Table CCW in 33-24-05-283	Cadmium	7440-43-9	NA	1.0
D007	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	5.0
D008	Table CCW in 33-24-05-283	Lead	7439-92-1	NA	5.0
D009 (Low Mercury Subcategory - less than 260 mg/kg Mercury)	Table 2 in 33-24-05-282 and Table CCW in 33-24-05-283.	Mercury	7439-97-6	NA	0.20
D010	Table CCW in 33-24-05-283	Selenium	7782-49-2	NA	5.7
D011	Table CCW in 33-24-05-283	Silver	7440-22-4	NA	5.0
F001-F005 spent solvents	Table 2 in 33-24-05-282 and Table CCW in 33-24-05-283.	Acetone	67-64-1	0.05	0.59
		n-Butyl alcohol	71-36-3	5.0	5.0
		Carbon disulfide	75-15-0	1.05	4.81
		Carbon tetrachloride	56-23-5	0.05	0.96
		Chlorobenzene	108-90-7	0.15	0.05
		Cresols (and cresylic acid)	.....	2.82	0.75
		Cyclohexanone	108-94-1	0.125	0.75
		1,2-Dichlorobenzene	95-50-1	0.65	0.125
		Ethyl acetate	141-78-6	0.05	0.75
		Ethylbenzene	100-41-4	0.05	0.053
		Ethyl ether	60-29-7	0.05	0.75
		Isobutanol	78-83-1	5.0	5.0
		Methanol	67-56-1	0.25	0.75
		Methylene chloride	75-9-2	0.20	0.96
		Methyl ethyl ketone	78-93-3	0.05	0.75
		Methyl isobutyl ketone	108-10-1	0.05	0.33
		Nitrobenzene	98-95-3	0.66	0.125
		Pyridine	110-86-1	1.12	0.33
		Tetrachloroethylene	127-18-4	0.079	0.05
		Toluene	108-88-3	1.12	0.33
		1,1,1-Trichloroethane	71-55-6	1.05	0.41
		1,1,2-Trichloro-1,2,2-Tetrifluorethane	76-113-1	1.05	0.96
		Trichloroethylene	79-01-6	0.062	0.091
		Trichlorofluoromethane	75-69-4	0.05	0.96
		Xylene	.....	0.05	0.15
F006	Table CCW in 33-24-05-283	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Nickel	7440-02-0	NA	0.32
		Silver	7440-22-4	NA	0.072
F007	Table CCW in 33-24-05-283	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Nickel	7440-02-0	NA	0.32
		Silver	7440-22-4	NA	0.072

TABLE CCWE

CONSTITUENT CONCENTRATIONS IN WASTE EXTRACT

Waste code	See also	Regulated hazardous constituent	CAS number for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/l)
F008	Table CCW in 33-24-05-283	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Nickel	7440-02-0	NA	0.32
		Silver	7440-22-4	NA	0.072
F009	Table CCW in 33-24-05-283	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Nickel	7440-02-0	NA	0.32
		Silver	7440-22-4	NA	0.072
F011	Table CCW in 33-24-05-283	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Nickel	7440-02-0	NA	0.32
		Silver	7440-22-4	NA	0.072
F012	Table CCW in 33-24-05-283	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Nickel	7440-02-0	NA	0.32
		Silver	7440-22-4	NA	0.072
F019	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	5.2
F020-F023 and F026-F028 dioxin containing wastes.*		HxCDD-All Hexachlorodibenzo-p-dioxins.		<1 ppb	<1 ppb
		HxCDF-All Hexachlorodibenzofurans.		<1 ppb	<1 ppb
		PeCDD-All Pentachlorodibenzo-p-dioxins.		<1 ppb	<1 ppb
		PeCDF-All Pentachlorodibenzofurans.		<1 ppb	<1 ppb
		TCDD-All Tetrachlorodibenzo-p-dioxins.		<1 ppb	<1 ppb
		TCDF-All Tetrachlorodibenzo-furans.		<1 ppb	<1 ppb
		2,4,5-Trichlorophenol	95-95-4	<0.05 ppm	<0.05 ppm
		2,4,6-Trichlorophenol	88-06-2	<0.05 ppm	<0.05 ppm
		2,3,4,6-Tetrachlorophenol.	58-90-2	<0.05 ppm	<0.05 ppm
		Pentachlorophenol	87-86-5	<0.01 ppm	<0.01 ppm
F024	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	0.073
		Lead	7439-92-1	NA	0.021
		Nickel	7440-02-0	NA	0.088
F039	Table CCW in 33-24-05-283	Antimony	7440-36-0	NA	0.23
		Arsenic	7440-38-2	NA	5.0
		Barium	7440-39-3	NA	52
		Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
		Mercury	7439-97-6	NA	0.025
		Nickel	7440-02-0	NA	0.32

TABLE CCWE

CONSTITUENT CONCENTRATIONS IN WASTE EXTRACT

Waste code	See also	Regulated hazardous constituent	CAS number for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/l)
		Selenium	7782-49-2	NA	5.7
		Silver	7440-22-4	NA	0.072
K001	Table CCW in 33-24-05-283	Lead	7439-92-1	NA	0.51
K002	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	0.094
		Lead	7439-92-1	NA	0.37
K003	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	0.094
		Lead	7439-92-1	NA	0.37
K004	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	0.094
		Lead	7439-92-1	NA	0.37
K005	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	0.094
		Lead	7439-92-1	NA	0.37
K006 (anhydrous)	Table CCW in 33-24-05-283	Chromium	7440-47-32	NA	0.094
		Lead	7439-92-1	NA	0.37
K006 (hydrated)	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	5.2
K007	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	0.094
		Lead	7439-92-1	NA	0.37
K008	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	0.094
		Lead	7439-92-1	NA	0.37
K015	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	1.7
		Lead	7439-92-1	NA	0.2
K021	Table CCW in 33-24-05-283	Antimony	7440-36-0	NA	0.238
K022	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	5.2
		Nickel	7440-02-2	NA	0.32
K028	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	0.073
		Lead	7439-92-1	NA	0.021
		Nickel	7440-02-0	NA	0.088
K031	Table CCW in 33-24-05-283	Arsenic	7440-38-2	NA	5.60
K046	Table CCW in 33-24-05-283	Lead	7439-92-1	NA	0.18
K048	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	1.7
		Nickel	7440-02-0	NA	0.20
K049	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	1.7
		Nickel	7440-02-0	NA	0.20
K050	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	1.7
		Nickel	7440-02-0	NA	0.20
K051	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	1.7
		Nickel	7440-02-0	NA	0.20
K052	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	1.7
		Nickel	7440-02-0	NA	0.20
K061 (Low Zinc Subcategory-less than 15% Total Zinc	Table CCW in 33-24-05-283	Cadmium	7440-43-9	NA	0.14
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.24
		Nickle	7440-02-0	NA	0.32
K062	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	0.094
		Lead	7439-92-1	NA	0.37
K069 (Calcium Sulfate Subcategory)	Table 2 in 33-24-05-282 and Table CCW in 33-24-05-283.	Cadmium	7440-43-9	NA	0.14
		Lead	7439-92-1	NA	0.24
K071 (Low Mercury Subcategory-less than 16 mg/kg Mercury).	Table CCW in 33-24-05-283	Mercury	7439-97-6	NA	0.025
K083	Table CCW in 33-24-05-283	Nickel	7440-02-0	NA	0.088

TABLE CCWE

CONSTITUENT CONCENTRATIONS IN WASTE EXTRACT

Waste code	See also	Regulated hazardous constituent	CAS number for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/l)
K084	Table CCW in 33-24-05-283	Arsenic	7440-38-2	NA	5.6#
K086	Table CCW in 33-24-05-283	Chromium (Total)	7440-47-32	NA	0.094
		Lead	7439-92-1	NA	0.37
K087	Table CCW in 33-24-05-283	Lead	7439-92-1	NA	0.51
K100	Table CCW in 33-24-05-283	Cadmium	7440-43-9	NA	0.066
		Chromium (Total)	7440-47-32	NA	5.2
		Lead	7439-92-1	NA	0.51
K101	Table CCW in 33-24-05-283	Arsenic	7440-38-2	NA	5.6#
K102	Table CCW in 33-24-05-283	Arsenic	7440-38-2	NA	5.6#
K106 (Low Mercury Subcategory-less than 260 mg/kg Mercury-residues from RMERC).	Table 2 in 33-24-05-282 and Table CCW in 33-24-05-283.	Mercury	7439-97-6	NA	0.20
K106 (Low Mercury Subcategory-less than 260 mg/kg Mercury-that are not residues from RMERC).	Table 2 in 33-24-05-282 and Table CCW in 33-24-05-283.	Mercury	7439-97-6	NA	0.025
K115	Table CCW in 33-24-05-283	Nickel	7440-02-0	NA	0.32

- These treatment standards have been based on EP Leachate analysis but this does not preclude the use of TCLP analysis.
* - These waste codes are not subcategorized into wastewaters and nonwastewaters.
NA - Not Applicable.

TABLE CCWE

CONSTITUENT CONCENTRATIONS FOR WASTE EXTRACTS

Waste code	See also	Commercial chemical name	Regulated hazardous constituent	CAS number for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-Wastewaters concentration (mg/l)
P010	Table CCW in 33-24-05-283..	Arsenic acid	Arsenic	7440-38-2	NA	5.6
P011	Table CCW in 33-24-05-283..	Arsenic pentoxide	Arsenic	7440-38-2	NA	5.6
P012	Table CCW in 33-24-05-283..	Arsenic trioxide	Arsenic	7440-38-2	NA	5.6
P013	Table CCW in 33-24-05-283..	Barium cyanide	Barium	7440-39-3	NA	52
P036	Table CCW in 33-24-05-283..	Dichlorophenylarsine	Arsenic	7440-38-2	NA	5.6
P038	Table CCW in 33-24-05-283..	Diethylarsine	Arsenic	7440-38-2	NA	5.6
P065 (Low Mercury Subcategory-less than 260 mg/kg Mercury-residues from RMERC).	Table 2 in 33-24-05-282 & Table CCW in 33-24-05-283.	Mercury fulminate	Mercury	7439-97-6	NA	0.20
P065 (Low Mercury Subcategory-less than 260 mg/kg Mercury-incinerator residues (and are not residues from RMERC)).	Table 2 in 33-24-05-282 & Table CCW in 33-24-05-283.	Mercury fulminate	Mercury	7439-97-6	NA	0.025
P073	Table CCW in 33-24-05-283..	Nickel carbonyl	Nickel	7440-02-0	NA	0.32
P074	Table CCW in 33-24-05-283..	Nickel cyanide	Nickel	7440-02-0	NA	0.32
P092 (Low Mercury Subcategory-less than 260 mg/kg Mercury-residues from RMERC).	Table 2 in 33-24-05-282 & Table CCW in 33-24-05-283.	Phenyl mercury acetate	Mercury	7439-97-6	NA	0.20
P092 (Low Mercury Subcategory-less than 260 mg/kg Mercury-incinerator residues (and are not residues from RMERC)).	Table 2 in 33-24-05-282 & Table CCW in 33-24-05-283.	Phenyl mercury acetate	Mercury	7439-97-6	NA	0.025
P099	Table CCW in 33-24-05-283..	Potassium silver cyanide	Silver	7440-22-4	NA	0.072
P103	Table CCW in 33-24-05-283..	Selenourea	Selenium	7782-49-2	NA	5.7
P104	Table CCW in 33-24-05-283..	Silver cyanide	Silver	7440-22-4	NA	0.072
P110	Table CCW in 33-24-05-283..	Tetraethyl lead	Lead	7439-92-1	NA	0.51
P114	Table CCW in 33-24-05-283..	Thallium selenite	Selenium	7762-49-2	NA	5.7
U032	Table CCW in 33-24-05-283..	Calcium chromate	Chromium (Total)	7440-47-32	NA	0.094
U051	Table CCW in 33-24-05-283..	Creosote	Lead	7439-92-1	NA	0.51
U136	Table CCW in 33-24-05-283..	Cacodylic acid	Arsenic	7440-38-2	NA	5.6
U144	Table CCW in 33-24-05-283..	Lead acetate	Lead	7439-92-1	NA	0.51
U145	Table CCW in 33-24-05-283..	Lead phosphate	Lead	7439-92-1	NA	0.51
U146	Table CCW in 33-24-05-283..	Lead subacetate	Lead	7439-92-1	NA	0.51
U151 (Low Mercury Subcategory-less than 260 mg/kg Mercury-residues from RMERC).	Table 2 in 33-24-05-282 & Table CCW in 33-24-05-283.	Mercury	Mercury	7439-97-6	NA	0.20

TABLE CCWE

CONSTITUENT CONCENTRATIONS FOR WASTE EXTRACTS

Waste code	See also	Commercial chemical name	Regulated hazardous constituent	CAS number for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-Wastewaters concentration (mg/l)
U151 (Low Mercury Subcategory-less than 260 mg/kg Mercury-incinerator residues (and are not residues from RMERC)).	Table 2 in 33-24-05-282 & Table CCW in 33-24-05-283.	Mercury.....	Mercury.....	7439-97-6	NA	0.025
U024.....	Table CCW in 33-24-05-283..	Selenium dioxide.....	Selenium.....	7782-49-2	NA	5.7
U205.....	Table CCW in 33-24-05-283..	Selenium sulfide.....	Selenium.....	7782-49-2	NA	5.7

- These treatment standards have been based on EP Leachate analysis, but this does not preclude the use of TCLP analysis.
* - These waste codes are not subcategorized into wastewaters and nonwastewaters.
NA - Not Applicable.

33-24-05-282. Treatment standards expressed as specified technologies.

1. ~~The following wastes must be treated using the identified technology or technologies, or an equivalent method approved by the department~~ The following wastes in subsections 1 and 2 and in table 2 and table 3 must be treated using the technology or technologies specified in subsections 1 and 2 and table 1 of this section.

   a. Liquid hazardous wastes containing polychlorinated biphenyls at concentrations greater than or equal to fifty parts per million but less than five hundred parts per million must be incinerated in accordance with the technical requirements of 40 CFR 761.70 or burned in high efficiency boilers in accordance with the technical requirements of 40 CFR 761.60. Liquid hazardous wastes containing polychlorinated biphenyls at concentrations greater than or equal to five hundred parts per million must be incinerated in accordance with the technical requirements of 40 CFR 761.70. Thermal treatment under this section must also be in compliance with applicable regulations in this chapter.

   b. Nonliquid hazardous waste containing halogenated organic compounds in total concentration greater than or equal to one thousand milligram/kilogram and liquid halogenated organic compounds containing wastes that are prohibited under subdivision a of subsection 5 of section 33-24-05-272 must be incinerated in accordance with the requirements of sections 33-24-05-144 through 33-24-05-159. These treatment standards do not apply where the waste is subject to sections 33-24-05-270 through 33-24-05-279 treatment standard for a specific halogenated organic compound (such as a hazardous waste chlorinated solvent for which a treatment standard is established under subsection 1 of section 33-24-05-281).

2. Any person may submit an application to the department demonstrating that an alternative treatment method can achieve a measure of performance equivalent to that achievable by method specified in ~~subsection~~ subsections 1, 2, 3, and 4. The applicant must submit information demonstrating that the applicant's treatment method is in compliance with federal, state, and local requirements and is protective of human health and the environment. On the basis of such information and any other available information, the department may approve the use of the alternative treatment method if the department finds that the alternative treatment method provides a measure of performance equivalent to that achieved by methods specified in ~~subsection~~ subsections 1, 3, and 4. Any approval must be stated in writing and may contain such provisions and conditions as the department deems appropriate.

The person to whom such approval is issued must comply with all limitations contained in such a determination.

3. As an alternative to the otherwise applicable sections 33-24-05-280 through 33-24-05-289 treatment standards, lab packs are eligible for land disposal provided the following requirements are met:

   a. The lab packs comply with the applicable provisions of section 33-24-05-185;

   b. All hazardous wastes contained in such lab packs are specified in appendix VIII or appendix IX;

   c. The lab packs are incinerated in accordance with the requirements of sections 33-24-05-144 through 33-24-05-151; and

   d. Any incinerator residues from lab packs containing D004, D005, D006, D007, D008, D010, and D011 are treated in compliance with the applicable treatment standards specified for such wastes in sections 33-24-05-280 through 33-24-05-289.

4. Radioactive hazardous mixed wastes with treatment standards specified table 3 of this section are not subject to any treatment standards specified in section 33-24-05-281, section 33-24-05-283, or table 2. Radioactive hazardous mixed wastes not subject to treatment standards in table 3 remain subject to all applicable treatment standards specified in section 33-24-05-281, section 33-24-05-283, and table 2.

History: Effective December 1, 1988; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

New Table

TABLE 1

TECHNOLOGY CODES AND DESCRIPTION OF TECHNOLOGY-BASED STANDARDS

Technology code	Description of technology-based standard
ADGAS	Venting of compressed gases into an absorbing or reacting media (i.e., solid or liquid) - venting can be accomplished through physical release utilizing values/piping; physical penetration of the container; and/or penetration through detonation.
AMLGM	Amalgamation of liquid, elemental mercury contaminated with radioactive materials utilizing inorganic reagents such as copper, zinc, nickel, gold, and sulfur that result in a nonliquid, semi-solid amalgam and thereby reducing potential emissions of elemental mercury vapors to the air.
BIODG	Biodegradation of organics or non-metallic inorganics (i.e., degradable inorganics that contain the elements of phosphorus, nitrogen, and sulfur) in units operated under either aerobic or anaerobic conditions such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Carbon can often be used as an indicator parameter for the biodegradation of many organic constituents that cannot be directly analyzed in wastewater residues).
CARBN	Carbon adsorption (granulated or powdered) of non-metallic inorganics, organo-metallics, and/or organic constituents, operated such that a surrogate compound or indicator parameter has not undergone breakthrough (e.g., Total Organic Carbon can often be used as an indicator parameter for the adsorption of many organic constituents that cannot be directly analyzed in wastewater residues). Breakthrough occurs when the carbon has become saturated with the constituent (or indicator parameter) and substantial change in adsorption rate associated with that constituent occurs.
CHOXD	Chemical or electrolytic oxidation utilizing the following oxidation reagents (or waste reagents) or combinations or reagents: (1) Hypochlorite (e.g. bleach); (2) chlorine; (3) chlorine dioxide; (4) ozone or UV (ultraviolet light) assisted ozone; (5) peroxides; (6) persulfates; (7) perchlorates; (8) permangantes; and/or (9) other oxidizing reagents of equivalent efficiency, performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the

TABLE 1

TECHNOLOGY CODES AND DESCRIPTION OF TECHNOLOGY-BASED STANDARDS
(Continued)

Technology code	Description of technology-based standard
	residuals (e.g., Total Organic Carbon can often be used as an indicator parameter for the oxidation of many organic constituents that cannot be directly analyzed in wastewater residues). Chemical oxidation specifically includes what is commonly referred to as alkaline chlorination.
CHRED	Chemical reduction utilizing the following reducing reagents (or waste reagents) or combinations of reagents: (1) Sulfur dioxide; (2) sodium, potassium, or alkali salts of sulfites, bisulfites, metablsulfites, and polyethylene glycols (e.g., NaPEG and KPEG); (3) sodium hydrosulfide; (4) ferrous salts; and/or (5) other reducing reagents of equivalent efficiency, performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Halogens can often be used as an indicator parameter for the reduction of many halogenated organic constituents that cannot be directly analyzed in wastewater residues). Chemical reduction is commonly used for the reduction of hexavalent chromium to the trivalent state.
DEACT	Deactivation to remove the hazardous characteristics of a waste due to its ignitability, corrosivity, and/or reacitvity.
FSUBS	Fuel substitution in units operated in accordance with applicabe technical operating requirements.
HLVT	Vitrification of high level mixed radioactive wastes in units in compliance with all applicable radioactive protection requirements under control of the Nuclear Regulatory Commission.
IMERC	Incineration of wastes containing organics and mercury in units operated in accordance with the technical operating requirements of 40 CFR part 264, subpart O and 40 CFR part 265, subpart O. All wastewater and nonwastewater residues derived from this process must then comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (e.g., High or Low Subcategories).
INCIN	Incineration in units operated in accordance with the technical operating requirements of 40 CFR part 264, subpart O and 40 CFR part 265, subpart O.

TABLE 1

TECHNOLOGY CODES AND DESCRIPTION OF TECHNOLOGY-BASED STANDARDS
(Continued)

Technology code	Description of technology-based standard
LLEXT	Liquid-liquid extraction (often referred to an solvent extratction) of organics from liquid wastes into an immiscible solvent for which the hazardous constituents have a greater solvent affinity, resulting in an extract high in organics that must undergo either incineration, reuse as a fuel, or other recovery/reuse and a raffinate (extracted liquid waste) proportionately low in organics that must undergo further treatment as specified in the standard.
MACRO	Macroencapsulation with surface coating materials such as polymeric organics (e.g. resins and plastics) or with a jacket of inert inorganic materials to substantially reduce surface exposure to potential leaching media. Macroencapsulation specifically does not include any material that would be classified as a tank or container according to 40 CFR 260.10.
NEUTR	Neutralization with the following reagents (or waste reagents) or combinations of reagents: (1) Acids; (2) bases; or (3) water (including wastewaters) resulting in a pH greater than 2 but less than 12.5 as measured in the aqueous residuals.
NLDBR	No land disposal based on recycling.
PRECP	Chemical precipitation of metals and other inorganics as insoluble precipitates of oxides, hydroxides, carbonates, sulfides, sulfates, chlorides, flourides, or phosphates. The following reagents (or waste reagents) are typically used alone or in combination: (1) Lime (i.e., containing oxides and/or hydroxides of calcium and/or magnesium; (2) caustic (i.e., sodium and/or potassium hydroxides; (3) soda ash (i.e., sodium carbonate); (4) sodium sulfide; (5) ferric sulfate or ferric chloride; (6) alum; or (7) sodium sulfate. Additional floculating, coagulation, or similar reagents/processes that enhance sludge dewatering characteristics are not precluded from use.
RBERY	Thermal recovery of Beryllium.
RCGAS	Recovery/reuse of compressed gases including techniques such as reprocessing of the gases for reuse/resale; filtering/adsorption of impurities; remixing for direct resue of resale; and use of the gas as a fuel source.

TABLE 1

TECHNOLOGY CODES AND DESCRIPTION OF TECHNOLOGY-BASED STANDARDS
(Continued)

Technology code	Description of technology-based standard
RCORR	Recovery of acids or bases utilizing one or more of the following recovery technologies: (1) Distillation (i.e., thermal concentration); (2) ion exchange; (3) resin or solid adsorption; (4) reverse osmosis; and/or (5) incineration for the recovery of acid - Note: this does not preclude the use of other physical phase separation or concentration techniques such as decantation, filtration (including ultra filtration), and centrifugation, when used in conjunction with the above listed recovery technologies.
RLEAD	Thermal recovery of lead in secondary lead smelters.
RMERC	Retorting or roasting in a thermal processing unit capable of volatilizing mercury and subsequently condensing the volatilized mercury for recovery. The retortin or roasting unit (or facility) must be subject to one or more of the following: (a) A National Emissions Standard for Hazardous Air Pollutants (NESHAP) for mercury; (b) a Best Available Control Technology (BACT) or a Lowest Achievable Emission Rate (LAER) standard for mercury imposed pursuant to a Prevention of Significant Deterioration (PSD) permit; or (c) a state permit that establishes emission limitations (within meaning of Section 302 of the Clean Air Act) for mercury. All wastewater and nonwastewater residues derived from this process must then comply with the corresponding treatment standards per waste code with consideration of any applicable subcategories (e.g., High or Low Mercury Subcategories).
RMETL	Recovery of metals or inorganics utilizing one or more of the following direct physical/removal technologies: (1) Ion exchange; (2) resin or solid (i.e., zeolites) adsorption; (3) reverse osmosis; (4) chelation/solvent extraction; (5) freeze crystalization; (6) ultrafiltration; and/or 6 simple precipitation (i.e., crystalization) - Note: this does not preclude the use of other physical phase separation or concentration techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.

TABLE 1

TECHNOLOGY CODES AND DESCRIPTION OF TECHNOLOGY-BASED STANDARDS
(Continued)

Technology code	Description of technology-based standard
RORGS	Recovery of organics utilizing one or more of the following technologies: (1) Distillation; (2) thin film evaporation; (3) steam stripping: (4) carbon adsorption; (5) critical fluid extraction; (6) liquid-liquid extration; (7) precipitation/crystallization (including freeze crystallization); or (8) chemical phase separation techniques (i.e., addition of acids, bases, demulsifiers, or similar chemicals); Note: This does not preclude the use of other physical phase separation techniques such as decantation, filtration (including ultrafiltration), and centrifugation, when used in conjunction with the above listed recovery technologies.
RTHRM	Thermal recovery of metals or inorganics from nonwastewaters in units defined in paragraphs a, f, g, k and l of section 33-24-01-04 under the definition of "industrial furnaces".
RZINC	Resmelting in for the purpose of recovery of zinc high temperature metal recovery units.
STABI	Stabilization with the following reagents (or waste reagents) or combinations of reagents: (1) Portland cement; or (2) lime/pozzolans (e.g., fly ash and cement kiln dust) - this does not preclude the addition of reagents (e.g., iron salts, silicates, and clays) designed to enhance the set/cure time and/or compressive strength, or to overall reduce the leachability of the metal or inorganic.
SSTRP	Steam stripping of organics from liquid wastes utilizing direct application of steam to the wastes operated such that liquid and vapor flow rates, as well as, temperature and pressure ranges have been optimized, monitored, and maintained. These operating parameters are dependent upon the design parameters of the unit, such as, the number of separatiion stages and the internal column design. Thus, resulting in a condensed extract high in organics that must undergo either incineration, reuse as a fuel, or other recovery/reuse and an extracted wastewater that must undergo further treatment as specified in the standard.

TABLE 1

TECHNOLOGY CODES AND DESCRIPTION OF TECHNOLOGY-BASED STANDARDS
(Continued)

Technology code	Description of technology-based standard
WETOX	Wet air oxidation performed in units operated such that a surrogate compound or indicator parameter has been substantially reduced in concentration in the residuals (e.g., Total Organic Carbon can often be used as an indicator parameter for the oxidation of many organic constituents that cannot be directly analyzed in wastewater residues).
WTRRX	Controlled reaction with water for highly reactive inorganic or organic chemicals with precautionary controls for protection of workers from potential violent reactions as well as precautionary controls for potential emissions of toxic/ignitable levels of gases released during the reaction.

Note 1: When a combination of these technologies (i.e., a treatment train) is specified as a single treatment standard, the order of applciation is specified in section 33-24-05-282, Table 2 by indicating the five letter technology code that must be applied first, then the designation "fb" (an abbreviation for "followed by"), then the five letter technology code for th technology that must be applied next, and so on.

Note 2: When more than one technology (or treatment train) are specified as alternative treatment standards, the five letter technology codes (or the treatment trains) are separated by a semicolon(;) with the last technology preceded by the word "OR". This indicates that any one of these BDAT technologies or treatment trains can be used for compliance with the standard.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
D001	.....	Ignitable Liquids based on 33-24-02-11,1.,a.-Wastewaters.	NA	DEACT	NA.
D001	.....	Ignitable Liquids based on 33-24-02-11,1.,a.-Low TOC Ignitable Liquids Subcategory-Less than 10% total organic carbon.	NA	NA	DEACT.
D001	.....	Ignitable Liquids based on 33-24-02-11,1.,a.-High TOC Ignitable Liquids Subcategory-Greater than or equal to 10% total organic carbon.	NA	NA	FSUBS; RORGS; or INCIN.
D001	.....	Ignitable compressed gases based on 33-24-02-11,1.,c.	NA	NA	DEACT**.
D001	.....	Ignitable reactives 33-24-02-11,1.,b.	NA	NA	DEACT.
D001	.....	Oxidizers based on 33-24-02-11,1.,d.	NA	DEACT	DEACT.
D002	.....	Acid subcategory based on 33-24-02-12.1.,a.	NA	DEACT	DEACT.
D002	.....	Alkaline subcategory based on 33-24-02-12,1.,a.	NA	DEACT	DEACT.
D002	.....	Other corrosives based on 33-24-02-02-12,1.,b.	NA	DEACT	DEACT.
D003	.....	Reactive sulfides based on 33-24-02-02-13,1.,e.	NA	DEACT	DEACT.
D003	.....	Explosives based on 33-24-02-13,1.,f.,g., and h.	NA	DEACT	DEACT.
D003	.....	Water reactives based on 33-24-02-13,1.,b.,c., and d.	NA	NA	DEACT.
D003	.....	Other reactives based on 33-24-02-13,1.,a.	NA	DEACT	DEACT.
D006	.....	Cadmium containing batteries.....	7440-43-9	NA	RTHRM.
D008	.....	Lead acid batteries (Note: This standard only applies to lead acid batteries that are identified as RCRA hazardous wastes and that are not excluded elsewhere from regulation under the land disposal restrictions of sections 33-24-05-250 through 33-24-05-290 or exempted under other rules (see section 33-24-05-235).).	7439-92-1	NA	RLEAD.
D009	Table CCWE & Table CCW	Mercury. (High Mercury subcategory-greater than or equal to 260 mg/kg total Mercury-contains mercury and organics (and are not incinerator residues)).	7439-97-6	NA	IMERC; or RMERC.
D009	Table CCWE & Table CCW	Mercury. (High Mercury Subcategory-greater than or equal to 260 mg/kg total Mercury-inorganics (including incinerator residues and residues from RMERC)).	7439-97-6	NA	RMERC.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE (Continued)

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
D012	Table CCW	Endrin.....	72-20-8	BIODG; or INCIN	NA
D013	Table CCW	Lindane.....	58-89-9	CARBN; or INCIN	NA
D014	Table CCW	Methoxychlor.....	72-43-5	WETOX; or INCIN	NA
D015	Table CCW	Toxaphene.....	8001-35-1	BIODG; or INCIN	NA
D016	Table CCW	2,4-D.....	94-75-7	CHOXD; BIODG; or INCIN	NA
D017	Table CCW	2,4,5-TP.....	93-72-1	CHOXD; or INCIN	NA
F005	Table CCWE	2-Nitropropane.....	79-46-9	(WETOX or CHOXD) to CARBN; or INCIN	INCIN.
F006	Table CCWE & Table CCW	2-Ethoxyethanol.....	110-80-5	BIODG; or	INCIN.
F024	Table CCWE & Table CCW	.....	NA	INCIN	INCIN.
K025	.....	Distillation bottoms from the production of nitrobenzene by the nitration of benzene.	NA	LLEXT fb SSTRP fb CARBN; or INCIN	INCIN.
K026	.....	Stripping still tails from the production of methyl ethyl pryidines.	NA	INCIN	INCIN.
K027	.....	Centrifuge and distillation residues from toluene diisocyanate production.	NA	CARBN; or INCIN	FSUBS; or INCIN.
K039	.....	Filter cake from the filtration of diethyl-phosphorodithioc acid in the production of phorate.	NA	CARBN; or INCIN	FSUBS; or INCIN.
K044	.....	Wastewater treatment sludges from the manufacturing and processing of explosives.	NA	DEACT	DEACT.
K045	.....	Spent carbon from the treatment of wastewater containing explosives.	NA	DEACT	DEACT.
K047	.....	Pink/red water from TNT operations.....	NA	DEACT	DEACT.
K061	Table CCW	Emission control dust/sludge from the primary production of steel in electric furnaces (High Zinc Subcategory-greater than or equal to 15% total Zinc).	NA	NA	NLDBR.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE (Continued)

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
K069	Table CCWE & Table CCW	Emission control dust/sludge from secondary lead smelting: Non-Calcium Sulfate Subcategory.	NA	NA	RLEAD.
K106	Table CCWE & Table CCW	Wastewater treatment sludge from the mercury cell process in chlorine production: (High Mercury Subcategory-greater than or equal to 260 mg/kg total mercury).	NA	NA	RMERC.
K113	.....	Condensed liquid light ends from the purification of toluenediamine in the production of toluenediamine via hydrogenation of dinitrotoluene.	NA	CARBN; or INCIN	FSUBS; or INCIN.
K114	.....	Vicinals from the purification of toluenediame in the production of toluenediamine via hydrogenation of dinitrotoluene.	NA	CARBN; or INCIN	FSUBS; or INCIN.
K115	.....	Heavy ends from the purification of toluenediame in the production of toluenediamine via hydrogenation of dinitrotoluene.	NA	CARBN; or INCIN	FSUBS; or INCIN.
K116	.....	Organic condensate from the solvent recovery column in the production of toluene diisocyanate via phosgenation of toluenediamine.	NA	CARBN; or INCIN	FSUBS; or INCIN.
P001	.....	Warfarin (>0.3%).....	81-81-2	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
P002	.....	1-Acetyl-2-thiourea.....	591-08-2	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P003	.....	Acrolein.....	107-02-8	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
P005	.....	Allyl alcohol.....	107-18-6	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
P006	.....	Aluminum phosphide.....	20859-73-8	CHOXD; CHRED; or INCIN	CHOXD; CHRED; or INCIN.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE (Continued)

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
P007	.....	5-Aminoethyl 3-isoxazolol.....	2763-96-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P008	.....	4-Aminopyridine.....	504-24-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P009	.....	Ammonium picrate.....	131-74-8	CHOXD; CHRED; CARBN; BIODG or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
P014	.....	Thiophenol (Benzene thiol).....	108-98-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P015	.....	Beryllium dust.....	7440-41-7	NA	RMETL; or RTHRM.
P016	.....	Bis(chloromethyl)ether.....	542-88-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P017	.....	Bromoacetone.....	598-31-2	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P018	.....	Brucine.....	357-57-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P022	Table CCW.....	Carbon disulfide.....	75-15-0	NA	INCIN.
P023	.....	Chloracetaldehyde.....	107-20-0	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P026	.....	1-(o-Chlorophenyl) thiourea.....	5344-82-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE (Continued)

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
P027	.....	3-Chloropropionitrile.....	542-76-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P028	.....	Benzyl chloride.....	100-44-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P031	.....	Cyanogen.....	460-19-5	CHOXD; WETOX or INCIN	CHOXD; WETOX or INCIN.
P033	.....	Cyanogen chloride.....	506-77-4	CHOXD; WETOX or INCIN	CHOXD; WETOX or INCIN.
P034	.....	2-Cyclohexyl-4,6-dinitrophenol.....	131-89-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P040	.....	O,O-Diethyl O-pyrazinyl phosphorothioate.....	297-97-2	CARBN; or INCIN	FSUBS; or INCIN.
P041	.....	Diethyl-p-nitrophenyl phosphate.....	311-45-5	CARBN; or INCIN	FSUBS; or INCIN.
P042	.....	Epinephrine.....	51-43-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P043	.....	Diisopropylfluorophosphate (DFP).....	55-91-4	CARBN; or INCIN	FSUBS; or INCIN.
P044	.....	Dimethoate.....	60-51-5	CARBN; or INCIN	FSUBS; or INCIN.
P045	.....	Thiofanox.....	39196-18-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P046	.....	alpha, alpha-Dimethylphenethylamine.....	122-09-8	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE (Continued)

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
P047	.....	4,6-Dinitro-o-cresol salts.....	534-52-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P049	.....	2,4-Dithiobiuret.....	541-53-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P054	.....	Aziridine.....	151-56-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P056	Table CCW....	Fluorine.....	7782-41-4	NA	ADGAS fb NEUTR.
P057	.....	Fluoroacetamide.....	640-19-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P058	.....	Fluoroacetic acid, sodium salt.....	62-74-8	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P062	.....	Hexaethyltetraphosphate.....	757-58-4	CARBN; or INCIN	FSUBS; or INCIN.
P064	.....	Isocyanic acid, ethyl ester.....	624-83-9	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P065	Table CCWE and Table CCW	Mercury fulminate: (High Mercury Subcategory-greater than or equal to 260 mg/kg total Mercury-either incinerator residues or residues from RMERC).	628-86-4	NA	RMERC.
P065	Table CCWE and Table CCW	Mercury fulminate: (All nonwastewaters that are not incinerator residues from RMERC; regardless of Mercury Content.	628-86-4	NA	IMERC.
P066	.....	Methomyl.....	16752-77-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE (Continued)

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
P067	.....	2-Methylaziridine.....	75-55-8	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P068	.....	Methyl hydrazine.....	60-34-4	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; _____
P069	.....	Methyllactonitrile.....	75-86-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P070	.....	Aldicarb.....	116-06-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P072	.....	1-Naphthyl-2-thiourea.....	86-88-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P075	.....	Nicotine and salts.....	54-11-5*	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P076	.....	Nitric oxide.....	10102-43-9	ADGAS	ADGAS.
P078	.....	Nitrogen dioxide.....	10102-44-0	ADGAS	ADGAS.
P081	.....	Nitroglycerin.....	55-63-0	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
P082	Table CCW....	N-Nitrosodimethylamine.....	62-75-9	NA	INCIN.
P084	.....	N-Nitrosomethylvinylamine.....	4549-40-0	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P085	.....	Octamethylpyrophosphoramide.....	152-16-9	CARBN; or INCIN	FSUBS; or INCIN.
P087	.....	Osmium tetroxide.....	20816-12-0	NA	RMETL; or RTHRM.
P088	.....	Endothall.....	145-73-3	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE (Continued)

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
P092	Table CCWE and Table CCW	Phenyl mercury acetate: (High Mercury Subcategory-greater than or equal to 260 mg/kg total Mercury-either incinerator residues or residues from RMERC).	62-38-4	NA	RMERC.
P092	Table CCWE and Table CCW	Phenyl mercury acetate: (All nonwastewaters that are not incinerator residues and are not residues from RMERC; regardless of Mercury Content).	62-38-4	NA	IMERC or RMERC.
P093	.....	N-Phenylthiouea.....	103-85-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P095	.....	Phosgene.....	75-44-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P096	.....	Phosphine.....	7803-51-2	CHOXD; CHRED; or INCIN	CHOXD; CHRED; or INCIN.
P102	.....	Propargyl alcohol.....	107-19-7	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS or INCIN.
P105	.....	Sodium azide.....	26628-22-8	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
P108	.....	Strychnine and salts.....	57-24-9*	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P109	.....	Tetraethyldithiopyrophosphate.....	3689-24-5	CARBN; or INCIN	FSUBS; or INCIN.
P112	.....	Tetranitromethane.....	509-14-6	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
P113	Table CCW....	Thallic oxide.....	1314-32-5	NA	RTHRM; or STABL.
P115	Table CCW...	Thallium (1) sulfate.....	7446-18-6	NA	RTHRM; or STABL.
P116	.....	Thiosemicarbazide.....	79-19-6	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE (Continued)

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
P118	.....	Trichloromethanethiol.....	75-70-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
P119	Table CCW....	Ammonium vanadate.....	7803-55-6	NA	STABL.
P120	Table CCW....	Vanadium pentoxide.....	1314-62-1	NA	STABL.
P122	.....	Zinc Phosphide (<10%).....	1314-84-7	CHOXD; CHRED; or INCIN	CHOXD; CHRED; or INCIN.
U001	.....	Acetaldehyde.....	75-07-0	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U003	Table CCW....	Acetonitrile.....	75-05-8	NA	INCIN.
U006	.....	Acetyl Chloride.....	75-36-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U007	.....	Acrylamide.....	79-06-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U008	.....	Acrylic acid.....	79-10-7	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS or INCIN.
U010	.....	Mitomycin C.....	50-07-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U011	.....	Amitrole.....	61-82-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U014	.....	Auramine.....	492-80-8	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE (Continued)

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
U015	.....	Azaserine.....	115-01-6	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U016	.....	Benz(c)acridine.....	225-51-4	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U017	.....	Benzal chloride.....	98-87-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U020	.....	Benzenesulfonyl chloride.....	98-09-9	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U021	.....	Benzidine.....	92-87-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U023	.....	Benzotrichloride.....	98-07-7	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
U026	.....	Chlornaphazin.....	494-03-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U033	.....	Carbonyl fluoride.....	353-50-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U034	.....	Trichloroacetaldehyde (Chloral).....	75-87-6	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U035	.....	Chlorambucil.....	305-03-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U038	Table CCW....	Chlorobenzilate.....	510-15-6	NA	INCIN.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE (Continued)

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
U041	.....	1-Chloro-2,3-epoxypropane (Epichlorohydrin)...	106-89-8	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U042	Table CCW....	2-Chloroethyl vinyl ether.....	110-75-8	NA	INCIN.
U046	.....	Chloromethyl methyl ether.....	107-30-2	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U049	.....	4-Chloro-o-toluidine hydrochloride.....	3165-93-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U053	.....	Crontonaldehyde.....	4170-30-3	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U055	.....	Cumene.....	98-82-8	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U056	.....	Cyclohexane.....	110-82-7	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U057	Table CCW....	Cyclohexanone.....	108-94-1	NA	FSUBS; or INCIN.
U058	.....	Cyclophosphamide.....	50-18-0	CARBN; or INCIN	FSUBS; or INCIN.
U059	.....	Daunomycin.....	20830-81-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U062	.....	Diallate.....	2303-16-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U064	.....	1,2,7,8-Dibenzopyrene.....	189-55-9	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE (Continued)

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
U073	.....	3,3'-Dichlorobenzidine.....	91-94-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U074	.....	cis-1,4-Dichloro-2-butene.....	1476-11-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN
		trans-1,4-Dichloro-2-butene.....		(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U085	.....	1,2:3,4-Diepoxybutane.....	1464-53-5	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U086	.....	N,N-Diethylhydrazine.....	1615-80-1	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
U087	.....	O,O-Diethyl S-methyldithiophosphate.....	3288-58-2	CARBN; or INCIN	FSUBS; or INCIN.
U089	.....	Diethyl stilbestrol.....	56-53-1	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U090	.....	Dihydrosafrole.....	94-58-6	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U091	.....	3,3'Dimethoxybenzidine.....	119-90-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U092	.....	Dimethylamine.....	124-40-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U093	Table CCW....	p-Dimethylaminoazobenzene.....	621-90-9	NA	INCIN.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE (Continued)

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
U094	.....	7,12-Dimethyl benz(a)anthracene.....	57-97-6	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U095	.....	3,3'-Dimethylbenzidine.....	119-93-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U096	.....	a,a-Dimethyl benzyl hydroperoxide.....	80-15-9	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
U097	.....	Dimethylcarbomyl chloride.....	79-44-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U098	.....	1,1-Dimethyllhydrazine.....	57-14-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U099	.....	1,2-Dimethylhydrazine.....	540-73-8	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U103	.....	Dimethyl sulfate.....	77-78-1	CHOXD; CHRED; CARBN; BIODG; INCIN	FSUBS; CHOXD; CHRED; or INCIN.
U109	.....	1,2-Diphenylhydrazine.....	122-66-7	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
U110	.....	Dipropylamine.....	142-84-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U113	.....	Ethyl acrylate.....	140-88-5	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE (Continued)

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
U114	.....	Ethylene bid-dithiocarbamic acid.....	111-54-6	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U115	.....	Ethylene oxide.....	75-21-8	(WETOX or CHOXD) fb CARBN; or INCIN	CHOXD; or INCIN.
U116	.....	Ethylene thiourea.....	96-45-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U119	.....	Ethyl methane sulfonate.....	62-50-0	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U122	.....	Formaldehyde.....	50-00-0	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U123	.....	Formic acid.....	64-18-6	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U124	.....	Furan.....	110-00-9	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN. INCIN.
U125	.....	Furfural.....	98-01-1	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U126	.....	Glycidaldehyde.....	765-34-4	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U132	.....	Hexachlorophene.....	70-30-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE (Continued)

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
U133	.....	Hydrazine.....	302-01-2	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
U134	Table CCW....	Hydrogen Flouride.....	7664-39-3	NA	ADGAS fb NEUTR; or NEUTR.
U135	.....	Hydrogen Sulfide.....	7783-06-4	CHOXD; CHRED; or INCIN	CHOXD; CHRED; INCIN.
U143	.....	Lasiocarpine.....	303-34-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U147	.....	Maleic anhydride.....		(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U148	.....	Maleic hydrazide.....	123-33-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U149	.....	Malononitrile.....	109-77-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U150	.....	Melphalan.....	148-82-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U151	Table CCWE and Table CCW	Mercury: (High Mercury Subcategory-greater than or equal to 260 mg/kg total Mercury).	7439-97-6	NA	RMERC.
U153	.....	Methane thiol.....	74-93-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U154	.....	Methanol.....	67-56-1	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE (Continued)

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
U156	.....	Methyl chlorocarbonate.....	79-22-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U160	.....	Methyl ethyl ketone peroxide.....	1338-23-4	CHOXD; CHRED; CARBN; BIODG; or INCIN	FSUBS; CHOXD; CHRED; or INCIN.
U163	.....	N-Methyl N' -nitro N-Nitrosoguanidine.....	70-25-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U164	.....	Methylthiounacil.....	56-04-2	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U166	.....	1,4-Napthoquinone.....	130-15-4	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U167	.....	1-Naphthlyamine.....	134-32-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U168	Table CCW....	2-Naphthlyamine.....	91-59-8	NA	INCIN.
U171	.....	2-Nitropropane.....	79-46-9	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U173	.....	N-Nitroso-di-n-ethanolamine.....	1116-54-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U176	.....	N-Nitroso-N-ethylurea.....	759-73-9	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U177	.....	N-Nitroso-N-methylurea.....	684-93-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE (Continued)

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
U178	.....	N-Nitroso-N-methylurethane.....	615-53-2	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U182	.....	Paraldehyde.....	123-63-7	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U184	.....	Pentachloroethane.....	76-01-7	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U186	.....	1,3-Pentadiene.....	504-60-9	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U189	.....	Phosphorus sulfide.....	1314-80-3	CHOXD; CHRED; or INCIN	CHOXD; CHRED; or INCIN.
U191	.....	2-Picoline.....	109-06-8	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U193	.....	1,3-Propane sultone.....	1120-71-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U194	.....	n-Propylamine.....	107-10-8	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U197	.....	p-Benzoquinone.....	106-51-4	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U200	.....	Reserpine.....	50-55-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE (Continued)

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
U201	.....	Resorcinol.....	108-46-3	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U202	.....	Saccharin and salts.....	81-07-2*	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U206	.....	Streptozatocin.....	18883-66-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U213	.....	Tetrahydrofuran.....	109-99-9	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U214	Table CCW....	Thallium (1) acetate.....	563-68-8	NA	RTHRM; or STABL.
U215	Table CCW....	Thallium (1) carbonate.....	6533-73-9	NA	RTHRM; or STABL.
U216	Table CCW....	Thallium (1) chloride.....	7791-12-0	NA	RTHRM; or STABL.
U217	Table CCW....	Thallium (1) nitrate.....	10102-45-1	NA	RTHRM; or STABL.
U218	.....	Thioacetamide.....	62-55-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U219	.....	Thiourea.....	62-56-6	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U221	.....	Toluenediamine.....	25376-45-8	CARBN; or INCIN	FSUBS; or INCIN.
U222	.....	o-Toluidine hydrochloride.....	636-21-5	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U223	.....	Toluene diisocyanate.....	26471-62-5	CARBN; or INCIN	FSUBS; or INCIN.
U234	.....	sym-Trinitrobenzene.....	99-35-4	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.

TABLE 2

TECHNOLOGY-BASED STANDARDS BY RCRA WASTE CODE (Continued)

Waste code	See also	Waste descriptions and/or treatment subcategory	CAS No. for regulated hazardous constituents	Technology code	
				Wastewaters	Nonwastewaters
U236	.....	Trypan Blue.....	72-57-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U237	.....	Uracil mustard.....	66-75-1	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U238	.....	Ethyl carbamate.....	51-79-6	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U240	.....	2,4-Dichlorophenoxyacetic (salts and esters)...	95-75-7*	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U244	.....	Thiram.....	137-26-8	(WETOX or CHOXD) fb CARBN; or INCIN	INCIN.
U246	.....	Cyanogen bromide.....	506-68-3	CHOXD; WETOX; or INCIN	CHOXD; WETOX; or INCIN.
U248	.....	Warfarin (greater than or equal to 3%).....	81-81-2	(WETOX or CHOXD) fb CARBN; or INCIN	FSUBS; or INCIN.
U249	.....	Zinc Phosphide (<10%).....	1314-84-7	CHOXD; CHRED; or INCIN	CHOXD; CHRED; or INCIN.

*CAS Number given for parent compound only.
**This waste code exists in gaseous form and is not categorized as wastewater or nonwastewater forms.
NA-Not Applicable.

TABLE 3

TECHNOLOGY-BASED STANDARDS FOR SPECIFIC RADIOACTIVE HAZARDOUS MIXED WASTE

Waste code	Waste descriptions and/or treatment subcategory	CAS number	Technology code	
			Wastewaters	Nonwastewaters
D002.....	Radioactive High Level Wastes Generated During the Reprocessing of Fuel Rods Subcategory.	NA.....	NA.....	HLVIT
D004.....	Radioactive High Level Wastes Generated During the Reprocessing of Fuel Rods Subcategory.	NA.....	NA.....	HLVIT
D005.....	Radioactive High Level Wastes Generated During the Reprocessing of Fuel Rods Subcategory.	NA.....	NA.....	HLVIT
D006.....	Radioactive High Level Wastes Generated During the Reprocessing of Fuel Rods Subcategory.	NA.....	NA.....	HLVIT
D007.....	Radioactive High Level Wastes Generated During the Reprocessing of Fuel Rods Subcategory.	NA.....	NA.....	HLVIT
D008.....	Radioactive Lead Solids Subcategory (Note: these lead solids include, but are not limited to, all forms of lead shielding, and other elemental forms of lead. These lead solids do not include treatment residuals such as hydroxide sludges, other wastewater treatment residuals, or incinerator ashes that can undergo conventional pozzolanic stabilization, nor do they include organo-lead materials that can be incinerated and stabilized as ash.	7439-92-1	NA.....	MACRO
D008.....	Radioactive High Level Wastes Generated During the Reprocessing of Fuel Rods Subcategory.	NA.....	NA.....	HLVIT
D009.....	Elemental Mercury Contaminated With Radioactive materials.	7439-97-6...	NA.....	AMLGM
D009.....	Hydraulic oil contaminated with Mercury Radioactive Materials Subcategory.	7439-97-6...	NA.....	INCIN
D009.....	Radioactive High Level Wastes Generated During the Reprocessing of Fuel Rods Subcategory.	NA.....	NA.....	HLVIT
D010.....	Radioactive High Level Wastes Generated During the Reprocessing of Fuel Rods Subcategory.	NA.....	NA.....	HLVIT
D011.....	Radioactive High Level Wastes Generated During the Reprocessing of Fuel Rods Subcategory.	NA.....	NA.....	HLVIT
U151.....	Mercury: Elemental mercury contaminated with radioactive materials.	7439-97-6...	NA.....	AMLGM

NA-Not Applicable.

33-24-05-283. ~~[Reserved]~~ Treatment standards expressed as waste concentrations.

1. Table CCW identifies the restricted wastes and the concentrations of their associated hazardous constituents which may not be exceeded by the waste or treatment residual (not an extract of such waste or residual) for the allowable land disposal of such waste or residual. Compliance with these concentrations is required based upon grab samples, unless otherwise noted in the following table CCW.

2. When wastes with differing treatment standards for a constituent of concern are combined for purposes of treatment, the treatment residue must meet the lowest treatment standard for the constituent of concern.

3. Notwithstanding the prohibitions specified in subsection 1 treatment and disposal facilities may demonstrate (and certify pursuant to subdivision e of subsection 2 of section 33-24-05-256) compliance with the treatment standards for organic constituents specified in this section provided the following conditions are satisfied:

   a. The treatment for the organic constituents were established based on incineration in units operated in accordance with the technical requirements of sections 33-24-05-144 through 33-24-05-151, or based on combustion in fuel substitution units operating in accordance with applicable technical requirements;

   b. The organic constituents have been treated using the methods referenced in subdivision a; and

   c. The treatment or disposal facility has been unable to detect the organic constituents despite using its best good faith efforts as defined by applicable environmental protection agency guidance or standards. Until such guidance or standards are developed, such good faith efforts may be demonstrated where the treatment or disposal facility has detected the organic constituents at levels within an order of magnitude of the treatment standard specified in this section.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES

Waste Code	See Also	Regulated Hazardous Constituent	CAS No. for Regulated Hazardous Constituent	Wastewaters Concentration (mg/l)	Nonwastewaters Concentration (mg/kg)
D003 (Reactive cyanides subcategory based on 33-24-02-13,1.e.)	.....	Cyanides (Total).....	57-12-5	Reserved	ǂ590
		Cyanides (Amenable).....	57-12-5	0.86	30
D004.....	Table CCWE in 33-24-05-281..	Arsenic.....	7440-38-2	5.0	NA
D005.....	Table CCWE in 33-24-05-281..	Barium.....	7440-39-3	100	NA
D006.....	Table CCWE in 33-24-05-281..	Cadmium.....	7440-43-9	1.0	NA
D007.....	Table CCWE in 33-24-05-281..	Chromium (Total).....	7440-47-32	5.0	NA
D008.....	Table CCWE in 33-24-05-281..	Lead.....	7439-92-1	5.0	NA
D009.....	Table CCWE in 33-24-05-281..	Mercury.....	7439-97-6	0.20	NA
D010.....	Table CCWE in 33-24-05-281..	Selenium.....	7782-49-2	1.0	NA
D011.....	Table CCWE in 33-24-05-281..	Silver.....	7440-22-4	5.0	NA
D012.....	Table 2 in 33-24-05-282.....	Endrin.....	720-20-8	NA	0.13
D013.....	Table 2 in 33-24-05-282.....	Lindane.....	58-89-9	NA	0.066
D014.....	Table 2 in 33-24-05-282.....	Methoxychlor.....	72.43-5	NA	0.18
D015.....	Table 2 in 33-24-05-282.....	Toxaphene.....	8001-35-1	NA	1.3
D016.....	Table 2 in 33-24-05-282.....	2,4-D.....	94-75-7	NA	10.0
D017.....	Table 2 in 33-24-05-282.....	2,4,5-TP Silvex.....	93-76-5	NA	7.9
F001-F005 spent solvents....	Table CCWE in 33-24-05-281 & Table 2 in 33-24-05-282	1,1,2-Trichloroethane.....	77-55-6	0.030	ǂ7.6
		Benzene.....	71-43-2	0.070	ǂ3.7
F001-F005 spent solvents (Pharmaceutical industry wastewater subcategory).	.....	Methylene chloride.....	75-09-2	0.44	NA
F006.....	Table CCWE in 33-24-05-281..	Cyanides (Total).....	57-12-5	1.2	590
		Cyanides (Amenable).....	57-12-5	0.86	30
		Cadmium.....	7440-43-9	1.6	NA
		Chromium.....	7440-47-32	0.32	NA
		Lead.....	7439-92-1	0.040	NA
		Nickel.....	7440-02-0	0.44	NA
F007.....	Table CCWE in 33-24-05-281..	Cyanides (Total).....	57-12-5	1.9	590
		Cyanides (Amenable).....	57-12-5	0.1	30
		Chromium (Total).....	7440-47-32	0.32	NA
		Lead.....	7439-92-1	0.04	NA
		Nickel.....	7440-02-0	0.44	NA
F008.....	Table CCWE in 33-24-05-281..	Cyanides (Total).....	57-12-5	1.9	590
		Cyanides (Amenable).....	57-12-5	0.1	30
		Chromium.....	7440-47-32	0.32	NA
		Lead.....	7439-92-1	0.04	NA
		Nickel.....	7440-02-0	0.44	NA
F009.....	Table CCWE in 33-24-05-281..	Cyanides (Total).....	57-12-5	1.9	590
		Cyanides (Amenable).....	57-12-5	0.1	30
		Chromium.....	7440-47-32	0.32	NA
		Lead.....	7439-92-1	0.04	NA
		Nickle.....	7440-02-0	0.44	NA
F010.....	.....	Cyanides (Total).....	57-12-5	1.9	1.5
		Cyanides (Amenable).....	57-12-5	0.1	NA

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste Code	See Also	Regulated Hazardous Constituent	CAS No. for Regulated Hazardous Constituent	Wastewaters Concentration (mg/l)	Nonwastewaters Concentration (mg/kg)
F011	Table CCWE in 33-24-05-281..	Cyanides (Total)	57-12-5	1.9	110
		Cyanides (Amenable)	57-12-5	0.1	9.1
		Chromium (Total)	7440-47-32	0.32	NA
		Lead	7439-92-1	0.04	NA
		Nickel	7440-02-0	0.44	NA
F012	Table CCWE in 33-24-05-281..	Cyanides (Total)	57-12-5	1.9	110
		Cyanides (Amenable)	57-12-5	0.1	9.1
		Chromium (Total)	7440-47-32	0.32	NA
		Lead	7439-92-1	0.04	NA
		Nickel	7440-02-0	0.44	NA
F019	Table CCWE in 33-24-05-281..	Cyanides (Total)	57-12-5	1.2	ǂ590
		Cyanides (Amenable)	57-12-5	0.86	ǂ30
		Chromium (Total)	7440-47-32	0.32	NA
F024	Table CCWE in 33-24-05-281 & Table 2 in 33-24-05-282 (Note: F024 organic stanards must be treated via incineration (INCIN)).	2-Chloro-1,3-butadiene	126-99-8	@0.28	@0.28
		3-Chloropropene	107-05-1	@0.28	@0.28
		1,1-Dichloroethane	75-34-3	@0.014	@0.014
		1,2-Dichloroethane	107-06-2	@0.014	@0.014
		1,2-Dichloropropane	78-87-5	@0.014	@0.014
		cis-1,3-Dichloropropene	10061-01-5	@0.014	@0.014
		trans-1,3-Dichloropropene.	10061-02-6	@0.014	0.014
		Bis(2-ethylhexyl)phthalate	117-81-7	@0.036	@1.8
		Hexachloroethane	67-72-1	@0.036	@1.8
		Chromium (Total)	7440-47-32	0.35	NA
		Nickel	7440-02-0	0.47	NA
F025 (Light ends sub-category)		Chloroform	67-66-3	*0.046	@6.2
		1,2-Dichloroethane	107-06-2	*0.21	@6.2
		1,1-Dichloroethylene	75-35-4	*0.025	@6.2
		Methylene chloride	75-9-2	*0.089	@31
		Carbon tetrachloride	56-23-5	*0.057	@6.2
		1,1,2-Trichloroethane	79-00-5	*0.054	@6.2
		Trichloroethylene	79-01-6	*0.054	@5.6
		Vinyl chloride	75-01-4	*0.27	@33
F025 (Spent filters/aids and desiccants subcategory).		Chloroform	67-66-3	*0.046	@6.2
		Methylene chloride	75-9-2	*0.089	@31
		Carbon tetrachloride	56-23-5	*0.057	@6.2
		1,1,2-Trichloroethane	79-00-5	*0.054	@6.2
		Trichloroethylene	79-01-6	*0.054	@5.6
		Vinyl chloride	75-01-4	*0.27	@33
		Hexachlorobenzene	118-74-1	*0.055	@37
		Hexachlorobutadiene	87-68-3	*0.055	@28
		Hexachloroethane	87-72-1	*0.055	@30

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste Code	See Also	Regulated Hazardous Constituent	CAS No. for Regulated Hazardous Constituent	Wastewaters Concentration (mg/l)	Nonwastewaters Concentration (mg/kg)
F039	Table CCWE in 33-24-05-281..	Acetone	67-64-1	*0.28	@160
		Acenaphtalene	208-96-8	*0.059	@3.4
		Acenaphthene	83-32-9	*0.059	@4.0
		Acetonitrile	75-05-08	*0.17	NA
		Acetophenone	96-86-2	*0.010	@9.7
		2-Acetylaminofluorene	53-96-3	*0.059	@140
		Acrylonitrile	107-13-1	*0.24	@84
		Aldrin	309-00-2	*0.021	@0.066
		4-Aminobiphenyl	92-67-1	*0.13	NA
		Aniline	62-53-3	*0.81	@14
		Anthracene	120-12-7	*0.059	@4.0
		Aroclor 1016	12674-11-2	*0.013	@0.92
		Aroclor 1221	11104-28-2	*0.014	@0.92
		Aroclor 1232	11141-16-5	*0.013	@0.92
		Aroclor 1242	53469-21-9	*0.017	@0.92
		Aroclor 1248	12672-29-6	*0.013	@0.92
		Aroclor 1254	11097-69-1	*0.014	@1.8
		Aroclor 1260	11096-82-5	*0.014	@1.8
		alpha-BHC	319-84-6	*0.00014	@0.066
		beta-BHC	319-85-7	*0.00014	@0.066
		delta-BHC	319-86-8	*0.023	@0.066
		gamma-BHC	58-89-9	*0.0017	@0.066
		Benzene	71-43-2	*0.14	@36
		Benzo(a)anthracene	56-55-3	*0.059	@8.2
		Benzo(b)fluoranthene	205-99-2	*0.055	@3.4
		Benzo(k)fluoranthene	207-08-9	*0.059	@3.4
		Benzo(g,h,i)perylene	191-24-2	*0.0055	@1.5
		Benzo(a)pyrene	50-32-8	*0.061	@8.2
		Bromodichloromethane	75-27-4	0.35	@15
		Bromform	75-25-2	*0.63	@15
		Bromoethane (methyl bromide)	74-83-9	*0.11	@15
		4-Bromophenyl phenyl ether	101-55-3	*0.055	@15
		n-Butyl alcohol	71-36-3	*5.6	@2.6
		Butyl benzyl phthalate	85-68-7	*0.017	@7.9
		2-sec-Butyl-4,6-dinitro-phenol	88-85-7	*0.066	@2.5
		Carbon tetrachloride	56-23-5	*0.057	@5.6
		Carbon disulfide	75-15-0	*0.014	NA
		Chlordane	57-74-9	*0.0033	@0.13
		p-Chloroaniline	106-47-8	*0.46	@16
		Chlorobenzene	108-90-7	*0.057	@5.7
		Chlorobenzilate	510-15-6	*0.10	@NA
		Chlorodibromomethane	124-38-1	*0.057	@16
		Chloroethane	75-00-3	*0.27	@6.0

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste Code	See Also	Regulated Hazardous Constituent	CAS No. for Regulated Hazardous Constituent	Wastewaters Concentration (mg/l)	Nonwastewaters Concentration (mg/kg)
		bis(2-Chloroethoxy) methane	111-91-1	*0.036	@7.2
		bis(2-Chloroethyl) ether	111-44-4	*0.033	@7.2
		2-Chloroethyl vinyl ether		*0.057	NA
		Chloroform	67-66-3	*0.046	@5.6
		bis(2-Chloroisopropyl) ether	39638-32-9	*0.055	@7.2
		p-Chloro-m-cresol	59-50-7	*0.018	@14
		Chloromethane (Methyl chloride)	74-87-3	*0.19	@33
		2-Chloronapthalene	91-8-7	*0.055	@5.6
		2-Chlorophenol	95-57-8	*0.044	@5.7
		3-Chloropropene	107-05-1	*0.036	@28
		Chrysene	218-01-9	*0.059	@8.2
		o-Cresol	95-48-7	*0.11	@5.6
		Cresol (m- and p-isomers)		*0.77	@3.2
		Cyclohexanone	108-94-1	*0.36	NA
		1,2-Dibromo-3-chloropropane	96-12-8	*0.11	@15
		1,2-Dibromoethane (Ethylene dibromide)	106-93-4	*0.028	@15
		2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	*0.72	@10
		o,p'-DDD	53-19-0	*0.023	@0.087
		p,p'-DDD	72-54-8	*0.023	@0.087
		o,p'-DDE	3424-82-6	*0.031	@0.087
		p,p'-DDE	72-55-9	*0.031	@0.087
		o,p'-DDT	789-02-6	*0.0039	@0.087
		p,p'-DDT	50-29-3	*0.0039	@0.087
		Dibenzo(a,h)anthracene	53-70-3	*0.055	@8.2
		m-Dichlorobenzene	541-73-1	*0.036	@6.2
		o-Dichlorobenzene	95-50-1	*0.088	@6.2
		p-Dichlorobenzene	106-46-7	*0.090	@6.2
		Dichlorodifluoromethane	75-71-8	*0.23	@7.2
		1,1-Dichloroethane	75-34-3	*0.059	@7.2
		1,2-Dichloroethane	107-06-2	*0.21	@7.2
		1,1-Dichloroethylene	75-35-4	*0.025	@33
		trans-1,2-Dichloroethene		*0.054	@33
		2,4-Dichlorophenol	120-83-2	*0.044	@14
		2,6-Dichlorophenol	87-65-0	*0.044	@14
		1,2-Dichloropropane	78-87-5	*0.85	@18
		cis-1,3-Dichloropropene	10061-01-5	*0.036	@18
		trans-1,3-Dichloropropene	10061-02-6	*0.036	@18
		Dieldrin	60-57-1	*0.017	@0.13
		Diethyl phthalate	84-66-2	*0.20	@28
		p-Dimethylaminoazobenzene	60-11-3	*0.13	NA

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste Code	See Also	Regulated Hazardous Constituent	CAS No. for Regulated Hazardous Constituent	Wastewaters Concentration (mg/l)	Nonwastewaters Concentration (mg/kg)
		2,4-Dimethyl phenol.....	105-67-9	*0.036	@14
		Dimethyl phthalate.....	131-11-3	*0.047	@28
		Di-n-butyl phthalate.....	84-74-2	*0.057	@28
		1,4-Dinitrobenzene.....	100-25-4	*0.32	@2.3
		4,6-Dinitro-o-cresol.....	534-52-1	*0.28	@160
		2,4-Dinitrophenol.....	51-28-5	*0.12	@160
		2,4-Dinitrotoluene.....	121-14-2	*0.32	@140
		2,6-Dinitrotoluene.....	606-20-2	*0.55	@28
		Di-n-octyl phthalate.....	117-84-0	*0.017	@28
		Di-n-propylnitrosoamine...	621-64-7	*0.40	@14
		1,2-Diphenyl Hydrazine....		*0.087	NA
		1,4-Dioxane.....	123-91-1	*0.12	@170
		Disulfoton.....	298-04-4	*0.017	@6.2
		Endosulfan I.....	939-98-8	*0.023	@0.066
		Endosulfan sulfate.....	1-31-07-8	*0.029	@0.13
		Endrin.....	7-20-8	*0..0028	@0.13
		Endrin aldehyde.....	7421-93-4	*0.025	@0.13
		Ethyl acetate.....	141-78-6	*0.34	@33
		Ethyl cyanide.....		*0.24	NA
		Ethyl benzene.....	100-41-4	*0.057	@6.0
		Ethyl ether.....	60-29-7	*0.12	@160
		bis(2-Ethylhexyl) phathalate.....	117-81-7	*0.28	@28
		Ethyl methacrylate.....	97-63-2	*0.14	@160
		Ethylene oxide.....	75-21-8	*0.12	NA
		Famphur.....	52-85-7	*0.017	@15
		Fluoranthene.....	206-44-0	*0.068	@8.2
		Fluorene.....	86-73-7	*0.059	@4.0
		Fluorotrichloromethane....	75-69-4	*0.020	@33
		Heptachlor.....	76-44-8	*0.0012	@0.066
		Heptachlor epoxide.....	1024-57-3	*0.016	@0.066
		Hexachlorobenzene.....	118-74-1	*0.055	@37
		Hexachlorobutadiene.....	87-68-3	*0.055	@28
		Hexachlorocyclopentadiene.	77-47-4	*0.057	@3.6
		Hexachlorodibezo-furans...	.....	*0.000063	@0.001
		Hexachlorodibenxo-p-dioxins.....	.....	*0.000063	@0.001
		Hexachloroethane.....	67-72-1	*0.055	@28
		Hexachloropropane.....	1888-71-7	*0.035	@28
		Indeno(1,2,3,-c,d)pyrene..	193-39-5	*0.0055	@8.2
		Iodomethane.....	74-88-4	*0.019	@65
		Isobutanol.....	78-83-1	*5.6	@170
		Isodrin.....	465-73-6	*0.021	@0.066
		Isosafrole.....	120-58-1	*0.081	@2.6
		Kepone.....	143-50-8	*0.0011	@0.13
		Methacrylonitrile.....	126-98-7	*0.24	@84

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste Code	See Also	Regulated Hazardous Constituent	CAS No. for Regulated Hazardous Constituent	Wastewaters Concentration (mg/l)	Nonwastewaters Concentration (mg/kg)
		Methapyrilene.....	91-80-5	*0.081	@1.5
		Methoxychlor.....	72-43-5	*0.25	@0.18
		3-Methylcholanthrene.....	56-49-5	*0.0055	@15
		4,4-Methylene-bis-(2-chloroaniline).....	101-14-4	*0.50	@35
		Methylene chloride.....	75-09-2	*0.089	@33
		Methyl ethyl ketone.....	78-93-3	*0.28	@36
		Methyl isobutyl ketone....	108-10-1	*0.14	@33
		Methyl methacrylate.....	80-62-6	*0.14	@160
		Methyl methansulfonate....	.....	*0.018	NA
		Methyl parathion.....	298-00-0	*0.014	@4.6
		Naphthalene.....	91-20-3	*0.059	@3.1
		2-Naphtylamine.....	91-59-8	*0.52	NA
		p-Nitoraniline.....	100-01-6	*0.028	@28
		Nitrobenzene.....	98-95-3	*0.068	@14
		5-Nitor-o-toluidine.....	99-55-8	*0.32	@28
		4-Nitrophenol.....	100-02-7	*012	@29
		N-Nitrosodiethylamine.....	55-18-5	*0.40	@28
		N-Nitrosodimethylamine....	62-75-9	*0.40	NA
		N-Nitroso-di-n-butylamine.	924-16-3	*0.40	@17
		N-Nitrosomethylethylamine.	10595-95-6	*040	@2.3
		N-Nitrosomorpholine.....	59-89-2	*040	@2.3
		N-Nitrosopiperidine.....	100-75-4	*0.013	@35
		N-Nitrosopyrrolidine.....	930-55-2	*0.013	@35
		Parathion.....	56-38-2	*0.017	@4.6
		Pentachlorobenzene.....	608-93-5	*0.055	@37
		Pentachlorodibenzo-furans.	.....	*0.000035	@0.001
		Pentachlorodibenzo-p-dioxins.....	.....	*0.000063	@0.001
		Pentachloronitrobenzene...	82-68-8	*0.0555	@4.8
		Pentachlorophenol.....	87-86-5	*0.089	@7.4
		Phenacetin.....	62-44-2	*0.081	@16
		Phenanthrene.....	85-01-8	*0.059	@3.1
		Phenol.....	108-95-2	*0.039	@6.2
		Phorate.....	298-02-2	*0.021	@4.6
		Propionenitrile (ethyl cyanide).....	107-12-0	*0.24	@360
		Pronamide.....	23950-58-5	*0.093	@1.5
		Pyrene.....	129-00-0	*0.067	@8.2
		Pyridine.....	110-86-1	*0.014	@16
		Safrole.....	94-59-7	*0.081	@22
		Silvex (2,4,5-TP).....	93-72-1	*0.72	@7.9
		2,4,5-T.....	93-76-5	*0.72	@7.9
		1,2,4,5-Tetrachlorobenzene	95-94-3	*0.055	@19
		Tetrachlorodibenzo-furans.	.....	*0.000063	@0.001
		Tetrachlorodibenzo-p-			

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste Code	See Also	Regulated Hazardous Constituent	CAS No. for Regulated Hazardous Constituent	Wastewaters Concentration (mg/l)	Nonwastewaters Concentration (mg/kg)
		dioxins	.....	*0.000063	@0.001
		2,3,7,8- Tetrachlorodi-benzo-p-dioxin	.....	*0.000063	NA
		1,1,1,2-tetrachloroethane	630-20-6	*0.057	@42
		1,1,2,2-Tetrachloroethane	79-34-6	*0.057	@42
		Tetrachloroethene	127-18-4	*0.056	@5.6
		2,3,4,6-Tetrachlorophenol	58-90-2	*0.030	@37
		Toluene	108-88-3	*0.080	@28
		Toxaphene	8001-35-1	*0.0095	@1.3
		1,2,4-Trichlorobenzene	120-82-1	*0.055	@19
		1,1,1-Trichloroethane	71-55-6	*0.054	@5.6
		1,1,2-Trichloroethane	79-00-5	*0.054	@5.6
		Trichloroethylene	79-01-6	*0.054	@5.6
		2,4,5- Trichlorophenol	95-95-4	*0.18	@37
		2,4,6- Trichlorophenol	88-06-2	*0.035	@37
		1,2,3- Trichloropropane	96-18-4	*0.85	@28
		1,1,2-Trichloro- 1,2,2-trifluoro-ethane	76-13-1	*0.057	@28
		Vinyl chloride	75-01-4	*0.27	@33
		Xylene(s)	.....	*0.32	@28
		Cyanides (Total)	57-12-5	*1.2	@1.8
		Cyanides (Amenable)	57-12-5	*0.86	NA
		Fluoride	16964-48-8	*35	NA
		Sulfide	8496-25-8	*14	NA
		Antimony	7440-36-0	*1.9	NA
		Arsenic	7440-38-2	*5.0	NA
		Barium	7440-39-3	*1.2	NA
		Beryllium	7440-41-7	*0.82	NA
		Cadmium	7440-43-9	*0.20	NA
		Chromium (Total)	7440-47-32	*0.37	NA
		Copper	7440-50-8	*1.3	NA
		Lead	7439-92-1	*0.28	NA
		Mercury	7439-97-6	*0.15	NA
		Nickel	7440-02-0	*0.55	NA
		Selenium	7782-49-2	*0.82	NA
		Silver	7440-22-4	*0.29	NA
		Vanadium	7440-62-2	*0.042	NA
K001	Table CCWE in 33-24-05-281	Naphthalene	91-20-3	@0.031	@1.5
		Pentachlorophenol	87-86-5	@0.031	@1.5
		Phenanthrene	85-01-8	@0.031	@1.5
		Pyrene	129-00-0	@0.028	@1.5
		Toluene	108-88-3	@0.028	@23
		Xylenes (Total)	.....	@0.032	@33
		Lead	7439-92-1	@0.037	NA
K002	Table CCWE in 33-24-05-281	Chromium (Total)	7440-47-32	*2.9	NA
		Lead	7439-92-1	*3.4	NA

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste Code	See Also	Regulated Hazardous Constituent	CAS No. for Regulated Hazardous Constituent	Wastewaters Concentration (mg/l)	Nonwastewaters Concentration (mg/kg)
K003	Table CCWE in 33-24-05-281..	Chromium (Total)	7440-47-32	*2.9	NA
		Lead	7439-92-1	*3.4	NA
K004	Table CCWE in 33-24-05-281..	Chromium (Total)	7440-47-32	*2.9	NA
		Lead	7439-92-1	*3.4	NA
K005	Table CCWE in 33-24-05-281..	Chromium (Total)	7440-47-32	*2.9	NA
		Lead	7439-92-1	*3.4	NA
		Cyanides (Total)	57-12-5	*0.74	(4)
K006	Table CCWE in 33-24-05-281..	Chromium (Total)	7440-47-32	*2.9	NA
		Lead	7439-92-1	*3.4	NA
K007	Table CCWE in 33-24-05-281..	Chromium (Total)	7440-47-32	*2.9	NA
		Cyanides (Total)	57-12-5	*0.74	.....
K008	Table CCWE in 33-24-05-281..	Chromium (Total)	7440-47-32	*2.9	NA
		Lead	7439-92-1	*3.4	NA
K009	.....	Chloroform	67-66-3	0.1	@6.0
K010	.....	Chloroform	67-66-3	0.1	6.0
K011	.....	Acetonitrile	75-05-8	38	1.8
		Acrylonitrile	107-13-1	0.06	1.4
		Acrylamide	79-06-1	19	23
		Benzene	71-43-2	0.02	0.03
		Cyanide (Total)	57-12-5	21	57
K013	.....	Acetonitrile	75-05-8	38	@1.8
		Acrylonitrile	107-13-1	0.06	@1.4
		Acrylamide	79-06-1	19	@23
		Benzene	71-43-2	0.02	@0.03
		Cyandie (Total)	57-12-5	21	57
K014	.....	Acetonitrile	75-05-8	38	@1.8
		Acrylonitrile	107-13-1	0.06	@1.4
		Acrylamide	79-06-1	19	@23
		Benzene	71-43-2	0.02	@0.03
		Cyanide (Total)	57-12-5	21	57
K015	Table CCWE in 33-24-05-281..	Anthracene	120-12-7	1.0	@3.4
		Benzal chloride	98-87-3	0.28	@6.2
		Sum of Benzo(b)Fluoranthene and Benzo(k)fluoranthene.	20-99-2 207-08-9	..... 0.029	..... 3.4
		Phenanthrene	85-01-8	0.27	@3.4
		Toluene	108-88-3	0.15	@6.0
		Chromium (Total)	7440-47-32	0.32	NA
		Nickel	7440-02-0	0.44	NA
K016	.....	Hexachlorobenzene	118-74-1	@0.033	@28
		Hexachlorobutadiene	87-68-3	@0.007	@5.6
		Hexachlorocyclopentadiene.	77-47-4	@0.007	@5.6
		Hexachloroethane	67-72-1	@0.033	@28
		Tetrachloroethene	127-18-4	@0.007	@6.0
K017	.....	1,2-Dichloropropane	78-87-5	*,@0.85	@18
		1,2,3-Trichloropropane	96-18-4	*,@0.85	@28
		Bis(2-chloroehtyl)ether	111-44-4	*,@0.033	@7.2

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste Code	See Also	Regulated Hazardous Constituent	CAS No. for Regulated Hazardous Constituent	Wastewaters Concentration (mg/l)	Nonwastewaters Concentration (mg/kg)
K018		Chloroethane	75-00-3	@0.007	@6.0
		1,1-Dichloroethane	75-34-3	@0.007	@6.0
		1,2-Dichloroethane	107-06-2	@0.007	@6.0
		Hexachloroethane	67-72-1	@0.007	@28
		Hexachlorobutadiene	87-68-3	@0.033	@5.6
		Hexachloroethane	67-72-1	@0.007	@28
		Pentachloroethane	76-01-7	@0.007	@5.6
		1,1,1-Trichloroethane	71-55-6	@0.007	@6.0
K019		Bis(2-chloroethyl)ehter	111-44-4	@0.007	@5.6
		Chlorobenzene	108-90-7	@0.006	@6.0
		Chloroform	67-66-3	@0.007	@6.0
		p-Dichlorobenzene	106-46-7	@0.008	NA
		1,2-Dichloroethane	107-06-2	@0.007	@6.0
		Fluorene	86-73-7	@0.007	NA
		Hexachloroethane	67-72-1	@0.033	@28
		Naphthalene	91-20-3	@0.007	@5.6
		Phenanthrene	85-01-8	@0.007	@5.5
		1,2,4,5-Tetrachlorobenzene	95-94-3	@0.017	NA
		Tetrachloroethene	127-18-4	@0.007	@6.0
		1,2,4-Trichlorobenzene	120-82-1	@0.023	@19
		1,1,1-Trichloroethane	71-55-6	@0.007	@6.0
K020		1,2-Dichloroethane	106-93-4	@0.007	@6.0
		1,1,2,2-Tetrachloroethane	79-34-6	@0.007	@5.6
		Tetrachloroethene	127-18-4	@0.007	@6.0
K021	Table CCWE in 33-24-05-281	Chloroform	67-66-3	*0.046	@6.2
		Carbon tetrachloride	58-23-5	*0.057	@6.2
		Antimony	7440-35-0	*0.60	NA
K022	Table CCWE in 33-24-05-281	Toluene	108-88-3	*0.080	@0.034
		Acetophenone	96-86-2	0.010	@19
		Diphenylamine	22-39-4	*0.52	NA
		Diphenylnitrosamine	86-30-6	*0.40	NA
		Sum of Diphenylamine and Diphenylnitrosamine	.....	NA	@13
		Phenol	108-95-2	0.039	@12
		Chromium (Total)	7440-47-32	0.35	NA
		Nickel	7440-02-0	0.47	NA
K023		Phthalic anhydride (measured as Phthalic acid)	85-44-9	@0.54	@28
K024		Phthalic anhydride (measured as Phthalic acid)	85-44-9	@0.54	28
K028	Table CCWE in 33-24-05-281	1,1-Dichloroethane	75-34-3	@0.007	@6.0
		trans-1,2-Dichloroethane		@0.033	@6.0
		Hexachlorobutadiene	87-68-3	@0.007	@5.6
		Hexachloroethane	67-72-1	@0.033	@28
		Pentachloroethane	76-01-7	@0.033	@5.6
		1,1,1,2-Tetrachloroethane	630-20-6	@0.007	@5.6

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste Code	See Also	Regulated Hazardous Constituent	CAS No. for Regulated Hazardous Constituent	Wastewaters Concentration (mg/l)	Nonwastewaters Concentration (mg/kg)
		1,1,2,2-Tetrachloroethane.	79-34-6	@0.007	@5.6
		1,1,1-Trichloethane.....	71-55-6	@0.007	@6.0
		1,1,2-Trichlorethane.....	79-00-5	@0.007	@6.0
		Tetrachloroethylene.....	127-18-4	@0.007	@6.0
		Cadmium.....	7440-43-9	6.4	NA
		Chromium (Total).....	7440-47-32	0.35	NA
		Lead.....	7439-92-1	0.037	NA
		Nickel.....	7440-02-0	0.47	NA
K029.....	Chloroform.....	Chloroform.....	67-66-3	0.46	@6.0
		1,2-Dichloroethane.....	107-06-2	0.21	@6.0
		1,1-Dichloroethylene.....	75-35-4	0.025	@6.0
		1,1,1-Trichloroethane.....	71-55-6	0.054	@6.0
		Vinyl chloride.....	75-01-4	0.27	@6.0
K030.....	.....	o-Dichlorobenzene.....	95-50-1	@0.008	NA
		p-Dichlorobenzene.....	106-46-7	@0.008	NA
		Hexachlorobutadiene.....	87-68-3	@0.007	@5.6
		Hexachlorobutadiene.....	67-72-1	@0.033	@28
		Hexachloropropene.....	1888-71-7	NA	@19
		Pentachlorobenzene.....	608-93-5	NA	@28
		Pentachloroethane.....	76-01-7	@0.007	@5.6
		1,2,4,5-Tetrachlorobenzene	95-94-3	@0.017	@14
		Tetrachloroethane.....	127-18-4	@0.007	@6.0
		1,2,4-Trichlorobenzene....	120-82-1	@0.023	@19
K031.....	Table CCWE in 33-24-05-281..	Arsenic.....	7440-38-2	0.79	NA
K032.....	.....	Hexachloropentadiene.....	77-47-4	*0.057	@2.4
		Chlordane.....	57-74-9	*0.0033	@0.25
		Heptachlor.....	76-44-8	*0.012	@0.066
		Heptachlor epoxide.....	1024-57-3	*0.016	@0.066
K033.....	.....	Hexachlorocyclopentadiene.	77-47-4	*0.057	@2.4
K034.....	.....	Hexachlorocyclopentadiene.	77-47-4	*0.057	@2.4
K035.....	.....	Acenaphthene.....	83-32-9	NA	@3.4
		Anthracene.....	120-12-7	NA	@3.4
		Benz(a)anthracene.....	58-55-3	*0.059	@3.4
		Benzo(a)pyrene.....	50-32-8	NA	@3.4
		Chrysene.....	218-01-9	*0.059	@3.4
		Dibenz(a,h)anthracene.....	53-70-3	NA	@3.4
		Fluoranthene.....	206-44-0	*0.068	@3.4
		Fluorene.....	86-73-7	NA	@3.4
		Indeno(1,2,3-cd)pyrene....	193-39-5	NA	@3.4
		Cresols (m- and p-isomers)	.....	*0.77	NA
		Napthalene.....	91-20-3	*0.059	@3.4
		o-cresol.....	95-48-7	*0.11	NA
		Phenanthrene.....	85-01-8	*0.059	@3.4
		Phenol.....	108-95-2	0.039	NA
		Pyrene.....	129-00-0	*0.067	@8.2
K036.....	.....	Disulfoton.....	298-04-4	*0.025	@0.1

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste Code	See Also	Regulated Hazardous Constituent	CAS No. for Regulated Hazardous Constituent	Wastewaters Concentration (mg/l)	Nonwastewaters Concentration (mg/kg)
K037		Disulfoton	298-04-4	*0.025	@0.1
		Toluene	108-88-3	*0.080	@28
K038		Phorate	298-02-2	0.025	@0.1
K040		Phorate	298-02-2	0.025	@0.1
K041		Toxaphene	8001-35-1	*0.0095	@2.6
K042		1,2,4,5-Tetrachlorobenzene	95-94-3	*0.055	@4.4
		o-Dichlorobenzene	95-50-1	*0.088	@4.4
		p-Dichlorobenzene	106-46-7	*0.090	@4.4
		Pentachlorobenzene	608-93-5	*0.055	@4.4
		1,2,4-Trichlorobenzene	120-82-1	*0.055	@4.4
K043		2,4-Dichlorophenol	120-83-2	@0.049	@0.38
		2,6-Dichlorophenol	87-65-0	@0.013	@0.34
		2,4,5-Trichlorophenol	95-95-4	@0.016	@8.2
		2,4,6-Trichlorophenol	88-06-2	@0.039	@7.6
		Tetrachlorophenols (Total)		@0.018	@0.68
		Pentachlorophenol	87-86-5	@0.33	@1.9
		Tetrachloroethene	79-01-6	@0.006	@1.7
		Hexachlorodibenzo-p-dioxins		@0.001	@0.001
		Hexachlorodibenzo-furans		@0.001	@0.001
		Pentachlorodibenzo-p-dioxins		@0.001	@0.001
		Pentachlorodibenzo-furans		@0.001	@0.001
		Tetrachlorodibenzo-p-dioxins		@0.001	@0.001
		Tetrachlorodibenzo-furans		@0.001	@0.001
K046	Table CCWE in 33-24-05-281	Lead	7439-92-1	0.037	NA
K048	Table CCWE in 33-24-05-281	Benzene	71-43-2	@0.011	@14
		Benzo(a)pyrene	50-32-8	@0.047	@12
		Bis(2-ethylhexyl)phthalate	117-81-7	@0.043	@7.3
		Chrysene	218-01-9	@0.043	@15
		Di-n-butyl phthalate	84-74-2	@0.06	@3.6
		Ethylbenzene	100-41-4	@0.011	@14
		Fluorene	86-73-7	@0.05	NA
		Naphthalene	91-20-3	@0.033	@42
		Phenanthrene	85-01-8	@0.039	@34
		Phenol	108-95-2	@0.047	@3.6
		Pyrene	129-00-0	@0.045	@36
		Toluene	108-88-3	@0.011	@14
		Xylene(s)		@0.011	@22
		Cyanides (Total)	57-12-5	@0.028	@1.8
		Chromium (Total)	7440-47-32	0.2	NA
		Lead	7439-92-1	0.037	NA
K049	Table CCWE in 33-24-05-281	Anthracene	120-12-7	@0.039	@28
		Benzene	71-43-2	@0.011	@14
		Benzo(a)pyrene	50-32-8	@0.047	@12

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste Code	See Also	Regulated Hazardous Constituent	CAS No. for Regulated Hazardous Constituent	Wastewaters Concentration (mg/l)	Nonwastewaters Concentration (mg/kg)
		Bis(2-ethylhexyl)phthalate	117-81-7	@0.043	@7.3
		Carbon disulfide	75-15-0	@0.011	NA
		Chrysene	2218-01-9	@0.043	@15
		2,4-Dimethylphenol	105-67-9	@0.033	NA
		Ethylbenzene	100-41-4	@0.011	@14
		Napthalene	91-20-3	@0.033	@42
		Phenanthrene	85-01-8	@0.039	@34
		Phenol	108-95-2	@0.047	@3.6
		Pyrene	129-00-0	@0.045	@36
		Toluene	108-88-3	@0.011	@14
		Xylene(s)	.....	@0.011	@22
		Cyanides (Total)	57-12-5	@0.028	@1.8
		Chromium (Total)	7440-47-32	0.2	NA
		Lead	7439-92-1	0.037	NA
K050	Table CCWE in 33-24-05-281..	Benzo(a)pyrene	50-32-8	@0.047	@12
		Phenol	108-95-2	@0.047	@3.6
		Cyanides (Total)	57-12-5	@0.028	@1.8
		Chromium (Total)	7440-47-32	0.2	NA
		Lead	7439-92-1	0.037	NA
K051	Table CCWE in 33-24-05-281..	Acenaphthene	208-96-8	@0.05	NA
		Anthracene	120-12-7	@0.039	@28
		Benzene	71-43-2	@0.011	@14
		Benzo(a)anthracene	50-32-8	@0.043	@20
		Benzo(a)pyrene	117-81-7	@0.047	@12
		Bis(2-ethylhexyl)phthalate	75-15-0	@0.043	@7.3
		Chrysene	2218-01-9	@0.043	@15
		Di-n-butyl phthalate	105-67-9	@0.06	@3.6
		Ethylbenzene	100-41-4	@0.011	@14
		Fluorene	86-73-7	@0.05	@NA
		Napthalene	91-20-3	@0.033	@42
		Phenanthrene	85-01-8	@0.039	@34
		Phenol	108-95-2	@0.047	@3.6
		Pyrene	129-00-0	@0.045	@36
		Toluene	108-88-3	@0.011	@14
		Xylene(s)	.....	@0.011	@22
		Cyanides (Total)	57-12-5	@0.028	@1.8
		Chromium (Total)	7440-47-32	0.2	NA
		Lead	7439-92-1	0.037	NA
K052	Table CCWE in 33-24-05-281..	Benzene	71-43-2	@0.011	@14
		Benzo(a)pyrene	50-32-8	@0.047	@12
		o-Cresol	95-48-7	@0.011	@6.2
		p-Cresol	106-44-5	@0.011	@6.2
		2,4-Dimethylphenol	105-67-9	@0.033	@NA
		Ethylbenzene	100-41-4	@0.011	@14
		Naphthalene	91-20-3	@0.033	@42
		Phenanthrene	85-01-8	@0.039	@34

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste Code	See Also	Regulated Hazardous Constituent	CAS No. for Regulated Hazardous Constituent	Wastewaters Concentration (mg/l)	Nonwastewaters Concentration (mg/kg)
		Phenol	108-95-2	@0.047	@3.6
		Toluene	108-88-3	@0.011	@14
		Xylenes	.....	@0.011	@22
		Cyanides (Total)	57-12-5	@0.028	@1.8
		Chromium (Total)	7440-47-32	0.2	NA
		Lead	7439-92-1	0.037	NA
K060	.....	Benzene	71-43-2	*,@0.17	@0.071
		Benzo(a)pyrene	50-32-8	*,@0.035	@3.6
		Naphthalene	91-20-3	*,@0.028	@3.4
		Phenol	108-95-2	*,@0.042	@3.4
		Cyanides (Total)	57-12-5	1.9	1.2
K061	Table CCWE in 33-24-05-281 & Table 2 in 33-24-05-282...	Cadmium	7440-43-9	1.61	NA
		Chromium (Total)	7440-47-32	0.32	NA
		Lead	7439-92-1	0.51	NA
		Nickel	7440-02-0	0.44	NA
K062	Table CCWE in 33-24-05-281..	Chromium (Total)	7440-47-32	0.32	NA
		Lead	7439-92-1	0.04	NA
		Nickel	7440-02-0	0.44	NA
K069	Table CCWE in 33-24-05-281 & Table 2 in 33-24-05-282...	Cadmium	7440-43-9	1.6	NA
		Lead	7439-92-1	0.51	NA
K071	Table CCWE in 33-24-05-281..	Mercury	7439-97-6	0.030	NA
K073	.....	Carbon tetrachloride	56-23-5	*0.057	@6.2
		Chloroform	67-66-3	*0.046	@6.2
		Hexachloroethane	67-72-1	*0.055	@30
		Tetrachloroethene	127-18-4	*0.056	@6.2
		1,1,1-Trichloroethane	71-55-6	*0.054	@6.2
K083	Table CCWE in 33-24-05-281..	Benzene	71-43-2	*0.14	@6.6
		Aniline	62-53-3	*0.81	@14
		Diphenylamine	22-39-4	*0.52	NA
		Diphenylnitrosamine	86-30-6	*040	NA
		Sum of Diphenylamine and Diphenyl-nitrosamine	.....	NA	@14
		Nitrobenzene	98-95-3	*0.068	@14
		Phenol	108-95-2	0.039	@5.6
		Cyclohexanone	108-94-1	0.36	@30
		Nickel	7440-02-0	0.47	NA
K084	.....	Arsenic	7440-38-2	0.79	NA
K085	.....	Benzene	71-43-2	*0.14	@4.4
		Chlorobenzene	108-90-7	*0.057	@4.4
		o-Dichlorobenzene	95-50-1	*0.088	@4.4
		m-Dichlorobenzene	541-73-1	*0.036	@4.1
		p-Dichlorobenzene	106-46-7	*0.090	@4.4
		1,2,4-Trichlorobenzene	120-82-1	*0.055	@4.4
		1,2,4,5-Tetrachlorobenzene	95-94-3	*0.055	@4.4

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste Code	See Also	Regulated Hazardous Constituent	CAS No. for Regulated Hazardous Constituent	Wastewaters Concentration (mg/l)	Nonwastewaters Concentration (mg/kg)
		Pentachlorobenzene	608-93-5	0.055	@4.4
		Hexachlorobenzene	118-74-1	*0.055	@4.4
		Aroclor 1016	12674-1,2	*0.013	@0.92
		Aroclor 1221	11104-28-2	*0.014	@0.92
		Aroclor 1232	11141-16-5	*0.013	@0.92
		Aroclor 1242	534969-21-9	*0.017	@0.92
		Aroclor 1248	12672-29-6	*0.013	@0.92
		Aroclor 1254	11097-69-1	*0.014	@1.8
		Aroclor 1260	11096-82-5	*0.014	@1.8
K086	Table CCWE in 33-24-05-281..	Acetone	67-64-1	0.28	@160
		Acetophenone	96-86-2	0.010	@9.7
		Bis(2-ethylhexyl)phthalate	117-81-7	*0.28	@28
		n-Butyl alcohol	71-36-3	5.6	@2.6
		Butylbenzylphthalate	85-68-7	*0.017	@7.9
		cyclohexanone	108-94-1	0.36	NA
		1,2-Dichlorobenzene	95-50-1	0.088	@6.2
		Diethyl phthalate	84-66-2	*0.20	@28
		Dimethyl phthalate	131-11-3	*0.047	@28
		Di-n-butyl phthalate	84-74-2	*0.057	@28
		Di-n-octyl phthalate	117-84-0	*0.017	@28
		Ethyl acetate	141-78-6	*0.34	@33
		Ethylbenzene	100-41-4	*0.057	@6.0
		Methanol	67-56-1	*5.6	NA
		Methyl isobutyl ketone	108-10-1	0.14	@33
		Methyl ethyl ketone	78-93-3	0.28	@36
		Methylene chloride	75-09-2	*0.089	@33
		Naphthalene	91-20-3	*0.059	@3.1
		Nitrobenzene	98-95-3	*0.068	@14
		Toluene	108-88-3	*0.080	@28
		1,1,1-Trichloroethane	71-55-6	*0.054	@5.6
		Trichloroethylene	79-01-6	*0.054	@5.6
		Xylenes (Total)	.....	*0.32	@28
		Cyanides (Total)	57-12-5	1.9	1.5
		Chromium (Total)	7440-47-32	0.32	NA
		Lead	7439-92-1	0.037	NA
K087	Table CCWE in 33-24-05-281..	Acenaphthalene	208-96-8	@0.028	3.4
		Benzene	71-43-2	@0.014	@0.071
		Chrysene	218-01-9	@0.028	@3.4
		Fluoranthene	206-44-0	@0.028	@3.4
		Indeno(1,2,3-cd)pyrene	193-39-5	@0.028	@3.4
		Naphthalene	91-20-3	@0.028	@3.4
		Phenanthrene	85-01-8	@0.028	@3.4
		Toluene	108-88-3	@0.008	@0.65
		Xylenes	.....	@0.014	@0.07
		Lead	7439-92-1	0.037	NA
K093	.....	Phthalic anhydride (mea-			

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste Code	See Also	Regulated Hazardous Constituent	CAS No. for Regulated Hazardous Constituent	Wastewaters Concentration (mg/l)	Nonwastewaters Concentration (mg/kg)
		sured as Phthalic acid).	85-44-9	@0.54	@28
K094		Phthalic anhydride (measured as Phthalic acid).	85-44-9	@0.54	@28
K095		1,1,1,2-Tetrachloroethane.	630-20-6	0.057	@5.6
		1,1,2,2-Tetrachloroethane.	79-34-6	0.057	@5.6
		Tetrachloroethene	127-18-4	0.056	@6.0
		1,1,2-Trichloroethane	79-00-5	0.054	@6.0
		Trichloroethylene	79-01-6	0.054	@5.6
		Hexachloroethane	67-72-1	0.055	@28
		Pentachloroethane	76-01-7	0.055	@5.6
K096		1,1,1,2-Tetrachloroethane.	630-20-6	0.057	@5.6
		1,1,2,2-Tetrachloroethane.	79-34-6	0.057	@5.6
		Tetrachloroethene	127-18-4	0.056	@6.0
		1,1,2-Trichloroethane	79-00-5	0.054	@6.0
		Trichloroethene	79-01-6	0.054	@5.6
		1,3-Dichlorobenzene	541-73-1	0.036	@5.6
		Pentachloroethane	76-01-7	0.055	@5.6
		1,2,4-Trichlorobenzene	120-82-1	0.055	@49
K097		Hexachlorocyclopentadiene.	77-47-4	*0.057	2.4
		Chlordane	57-74-9	*0.0033	@0.26
		Heptachlor	76-44-8	*0.0012	@0.066
		Heptachlor epoxide	1024-57-3	*0.016	@0.066
K098		Toxaphene	8001-35-1	*0.0095	@2.6
K099		2,4-Dichlorophenoxyacetic acid	94-75-7	@1	@1
		Hexachlorodibenzo-p-dioxins		@0.001	@0.001
		Hexachlorodibenzofurans		@0.001	@0.001
		Pentachlorodibenzo-p-dioxins		@0.001	
		Tetrachlorodibenzo-p-dioxins		@0.001	@0.001
		Tetrachlorodibenzofurans		@0.001	@0.001
K100	Table CCWE in 33-24-05-281	Cadmium	7440-43-9	1.6	NA
		Chromium (Total)	7440-47-32	0.32	NA
		Lead	7439-92-1	0.51	NA
K101		o-Nitroaniline		@0.27	@14
		Arsenic	7440-38-2	0.79	NA
		Cadmium	7440-43-9	0.24	NA
		Lead	7439-92-1	0.17	NA
		Mercury	7439-97-6	0.082	NA
K102	Table CCWE in 33-24-05-281	o-Nitrophenol		@0.028	@13
		Arsenic	7440-38-2	0.79	NA
		Cadmium	7440-43-9	0.24	NA
		Lead	7439-92-1	0.17	NA
		Mercury	7439-97-6	0.082	NA

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste Code	See Also	Regulated Hazardous Constituent	CAS No. for Regulated Hazardous Constituent	Wastewaters Concentration (mg/l)	Nonwastewaters Concentration (mg/kg)
K103		Aniline	62-52-3	@4.5	5.6
		Benzene	71-43-2	@0.15	@6.0
		2,4-Dinitrophenol	51-28-5	@0.61	@5,6
		Nitrobenzene	98-95-3	@0.073	@5.6
		Phenol	108-95-2	@1.4	@5.6
K104		Aniline	62-53-3	@4.5	@5.6
		Benzene	71-43-2	@0.15	@6
		2,4-Dinitrophenol	51-28-5	@0.61	5.6
		Nitrobenzene	98-95-3	@0.073	@5.6
		Phenol	108-95-2	@1.4	@5.6
		Cyanides (Total)	57-12-5	2.7	@4.8
K105		Benzene	71-43-2	0.14	@4.4
		Chlorobenzene	108-90-7	0.057	@4.4
		o-Dichlorobenzene	95-50-1	0.088	@4.4
		p-Dichlorobenzene	106-46-7	0.090	@4.4
		2,4,5-Trichlorophenol	95-95-4	0.18	@4.4
		2,4,6-Trichlorophenol	88-06-2	0.035	@4.4
		2-Chlorophenol	95-57-8	0.044	@4.4
		Phenol	108-95-2	0.039	@4.4
K106	Table CCWE in 33-24-05-281 & Table 2 in 33-24-05-282	Mercury	7439-97-6	0.030	NA
K115	Table CCWE in 33-24-05-281	Nickel	7440-02-0	0.47	NA

@ Treatment standards for this organic constituent were established based upon incineration in units operated in accordance with the technical requirements of sections 33-24-05-144 through 33-24-05-151 or based upon combustion in fuel substitution units operating in accordance with applicable technical requirements. A facility may certify compliance with these treatment standards according to provisions in section 33-25-05-256.

* Based on analysis of composite samples.

As analyzed using SW-846 Method 9010; sample size: 0.5-10; distillation time: one hour and fifteen minutes.

NA Not applicable.

New Table

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES

Waste code	Commercial chemical name	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
P004	Aldrin	.....	Aldrin	309-00-2	*0.21	0.066
P010	Arsenic acid	Table CCWE	Arsenic	7440-38-2	0.79	NA
P011	Arsenic pentoxide	Table CCWE	Arsenic	7440-38-2	0.79	NA
P012	Arsenic trioxide	Table CCWE	Arsenic	7440-38-2	0.79	NA
P013	Barium cyanide	Table CCWE	Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.1	9.1
P020	2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	.....	2-sec-Butyl-4,6-dinitrophenol (Dinoseb)	88-85-7	0.066	@2.5
P021	Calcium cyanide	.....	Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.1	9.1
P022	Carbon disulfide	Table 2 in 33-24-05-282	Carbon disulfide	75-15-0	0.014	NA
P024	p-Chloroaniline	.....	p-Chloroaniline	106-47-8	0.46	@16
P029	Copper cyanide	.....	Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.1	9.1
P030	Cyanides (soluble salts and complexes).	.....	Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.1	9.1
P036	Dichlorophenylarsine	Table CCWE	Arsenic	7440-38-2	0.79	NA
P037	Dieldrin	.....	Dieldrin	60-57-1	*0.017	@0.13
P038	Diethylarsine	Table CCWE	Arsenic	7740-38-2	0.79	NA
P039	Disulfoton	.....	Disulfoton	298-04-4	0.017	@0.1
P047	4,6-Dinitro-o-cresol	.....	4,6-Dinitro-o-cresol	534-52-1	*0.28	@160
P048	2,4-Dinitrophenol	.....	2,4-Dinitrophenol	51-28-5	*0.12	@160
P050	Endosulfan	.....	EndosulfanI	939-98-8	*0.023	@0.066
			EndosulfanII	33213-6-5	*0.029	@0.13
			Endosulfan sulfae	1031-07-8	*0.029	@0.13
P051	Endrin	.....	Endrin	72-20-8	*0.0028	@1.13
			Endrin aldehyde	7421-93-4	*0.025	@0.13
P056	Fluoride	Table 2 in 33-24-05-282	Fluoride	16964-48-8	35	NA
P059	Heptachlor	.....	Heptachlor	76-44-8	*0.0012	@0.066
			Heptachlor epoxide	1024-57-3	*0.016	@0.066
P060	Isodrin	.....	Isodrin	465-73-6	*0.021	@0.066
P063	Hydrogen cyanide	.....	Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.10	9.1
P065	Mercury Fulminate	Table CCWE and Table 2 in 33-24-05-282	Mercury	7439-97-6	0.030	NA
P071	Methyl parathion	.....	Methyl parathion	298-00-0	0.025	@0.1
P073	Nickel carbonyl	Table CCWE	Nickel	7440-02-0	0.44	NA
P074	Nickel cyanide	Table CCWE	Cyanides (Table)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.10	9.1
			Nickel	7440-02-0	0.44	NA
P077	p-Nitroaniline	.....	p-Nitroaniline	100-01-6	*0.028	@28
P082	N-Nitrosodimethylamine	Table 2 in 33-24-05-282	N-Nitrosodimethylamine	62-75-9	*0.40	NA
P089	Parathion	.....	Parathion	56-38-2	0.025	@0.1
P092	Phenylmercury acetate	Table CCWE and Table 2 in 33-24-05-282	Mercury	7439-94-6	0.030	NA

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste code	Commercial chemical name	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
P094	Phorate		Phorate	298-02-2	0.025	@0.1
P097	Famphur		Famphur	52-85-7	0.025	@0.1
P098	Potassium cyanide		Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.10	9.1
P099	Potassium silver cyanide	Table CCWE	Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.1	9.1
			Silver	7440-22-4	0.29	NA
P101	Ethyl cyanide (Propanenitrile)		Ethyl cyanide (Propanenitrile)	107-12-0	*0.24	@360
P103	Selenourea	Table CCWE	Selenium	7782-49-2	*1.0	NA
P104	Silver cyanide	Table CCWE	Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.10	9.1
			Silver	7440-22-4	0.29	NA
P106	Sodium cyanide		Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.10	9.1
P110	Tetraethyl lead	Table CCWE and Table 2 in 33-24-05-282	Lead	7439-92-1	0.040	NA
P113	Thallic oxide	Table 2 in 33-24-05-282	Thallium	7440-38-0	*0.14	NA
P114	Thallium selenite	Table CCWE	Selenium	7782-49-2	1.0	NA
P115	Thallium(I)sulfate	Table 2 in 33-24-05-282	Thallium	7440-28-0	*0.14	NA
P119	Ammonia vanadate	Table 2 in 33-24-05-282	Vanadium	7440-62-2	*28	NA
P120	Vanadium pentoxide	Table 2 in 33-24-05-282	Vanadium	7440-62-2	*28	NA
P121	Zinc cyanide		Cyanides (Total)	57-12-5	1.9	110
			Cyanides (Amenable)	57-12-5	0.10	9.1
P123	Toxaphene		Toxaphene	8001-35-1	*0.0095	@1.3
U002	Acetone		Acetone	67-46-1	0.28	@160
U003	Acetonitrile	Table 2 in 33-24-05-282	Acetonitrile	75-05-8	0.17	NA
U004	Acetophenone		Acetophenone	98-86-2	@0.010	@9.7
U005	2-Acetylaminofluorene		2-Acetylaminofluorene	53-96-3	*0.059	@140
U009	Acrylonitrile		Acrylonitrile	107-13-1	*0.24	@84
U012	Aniline		Aniline	62-53-3	0.81	@14
U018	Benz(a)anthracene		Benz(a)anthracene	56-55-3	*0.059	@8.2
U019	Benzene		Benzene	71-43-2	*0.14	@36
U022	Benzo(a)pyrene		Benxo(a)pyrene	50-32-8	*0.061	@8.2
U024	Bis(2-chloroethoxy)methane		Bis(2-chloroethoxy)methane	111-91-1	0.036	@7.2
U025	Bis(2-chloroethyl)ether		Bis(2-chloroethyl)ether	111-44-4	0.033	@7.2
U027	Bis(2-chloroisopropyl) ether		Bis(2-chloroisopropyl) ether	39638-32-9	*0.055	@7.2
U028	Bis(2-ethylhexyl) pthalate		Bis(2-ethylhexyl) pthalate	117-81-7	@0.54	@28
U029	Bromomethane (Methyl bromide)		Bromomethane (Methyl bromide)	74-83-9	*0.11	@15
U030	4-Bromophenyl phenyl ether		4-Bromophenyl phenyl ether	101-55-3	*0.055	@15
U031	n-Butyl alcohol		n-Butyl alcohol	71-36-3	5.6	@2.6
U032	Calcium chromate	Table CCWE	Chromium (Total)	7440-47-32	0.32	NA
U036	Chlordane (alpha and gamma)		Chlordane (alpha and gamma)	57-74-0	*0.0033	@0.13
U037	Chlorobenzene		Chlorobenzene	108-90-7	*0.057	@5.7

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste code	Commercial chemical name	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
U038	Chlorobenzilate	Table 2 in 33-24-05-282	Chlorobenzilate	510-15-6	*0.10	NA
U039	p-Chloro-m-cresol		p-Chloro-m-cresol	59-50-7	*0.018	@14
U042	2-Chloroethyl vinyl	Table 2 in 33-24-05-282	2-Chloroethyl vinyl	110-75-8	0.057	NA
U043	Vinyl chloride		Vinyl chloride	75-01-4	*0.27	@33
U044	Chloroform		Chloroform	67-66-3	*0.046	@5.6
U045	Chloromethane (Methyl chloride)		Chloromethane (Methyl chloride)	74-87-3	*0.19	@33
U047	2-Chloronaphthalene		2-Chloronaphthalene	92-58-7	*0.055	@5.6
U048	2-Chlorophenol		2-Chlorophenol	95-57-8	*0.044	@5.7
U050	Chrysene		Chrysene	218-01-9	*0.059	@8.2
U051	Creosote	Table CCWE	Naphthalene	91-20-3	@0.031	@1.5
			Pentachlorophenol	87-86-5	@0.18	@7.4
			Phenanthrene	85-01-8	@0.031	@1.5
			Pyrene	129-00-0	@0.028	@28
			Toluene	108-88-3	@0.028	@33
			Xylenes (Total)	7439-92-1	@0.032	NA
			Lead		@0.037	
U052	Cresols (Cresylic acid)		o-Cresol	95-48-7	*0.11	@5.6
			Cresols (m- and p- isomers)		*0.77	@3.2
U057	Cyclohexanone	Table 2 in 33-24-05-282	Cyclohexanone	108-94-1	0.36	NA
U060	DDD		o,p'-DDD	53-19-0	0.023	@0.087
			p,p'-DDD	72-54-8	0.023	@0.087
U061	DDT		o,p'-DDT	789-02-6	*0.0039	@0.087
			p,p'-DDT	50-29-3	*0.0039	@0.087
			o,p'-DDD	53-19-0	0.023	@0.087
			p,p'-DDD	72-54-8	0.023	@0.087
			o,p'-DDE	3424-82-6	0.031	@0.087
			p,p'-DDE	72-55-9	0.031	@0.087
U063	Dibenzo(a,h)anthracene		Dibenzo(a,h)anthracene	53-70-3	*0.055	@8.2
U066	1,2-Dibromo-3-chloropropane		1,2-Dibromo-3-chloropropane	96-12-8	*0.11	@15
U067	1,2-Dibromoethane (Ethylenedibromide)		1,2-Dibromoethane (Ethylene dibromide)	106-93-4	*0.028	15
U068	Dibromoethane		Dibromoethane	74-95-3	*0.11	15
U069	Di-n-butyl phthalate		Di-n-butyl phthalate	84-74-2	@0.54	@28
U070	o-Dichlorobenzene		o-Dichlorobenzene	95-50-1	*0.088	@6.2
U071	m-Dichlorobenzene		m-Dichlorobenzene	541-73-1	0.036	6.2
U072	p-Dichlorobenzene		p-Dichlorobenzene	104-46-7	*0.090	@6.2
U075	Dichlorodifluoromethane		Dichlorodifluoromethane	75-71-8	*0.23	@7.2
U076	1,1-Dichloroethane		1,1-Dichloroethane	75-34-3	*0.059	7.2
U077	1,2-Dichloroethane		1,2-Dichloroethane	107-06-2	*0.21	@7.2
U078	1,1-Dichloroethylene		1,1-Dichloroethylene	75-35-4	*0.025	@33
U079	1,2-Dichloroethylene		trans-1,2-Dichloroethylene	156-60-5	*0.054	[1]33
U080	Methylene chloride		Methylene chloride	75-09-2	[2]0.089	[1]33
U081	2,4-Dichlorophenol		2,4-Dichlorophenol	120-83-2	[2]0.044	[1]14
U082	2,6-Dichlorophenol		2,6-Dichlorophenol	87-65-0	[2]0.044	[1]14
U083	1,2-Dichloropropane		1,2-Dichloropropane	78-87-5	[2]0.85	[1]18
U084	1,3-Dichloropropene		cis-1,3-Dichloropropylene	10061-01-5	[2]0.036	[1]18
			trans-1,3-Dichloropropylene	10061-02-6	[2]0.036	[1]18

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste code	Commercial chemical name	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
U088	Diethyl phthalate	.....	Diethyl phthalate	84-66-2	[1]0.54	[1]28
U093	p-Dimethylaminoazobenzene	Table 2 in 33-24-05-282	p-Dimethylaminoazobenzene	60-11-7	[2]0.13	NA
U101	2,4-Dimethylphenol	.....	2,4-Dimethylphenol	105-67-9	[2]0.036	[1]14
U102	Dimethyl phthalate	.....	Dimethyl phthalate	131-11-3	[1]0.54	[1]28
U105	2,4-Dinitrotoluene	.....	2,4-Dinitrotoluene	121-14-2	[2]0.32	[1]140
U106	2,6-Dinitrotoluene	.....	2,6-Dinitrotoluene	606-20-2	[2]0.55	[1]28
U107	Di-n-octyl phthalate	.....	Di-n-octyl phthalate	117-84-0	[1]0.54	[1]28
U108	1,4-Dioxane	.....	1,4-Dioxane	123-91-1	[2]0.12	[1]170
U111	Di-n-propylnitrosamine	.....	Di-n-propylnitrosoamine	621-64-7	[2]0.40	[1]14
U112	Ethyl acetate	.....	Ethyl acetate	141-78-6	[2]0.34	[1]33
U117	Ethyl ether	.....	Ethyl ether	60-29-7	[2]0.12	[1]160
U118	Ethyl methacrylate	.....	Ethyl methacrylate	97-63-2	[2]0.14	[1]160
U120	Fluoranthene	.....	Fluoranthene	206-44-0	[2]0.068	[1]8.2
U121	Trichloromonofluoromethane	.....	Trichloromonofluoromethane	75-69-4	[2]0.020	[1]33
U127	Hexachlorobenzene	.....	Hexachlorobenzene	118-74-1	[2]0.055	[1]37
U128	Hexachlorobutadiene	.....	Hexachlorobutadiene	87-68-3	[2]0.055	[1]28
U129	Lindane	.....	alpha-BHC	319-84-6	[2]0.00014	[1]0.066
			beta-BHC	319-85-7	0.00014	[1]0.066
			Delta-BHC	319-86-8	0.023	[1]0.066
			gamma-BHC (Lindane)	58-89-9	0.0017	[1]0.066
U130	Hexachlorocyclopentadiene	.....	HexacHlorocyclopentadiene	77-47-7	[2]0.057	[1]3.6
U131	Hexachloroethane	.....	Hexachloroethane	67-72-1	[2]0.055	[1]28
U134	Hydrogen fluoride	Table 2 in 33-24-05-282	Fluoride	16964-48-8	35	NA
U136	Cacodylic acid	Table CCWE	Arsenic	7440-38-2	0.79	NA
U137	Indeno(1,2,3-c,d)pyrene	.....	Indeno(1,2,3-c,d)pyrene	193-39-5	[2]0.0055	[1]8.2
U138	Iodomethane	.....	Iodomethane	74-88-4	[2]0.19	[1]65
U140	Isobutyl alcohol	.....	Isobutyl alcohol	78-83-1	5.6	[1]170
U141	Isosafrole	.....	Isosafrole	120-58-1	0.081	[1]2.6
U142	Kepone	.....	Kepone	143-50-8	0.0011	[1]0.13
U144	Lead acetate	Table CCWE	Lead	7439-92-1	0.040	NA
U145	Lead phosphate	Table CCWE	Lead	7439-92-1	0.040	NA
U146	Lead subacetate	Table CCWE	Lead	7439-92-1	0.040	NA
U151	Mercury	Table CCWE and Table 2 in 33-24-05-282	Mercury	7439-97-6	0.030	NA
U152	Methacrylonitrile	.....	Methacrylonitrile	126-98-7	[2]0.24	[1]84
U155	Methapyrilene	.....	Methapyrilene	91-80-5	0.081	[1]1.5
U157	3-Methylchloanthrene	.....	3-Methylcholanthrene	56-49-5	[2]0.0055	[1]15
U158	4,4'-Methylenebis(2-chloroaniline)	.....	4,4'Methylenebis(2-chloroaniline)	101-14-4	[2]0.50	[1]35
U159	Methyl ethyl ketone	.....	Methyl ethyl ketone	78-93-3	0.28	[1]36
U161	Methyl isobutyl ketone	.....	Methyl isobutyl ketone	108-10-1	0.14	[1]33
U162	Methyl methacrylate	.....	Methyl methacrylate	80-62-6	0.14	[1]160
U165	Naphthalene	.....	Naphthalene	91-20-3	[2]0.059	[1]3.1
U168	2-Naphthylamine	Table 2 in 33-24-05-282	2-Naphthylamine	91-59-8	[2]0.52	NA
U169	Nitrobenzene	.....	Nitrobenzene	98-95-3	[2]0.068	[1]14
U170	4-Nitrophenol	.....	4-Nitrophenol	100-02-7	[2]0.12	[1]29

TABLE CCW

CONSTITUENT CONCENTRATIONS IN WASTES (Continued)

Waste code	Commercial chemical name	See also	Regulated hazardous constituent	CAS No. for regulated hazardous constituent	Wastewaters concentration (mg/l)	Non-wastewaters concentration (mg/kg)
U172	n-Nitrosodi-n-butylamine		n-Nitrosodi-n-butylamine	924-16-3	[2]0.40	[1]17
U174	N-Nitrosodiethylamine		n-Nitrosodiethylamine	55-18-5	[2]0.40	[1]28
U179	N-Nitrosopipenidine		n-Nitrosopiperidine	100-75-4	[2]0.013	[1]35
U180	N-Nitrosopyrrolidine		n-Nitrosopyrrolidine	930-55-2	[2]0.013	[1]35
U181	5-Nitro-o-toluidine		5-Nitro-o-toluidine	99-55-8	[2]0.32	[1]28
U183	Pentachlorobenzene		Pentachlorobenzene	608-93-5	[2]0.055	[1]37
U185	Pentachloronitrobezene		Pentachloronitrobenzene	82-68-8	[2]0.055	[1]4.8
U187	Phenacetin		Phenacetin	62-44-2	0.081	[1]16
U188	Phenol		Phenol	108-95-2	0.039	[1]6.2
U190	Phthalic anhydride (measured as Phthalic acid).		Phthalic anhydride (measured as Phthalic acid).	85-44-9	[1]0.54	[1]28
U192	Pronamide		Pronamide	23950-58-5	0.093	[1]1.5
U196	Pyridine		Pyridine	110-86-1	[2]0.014	[1]16
U203	Safrole		Safrole	94-59-7	0.081	[1]22
U204	Selenium dioxide	Table CCWE	Selenium	7782-49-2	1.0	NA
U205	Selenium sulfide	Table CCWE	Selenium	7782-49-2	1.0	NA
U207	1,2,4,5-Tetrachlorobenzene		1,2,4,5-Tetrachlorobenzene	95-94-3	[2]0.055	[1]19
U208	1,1,1,2-Tetrachloroethane		1,1,1,2-Tetrachloroethane	630-20-6	0.057	[1]42
U210	Tetrachloroethylene		Tetrachloroethylene	127-18-4	[2]0.056	[1]5.6
U211	Carbon tetrachloride		Carbon tetrachloride	56-23-5	[2]0.057	[1]5.6
U214	Tallium(1)acetate	Table 2 in 33-24-05-282	Thallium	7440-28-0	[2]0.14	NA
U215	Thallium(1)carbonate	Table 2 in 33-24-05-282	Thallium	7440-28-0	[2]0.14	NA
U216	Thallium(1)chloride	Table 2 in 33-24-05-282	Thallium	7440-28-0	[2]0.14	NA
U217	Thallium(1)nitrate	Table 2 in 33-24-05-282	Thallium	7440-28-0	[2]0.14	NA
U220	Toluene		Toluene	108-88-3	[2]0.080	[1]28
U225	Tribromomethane (Bromoform)		Tribromomethane (Bromoform)	75-25-2	[2]0.63	[1]15
U226	1,1,1-Trichloroethane		1,1,1-Trichloroethane	71-55-6	[2]0.054	[1]5.6
U227	1,1,2-Trichloroethane		1,1,2-Trichloroethane	79-00-5	[2]0.054	[1]5.6
U228	Trichloroethylene		Trichloroethylene	79-01-6	[2]0.054	[1]5.6
U235	tris-(2,3-Dibromopropyl)-phosphate		tris-(2,3-Dibromopropyl)-phosphate	126-72-7	0.025	[1]0.10
U239	Xylenes		Xylenes		[2]0.32	[1]28
U240	2,4-Dichlorophenoxyacetic acid		2,4-Dichlorophenoxyacetic acid	94-75-7	0.72	[1]10
U243	Hexachloropropene		Hexachloropropene	1888-71-7	[2]0.035	28
U247	Methoxychlor		Methoxychlor	72-43-5	[2]0.25	[1]0.18

[1]Treatment standards for this organic constituent were established based upon incineration in units operated in accordance with the technical requirements of section 33-24-05-144 through section 33-24-05-151, or based upon combustion in fuel substitution units operating in accordance with applicable technical requirements. A facility may certify compliance with these treatment standards according to provisions in section 33-24-05-256.

[2]Based on analysis of composite samples.

[3]As analyzed using SW-846 Method 9010; sample size: 0.5-10; distillation time; one hour to one hour fifteen minutes.

NA-Not Applicable.

33-24-05-284. Variance from a treatment standard.

1. Where the treatment standard is expressed as a concentration in a waste or waste extract and a waste cannot be treated to the specified level, or where the treatment technology is not appropriate to the waste, the generator or treatment facility may petition the department for a variance from the treatment standard. The petitioner shall demonstrate that because the physical or chemical properties of the waste differs significantly from wastes analyzed in developing the treatment standard, the waste cannot be treated to specified levels or by the specified methods.

2. Each petition must be submitted in accordance with the procedures in section 33-24-01-06.

3. These petitions must include the following statement signed by the petitioner or an authorized representative: (I certify under penalty of law that I have personally examined and am familiar with the information submitted in this petition and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.)

4. After receiving a petition for variance from a treatment standard, the department may request any additional information or samples which the department may require to evaluate the petition. Additional copies of the complete petition may be requested as needed to send to affected states and to the environmental protection agency.

5. The department will give public notice of the intent to approve or deny a petition and provide an opportunity for public comment.

6. A generator, treatment facility, or disposal facility that is managing a waste covered by a variance from the treatment standards shall comply with the waste analysis requirements for restricted wastes found under section 33-24-05-256.

7. During the petition review process, an applicant is required to comply with all restrictions on land disposal under sections 33-24-05-250 through 33-24-05-300 once the effective date for the waste has been reached.

8. Where the treatment standard is expressed as a concentration in a waste or waste extract and a waste generated under conditions specific to only one site cannot be treated to the specified level, or where the treatment technology is not appropriate to the waste, the generator or treatment facility

may apply to the department for a site-specific variance from a treatment standard. The applicant for a site-specific variance must demonstrate that because the physical or chemical properties of the waste differs significantly from the waste analyzed in developing the treatment standard, the waste cannot be treated to specified levels or by the specified methods.

9. Each application for a site-specific variance from a treatment standard must include the information in subdivision a through d of subsection 2 of section 33-24-01-06.

10. After receiving an application for a site-specific variance from a treatment standard, the department may request any additional information or samples which may be required to evaluate the application.

11. A generator, treatment facility, or disposal facility that is managing a waste governed by a site-specific variance from a treatment standard must comply with the waste analysis requirements for restricted wastes found under section 33-24-05-256.

12. During the application review process, the applicant for a site-specific variance must comply with all restrictions on land disposal under this chapter once the effective date for the waste has been reached.

History: Effective December 1, 1988; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-290. Prohibitions on storage of restricted wastes.

1. Except as provided in this section, the storage of hazardous wastes restricted from land disposal under sections 33-24-05-270 through 33-24-05-279 is prohibited, unless the following conditions are met:

   a. The generator stores such wastes in tanks or containers onsite solely for the purpose of accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal and the generator complies with the requirements in section 33-24-03-12. (A generator who was in existence on the effective date of a regulation under sections 33-24-05-250 through 33-24-05-300 and who must store hazardous waste for longer than ninety days due to the regulations under sections 33-24-05-250 through 33-24-05-300 becomes an owner~~,~~ or operator of a storage facility and shall obtain a hazardous waste permit. Such a facility may qualify for

interim status upon compliance with the regulations governing interim status under North Dakota Century Code chapter 23-20.3;

b. An owner~~/~~ or operator of the hazardous waste treatment, storage, or disposal facility stores such wastes in tanks or containers solely for the purpose of the accumulation of such quantities of hazardous waste as necessary to facilitate proper recovery, treatment, or disposal and:

(1) Each container is clearly marked to identify its contents and the date each period of accumulation begins; and

(2) Each tank is clearly marked with a description of its contents, the quantity of each hazardous waste received, and the date each period of accumulation begins, or such information for each tank is recorded and maintained in the operating record at that facility. Regardless of whether the tank itself is marked, an owner~~/~~ or operator shall comply with the operating record requirements specified in section 33-24-05-40; and

c. A transporter stores manifested shipments of such wastes at a transfer facility for ten days or less.

2. An owner~~/~~ or operator of a treatment, storage, or disposal facility may store such wastes for up to one year unless the department can demonstrate that such storage was not solely for the purpose of accumulation of such quantities of hazardous wastes as are necessary to facilitate proper recovery, treatment, or disposal.

3. An owner~~/~~ or operator of a treatment, storage, or disposal facility may store such wastes beyond one year; however, the owner~~/~~ or operator bears the burden of proving that such storage was solely for the purpose of accumulation of such quantities of hazardous wastes as are necessary to facilitate proper recovery, treatment, or disposal.

4. ~~The prohibition in subsection 1 does not apply to the wastes which are the subject of an approved petition under section 33-24-05-255 or a nationwide variance contained in sections 33-24-05-270 through 33-24-05-279 or an approved case-by-case extension under section 33-24-05-254~~ If a generator's waste is exempt from a prohibition on the type of land disposal utilized for the waste, for example, because an approved case-by-case extension under section 33-24-05-254, and approved 40 CFR part 268.8 petition, or a national capacity variance under sections 33-24-05-270 through 33-24-05-279, the prohibition in subsection 1 does not apply during the period of such exemption.

5. The prohibition in subsection 1 does not apply to hazardous wastes that meet the treatment standard specified under sections 33-24-05-281, 33-24-05-282, and 33-24-05-283 or the treatment standard specified under the variance in section 33-24-05-284, or, where treatment standards have not been specified, is in compliance with the applicable prohibitions specified in section 33-24-04-272 or Resource Conservation and Recovery Act section 3004.

6. Liquid hazardous wastes containing polychlorinated biphenyls at concentrations greater than or equal to fifty parts per million must be stored at a facility that meets the requirements of 40 CFR 761.65(b) and must be removed from storage and treated or disposed as required under sections 33-24-05-250 through 33-24-05-300 within one year of the date when such wastes are first placed into storage. The provisions of subsection 3 do not apply to such polychlorinated biphenyls wastes prohibited under section 33-24-05-272.

History: Effective December 1, 1988; amended effective December 1, 1991.
General Authority: NDCC ~~23-30.3-03~~ 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-300. ~~[Reserved]~~ Applicability to miscellaneous units. Sections 33-24-05-300 through 33-24-05-399 apply to owners and operators of facilities that treat, store, or dispose of hazardous waste in miscellaneous units, except as section 33-24-05-01 provides otherwise.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-301. Environmental performance standards. A miscellaneous unit must be located, designed, constructed, operated, maintained, and closed in a manner that will ensure protection of human health and the environment. Permits for miscellaneous units are to contain such terms and provisions as necessary to protect human health and the environment, including, but not limited to, as appropriate, design and operating requirements, detection and monitoring requirements, and requirements for responses to releases of hazardous waste or hazardous constituents from the unit. Permit terms and provisions must include those requirements of sections 33-24-05-89 through 33-24-05-317, chapter 33-24-06, and 40 CFR part 146 that are appropriate for the miscellaneous unit being permitted. Protection of human health and the environment includes, but is not limited to:

1. Prevention of any releases that may have adverse effects on human health or the environment due to migration of waste

constituents in the ground water or subsurface environment, considering:

a. The volume and physical and chemical characteristics of the waste in the unit, including its potential for migration through soil, liners, or other containing structures;

b. The hydrologic and geologic characteristics of the unit and the surrounding area;

c. The existing quality of ground water, including other sources of contamination and their cummulative impact on the ground water;

d. The quantity and direction of ground water flow;

e. The proximity to and withdrawal rates of current and potential ground water users;

f. The patterns of land use in the region;

g. The potential for deposition or migration of waste constituents into subsurface physical structures, and into the root zone of food chain crops and other vegetation;

h. The potential for health risks caused by human exposure to waste constituents; and

i. The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.

2. Prevention of any releases that may have adverse effects on human health or the environment due to migration of waste constituents in surface water, or wetlands or on the soil surface considering:

a. The volume and physical and chemical characteristics of the waste in the unit;

b. The effectiveness and reliability of containing, confining, and collecting systems and structures and preventing migration;

c. The hydrologic characteristics of the unit and the surrounding area, including the topography of the land around the unit;

d. The patterns of precipitation in the region;

e. The quantity, quality, and direction of ground water flow;

f. The proximity of the unit to surface waters;

g. The current and potential uses of nearby surface waters and any water quality standards established for those surface waters;

h. The existing quality of surface waters and surface soils, including other sources of contamination and their cummulative impact on surface waters and surface soils;

i. The patterns of land use in the region;

j. The potential for health risks caused by human exposure to waste constituents; and

k. The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.

3. Prevention of any release that may have adverse effects on human health or the environment due to migration of waste constituents in the air, considering:

a. The volume and physical and chemical characteristics of the waste in the unit, including its potential for the emission and dispersal of gases, aerosols, and particulate;

b. The effectiveness and reliability of systems and structures to reduce or prevent emissions of hazardous constituents to the air;

c. The operating characteristics of the unit;

d. The atmospheric, meteorologic, and topographic characteristics of the unit and the surrounding area;

e. The existing quality of the air, including other sources of contamination and their cumulative impact on the air;

f. The potential for health risks caused by human exposure to waste constituents; and

g. The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-302. Monitoring, analysis, inspection, response, reporting, and corrective action. Monitoring, testing, analytical data, inspections, response, and reporting procedures and frequencies must ensure compliance with sections 33-24-05-06, 33-24-05-17, 33-24-05-42, 33-24-05-43, 33-24-05-44, and 33-24-05-58 as well as meet any additional requirements needed to protect human health and the environment as specified in the permit.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-303. Postclosure care. A miscellaneous unit that is a disposal unit must be maintained in a manner that complies with section 33-24-05-301 during the postclosure care period. In addition, if a treatment or storage unit has contaminated soils or ground water that cannot be completely removed or decontaminated during closure, then that unit must also meet the requirements of section 33-24-05-301 during postclosure care. The postclosure plan under section 33-24-05-67 must specify the requirements that will be used to satisfy this requirement.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-304. [Reserved]

33-24-05-305. [Reserved]

33-24-05-306. [Reserved]

33-24-05-307. [Reserved]

33-24-05-308. [Reserved]

33-24-05-309. [Reserved]

33-24-05-310. [Reserved]

33-24-05-311. [Reserved]

33-24-05-312. [Reserved]

33-24-05-313. [Reserved]

33-24-05-314. [Reserved]

33-24-05-315. [Reserved]

33-24-05-316. [Reserved]

33-24-05-317. [Reserved]

33-24-05-318. [Reserved]

33-24-05-319. [Reserved]

33-24-05-320. [Reserved]

33-24-05-321. [Reserved]

33-24-05-322. [Reserved]

33-24-05-323. [Reserved]

33-24-05-324. [Reserved]

33-24-05-325. [Reserved]

33-24-05-326. [Reserved]

33-24-05-327. [Reserved]

33-24-05-328. [Reserved]

33-24-05-329. [Reserved]

33-24-05-330. [Reserved]

33-24-05-331. [Reserved]

33-24-05-332. [Reserved]

33-24-05-333. [Reserved]

33-24-05-334. [Reserved]

33-24-05-335. [Reserved]

33-24-05-336. [Reserved]

33-24-05-337. [Reserved]

33-24-05-338. [Reserved]

33-24-05-339. [Reserved]

33-24-05-340. [Reserved]

33-24-05-341. [Reserved]

33-24-05-342. [Reserved]

33-24-05-343. [Reserved]

33-24-05-344. [Reserved]

33-24-05-345. [Reserved]

33-24-05-346. [Reserved]

33-24-05-347. [Reserved]

33-24-05-348. [Reserved]

33-24-05-349. [Reserved]

33-24-05-350. [Reserved]

33-24-05-351. [Reserved]

33-24-05-352. [Reserved]

33-24-05-353. [Reserved]

33-24-05-354. [Reserved]

33-24-05-355. [Reserved]

33-24-05-356. [Reserved]

33-24-05-357. [Reserved]

33-24-05-358. [Reserved]

33-24-05-359. [Reserved]

33-24-05-360. [Reserved]

33-24-05-361. [Reserved]

33-24-05-362. [Reserved]

33-24-05-363. [Reserved]

33-24-05-364. [Reserved]

33-24-05-365. [Reserved]

33-24-05-366. [Reserved]

33-24-05-367. [Reserved]

33-24-05-368. [Reserved]

33-24-05-369. [Reserved]

33-24-05-370. [Reserved]

33-24-05-371. [Reserved]

33-24-05-372. [Reserved]

33-24-05-373. [Reserved]

33-24-05-374. [Reserved]

33-24-05-375. [Reserved]

33-24-05-376. [Reserved]

33-24-05-377. [Reserved]

33-24-05-378. [Reserved]

33-24-05-379. [Reserved]

33-24-05-380. [Reserved]

33-24-05-381. [Reserved]

33-24-05-382. [Reserved]

33-24-05-383. [Reserved]

33-24-05-384. [Reserved]

33-24-05-385. [Reserved]

33-24-05-386. [Reserved]

33-24-05-387. [Reserved]

33-24-05-388. [Reserved]

33-24-05-389. [Reserved]

33-24-05-390. [Reserved]

33-24-05-391. [Reserved]

33-24-05-392. [Reserved]

33-24-05-393. [Reserved]

33-24-05-394. [Reserved]

33-24-05-395. [Reserved]

33-24-05-396. [Reserved]

33-24-05-397. [Reserved]

33-24-05-398. [Reserved]

33-24-05-399. [Reserved]

33-24-05-400. Applicability to air emission standards for process vents.

1. The regulations of sections 33-24-05-400 through 33-24-05-419 apply to owners and operators of facilities that treat, store, or dispose of hazardous wastes (except as provided in section 33-24-05-01).

2. Except for subsection 4 of section 33-24-05-404 and subsection 5 of section 33-24-05-405, sections 33-24-05-400 through 33-24-05-419 apply to process vents associateds with distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations that manage hazardous wastes with organic concentrations of at least ten parts per million weight, if these operations are conducted in:

   a. Units that are subject to the permitting requirements of chapter 33-24-06; or

   b. Hazardous waste recycling units that are located on hazardous waste management facilities otherwise subject to the permitting requirements of section 33-24-05-06.

3. If the owner or operator of process vents subject to the requirements of sections 33-24-05-402 through 33-24-05-406 has received a permit under chapter 33-24-06 prior to December 21, 1990, the requirements of sections 33-24-05-402 through 33-24-05-406 must be incorporated when the permit is reissued under section 33-04-05-11 or reviewed under section 33-24-06-06. [Note: The requirements of sections 33-24-05-402 through 33-24-05-406 apply to process vents on hazardous waste recycling units previously exempt under subdivision a of subsection 3 of section 33-24-02-06. Other exemptions under sections 33-24-02-04, 33-24-03-12, and subsection 7 of section 33-24-05-01 are not affected by these requirements.]

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-401. Definitions. As used in sections 33-24-05-400 through 33-24-05-419, all terms not defined herein have the meaning given in North Dakota Century Code chapter 23-20.3 and chapters 33-24-01 through 33-24-05 of this article.

1. "Air stripping operation" is a desorption operation employed to transfer one or more volatile components from a liquid mixture into a gas (air) either with or without the application of heat to the liquid. Pack towers, spray towers, and bubble-cap, sieve, or valve-type plate towers are among the process configurations used for contacting the air and a liquid.

2. "Bottoms receiver" means a container or tank used to receive and collect the heavier bottoms fractions of the distillation feed stream that remain in the liquid phase.

3. "Closed-vent system" means a system that is not open to the atmosphere and that is composed of piping, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device.

4. "Condenser" means a heat-transfer device that reduces a thermal dynamic fluid from its vapor phase to its liquid phase.

5. "Connector" means phlange, screws, welded, or other joined fittings used to connect two pipelines or a pipeline and a piece of equipment. For the purposes of reporting and recordkeeping, "connector" means phlanged fittings that are not covered by insulation or other materials that prevent location of the fittings.

6. "Continuous recorder" means a data-recording device recording an instantaneous data value at least once every fifteen minutes.

7. "Control device" means an enclosed combustion device vapor recovery system, or flare. Any device the primary function of which is the recovery or capture of solvent or other organic for use, reuse, or sale (e.g., a primary condenser on a solvent recovery unit) is not a control device.

8. "Control device shutdown" means the cessation of operation of a control device for any purpose.

9. "Distillate receiver" means a container or tank used to receive and collect liquid material (condensed) from the overhead condenser of a distillation unit and from which the condensed liquid is pumped to larger storage tanks or other process units.

10. "Distillation operation" means an operation, either batch or continuous separating one or more feed streams into two or more exit streams, each exit stream having component concentrations different from those in the feed streams. The separation is achieved by the redistribution of the components

between the liquid and vapor phase as they approach equilibrium within the distillation unit.

11. "Double-block and bleed system" means two block valves connected in series with a bleed valve or line that can dent the line between the two block valves.

12. "Equipment" means each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line, or phlange, and any control devices or systems required by sections 33-24-05-400 through 33-24-05-419.

13. "First attempt at repair" means to take rapid action for the purpose of stopping or reducing leakage of organic material to the atmosphere using best practices.

14. "Flame zone" means the portion of the combustion chamber in a boiler occupied by the flame envelope.

15. "Flow indicator" means a device that indicates whether gas flow is present in a vent stream.

16. "Fractionation operation" means a distillation operation or method used to separate a mixture of several volatile components of different boiling points in successive stages, each stage removing from the mixture some proportion of one of the components.

17. "Hazardous waste management unit shutdown" means a work practice or operational procedure that stops operation of a hazardous waste management unit or part of a hazardous waste management unit. An unscheduled work practice or operational procedure that stops operation of a hazardous waste management unit or part of a hazardous waste management unit for less than twenty-four hours if not a hazardous waste management unit shutdown. The use of spare equipment and technically feasible bypassing of equipment without stopping operation are not hazardous waste management unit shutdowns.

18. "Hot well" means a container for collecting condensate as in a steam condenser serving a vacuum-jet or steam-jet ejector.

19. "In gas or vapor service" means that the piece of equipment contains or contacts a hazardous waste stream that is in the gaseous state at operating conditions.

20. "In heavy liquid service" means that the piece of equipment is not in gas or vapor service or in light liquid service.

21. "In light liquid service" means that the piece of equipment contains or contacts a waste stream where the vapor pressure of one or more of the components in the stream is greater than three-tenths kilopascals at twenty degrees Centigrade, the

total concentration, the total concentration of the purest components having a vapor pressure greater than three-tenths kilopascals at twenty degrees Centigrade is equal to or greater than twenty percent by weight, and the fluid is a liquid at operating conditions.

22. "In situ sampling systems" means nonextracted samplers or inline samplers.

23. "In vacuum service" means that equipment is operating at an internal pressure that is at least five kilopascals below ambient pressure.

24. "Malfunction" means any sudden failure of a control device or a hazardous waste management unit or failure of a hazardous waste management unit to operate in a normal or usual manner, so that organic emissions are increased.

25. "Open-ended valve or line" means any valve, except pressure release valves, having one side of the valve seat in contact with process fluid and one side open to the atmosphere, either directly or through open piping.

26. "Pressure release" means the emission of materials resulting from the system pressure being greater than the set pressure of the pressure release device.

27. "Process heater" means a device that transfers heat liberated by burning fuel to fluids contained in tubes, including all fluids except water that are heated to produce steam.

28. "Process vent" means any open-ended pipe or stack that is vented to the atmosphere either directly, through a vacuum-producing system, or through a tank (e.g., distillate receiver, condenser, bottoms receiver, surge control tank, separator tank, or hot weld) associated with hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations.

29. "Repaired" means that equipment is adjusted, or otherwise altered, to eliminate a leak.

30. "Sensor" means a device that measures a physical quantity or the change in a physical quantity, such as temperature, pressure, flow rate, pH, or liquid level.

31. "Separator tank" means a device used for separation of two emissible liquids.

32. "Solvent extraction operation" means an operation or method of separation in which a solid or solution is contacted with a liquid solvent (the two being mutually insoluble) to

preferentially dissolve and transfer one or more components into the solvent.

33. "Start-up" means the setting in operation of a hazardous waste management unit or control device for any purpose.

34. "Steam stripping operation" means a distillation operation in which vaporization of the volatile constituents of a liquid mixture takes place by the introduction of steam directly in to the charge.

35. "Surge control tank" means a large-sized pipe or storage reservoir sufficient to contain the surging liquid discharge of the process tank to which it is connected.

36. "Thin-film evaporation operation" means a distillation operation that employs a heating surface consisting of a large diameter tube that may be either straight or tapered, horizontal or vertical. Liquid is spread on the tube wall by a rotating assembly of blades that maintain a close clearance from the wall or actually ride on the film of liquid on the wall.

37. "Vapor incinerator" means any enclosed combustion device that is used for destroying organic compounds and does not extract energy in the form of steam or process heat.

38. "Vented" means discharged through an opening, typically an open-ended pipe or stack, allowing the passage of a stream of liquids, gases, or fumes into the atmosphere. The passage of liquids, gases, or fumes is caused by mechanical means such as compressors or vacuum-producing systems or by process-related means such as evaporation produced by heating and not caused by tank loading and unloading (working losses) or by natural means such as diurnal temperature changes.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-402. Standards - Process vents.

1. The owner or operator of a facility with process vents associated with distillation, fractionation, thin-films evaporation, solvent extraction, or air or steam stripping operations managing hazardous wastes with organic concentrations of at least ten parts per million weight shall either:

   a. Reduce total organic emissions from all affected process vents at the facility below one and four-tenths

kilograms/hour (three pounds/hour and two and eight-tenths million grams/year (three and one-tenth tons/year), or

b. Reduce, by use of a control device, total organic emissions from all affected process vents at the facility by ninety-five weight percent.

2. If the owner or operator installs a closed-vent system and control device to comply with the provisions of subdivision 1, the closed-vent system and control device must meet the requirements of section 33-24-05-403.

3. Determinations of vent emissions and emission reductions for total organic compound concentrations achieved by add-on control devices may be based on engineering calculations or performance tests. If performance tests are used to determine vent emissions, emission reductions, or total organic compound concentrations achieved by add-on control devices, the performance tests must conform with the requirements of subsection 3 of section 33-24-05-404.

4. When an owner or operator and the department do not agree on determinations of vent emissions or emission reductions, or both, or total organic compound concentrations achieved by add-on control devices based on engineering calculations, the procedures in subsection 3 of section 33-24-05-404 must be used to resolve the disagreement.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-403. Standards - Closed-vent systems and control devices.

1. Requirements for owners or operators of closed-vent systems and control devices.

a. Owners or operators of closed-vent systems and control devices used to comply with provisions of sections 33-24-05-400 through 33-24-05-449 shall comply with the provisions of this section.

b. The owner or operator of an existing facility who cannot install a closed-vent system and control device to comply with the provisions of sections 33-24-05-400 through 33-24-05-449 on the effective date that the facility becomes subject to the provisions of sections 33-24-05-400 through 33-24-05-449 must prepare an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The controls must be installed as soon as

possible, but the implementation schedule may allow up to eighteen months after the effective date that the facility becomes subject to sections 33-24-05-400 through 33-24-05-429 for installation and start-up. All units that began operation after December 21, 1990, must comply with the rules immediately (i.e., must have control devices installed and operating on start-up of the effective unit); the two-year implementation schedule does not apply to these units.

2. A control device involving vapor recovery (e.g. a condenser or absorber) must be designed and operated to recover the organic vapors vented to it with an efficiency of ninety-five weight percent or greater unless the total organic emission limits of subdivision a of subsection 1 of section 33-24-05-402 for all affected process vents can be attained at an efficiency less than ninety-five weight percent.

3. An enclosed combustion device (e.g., a vapor incinerator, boiler, or process heater) must be designed and operated to reduce the organic emissions vented to it by ninety-five weight percent or greater; to achieve a total organic compound concentration of twenty parts per million volume, expressed as the sum of the actual compounds, not carbon equivalents, on a dry basis corrected to three percent oxygen; or to provide a minimum residence time of fifty hundredths seconds at a minimum temperature of seven hundred sixty degrees Centigrade. If a boiler or process heater is used as the control device, then the vent stream must be introduced into the flame zone of the boiler or process heater.

4. Flares.

   a. A flare must be designed for and operated with no visible emissions as determined by the methods specified in subdivision a of subsection 1, except for periods not to exceed a total of five minutes during any two consecutive hours.

   b. A flare must be operated with a flame present at all times, as determined by the methods specified in paragraph 3 of subdivision b of subsection 6.

   c. A flare must be used only if the net heating value of the gas being combusted is eleven and two-tenths mega joules per standard cubic meter at standard conditions (three hundred British thermal units per standard cubic foot at standard conditions) or greater if the flare is steam-assisted or air-assisted; or if the net heating value of the gas being combusted is seven and forty-five hundredths mega joules per cubic meter at standard conditions (two hundred British thermal units per standard cubic foot at standard conditions) or greater if the flare

is nonassisted. The net heating value of the gas being combusted must be determined by the methods specified in subdivision b of subsection 5.

d. Steam-assisted or nonassisted flare.

(1) A steam-assisted or nonassisted flare must be designed for and operated with an exit velocity, as determined by the methods specified in subdivision c of subsection 5, less than eighteen and three-tenths meters per second [sixty feet per second], except as provided in paragraphs 2 and 3 of subdivision b of subsection 4.

(2) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in subdivision c of subsection 5, equal to or greater than eighteen and three-tenths meters per second [sixty feet per second] but less than one hundred twenty-two meters per second [four hundred feet per second] is allowed if the net heating value of the gas being combusted is greater than thirty-seven and three-tenths mega joules per standard cubic meter at standard conditions [one thousand British thermal units per standard cubic foot at standard conditions].

(3) A steam-assisted or nonassisted flare designed for and operated with an exit velocity, as determined by the methods specified in subdivision c of subsection 5, less than the velocity V_{max} as determined by the method specified in subdivision d of subsection 5 and less than one hundred twenty-two meters per second [four hundred feet per second] is allowed.

e. An air-assisted flare must be designed and operated with an exit velocity less than the velocity, V_{max} as determined by the method specified in subdivision e of subsection 5.

f. A flare used to comply with this section must be steam-assisted, air-assisted, or nonassisted.

5. Methods.

a. Referenced method 22 in 40 CFR part 60 must be used to determine the compliance of a flare with the visible emissions provisions of sections 33-24-05-400 through 33-24-05-429. The observation period is two hours and must be used according to method 22.

b. The net heating value of the gas being combusted in a flare must be calculated using the following equation:

$$H_t = K\left[\sum_{i=1}^{n} C_i H_i\right]$$

c. The actual exit velocity of a flare must be determined by dividing the volumetric flow rate (in units of standard temperature and pressure), as determined by reference methods 2, 2a, 2c, or 2d in 40 CFR part 60 as appropriate, by the unobstructed (free) cross-sectional area of the flare tip.

d. The maximum allowed velocity in meter per second V_{max} for a flare complying with paragraph 3 of subdivision d of subsection 4 must be determined by the following equation:

$$\log_{10}(V_{max}) = (H_t + 28.8)/31.7$$

where:

28.8 = constant,

31.7 = constant, and

H_t = the net heating value as determined in subdivision b of subsection 5.

e. The maximum allowed velocity in meter per second V_{max} for an air-assisted flare must be determined by the following equation:

$$V_{max} = 8.706 + 0.7084\ (H_t)$$

where:

8.706 = constant,

0.7084 = constant, and

H_t = the net heating value as determined in subdivision b of subsection 5.

6. The owner or operator shall monitor and inspect each control device required to comply with this section to ensure proper operation and maintenance of the control device by implementing the following requirements:

a. Install, calibrate, maintain, and operate according to the manufacturer's specifications a flow indicator that provides a record of vent stream flow from each affected process vent to the control device at least once every hour. The flow indicator sensor must be installed in the vent stream at the nearest feasible point to the control device inlet but before the point at which the vent streams are combined.

b. Install, calibrate, maintain, and operate according to the manufacturer's specifications a device to continuously monitor control device operation as specified below:

(1) For a thermal vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device must have an accuracy of plus or minus one percent of the temperature being monitored in Centigrade or plus or minus five-tenths degrees Centigrade, whichever is greater. The temperature sensor must be installed at a location in the combustion chamber downstream of the combustion zone.

(2) For a catalytic vapor incinerator, a temperature monitoring device equipped with a continuous recorder. The device must be capable of monitoring temperature at two locations and have an accuracy of plus or minus one percent of the temperature being monitored in degrees Centigrade or plus or minus five-tenths degrees Centigrade, whichever is greater. One temperature sensor must be installed in the vent stream at the nearest feasible point to the catalyst bed inlet and a second temperature sensor must be installed in the vent stream at the nearest feasible point to the catalyst bed outlet.

(3) For a flare, a heat sensing monitoring device equipped with a continuous recorder that indicates the continuous ignition of the pilot flame.

(4) A boiler or process heater having a design heat input capacity less than forty-four megawatts a temperature monitoring device equipped with a continuous recorder. The device must have an accuracy of plus or minus one percent of the temperature being monitored in degrees Centigrade or plus or minus five-tenths degrees Centigrade, whichever is greater. The temperature sensor must be installed at a location in the furnace downstream of the combustion zone.

(5) For a boiler or process heater having a design heat input capacity greater than or equal to forty-four

megawatts a monitoring device equipped with a continuous recorder to measure a parameter that indicates good combustion operating practices are being used.

(6) For a condenser, either:

(a) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds, the exhaust vent stream from the condenser; or

(b) A temperature monitoring device equipped with a continuous recorder. The device must be capable of monitoring temperature at two locations and have an accuracy of plus or minus one percent of the temperature being monitored in degrees Centigrade or plus or minus five-tenths degrees Centigrade, whichever is greater. One temperature sensor must be installed at a location in the exhaust vent stream from the condenser, and a second temperature sensor must be installed at a location in the coolant fluid exiting the condenser.

(7) For a carbon adsorption system that regenerates the carbon bed directly in the control device such as a fixed-bed carbon adsorber either:

(a) A monitoring device equipped with a continuous recorder to measure the concentration level of the organic compounds in the exhaust vent stream from the carbon bed; or

(b) A monitoring device equipped with a continuous recorder to measure a parameter that indicates the carbon bed is regenerated in a regular predetermined time cycle.

Inspect the readings from each monitoring device required by subdivisions a and b at least once each operating day to check control device operation and, if necessary, immediately implement the corrective measures necessary to ensure the control device operates in compliance with the requirements of this section.

7. An owner or operator using a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon at a regular predetermined time interval that is no longer than the carbon service life established as a requirement of

subparagraph f of paragraph 3 of subdivision d of subsection 2 of section 33-24-05-405.

8. An owner or operator using a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device shall replace the existing carbon in the control device with fresh carbon on a regular basis by using one of the following procedures:

   a. Monitor the concentration level of organic compounds in the exhaust vent stream from the carbon adsorption system on a regular schedule, and replace the existing carbon with fresh carbon immediately when carbon breakthrough is indicated. The monitoring frequency must be daily or at an interval no greater than twenty percent of the time required to consume the total carbon working capacity established as a requirement of subparagraph g of paragraph 3 of subdivision d of subsection 2 of section 33-24-05-405, whichever is longer.

   b. Replace the existing carbon with fresh carbon at a regular, predetermined time interval that is less than the design carbon replacement interval established as a requirement of subparagraph g of paragraph 3 of subdivision d of subsection 2 of section 33-24-05-405.

9. An alternative operational or process parameter may be monitored if it can be demonstrated that another parameter will ensure that the control device is operated in conformance with these standards and the control devices design specifications.

10. An owner or operator of an affected facility seeking to comply with the provisions of sections 33-24-05-400 through 33-24-05-449 by using a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system is required to develop documentation including sufficient information to describe the control device operation and identify the process parameter or parameters that indicate proper operation and maintenance of the control device.

11. Closed-vent systems.

   a. Closed-vent systems must be designed for and operated with no detectable emissions, as indicated by an instrument reading of less than five hundred parts per million above background and by visual inspection, as determined by the methods specified in subsection 2 of section 33-24-05-404.

   b. Closed-vent systems must be monitored to determine compliance with this section during the initial leak detection monitoring, which must be conducted by the date

that the facility becomes subject to the provisions of this section, annually, and at other times as requested by the department.

c. Detectable emissions, as indicated by an instrument reading greater than five hundred parts per million and visual inspections, must be controlled as soon as practicable, but not later than fifteen calendar days after the emission is detected.

d. A first attempt at repair must be made no later than five calendar days after the emission is detected.

12. Closed-vent systems and control devices used to comply with provisions of sections 33-24-05-400 through 33-24-05-429 must be operated at all times when emissions may be vented to them.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-404. Test methods and procedures.

1. Each owner or operator subject to the provisions of sections 33-24-05-400 through 33-24-05-429 shall comply with the test methods and procedures requirements provided in this section.

2. When a closed-vent system is tested for compliance with no detectable emissions, as required in subsection 11 of section 33-24-05-403 the test must comply with the following requirements:

a. Monitoring must comply with referenced method 21 in 40 CFR part 60.

b. The detection instrument must meet the performance criteria of reference method 21.

c. The instrument must be calibrated before use on each day of its use by the procedures specified in reference method 21.

d. Calibration gases must be:

(1) Zero air (less than ten parts per million hydrocarbon in air).

(2) A mixture of methane or N-hexane and air at a concentration of approximately, but less than, ten thousand parts per million methane or N-hexane.

e. The background level must be determined as set forth in reference method 21.

f. The instrument probe must be traversed around all potential leak interfaces as close to the interface as possible as described in reference method 21.

g. The arithmetic difference between the maximum concentration indicated by the instrument and background level is compared with five hundred parts per million for determining compliance.

3. Performance tests to determine compliance with subsection 1 of section 33-24-05-402 and with the total organic compound concentration limit of subsection 3 of section 33-24-05-403 must comply with the following:

a. Performance tests to determine total organic compound concentrations and mass flow rates entering and exiting control devices must be conducted and data reduced in accordance with the following reference methods and calibration procedures:

(1) Method 2 in 40 CFR part 60 for velocity and volume flow rate.

(2) Method 18 in 40 CFR part 60 for organic content.

(3) Each performance test must consist of three separate runs; each run conducted for at least one hour under the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. For the purpose of determining total organic compound concentrations and mass flow rates, the average of results of all runs apply. The average must be computed on a time-weighted basis.

(4) Total organic mass flow rates must be determined by the following equation:

$$E_h = Q_{2sd}\left[\sum_{i=1}^{n} C_i MW_i\right] [0.0416] [10^{-6}]$$

where:

E_h = Total organic mass flow rate, kg/h;

Q_{sd} = Volumetric flow rate of gases entering or exiting control device, as determined by Method 2, dscm/h;

n = Number of organic compounds in the vent gas;

C_i = Organic concentration in ppm, dry basis, of compound i in the vent gas, as determined by Method 18;

MW_i = Molecular weight of organic compound i in the vent gas, kg/kg-mol;

0.0416 = Conversion factor for molar volume, kg-mol/m^3 [@293 k and 760 mm Hg];

10^{-6} = Conversion from ppm, ppm^{-1}.

(5) The annual total organic emission rate must be determined by the following equation:

$$E_A = [E_h][H]$$

where:

E_A = Total organic mass emission rate, kg/y;

E_h = Total organic mass flow rate for the process vent, kg/h;

H = Total annual hours of operations for the affected unit, h.

(6) Total organic emissions from all affected process vents at the facility must be determined by summing the hourly total organic mass emission rates (E_h as determined in paragraph 4 of subdivision a of subsection 3) and by summing the annual total organic mass emission rates (E_A, as determined in paragraph 5 of subdivision a of subsection 3) for all affected process vents at the facility.

b. The owner or operator shall record such process information as may be necessary to determine the conditions of the performance test. Operations during periods of startup, shutdown, and malfunction do not constitute representative conditions for the purpose of a performance test.

c. The owner or operator of an affected facility shall provide, or cause to be provided, performance testing facilities as follows:

(1) Sampling ports adequate for the test methods specified in subdivision a of subsection 3.

(2) Safe sampling platforms.

(3) Safe access to sampling platforms.

(4) Utilities for sampling and testing equipment.

d. For the purpose of making compliance determinations, the time-weighted average of the results of the three runs applies. In the event that a sample is accidentally lost or conditions occur in which one of the three runs must be discontinued because of force shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions, or other circumstances beyond the owner's or operator's control, compliance may, upon the department's approval, be determined using the average of the results of the two other runs.

4. To show that a process vent associated with a hazardous waste distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation is not subject to the requirements of sections 33-24-05-400 through 33-24-05-429, the owner or operator must make an initial determination that the time-weighted, annual average total organic concentration of the waste managed by the waste management unit is less than ten parts per million weight using one of the following two methods:

a. Direct measurement of the organic concentration of the waste using the following procedures:

(1) The owner or operator must take a minimum of four grab samples of waste for each waste stream managed in the effected unit under process conditions expected to cause the maximum waste organic concentration.

(2) For waste generated onsite, the grab samples must be collected at a point before the waste is exposed to the atmosphere such as in an enclosed pipe or other closed system that is used to transfer the waste after generation to the first affected distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation. For waste generated offsite, the grab samples must be collected at the inlet to the first waste management unit that receives the waste provided that the waste has been transferred to the facility in a closed system such as a truck and the waste is not diluted or mixed with other waste.

(3) Each sample must be analyzed and the total organic concentration of the sample must be computed using method 9060 or 8240 of SW-846 (incorporated by reference under section 33-24-01-05).

(4) The arithmetic mean of the results of the analysis of the four samples applies for each waste stream managed in the unit in determining the time-weighted annual average total organic concentration of the waste. The time-weighted average is to be calculated using the annual quantity of each waste stream processed and the mean organic concentration of each waste stream managed in the unit.

b. Using knowledge of the waste to determine that its total organic concentration is less than ten parts per million weight. Documentation of the waste determination is required. Examples of documentation that must be used to support a determination under this provision include production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to generate a waste stream having a total organic content less than ten parts per million weight, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

5. The determination that distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operations manage hazardous wastes with time-weighted, annual average total organic concentrations less than ten parts per million weight must be made as follows:

a. By the effective date that the facility becomes subject to the provisions of sections 33-24-05-400 through 33-24-05-429 or by the date when the waste is first managed in a waste management unit, whichever is later; and

b. For continuously generated waste, annually; or

c. Whenever there is a change in the waste being managed or a change in the process that generates or treats the waste.

6. When an owner or operator and the department do not agree on whether a distillation, fractionation, thin-film evaporation, solvent extraction, or air or steam stripping operation manages a hazardous waste with organic concentrations of at least ten parts per million weight based on knowledge of the

waste, the procedures in method 8240 may be used to resolve the dispute.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-405. Recordkeeping requirements.

1. Applicability.

   a. Each owner or operator subject to the provisions of sections 33-24-05-400 through 33-24-05-419 shall comply with the recordkeeping requirements of this section.

   b. An owner or operator of more than one hazardous waste management unit subject to the provisions of sections 33-24-05-400 through 33-24-05-419 may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

2. Owners and operators must record the following information in the facility operating record:

   a. For facilities that comply with the provisions of subdivision b of subsection 1 of section 33-24-05-403, an implementation schedule that includes dates by which the closed-vent system and control device will be installed and in operation. The schedule must also include a rationale of why the installation cannot be completed at an earlier date. The implementation schedule must be in the facility operating record by the effective date that the facility becomes subject to the provisions of sections 33-24-05-400 through 33-24-05-419.

   b. Up-to-date documentation of compliance with the process vent standards in section 33-24-05-402, including:

      (1) Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent, and for the overall facility, i.e., the total emissions for all affected vents at the facility, and the approximate location within the facility of each affected unit, e.g., identifying the hazardous waste management units on a facility plot plan.

      (2) Information and data supporting determinations of vent emissions and emission reductions achieved by

add-on control devices based on engineering calculation or source tests. For the purpose of determining compliance, determinations of vent emissions and emission reductions must be made using operating parameter values, e.g., temperatures, flow rates, or vent stream organic compounds and concentrations, that represent the conditions that result in maximum organic emissions, such as when the waste management unit is operating at the highest load or capacity level reasonably expected to occur. If the owner or operator takes any action, e.g., managing a waste of different composition or increasing operating hours of affected waste management units, that would result in an increase in total organic emissions from affected process vents at the facility, then a new determination is required.

c. Where an owner or an operator chooses to use test data to determine the organic removal efficiency or total organic compound concentration achieved by the control device, a performance test plan. The test plan must include:

(1) A description of how it is determined that the planned test is going to be conducted when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur. This must include the estimated or design flow rate and organic content of each vent stream and define the acceptable operating ranges of key process and control device parameters during the test program.

(2) A detailed engineering description of the closed-vent system and control device including:

(a) Manufacturer's name and model number of control device.

(b) Type of control device.

(c) Dimensions of the control device.

(d) Capacity.

(e) Construction materials.

(3) A detailed description of sampling and monitoring procedures, including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

d. Documentation and compliance with section 33-24-05-403 must include the following information:

(1) A list of all information references and sources used in preparing the documentation.

(2) Records including the dates of each compliance test required by subsection 11 of section 33-24-05-403.

(3) If engineering calculations are used, a design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of "Apti course 415: control of gaseous emissions" (incorporated by reference as specified in section 33-24-01-05) or other engineering texts acceptable to the department that present basic control device design information. Documentation provided by the control device manufacturer or vendor that describes the control device design in accordance with subparagraphs a through g of paragraph 3 of subdivision d of subsection 2 may be used to comply with this requirement. The design analysis must address the vent stream characteristics and control device operation parameters as specified below:

(a) For a thermal vapor incinerator, the design analysis must consider the vent stream composition, constituent concentrations, and flow rate. The design analysis must also establish the design minimum and average temperature in the combustion zone and the combustion zone residence time.

(b) For a catalytic vapor incinerator, the design analysis must consider the vent stream composition, constituent concentrations, and flow rate. The design analysis must also establish the design minimum and average temperatures across the catalyst bed inlet and outlet.

(c) For a boiler or process heater, the design analysis must consider the vent stream composition, constituent concentrations, and flow rate. The design analysis must also establish the design minimum and average flame zone temperatures, combustion zone residence time, and description of methods and location where the vent stream is introduced into the combustion zone.

(d) For a flare, the design analysis must consider the vent stream composition, constituent concentration, and flow rate. The design analysis must also consider the requirements specified in subsection 4 of section 33-24-05-403.

(e) For a condenser, the design analysis must consider the vent stream composition, constituent concentration, flow rate, relative humidity, and temperature. The design analysis must also establish the design outlet organic compound concentration level, design average temperature of the condenser exhaust vent stream, and design average temperatures of the coolant fluid at the condenser inlet and outlet.

(f) For a carbon adsorption system such as a fixed-bed adsorber that regenerates the carbon bed directly onsite in the control device, the design analysis must consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis must also establish the design exhaust vent stream organic concentration level, the number and capacity of carbon beds, type and working capacity of activated carbon used for carbon beds, design total steam flow over the period of each complete carbon bed regeneration cycle, duration of the carbon bed steaming and cooling or drying cycle, design carbon bed temperature after regeneration, design carbon bed regeneration time, and design service life of carbon.

(g) For a carbon adsorption system such as a carbon canister that does not regenerate the carbon bed directly onsite in the control device, the design analysis must consider the vent stream composition, constituent concentrations, flow rate, relative humidity, and temperature. The design analysis must also establish the design outlet organic concentration level, capacity of carbon bed, type and working capacity of activated carbon used for carbon bed, and design carbon replacement interval based on the total carbon working capacity of the control device and source operating schedule.

(4) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit

is or would be operating at the highest load or capacity level reasonably expected to occur.

(5) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of ninety-five percent or greater unless the total organic concentration limit of subsection 1 of section 33-24-05-402 is achieved at an efficiency less than ninety-five weight percent or the total organic emission limits of subsection 1 of section 33-24-05-402 for affected process vents at the facility can be obtained by a control device involving vapor recovery and efficiency less than ninety-five weight percent. A statement provided by the control device manufacturer or vendor certifying that the control equipment meets the design specifications may be used to comply with this requirement.

(6) If performance tests are used to demonstrate compliance, all test results.

3. Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of sections 33-24-05-400 through 33-24-05-449 must be recorded and up-to-date in the facility operating record. The information must include:

a. Description and date of each modification that is made to the closed-vent system or control device design.

b. Identification of operating parameters, description of monitoring device, and diagram of monitoring sensor location or locations used to comply with subdivisions a and b of subsection 6 of section 33-24-05-403.

c. Monitoring, operating, and inspection information required by subsections 6 through 11 of section 33-24-05-403.

d. Date, time, and duration of each period that occurs while the control device is operating when any monitored parameter exceeds the value established in the control device design analysis as specified below:

(1) For a thermal vapor incinerator designed to operate with a minimum residence time of fifty hundredths seconds at a minimum temperature of seven hundred sixty degrees Centigrade period when the combustion temperature is below seven hundred sixty degrees Centigrade.

(2) For a thermal vapor incinerator designed to operate with an organic emission reduction efficiency of ninety-five weight percent or greater period when the combustion zone temperature is more than twenty-eight degrees Centigrade below the designed average combustion zone temperature established as a requirement of subparagraph a of paragraph 3 of subdivision d of subsection 2.

(3) For a catalytic vapor incinerator, period when:

(a) Temperature of the vent stream at the catalytic bed inlet is more than twenty-eight degrees Centigrade below the average temperature of the inlet vent stream established as a requirement of subparagraph b of paragraph 3 of subdivision d of subsection 2; or

(b) Temperature difference across the catalyst bed is less than eighty percent of the design average temperature difference established as a requirement of subparagraph b of paragraph 3 of subdivision d of subsection 2.

(4) For a boiler or process heater, period when:

(a) Flame zone temperature is more than twenty-eight degrees Centigrade below the design average flame zone temperature established as a requirement of subparagraph c of paragraph 3 of subdivision 4 of subsection 2; or

(b) Position changes where the vent stream is introduced to the combustion zone from the location established as a requirement of subparagraph c of paragraph 3 of subdivision d of subsection 2.

(5) For a flare, period when the pilot flame is not ignited.

(6) For a condenser that complies with subparagraph a of paragraph 6 of subdivision d of subsection 6 of section 33-24-05-403 period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the condenser are more than twenty percent greater than the design outlet organic compound concentration level established as a requirement of subparagraph e of paragraph 3 of subdivision d of subsection 2.

(7) For a condenser that complies with subparagraph b of paragraph 6 of subdivision b of subsection 6 of section 33-24-05-403, period when:

(a) Temperature of the exhaust vent stream from the condenser is more than six degrees Centigrade above the design average exhaust vent stream temperature established as a requirement of subparagraph e of paragraph 3 of subdivision b of subsection 2; or

(b) Temperature of the coolant fluid exiting the condenser is more than six degrees Centigrade above the design average coolant fluid temperature at the condenser outlet established as a requirement of subparagraph e of paragraph 3 of subdivision d of subsection 2.

(8) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates carbon bed directly onsite in the control device and complies with subparagraph a of paragraph 7 of subdivision b of subsection 6 of section 33-24-05-403, period when the organic compound concentration level or readings of organic compounds in the exhaust vent stream from the carbon bed are more than twenty percent greater than the design exhaust vent stream from the carbon bed are more than twenty percent greater than the design exhaust vent stream organic compound concentration level established as a requirement of subparagraph f of paragraph 3 of subdivision d of subsection 2.

(9) For a carbon adsorption system such as a fixed-bed carbon adsorber that regenerates the carbon bed directly onsite in the control device and complies with subparagraph b of paragraph 7 of subdivision b of subsection 6 of section 33-24-05-403, period when the vent stream continues to flow through the control device beyond the predetermined carbon bed regeneration time established as a requirement of subparagraph f of paragraph 3 of subdivision d of subsection 2.

e. Explanation for each period recorded under subdivision d of the cause for control device operating parameter exceeding the design value and the measures implemented to correct the control device operation.

f. For a carbon adsorption system operated subject to requirements specified in subsection 7 of section 33-24-05-403 or subdivision b of subsection 8 of section 33-24-05-403, date when existing carbon in the control device is replaced with fresh carbon.

g. For a carbon adsorption system operated subject to requirements specified in subdivision a of subsection 8 of section 33-24-05-403, a log that records:

(1) Date and time when control device is monitored for carbon breakthrough and the monitoring device reading.

(2) Date when existing carbon in the control device is replaced with fresh carbon.

h. Date of each control device startup and shutdown.

4. Records of the monitoring, operating, and inspection information required by subdivisions c through h of subsection 3 need be kept only three years.

5. For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, the department will specify the appropriate recordkeeping requirements.

6. To date information and data used to determine whether or not a process vent is subject to the requirements in section 33-24-05-402 including supporting documentation as required by subdivision b of subsection 4 of section 33-24-05-404 when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used, must be recorded in a log that is kept in the facility operating record.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-406. Reporting requirements.

1. A semiannual report must be submitted by owners and operators subject to the requirements of sections 33-24-05-400 through 33-24-05-419 to the department by dates specified by the department. The report must include the following information:

a. The state environmental protection agency identification number, name, and address of the facility.

b. For each month during the semiannual reporting period, dates when the control device exceeded or operated outside of the design specifications as defined in subdivision d of subsection 3 of section 33-24-05-405 and as indicated by the control device monitoring required by subsection 6 of section 33-24-05-403 and such exceedances where not

corrected within twenty-four hours, or that a flare operated with visible emissions as designed in subsection 4 of section 33-24-05-03 and as determined by method 22 monitoring, the duration and cause of each exceedance or visible emission, and any corrective measures taken.

2. If, during the semiannual reporting period, the control device does not exceed or operate outside of the design specifications as defined in subdivision d of subsection 3 of section 33-24-05-405 for more than twenty-four hours or a flare does not operate with visible emissions as defined in subsection 4 of section 33-24-05-403, a report to the department is not required.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-407. [Reserved]

33-24-05-408. [Reserved]

33-24-05-409. [Reserved]

33-24-05-410. [Reserved]

33-24-05-411. [Reserved]

33-24-05-412. [Reserved]

33-24-05-413. [Reserved]

33-24-05-414. [Reserved]

33-24-05-415. [Reserved]

33-24-05-416. [Reserved]

33-24-05-417. [Reserved]

33-24-05-418. [Reserved]

33-24-05-419. [Reserved]

33-24-05-420. Applicability to air emission standards for equipment leaks.

1. The regulations in sections 33-24-05-420 through 33-24-05-449 apply to owners and operators of facilities that treat, store, and dispose of hazardous wastes (except as provided in section 33-24-02-04).

2. Except as provided in subsection 11 of section 33-24-05-434, sections 33-24-05-420 through 33-24-05-449 applies to equipment that contains or contacts hazardous waste with organic concentrations of at least ten percent by weight that are managed in:

   a. Units that are subject to the permitting requirements of chapter 33-24-06; or

   b. Hazardous waste recycling units that are located on hazardous waste management facilities otherwise subject to the permitting requirements of chapter 33-24-06.

3. If the owner or operator of equipment subject to the requirements of sections 33-24-05-422 through 33-24-05-435 has received a permit under this article prior to December 21, 1990, the requirements of sections 33-24-05-422 through 33-24-05-435 must be incorporated when the permit is reissued under section 33-24-07-11 or reviewed under section 33-24-06-06.

4. Each piece of equipment to which sections 33-24-05-420 through 33-24-05-449 applies must be marked in such a manner that it can be extinguished readily from other pieces of equipment.

5. Equipment that is in vacuum service is excluded from the requirements of sections 33-24-05-422 to 33-24-05-430 it is identified as required in subdivision e of subsection 7 of section 33-24-05-434. [Note: The requirements of sections 33-24-05-422 through 33-24-05-435 apply to equipment associated with hazardous waste recycling units previously exempt under subdivision a of subsection 3. Other exemptions under sections 33-24-02-04, 33-24-03-12, and subsection 7 of section 33-24-05-01 are not affected by these requirements.]

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-421. Definitions as used in sections 33-24-05-420 through 33-24-05-449. All terms have the meaning given them in section 33-24-05-401, North Dakota Century Code chapter 23-20.3, and chapters 33-24-01 through 33-24-05.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-422. Standards - Pumps in light liquid service.

1. Timeframe.

a. Each pump in light liquid service must be monitored monthly to detect leaks by the method specified in subsection 2 of section 33-24-05-433, except as provided in subsections 4, 5, and 6.

b. Each pump in light liquid service must be checked by visual inspection each calendar week for indications of liquids dripping from the pump seal.

2. Indicators.

a. If an instrument reading of ten thousand parts per million or greater is measured, a leak is detected.

b. If there are indications of liquids dripping from the pump seal, a leak is detected.

3. Response.

a. When a leak is detected, it must be repaired as soon as practicable, but not later than fifteen calendar days after it is detected, except as provided in section 33-24-05-429.

b. A first attempt at repair (e.g., tightening the packing gland) must be made no later than five calendar days after each leak is detected.

4. Each pump equipped with a dual mechanical seal system that includes a barrier fluid system is exempt from the requirements of subsection 1, provided the following requirements are met:

a. Each dual mechanical seal system must be:

(1) Operated with the barrier fluid at a pressure that is at all times greater than the pump stuffing box pressure;

(2) Equipped with a barrier fluid degasing reservoir that is connected by a closed-vent system to a control device that complies with requirements of section 33-24-05-430; or

(3) Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to the atmosphere.

b. The barrier fluid system must not be a hazardous waste with organic concentrations ten percent or greater by weight.

c. Each barrier fluid system must be equipped with a sensor that will detect failure of the sealed system, the barrier fluid system, or both.

d. Each pump must be checked by visual inspection each calendar week for indications of liquids dripping from the pump seals.

e. Checks.

(1) Each sensor as described in subdivision c of subsection 4 must be checked daily or be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly.

(2) The owner or operator must determine, based on design considerations and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

f. Leaks.

(1) If there are indications of liquids dripping from the pump seal or the sensor indicates failure of the seal system, the barrier fluid system, or both, based on the criterion determined in paragraph 2 of subdivision e of subsection 4, a leak is detected.

(2) When a leak is detected it must be repaired as soon as practicable, but not later than fifteen calendar days after it is detected, except as provided in section 33-24-05-429.

(3) A first attempt at repair (e.g., relapping the seal) must be made no later than five calendar days after each leak is detected.

5. Any pump that is designated, as described in subdivision b of subsection 7 of section 33-24-05-434, for no detectable emissions, as indicated by an instrument reading of less than five hundred parts per million above background, is exempt from the requirements of subsections 1, 3, and 4 if the pump meets the following requirements:

a. Must have no externally actuated shaft penetrating the pump housing.

b. Must operate with no detectable emissions as indicated by an instrument reading of less than five hundred parts per million above background as measured by the methods specified in subsection 3 of section 33-24-05-433.

c. Must be tested for compliance with subdivision b of subsection 5 initially upon designation, annually, and at other times as requested by the department.

6. If any pump is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal or seals to a control device that complies with the requirements of section 33-24-05-430, it is exempt from the requirements of subsections 1 through 5.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-423. Standards - Compressors.

1. Each compressor must be equipped with a seal system that includes a barrier fluid system and that prevents leakage of total organic emissions to the atmosphere, except as provided in subsections 8 and 9.

2. Each compressor seal system as required in subsection 1 must be:

   a. Operated with the barrier fluid at a pressure that is at all times greater than the compressor stuffing box pressure;

   b. Equipped with the barrier fluid system that is connected by a closed-vent system to a control device that complies with the requirements of section 33-24-05-430; or

   c. Equipped with a system that purges the barrier fluid into a hazardous waste stream with no detectable emissions to atmosphere.

3. The barrier fluid must not be a hazardous waste with organic concentrations ten percent or greater by weight.

4. Each barrier fluid system as described in subsections 1 through 3 must be equipped with a sensor that would detect failure of the sealed system, barrier fluid system, or both.

5. Checks.

   a. Each sensor as required in subsection 4 must be checked daily or must be equipped with an audible alarm that must be checked monthly to ensure that it is functioning properly unless the compressor is located within the boundary of an unmanned plantsite, in which case the sensor must be checked daily.

b. The owner or operator shall determine, based on design consideration and operating experience, a criterion that indicates failure of the seal system, the barrier fluid system, or both.

6. If the sensor indicates failure of the seal system, the barrier fluid system, or both, based on the criterion determined under subdivision b of subsection 5, a leak is detected.

7. Leaks.

a. When a leak is detected, it must be repaired as soon as practicable, but not later than fifteen calendar days after it is detected, except as provided in section 33-24-05-429.

b. First attempt at repair, e.g., tightening the packing gland, must be made no later than five calendar days after each leak is detected.

8. A compressor is exempt from the requirements of subsections 1 and 2 if it is equipped with a closed-vent system capable of capturing and transporting any leakage from the seal to control device that complies with the requirements of section 33-24-05-430 except as provided in subsection 9.

9. Any compressor that is designed, as described in subdivision b of subsection 7 of section 33-24-05-434, for no detectable emissions as indicated by an instrument reading of less than five hundred parts per million above background is exempt from the requirements of subsections 1 through 8 if the compressor:

a. Is determined to be operating with no detectable emissions, as indicated by an instrument reading of less than five hundred parts per million above background, as measured by the method specified in subsection 3 of section 33-24-05-433.

b. Is tested for compliance with subdivision a of subsection 9 initially upon designation, annually, and other times as requested by the department.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-424. Standards - Pressure relief devices in gas or vapor service.

1. Except during pressure releases, each pressure relief device in gas or vapor service must be operated with no detectable

emissions, as indicated by an instrument reading of less than five hundred parts per million above background, as measured by the method specified in subsection 3 of section 33-24-05-433.

2. Pressure release.

   a. After each pressure release, the pressure relief device must be returned to a condition of no detectable emissions, as indicated by an instrument reading of less than five hundred parts per million above background, as soon as practicable, no later than five calendar days after each pressure release, except as provided in section 33-24-05-429.

   b. No later than five calendar days after the pressure release, the pressure relief device must be monitored to confirm the condition of no detectable emissions, as indicated by an instrument reading of less than five hundred parts per million above background, as measured by the method specified in subsection 3 of section 33-24-05-433.

3. Any pressure relief device that is equipped with a closed-vent system capable of capturing and transporting leakage from the pressure relief device to a control device as described in section 33-24-05-430 is exempt from the requirements of subsections 1 and 2.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.03-04

33-24-05-425. Standards - Sampling connecting systems.

1. Each sampling system must be equipped with a closed-purge system or closed-vent system.

2. Each closed-purge system or closed-vent system as required in subsection 1 must:

   a. Return the purged hazardous waste stream directly to the hazardous waste management process line with no detectable emissions to atmosphere;

   b. Collect and recycle the purged hazardous waste stream with no detectable emissions to atmosphere; or

   c. Be designed and operated to capture and transport all purged hazardous waste streams to a control device that complies with the requirements of section 33-24-05-430.

3. In situ sampling systems are exempt from the requirements of subsections 1 and 2.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-426. Standards - Open-ended valves or lines.

1. Requirements.

   a. Each open-ended valve or line must be equipped with a cap, blind flange, plug, or a second valve.

   b. The cap, blind flange, plug, or second valve must seal the open end at all times except during operations requiring hazardous waste stream flow through the open-ended valve or line.

2. Each open-ended valve or line equipped with a second valve must be operated in a manner such that the valve on the hazardous waste stream end is closed before the second valve is closed.

3. When a double block and bleed system is being used, the bleed valve or line may remain open during operations that require venting the line between the block valves but must comply with subsection 1 at all other times.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-427. Standards - Valves in gas or vapor service or in light liquid service.

1. Each valve in gas or vapor or light liquid service must be monitored monthly to detect leaks by the methods specified in subsection 2 of section 33-24-05-433 and must comply with subsections 2 through 5, except as provided in subsections 6, 7, and 8 and sections 33-24-05-431 and 33-24-05-432.

2. If an instrument reading of ten thousand parts per million or greater is measured, a leak is detected.

3. Timeframe.

   a. Any valve for which a leak is not detected for two successive months may be monitored the first month of every succeeding quarter, beginning with the next quarter, until a leak is detected.

b. If a leak is detected, the valve must be monitored monthly until a leak is not detected for two successive months.

4. Release.

a. When a leak is detected, it must be repaired as soon as practicable, but no later than fifteen calendar days after the leak is detected, except as provided in section 33-24-05-429.

b. A first attempt at repair must be made no later than five calendar days after each leak is detected.

5. First attempts at repair include, but are not limited to, the following best practices where applicable:

a. Tightening of bonnet bolts.

b. Replacement of bonnet bolts.

c. Tightening of packing gland nuts.

d. Injection of lubricant into lubricated packing.

6. Any valve that is designated, as described in subdivision b of subsection 7 of section 33-24-05-434, for no detectable emissions, as indicated by an instrument reading of less than five hundred parts per million above background, is exempt from the requirements of subsection 1 if the valve:

a. Has no external actuating mechanism in contact with the hazardous waste stream.

b. Is operated with emissions less than five hundred parts per million above background as determined by the methods specified in subsection 3 of section 33-24-05-433.

c. Is tested for compliance with subdivision b of subsection 6 initially upon designation, annually, and at other times as requested by the department.

7. Any valve that is designated, as described in subdivision a of subsection 8 of section 33-24-04-434 as an unsafe-to-monitor valve is exempt from the requirements of subsection 1 if:

a. The owner or operator of the valve determines that the valve is unsafe to monitor because monitoring personnel would be exposed to an immediate danger as a consequence of complying with subsection 1.

b. The owner or operator of the valve adheres to a written plan that requires monitoring of the valve as frequently as practicable during safe-to-monitor times.

8. Any valve that is designated as described in subdivision b of subsection 8 of section 33-24-05-434, as a difficult-to-monitor valve is exempt from the requirements of subsection 1 if:

   a. The owner or operator of the valve determines that the valve cannot be monitored without elevating the monitoring personnel more than two meters above a support surface.

   b. The hazardous waste management unit within which the valve is located was in operation before June 21, 1990. The owner or operator of the valve follows a written plan that requires monitoring of the valve at least once per calendar year.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-428. Standards - Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors.

1. Pumps and valves in heavy liquid service, pressure relief devices in light liquid or heavy liquid service, and flanges and other connectors must be monitored within five days by the method specified in subsection 2 of section 33-24-05-433 if evidence of a potential leak is found by visual, audible, olfactory, or any other detection method.

2. If an instrument reading of ten thousand parts per million or greater is measured, a leak is detected.

3. Timeframe.

   a. When a leak is detected, it must be repaired as soon as practicable, but not later than fifteen calendar days after it is detected, except as provided in section 33-24-05-429.

   b. The first attempt at repair must be made no later than five calendar days after each leak is detected.

4. First attempts at repair include, but are not limited to, the best practices described under subsection 5 of section 33-24-05-427.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-429. Standards - Delay of repair.

1. Delay of repair of equipment for which leaks have been detected will be allowed if the repair is technically unfeasible without a hazardous waste management unit shutdown. In such a case, repair of this equipment must occur before the end of the next hazardous waste management unit shutdown.

2. Delay of repair of equipment for which leaks have been detected will be allowed for equipment that is isolated from the hazardous waste management unit and that does not continue to contain or contact hazardous waste with organic concentrations of at least ten percent by weight.

3. Delay of repair for valves will be allowed if:

   a. The owner or operator determines that emissions of purged material resulting from immediate repair are greater than the emissions likely to result from delay of repair.

   b. When repair procedures are effected, the purged material is collected and destroyed or recovered in a control device complying with section 33-24-05-430.

4. Delay of repair for pumps will be allowed if:

   a. Repair requires the use of a dual mechanical seal system that includes a barrier fluid system.

   b. Repair is completed as soon as practicable, but not later than six months after the leak was detected.

5. Delay of repair beyond a hazardous waste management unit shutdown will be allowed for a valve if valve assembly replacement is necessary during the hazardous waste management unit shutdown, valve assembly supplies have been depleted, and valve assembly supplies had been sufficiently stocked before the supplies were depleted. Delay of repair beyond the next hazardous waste management unit shutdown will not be allowed unless the next hazardous waste management unit shutdown occurs sooner than six months after the first hazardous waste management unit shutdown.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-430. Standards - Closed-vent systems and control devices. Owners or operators of closed-vent systems and control devices shall comply with the provisions of section 33-24-05-403.

History: Effective December 1, 1991.

General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-431. Alternative standards for valves in gas or vapor service or light liquid service - Percentage of valves allowed to leak.

1. An owner or operator subject to the requirements of section 33-24-05-427 may elect to have all valves within a hazardous waste management unit comply with an alternative standard that allows no greater than two percent of the valves to leak.

2. The following requirements must be met if an owner or operator decides to comply with the alternative standard of allowing two percent of valves to leak:

   a. An owner or operator must notify the department that the owner or operator has elected to comply with the requirements of this section.

   b. A performance test as specified in subsection 3 must be conducted initially upon designation, annually, and at other times requested by the department.

   c. If a valve leak is detected, it must be repaired in accordance with subsections 4 and 5 of section 33-24-05-427.

3. Performance tests must be conducted in the following manner:

   a. All valves subject to requirements in section 33-24-05-427 within the hazardous waste management unit shall be monitored within one week by the methods specified in subsection 2 of section 33-24-05-433.

   b. If an instrument reading of ten thousand parts per million or greater is measured, a leak is detected.

   c. The leak percentage must be determined by dividing the number of valves subject to the requirements in section 33-24-05-427 for which leaks are detected by the total number of valves subject to the requirements in section 33-24-05-427 within the hazardous waste management unit.

4. If an owner or operator decides to comply with this section no longer, the owner or operator must notify the department in writing that the work practice standard described in subsections 1 through 5 of section 33-24-05-427 will be followed.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-432. Alternative standard for valves in gas or vapor service or in light liquid service - Skip period leak detection and repair.

1. Alternatives.

   a. An owner or operator subject to the requirements of section 33-24-05-427 may elect for all valves within a hazardous waste management unit to comply with one of the alternative work practices specified in subdivisions b and c of subsection 2.

   b. An owner or operator must notify the department before implementing one of the alternative work practices.

2. Requirements.

   a. An owner or operator shall comply with the requirements for valves, as described in section 33-24-05-427, except as described in subdivisions b and c of subsection 2.

   b. After two consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than two percent, an owner or operator may begin to skip one of the quarterly leak detection periods for the valves subject to the requirements in section 33-24-05-427.

   c. After five consecutive quarterly leak detection periods with the percentage of valves leaking equal to or less than two percent, an owner or operator may begin to skip three of the quarterly leak detection periods for the valves subject to the requirements in section 33-24-05-427.

   d. If the percentage of values leaking is greater than two percent, the owner or operator shall monitor monthly in compliance with the requirements in section 33-24-05-427, but may again elect to use this section after meeting the requirements of subdivision a of subsection 3 of section 33-24-05-427.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-04

33-24-05-433. Test methods and procedures.

1. Each owner or operator subject to the provisions of sections 33-24-05-420 through 33-24-05-449 shall comply with the test methods and procedures requirements provided in this section.

2. Leak detection monitoring, as required in sections 33-24-05-422 through 33-24-05-432, must comply with the following requirements:

   a. Monitoring must comply with reference method 21 in 40 CFR part 60.

   b. The detection instrument must meet the performance criteria of reference method 21.

   c. The instrument must be calibrated before use on each day of its use by the procedures specified in reference method 21.

   d. Calibration gas must be:

      (1) Zero air (less than ten parts per million of hydrocarbon in air).

      (2) A mixture of methane or n-hexane and air at a concentration of approximately, but less than, ten thousand parts per million methane or n-hexane.

   e. The instrument probe must be traversed around all potential leak interfaces as close to the interface as possible as described in reference method 21.

3. When equipment is tested for compliance with no detectable emissions, as required in subsection 5 of section 33-24-05-422, subsection 9 of section 33-24-05-423, section 33-24-05-424, and subsection 6 of section 33-24-05-427, the test must comply with the following requirements:

   a. The requirements of subdivisions a through d of subsection 2 apply.

   b. The background level must be determined as set forth in reference method 21.

   c. The instrument probe must be traversed around all potential leak interfaces as close to the interface as possible as described in reference method 21.

   d. The arithmetic difference between the maximum concentration indicated by the instrument and the background level is compared with five hundred parts per million for determining compliance.

4. In accordance with the waste analysis plan required by subsection 2 of section 33-24-05-04, an owner or operator of the facility must determine, for each piece of equipment, whether the equipment contains or contacts a hazardous waste

with organic concentration that equals or exceeds ten percent by weight using the following:

a. Methods described in American society for testing and materials methods D2267-88, E169-87, E188-88, E260-85 (incorporated by reference under section 33-24-01-05);

b. Method 9060 or 8240 of SW-846 (incorporated by reference under section 33-24-01-05); or

c. Application of the knowledge of the nature of the hazardous waste stream or process by which it was produced. Documentation of a waste determination by knowledge is required. Examples of documentation that must be used to support a determination under the provision includes production process information documenting that no organic compounds are used, information that the waste is generated by a process that is identical to a process at the same or another facility that has previously been demonstrated by direct measurement to have a total organic content less than ten percent, or prior speciation analysis results on the same waste stream where it can also be documented that no process changes have occurred since that analysis that could affect the waste total organic concentration.

5. If an owner or operator determines that a piece of equipment contains or contacts a hazardous waste with organic concentrations at least ten percent by weight, the determination can be revised only after following the procedures in subdivision a or b of subsection 4.

6. When an owner or operator and the department do not agree on whether a piece of equipment contains or contacts a hazardous waste with organic concentrations at least ten percent by weight, the procedures in subdivision a or b of subsection 4 can be used to resolve the dispute.

7. Samples used in determining the percent organic content must be representative of the highest total organic content hazardous waste that is expected to be contained or contact the equipment.

8. To determine if pump or valves are in light liquid service, the vapor pressures of constituents may be obtained from standard reference texts or may be determined by American society for testing and materials D-2879-86 (incorporated by reference under section 33-24-01-05).

9. Performance tests to determine if control device achieves ninety-five weight percent organic emission reduction shall comply with the procedures of subdivisions a through d of subsection 3 of section 33-24-05-404.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-434. Recordkeeping requirements.

1. Owner or operator.

   a. Each owner or operator subject to the provisions of sections 33-24-05-420 through 33-24-05-449 shall comply with the recordkeeping requirements of this section.

   b. An owner or operator of more than one hazardous waste management unit subject to the provisions of sections 33-24-05-420 through 33-24-05-449 may comply with the recordkeeping requirements for these hazardous waste management units in one recordkeeping system if the system identifies each record by each hazardous waste management unit.

2. Owners and operators must record the following information in the facility operating record:

   a. For each piece of equipment to which sections 33-24-05-420 through 33-24-05-449 applies:

      (1) Equipment identification number and hazardous waste management unit identification.

      (2) Approximate locations within the facility, e.g., identify the hazardous waste management unit on a facility plot plan.

      (3) Type of equipment, e.g., a pump or pipeline valve.

      (4) Percent-by-weight total organics in the hazardous waste stream at the equipment.

      (5) Hazardous waste state at the equipment, e.g., gas/vapor or liquid.

      (6) Method of compliance with the standard, e.g., "monthly leak detection and repair" or "equipped with dual mechanical seals".

   b. For facilities that comply with the provisions of subdivision b of subsection 1 of section 33-24-05-403, an implementation schedule as specified in subdivision b of subsection 1 of section 33-24-05-403.

   c. Where an owner or operator chooses to use test data to demonstrate the organic removal efficiency or total

organic compound concentration achieved by the control device, a performance test plan as specified in subdivision c of subsection 2 of section 33-24-05-405.

d. Documentation of compliance with section 33-24-05-430, including the detailed design documentation or performance test results specified in subdivision d of subsection 2 of section 33-24-05-405.

3. When each leak is detected as specified in sections 33-24-05-422, 33-24-05-423, 33-24-05-427, and 33-24-05-428, the following requirements apply:

a. A weatherproof and fully visible identification, marked with the equipment identification number, the date evidence of a potential leak was found in accordance with subsection 1 of section 33-24-05-428, and the date the leak was detected, must be attached to the leaking equipment.

b. The identification on equipment, except on a valve, may be removed after it has been repaired.

c. The identification on a valve may be removed after it has been monitored for two successive months as specified in subsection 3 of section 33-24-05-427 and no leak has been detected during those two months.

4. When each leak is detected as specified in sections 33-24-05-422, 33-24-05-423, 33-24-05-427, and 33-24-05-428, the following information must be recorded in an inspection log and must be kept in the facility operating record:

a. The instrument and operator identification numbers and the equipment identification number.

b. The date evidence of a potential leak was found in accordance with subsection 1 of section 33-24-05-428.

c. The date the leak was detected and the dates of each attempt to repair the leak.

d. Repair methods applied in each attempt to repair the leak.

e. "Above ten thousand" if the maximum instrument reading measured by the methods specified in subsection 2 of section 33-24-05-433 after each repair attempt is equal to or greater than ten thousand parts per million.

f. "Repair delayed" and the reason for the delay if a leak is not repaired within fifteen calendar days after discovery of the leak.

g. Documentation supporting the delay of repair of a valve in compliance with subsection 3 of section 33-24-05-429.

h. The signature of the owner or operator (or designate) whose decision it was that repair could not be effected without a hazardous waste management unit shutdown.

i. The expected date of successful repair of the leak if a leak is not repaired within fifteen calendar days.

j. The date of successful repair of the leak.

5. Design documentation and monitoring, operating, and inspection information for each closed-vent system and control device required to comply with the provisions of section 33-24-05-430 must be recorded and kept up-to-date in the facility operating record as specified in subsection 3 of section 33-24-05-405. Design documentation as specified in subdivisions a and b of subsection 3 of section 33-24-05-405 and monitoring, operating, and inspection information in subdivisions c through h of subsection 3 of section 33-24-05-405.

6. For a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, the department will specify the appropriate recordkeeping requirements.

7. The following information pertaining to all equipment subject to the requirements in sections 33-24-05-422 through 33-24-05-430 must be recorded in a log that is kept in the facility operating record:

   a. A list of identification numbers for equipment (except welded fitting) subject to the requirements of sections 33-24-05-420 through 33-24-05-449.

   b. Equipment.

      (1) A list of identification numbers for equipment that the owner or operator elects to designate for no detectable emissions, as indicated by an instrument reading of less than five hundred parts per million above background, under the provisions of subsection 5 of section 33-24-05-422, subsection 9 of section 33-24-05-423, and subsection 6 of section 33-24-05-427.

      (2) The designation of this equipment as subject to the requirements of subsection 5 of section 33-24-05-422, subsection 9 of section 33-24-05-423, or subsection 6 of section 33-24-05-427 must be signed by the owner or operator.

c. A list of equipment identification numbers for pressure relief devices required to comply with subsection 1 of section 33-24-05-424.

d. Data.

(1) The dates of each compliance test required in subsection 5 of section 33-24-05-422, subsection 9 of section 33-24-05-423, section 33-24-05-424, and subsection 6 of section 33-24-05-427.

(2) The background level measured during each compliance test.

(3) The maximum instrument reading measured at the equipment during each compliance test.

e. A list of identification numbers for equipment in vacuum service.

8. The following information pertaining to all valves subject to the requirements of subsections 7 and 8 of section 33-24-05-427 must be recorded in a log that is kept in the facility operating record.

a. A list of identification numbers for valves that are designated as unsafe to monitor, an explanation for each valve stating why the valve is unsafe to monitor, and the plan for monitoring each valve.

b. A list of identification numbers for valves that are designated as difficult to monitor, an explanation for each valve stating why the valve is difficult to monitor, and the plan schedule for monitoring each valve.

9. The following information must be recorded in the facility operating record for valves complying with section 33-24-05-432:

a. A schedule of the monitoring.

b. The percent of valves found leaking during each monitoring period.

10. The following information must be recorded in a log that is kept in the facility operating record:

a. Criteria required in paragraph 2 of subdivision e of subsection 4 of section 33-24-05-422 and subdivision b of subsection 5 of section 33-24-05-423 and an explanation of the design criteria.

b. Any changes to these criteria and the reasons for the changes.

11. The following information must be recorded in a log that is kept in the facility operating record for use in determining exemptions as provided in the applicability section of sections 33-24-05-420 through 33-24-05-449 and other specific sections:

    a. An analysis determining the design capacity of the hazardous waste management unit.

    b. A statement listing the hazardous waste influent to and effluent from each hazardous waste management unit subject to the requirements in sections 33-24-05-422 through 33-24-05-430 and an analysis determining whether these hazardous wastes are heavy liquids.

    c. An up-to-date analysis and the supporting information and data used to determine whether or not equipment is subject to the requirements in sections 33-24-05-422 through 33-24-05-430. The record must include supporting documentation as required by subdivision c of subsection 4 of section 33-24-05-433 when application of the knowledge of the nature of the hazardous waste stream or the process by which it was produced is used. If the owner or operator takes any action, e.g., changing the process that produced the waste, that could result in an increase in the total organic content of the waste contained in or contacted by equipment determined not to be subject to the requirements in sections 33-24-05-422 through 33-24-05-430, then a new determination is required.

12. Records of the equipment leak information required by subsection 4 and the operating information required by subsection 5 need be kept only three years.

13. The owner or operator of any facility that is subject to sections 33-24-05-420 through 33-24-05-449 and to the regulations at 40 CFR part 60, subpart dv, or 40 CFR part 61, subpart v, may elect to determine compliance with sections 33-24-05-420 through 33-24-05-449 by documentation either pursuant to section 33-24-05-434, or pursuant to those provisions of 40 CFR part 60 or 61, to the extent that the documentation under the regulation at 40 CFR part 60 or part 61 duplicates the documentation required under sections 33-24-05-420 through 33-24-05-449. The documentation under the regulations at 40 CFR part 60 or part 61 must be kept with or made readily available with the facility operating record.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

33-24-05-435. Reporting requirements.

1. A semiannual report must be submitted by owners and operators subject to the requirements of sections 33-24-05-420 through 33-24-05-449 to the department by dates specified by the department. The report must include the following information:

   a. The state environmental protection agency identification number, name, and address of the facility.

   b. For each month during the semiannual reporting period:

      (1) The equipment identification number of each valve for which a leak was not repaired as required in subsection 4 of section 33-24-05-427.

      (2) The equipment identification number of each pump for which a leak was not repaired as required in subdivision f of subsection 4 of section 33-24-05-422 and subsection 3 of section 33-24-05-422.

      (3) The equipment identification number of each compressor for which a leak was not repaired as required in subsection 7 of section 33-24-05-423.

   c. Dates of hazardous waste management unit shutdowns that occurred within the semiannual reporting period.

   d. For each month during the semiannual reporting period, dates when the control device installed as required by section 33-24-05-422, 33-24-05-423, 33-24-05-424, or 33-24-05-425 exceeded or operated outside of the design specifications as defined in subsection 5 of section 33-24-05-434 and as indicated by the control device monitoring required by section 33-24-05-430 and was not corrected within twenty-four hours, the duration and cause of each exceedance, and any corrective measures taken.

2. If, during the semiannual reporting period, leaks from valves, pumps, and compressors are repaired as required in subsection 4 of section 33-24-05-427, subdivision f of subsection 4 of section 33-24-05-422, subsection 3 of section 33-24-05-422, and subsection 7 of section 33-24-05-423, respectively, and the control device does not exceed or operate outside of the design specifications as defined in subsection 5 of section 33-24-05-434 for more than twenty-four hours, a report to the department is not required.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04

APPENDIX I

RECORDKEEPING INSTRUCTIONS

The recordkeeping instructions of section 33-24-05-40 specify that an owner or operator must keep a written operating record at the facility. This appendix provides additional instructions for keeping portions of the operating record. See subsection 2 of section 33-24-05-40 for additional recordkeeping requirements.

The following information must be recorded as it becomes available and maintained in the operating record until closure of the facility in the following manner:

Records of each hazardous waste received, treated, stored, or disposed of at the facility which include the following:

1. A description by its common name and the hazardous waste numbers from chapter 33-24-02 which apply to the waste. The waste description must also include the wastes' physical form, i.e., liquid, sludge, soil or contained gas. If the waste is not listed in chapter 33-24-02 the description must also include the process that produced it (for example, solid filter cake from the production of _____, hazardous waste number W051).

   Each hazardous waste listed in and each hazardous waste characteristic defined in chapter 33-24-02 has a four-digit hazardous waste number assigned to it. This number must be used for recordkeeping and reporting purposes. Where more than one hazardous waste number applies, the waste description must include all applicable numbers.

2. The estimated or manifest-reported weight or volume and density, where applicable, in one of the units of measure specified in Table 1.

3. The methods (by handling codes as specified in Table 2) and the dates of treatment, storage or disposal.

TABLE 1

Unit of Measure	Symbol[1]	Density
Pounds	P	
Short Tons (2,000 lbs)	T	
Gallons (US)	G	P/G
Cubic Yards	Y	T/Y
Kilograms	K	
Tonnes (1,000 kg)	M	
Liters	L	K/L
Cubic Meters	C	M/C

[1]Single digit symbols are used here for data processing purposes.

TABLE 2
HANDLING CODES FOR TREATMENT, STORAGE, AND DISPOSAL METHODS

Enter the handling code listed below that most closely represents the technique used at the facility to treat, store, or dispose of each quantity of hazardous waste received.

1. STORAGE

S01 Container (barrel, drum, etc.)
S02 Tank
S03 Waste Pile
S04 Surface Impoundment
S05 Other (Specify)

2. THERMAL TREATMENT

T06 Liquid Injection Incinerator
T07 Rotary Kiln Incinerator
T08 Fluidized Bed Incinerator
T09 Multiple Hearth Incinerator
T10 Infrared Furnace Incinerator
T11 Molten Salt Destructor
T12 Pyrolysis
T13 Wet Air Oxidation
T14 Calcination
T15 Microwave Discharge
T16 Cement Kiln
T17 Lime Kiln
T18 Other (Specify)

3. CHEMICAL TREATMENT

T19 Absorption Mound
T20 Absorption Field
T21 Chemical Fixation
T22 Chemical Oxidation
T23 Chemical Precipitation
T24 Chemical Reduction
T25 Chlorination
T26 Chlorinolysis
T27 Cyanide Destruction
T28 Degradation
T29 Detoxification
T30 Ion Exchange
T31 Neutralization
T32 Ozonation
T33 Photolysis
T34 Other (Specify)

4. PHYSICAL TREATMENT BY SEPARATION OF COMPOUNDS

T35 Centrifugation
T36 Clarification
T37 Coagulation
T38 Decanting
T39 Encapsulation
T40 Filtration
T41 Flocculation
T42 Flotation
T43 Foaming
T44 Sedimentation
T45 Thickening
T46 Ultrafiltration
T47 Other(Specify)

5. PHYSICAL TREATMENT BY REMOVAL OF SPECIFIC COMPONENTS

T48 Absorption - Molecular Sieve
T49 Activated Carbon
T50 Blending
T51 Catalysis
T52 Crystallization
T53 Dialysis
T54 Distillation
T55 Electrodialysis
T56 Electrolysis
T57 Evaporation
T58 High Gradient Magnetic Separation
T59 Leaching
T60 Liquid Ion Exchange
T61 Liquid - Liquid Extraction
T62 Reverse Osmosis
T63 Solvent Recovery
T64 Stripping
T65 Sand Filter
T66 Other (Specify)

6. BIOLOGICAL TREATMENT

T67 Activated Sludge
T68 Aerobic Lagoon
T69 Aerobic Tank
T70 Anaerobic Lagoon
T71 Composting
T72 Septic Tank
T73 Spray Irrigation
T74 Thickening Filter
T75 Trickling Filter
T76 Waste Stabilization Pond
T77 Other (Specify)

T78 Reserved
T79 Reserved

7. DISPOSAL

D80 Underground Injection
D81 Landfill
D82 Land Treatment
D83 Reserved
D84 Surface Impoundment (to be closed as a landfill)
D85 Other (Specify)

APPENDIX II

COCHRAN'S APPROXIMATION TO THE BEHRENS - FISHER STUDENT'S T-TEST

Using all the available background data (n_b readings) calculate the background mean (X_b) and background variance (S_B^2). For the single monitoring well under investigation (n_m reading), calculate the monitoring mean (X_m) and monitoring variance (S_m^2). For any set of data (X_1, $X_2 \ldots X_n$) the mean is calculated by:

$$\overline{X} = \frac{X_1 + X_2 \ldots + X_n}{n}$$

And the variance is calculated by:

$$S^2 = \frac{(X_1 - \overline{X})^2 + (X_2 - \overline{X})^2 \ldots + (X_n - \overline{X})^2}{n-1}$$

Where "n" denotes the number of observations in the set of data.

The T-Test uses these data summary measures to calculate a T-statistic (T^*) and a comparison T-statistic (T_c). The T^* is compared to the T_c value and a conclusion reached as to whether there has been a statistically significant change in any indicator parameter.

The T-statistic for all parameters, except pH and similar monitoring parameters, is:

$$T^* = \frac{X_m - \overline{X_B}}{\frac{S_m 2}{n_M} + \frac{S_B 2}{n_B}}$$

If the value of this T-statistic is negative, then there is no significant difference between the monitoring data and the background data. It should be noted that significantly small negative values may be indicative of a failure of the assumption made for test validity or errors have been made in collecting the background data.

The T-statistic (T_c) against which T^* will be compared necessitates finding T_b and T_m from standard (one-tailed) tables where:

STANDARD T-TABLES
0.05 LEVEL OF SIGNIFICANCE

Degrees of Freedom	T-Values (1-tailed)	T-Values (2-tailed)
1	6.314	12.706
2	2.920	4.303
3	2.353	3.182
4	2.132	2.776
5	2.015	2.571
6	1.943	2.447
7	1.895	2.365
8	1.860	2.306
9	1.833	2.262
10	1.812	2.228
11	1.796	2.201
12	1.782	2.179
13	1.771	2.160
14	1.761	2.145
15	1.753	2.131
16	1.746	2.120
17	1.740	2.110
18	1.734	2.101
19	1.729	2.093
20	1.725	2.086
21	1.721	2.080
22	1.717	2.074
23	1.714	2.069
24	1.711	2.064
25	1.708	2.060
30	1.697	2.042
40	1.684	2.021

Taken from 40 CFR, Part 264, Appendix IV, 47FR34329, July 26, 1982.

T_B = T-tables (n_B - 1) degrees of freedom at the 0.05 level of significance.

T_m = T-tables with (n_m - 1) degrees of freedom at the 0.05 level of significance.

Finally, the special weightings W_B and W_m are defined as:

$$W_B = \frac{S_B 2}{} \text{ and } W_m = \frac{S_m 2}{n_m}$$

And so the comparison T-statistic is:

$$T_c = \frac{W_B T_B + W_m T_m}{W_B + W_m}$$

The T-statistic (T^*) is now compared with the comparison T-statistic (T_c) using the following decision rule:

> If T^* is equal to or larger than T_c, then conclude that there most likely has been a significant increase in this specific parameter. If T^* is less than T_c, then conclude that most likely there has not been a change in this specific parameter.

The T-statistic for testing pH and similar monitoring parameters is constructed in the same manner as previously described, except the negative sign (if any) is discarded and the caviot concerning the negative value is ignored. The standard (two-tailed) tables are used in the construction T_c for pH and similar monitoring parameters.

If T^* is equal to or larger than T_c, then conclude that there most likely has been a significant increase (if the initial T* had been negative, this would imply a significant decrease).

If T^* is less than T_c then conclude that there most likely has been no change.

A further discussion of the test may be found in STATISTICAL METHODS (6th Edition, Section 4.14) by G.W. Snedecor and W.G. Cochran, or PRINCIPLES AND PROCEDURES OF STATISTICS (1st Edition, Section 5.8) by R.G.D. Steel and J.H. Torrie.

APPENDIX III

EXAMPLES OF POTENTIALLY INCOMPATIBLE WASTE

Many hazardous wastes, when mixed with other waste or materials at a hazardous waste facility, can produce effects which are harmful to human health and the environment, such as (1) heat or pressure, (2) fire or explosion, (3) violent reaction, (4) toxic dusts, mists, fumes, or gases, or (5) flammable fumes or gases.

Below are examples of potentially incompatible wastes, waste components, and materials, along with the harmful consequences which result from mixing materials in one group with materials in another group. The list is intended as a guide to owners or operators of treatment, storage, and disposal facilities, and to enforcement and permit granting officials, to indicate the need for special precautions when managing these potentially incompatible waste materials or components.

This list is not intended to be exhaustive. An owner or operator must, as the regulations require, adequately analyze his wastes so that he can avoid creating uncontrolled substances or reactions of the type listed below, whether they are listed below or not.

It is possible for potentially incompatible wastes to be mixed in a way that precludes a reaction (e.g., adding acid to water rather than water to acid) or that neutralizes them (e.g., a strong acid mixed with a strong base), or that controls substances produced (e.g., by generating flammable gases in a closed tank equipped so that ignition cannot occur, and burning the gases in an incinerator).

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted.

Group 1-A

Acetylene sludge
Alkaline caustic liquids
Alkaline cleaner
Alkaline corrosive liquids
Alkaline corrosive battery fluid
Caustic wastewater
Lime sludge and other corrosive alkalies
Lime wastewater
Lime and water
Spent caustic

Group 1-B

Acid sludge
Acid and water
Battery acid
Chemical cleaners
Electrolyte, acid
Etching acid liquid or solvent
Pickling liquor and other corrosive acids
Spent acid
Spent mixed acid
Spent sulfuric acid
  Potential consequences: Heat generation; violent reaction.

Group 2-A

Aluminum
Beryllium
Calcium
Lithium
Magnesium
Potassium
Sodium
Zinc powder
Other reactive metals and metal hydrides

Group 2-B

Any waste in Group 1-A or 1-B
  Potential consequences: Fire or explosion; generation of flammable hydrogen gas.

Group 3-A

Alcohols
Water

Group 3-B

Any concentrated waste in Groups 1-A or 1-B
Calcium
Lithium
Metal hydrides
Potassium
SO_2Cl_2, $SOCl_2$, PCl_3,
CH_3SiCl_3

Other water-reactive waste
  Potential consequences: Fire, explosion, or heat generation; generation of flammable or toxic gases.

Group 4-A

Alcohols
Aldehydes
Halogenated hydrocarbons
Nitrated hydrocarbons
Unsaturated hydrocarbons
Other reactive organic compounds and solvents

Group 4-B

Concentrated Group 1-A or 1-B wastes
Group 2-A wastes
  Potential consequences: Fire, explosion, or violent reaction.

Group 5-A

Spent cyanide and sulfide solutions

Group 5-B

Group 1-B wastes
  Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.

Group 6-A

Chlorates
Chlorine
Chlorites
Chromic acid
Hypochlorites
Nitrates
Nitric acid, fuming
Perchlorates
Permanganates
Peroxides
Other strong oxidizers

Group 6-B

Acetic acid and other organic acids
Concentrated mineral acids
Group 2-A wastes
Group 4-A wastes
Other flammable and combustible wastes
  Potential consequences: Fire, explosion, or violent reaction.

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

Please refer to the instructions for Filing Notification before completing this form. The information requested here is required by law (Section 3010 of the Resource Conservation and Recovery Act).

Notification of Regulated Waste Activity

Date Received (For Official Use Only)

I. Installation's EPA ID Number (Mark "X" in the appropriate box)

☐ A. First Notification ☐ B. Subsequent Notification (complete item C)

C. Installation's EPA ID Number

II. Name of Installation (Include company and specific site name)

III. Location of Installation (Physical address not P.O. Box or Route Number)

Street

Street (continued)

City or Town | State | ZIP Code

County Code | County Name

IV. Installation Mailing Address (See instructions)

Street or P.O. Box

City or Town | State | ZIP Code

V. Installation Contact (Person to be contacted regarding waste activities at site)

Name (last) | (first)

Job Title | Phone Number (area code and number)

VI. Installation Contact Address (See instructions)

A. Contact Address Location ☐ Mailing ☐ | B. Street or P.O. Box

City or Town | State | ZIP Code

VII. Ownership (See instructions)

A. Name of Installation's Legal Owner

Street, P.O. Box, or Route Number

City or Town | State | ZIP Code

Phone Number (area code and number) | B. Land Type | C. Owner Type | D. Change of Owner (Installation) Yes ☐ No ☐ | (Date Changed) Month Day Year

EPA Form 8700-12 (01-90) Previous edition is obsolete.

APPENDIX IV (Continued)

Please print or type with ELITE type (12 characters per inch) in the unshaded areas only

I.D. - For Official Use Only

VIII. Type of Regulated Waste Activity *(Mark 'X' in the appropriate boxes. Refer to instructions.)*

A. Hazardous Waste Activity

1. Generator (See instructions)
   - a. Greater than 1000kg/mo (2,200 lbs.)
   - b. 100 to 1000 kg/mo (220 - 2,200 lbs.)
   - c. Less than 100 kg/mo (220 lbs.)
2. Transporter (Indicate Mode in boxes 1-5 below)
   - a. For own waste only
   - b. For commercial purposes

   Mode of Transportation
   - 1. Air
   - 2. Rail
   - 3. Highway
   - 4. Water
   - 5. Other - specify
3. Treater, Storer, Disposer (at installation) Note: A permit is required for this activity; see instructions.
4. Hazardous Waste Fuel
   - a. Generator Marketing to Burner
   - b. Other Marketers
   - c. Burner - indicate device(s) - Type of Combustion Device
     - 1. Utility Boiler
     - 2. Industrial Boiler
     - 3. Industrial Furnace
5. Underground Injection Control

B. Used Oil Fuel Activities

1. Off-Specification Used Oil Fuel
   - a. Generator Marketing to Burner
   - b. Other Marketer
   - c. Burner - indicate device(s) - Type of Combustion Device
     - 1. Utility Boiler
     - 2. Industrial Boiler
     - 3. Industrial Furnace
2. Specification Used Oil Fuel Marketer (or On-site Burner) Who First Claims the Oil Meets the Specification

IX. Description of Regulated Wastes *(Use additional sheets if necessary)*

A. Characteristics of Nonlisted Hazardous Wastes. Mark 'X' in the boxes corresponding to the characteristics of nonlisted hazardous wastes your installation handles. *(See 40 CFR Parts 261.20 - 261.24)*

1. Ignitable (D001)	2. Corrosive (D002)	3. Reactive (D003)	4. EP Toxic (D004)	(List specific EPA hazardous waste number(s) for the EP Toxic contaminant(s))

B. Listed Hazardous Wastes. (See 40 CFR 261.31 - 33. See instructions if you need to list more than 12 waste codes.)

1	2	3	4	5	6
7	**8**	**9**	**10**	**11**	**12**

C. Other Wastes. (State or other wastes requiring an I.D. number. See instructions.)

1	2	3	4	5	6

X. Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment.

Signature	Name and Official Title (type or print)	Date Signed

XI. Comments

Note: Mail completed form to the appropriate EPA Regional or State Office. (See Section III of the booklet for addresses.)

EPA Form 8700-12 (01-90) Previous edition is obsolete. - 2 -

New Appendix

APPENDIX V

TOXICITY CHARACTERISTIC LEACHING PROCEDURE (TCLP)

NOTE: The TCLP is published in Appendix II of Chapter 33-24-02.

APPENDIX VI

TREATMENT STANDARDS
(As concentrations in the treatment residual extract)

[Note: The technologies shown are the basis of the treatment standards. They are not required to be used in meeting the treatment standards.]

Constituents of F001-F005 Spent Solvent Wastes	Waste Treatability Groups for F001-F005 Spent Solvent Wastes (mg/l)			
	Wastewater	Technology Basis[1]	Wastewater Generated by Parmecuetical Plant[2]	All Other[3]
Acetone	0.05	SS		0.59
n-Butyl Alcohol	5.00	SS		5.00
Carbon disulfide	1.05	SS		4.81
Carbon tetrachloride	0.05	B		0.96
Chlorobenzene	0.15	B&AC		0.05
Cresols (cresylic acid)	2.82	AC		0.75
Cyclohexanone	0.125	SS		0.75
1,2-Dichlorobenzene	0.65	B&AC		0.125
Ethyl acetate	0.05	SS		0.75
Ethylbenzene	0.05	B		0.053
Ethyl ether	0.05	SS		0.75
Isobutanol	5.00	SS		5.00
Methanol	0.25	SS		0.75
Methylene chloride	0.20	B	12.7	0.96
Methyl ethyl ketone	0.05	SS		0.75
Methyl isobutyl ketone	0.05	SS		0.33
Nitrobenzene	0.66	SS&AC		0.125
Pyridine	1.12	B&AC		0.33
Tetrachloroethylene	0.079	B		0.05
Toluene	1.12	B&AC		0.33
1,1,1-Trichloroethane	1.05	SS		0.41
1,1,2-Trichloro-1,2,2-trifluoroethane	1.05	SS		0.96
Trichloroethylene	0.062	B&AC		0.091
Trichlorofluoromethane	0.05	B		0.96
Xylene	0.05	AC		0.15

[1]In some instances other technologies achieved somewhat lower treatment values but waste characterization data were insufficient to identify separate treatability groups. Refer to the BDAT background document for a detailed explanation of the determination of the treatment standards.
SS = steam stripping
B = biological treatment
AC = activated carbon

[2]Wastewaters generated by pharmaceutical plants must be treated to the standards given for all other wastewaters except in the case of methylene chloride.

[3]The treatment standards in this treatability group are based on incineration.

APPENDIX VII

List of Halogenated Organic Compounds Regulated Under Section 33-24-05-272

In determining the concentration of HOCs in a hazardous waste for purposes of the section 33-24-05-272 land disposal prohibition, the Department has defined the HOCs that must be included in the calculation as any compounds having a carbon-halogen bond which are listed in this Appendix (see Section 33-24-05-251). Appendix VII consists of the following compounds:

Volatiles

Bromodichloromethane
Bromomethane
Carbon Tetrachloride
Chlorobenzene
2-Chloro-1,3-butadiene
Chlorodibromomethane
Chloroethane
2-Chloroethyl vinyl ether
Chloroform
Chloromethane
3-Chloropropene
1,2-Dibromo-3-chloropropane
1,2-Dibromomethane
Dibromomethane
Trans-1,4-Dichloro-2-butene
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,1-Dichloroethylene
Trans-1,2-Dichloroethene
1,2-Dichloropropane
Trans-1,3-Dichloropropene
cis-1,3-Dichloropropene
Iodomethane
Methylene chloride
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrachloroethane
Tetrachloroethene
Tribromomethane
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Trichloromonofluoromethane
1,2,3-Trichloropropane
Vinyl chloride

Semivolatiles

Bis(2-chloroethoxy)ethane
Bis(2-chlorothyl)ether
Bis(2-chloroisopropyl)ether
p-Chloroaniline
Chlorobenzilate
p-Chloro-m-cresol
2-Chloronaphthalene
2-Chlorophenol
3-Chloropropionitrile
m-Dichlorobenzene
o-Dichlorobenzene
p-Dichlorobenzene
3,3-Dichlorobenzidine
2,4-Dichlorophenol
2,6-Dichlorophenol
Hexachlorobenzene
Hexachlorobutadiene
Hexachlorocyclopentadiene
Hexachloroethane
Hexachloroprophene
Hexachloropropene
4,4-Methylenebis(2-chloroaniline)
Pentachlorobenzene
Pentachloroethane
Pentachloronitrobenzene
Pentachlorophenol
Pronamide
1,2,4,5-Tetrachlorobenzene
2,3,4,6-Tetrachlorophenol
1,2,4-Trichlorobenzene
2,4,5-Trichlorophenol
2,4,6-Trichlorophenol
Tris(2,3-dibromopropyl)phosphate

Organochlorine Pesticides

Aldrin
alpha-BHC
beta-BHC
delta-BHC
gamma-BHC
Chlordane
DDD
DDE
DDT
Dieldrin

Organochlorine Pesticides continued

Endosulfan I
Endosulfan II
Endrin
Endrin aldehyde
Heptachlor
Heptachlor epoxide
Isodrin
Kepone
Methoxyclor
Toxaphene

Phenoxyacetic Acid Herbicides

2,4-Dichlorophenoxyacetic acid
Silvex
2,4,5-T

PCBs

Aroclor 1016
Aroclor 1221
Aroclor 1232
Aroclor 1242
Aroclor 1248
Aroclor 1254
Aroclor 1260
PCBs not otherwise specified

Dioxins and Furans

Hexachlorodibenzo-p-dioxins
Hexachlorodibenzofuran
Pentachlorodibenzo-p-dioxins
Pentachlorodibenzofuran
Tetrachlorodibenzo-p-dioxins
Tetrachlorodibenzofuran
2,3,7,8-Tetrachlorodibenzo-p-dioxin

APPENDIX VIII

ORGANOMETALLIC LAB PACKS

Hazardous waste with the following waste codes may be placed in an "organometallic" or "Appendix VIII lab pack:"

P001, P002, P003, P004, P005, P006, P007, P008, P009, P013, P014, P015, P016, P017, P018, P020, P022, P023, P024, P025, P026, P027, P028, P031, P034, P036, P037, P038, P039, P040, P041, P042, P043, P044, P045, P047, P048, P049, P050, P051, P054, P056, P057, P058, P059, P060, P062, P063, P064, P065, P066, P067, P068, P069, P070, P071, P072, P073, P074, P075, P077, P081, P082, P084, P085, P087, P088, P089, P092, P093, P094, P095, P096, P097, P098, P099, P101, P102, P103, P104, P105, P108, P109, P110, P112, P113, P114, P115, P116, P118, P119, P120, P122, P123

U001, U002, U003, U004, U005, U006, U007, U008, U009, U010, U011, U012, U014, U015, U016, U017, U018, U019, U020, U021, U022, U023, U024, U025, U026, U027, U028, U029, U030, U031, U032, U033, U034, U035, U036, U037, U038, U039, U041, U042, U043, U044, U045, U046, U047, U048, U049, U050, U051, U052, U053, U055, U056, U057, U058, U059, U060, U061, U062, U063, U064, U066, U067, U068, U069, U070, U071, U072, U073, U074, U075, U076, U077, U078, U079, U080, U081, U082, U083, U084, U085, U086, U087, U088, U089, U090, U091, U092, U093, U094, U095, U096, U097, U098, U099, U101, U102, U103, U105, U106, U107, U108, U109, U110, U111, U112, U113, U114, U115, U116, U117, U118, U119, U120, U121, U122, U123, U124, U125, U126, U127, U128, U129, U130, U131, U132, U133, U134, U135, U136, U137, U138, U139, U140, U141, U142, U143, U144, U145, U146, U147, U148, U149, U150, U152, U153, U154, U155, U156, U157, U158, U159, U160, U161, U162, U164, U165, U166, U167, U168, U169, U170, U171, U172, U173, U174, U176, U177, U178, U179, U180, U181, U182, U183, U184, U185, U186, U187, U188, U189, U190, U191, U192, U193, U194, U196, U197, U200, U201, U202, U203, U204, U205, U206, U207, U208, U209, U210, U211, U213, U214, U215, U216, U217, U218, U219, U220, U221, U222, U223, U225, U226, U227, U228, U234, U235, U236, U237, U238, U239, U240, U243, U244, U246, U247, U248, U249, U328, U353, U359

F001, F002, F003, F004, F005, F006, F010, F020, F021, F023, F024, F026, F027, F028

K001, K002, K008, K009, K010, K011, K013, K014, K015, K016, K017, K018, K019, K020, K021, K022, K023, K024, K025, K026, K027, K028, K029, K030, K031, K032, K033, K034, K035, K036, K037, K038, K039, K040, K041, K042, K043, K044, K045, K046, K047, K048, K049, K050, K051, K052, K054, K060, K061, K064, K065, K066, K069, K071, K073, K083, K084, K085, K086, K087, K093, K094, K095, K096, K097, K098, K099, K101, K102, K103, K104, K105, K111, K112, K113, K114, K115, K116, K117, K118, K123, K124, K125, K126, K136

D001, D002, D003, D004, D005, D006, D007, D008, D010, D011, D012, D013, D014, D015, D016, D017

U032, U136, U144, U145, U146, U163, U214, U215, U216, U217

APPENDIX IX

ORGANIC LAB PACKS

Hazardous wastes with the following Hazardous Waste Code No. may be placed in an "organic" or "Appendix IX."

P001, P002, P003, P004, P005, P006, P007, P008, P009, P013, P014, P015, P016, P017, P018, P020, P022, P023, P025, P024, P026, P027, P028, P031, P034, P036, P037, P038, P039, P040, P041, P042, P043, P044, P045, P046, P047, P048, P049, P050, P051, P054, P057, P058, P059, P060, P062, P063, P064, P065, P066, P067, P068, P069, P070, P071, P072, P073, P074, P075, P077, P081, P082, P084, P085, P087, P088, P089, P092, P093, P094, P095, P096, P097, P098, P099, P101, P102, P103, P104, P105, P108, P109, P110, P111, P112, P113, P114, P115, P116, P118, P119, P120, P122, P123

U001, U002, U003, U004, U005, U006, U007, U008, U009, U010, U011, U012, U014, U015, U016, U017, U018, U019, U020, U021, U022, U023, U024, U025, U026, U027, U028, U029, U030, U031, U033, U034, U035, U036, U037, U038, U039, U041, U042, U043, U044, U045, U046, U047, U048, U049, U050, U051, U052, U053, U055, U056, U057, U058, U059, U060, U061, U062, U063, U064, U066, U067, U068, U069, U070, U071, U072, U073, U074, U075, U076, U077, U078, U079, U080, U081, U082, U083, U084, U085, U086, U087, U088, U089, U090, U091, U092, U093, U094, U095, U096, U097, U098, U099, U101, U102, U103, U105, U106, U107, U108, U109, U110, U111, U112, U113, U114, U115, U116, U117, U118, U119, U120, U121, U122, U123, U124, U125, U126, U127, U128, U129, U130, U131, U132, U133, U135, U137, U138, U139, U140, U141, U142, U143, U147, U148, U149, U150, U153, U154, U155, U156, U157, U158, U159, U160, U161, U162, U163, U164, U165, U166, U167, U168, U169, U170, U171, U172, U173, U174, U176, U177, U178, U179, U180, U181, U182, U183, U184, U185, U186, U187, U188, U189, U190, U191, U192, U193, U194, U196, U197, U200, U201, U202, U203, U205, U206, U207, U208, U209, U210, U211, U213, U214, U218, U219, U220, U221, U222, U223, U225, U226, U227, U228, U234, U235, U236, U237, U238, U239, U240, U243, U244, U246, U247, U248, U249, U328, U353, U359

F001, F002, F003, F004, F005, F010, F020, F021, F023, F024, F026, F027, F028

K001, K009, K010, K011, K013, K014, K015, K016, K017, K018, K019, K020, K021, K022, K023, K024, K025, K026, K027, K029, K030, K031, K032, K033, K034, K035, K036, K037, K038, K039, K040, K041, K042, K043, K044, K045, K046, K047, K048, K049, K050, K051, K052, K054, K060, K065, K073, K083, K084, K085, K086, K087, K093, K094, K095, K096, K097, K098, K099, K101, K102, K103, K104, K105, K111, K112, K113, K114, K115, K116, K117, K118, K123, K124, K125, K126, K136

D001, D012, D013, D014, D015, D016, D017

APPENDIX X

RECOMMENDED TECHNOLOGIES TO ACHIEVE DEACTIVATION OF CHARACTERISTICS IN SECTION 33-24-05-282

The treatment standard for many subcategories of D001, D002, and D003 wastes as well as for K044, K045, and K047 wastes is tested in 33-24-05-282 simply as "Deactivation to remove the characteristics of ignitability, corrosivity, and reactivity." EPA has determined that many technologies, when used alone or in combination, can achieve this standard. The following appendix presents a partial list of these technologies, utilizing the five letter technology codes established in Section 33-24-05-282 Table 1. Use of these specific technologies is not mandatory and does not preclude direct reuse, recovery, and/or the use of other pretreatment technologies provided deactivation is achieved and these alternative methods are not performed in units designated as land disposal.

Waste code/subcategory	Nonwastewaters	Wastewaters
D001 Ignitable Liquids based on 33-24-02-11,1.,a.-Low TOC Nonwastewater Subcategory (containing 1% to <10% TOC).	RORGS	n.a.
	INCIN	
	WETOX	
	CHOXD	
	BIODG	
D001 Ignitable Liquids based on 33-24-02-11,1.,a.-Ignitable Wastewater Subcategory (containing <1% TOC).	n.a.	RORGS
		INCIN
		WETOX
		CHOXD
		BIODG
D001 Compressed Gases based on 33-24-02-11,1.,c.	RCGAS	n.a.
	INCIN	
	FSUBS	
	ADGAS fb. INCIN	
	ADGAS fb. (CHOXD; or CHRED).	
D001 Ignitable Reactives based on 33-24-02-11,1.,b.	WTRRX	n.a.
	CHOXD	
	CHRED	
	STABL	
	INCIN	
D001 Ignitable Oxidizers based on 33-24-02-11,1.,d.	CHRED	CHRED
	INCIN	INCIN
D002 Acid Subcategory based on 33-24-02-12,1.,a. with pH less than or equal to 2	RCORR	NEUTR
	NEUTR	INCIN
	INCIN	
D002 Alkaline Subcategory based on 33-24-02-12,1.,a. with pH greater than or equal to 12.5	NEUTR	NEUTR
	INCIN	INCIN
D002 Other Corrosives based on 33-24-02-12,1.,b.	CHOXD	CHOXD
	CHRED	CHRED
	INCIN	INCIN
	STABL	
D003 Water Reactives based on 33-24-02-13,1.,b.,c., and d.	INCIN	n.a.
	WTRRX	
	CHOXD	
	CHRED	
D003 Reactive Sulfides based on 33-24-02-13,1.,e.	CHOXD	CHOXD
	CHRED	CHRED
	INCIN	BIODG
	STABL	INCIN
D003 Explosives based on 33-24-02-13,1.,f.,g., and h.	INCIN	INCIN
	CHOXD	CHOXD
	CHRED	CHRED
		BIODG
		CARBN
D003 Other Reactives based on 33-24-02-13,1.,a.	INCIN	INCIN
	CHOXD	CHOXD
	CHRED	CHRED
		BIODG
		CARBN
K044 Wastewater treatment sludges from the manufacturing and processing of explosives.	CHOXD	CHOXD
	CHRED	CHRED
	INCIN	BIODG
		CARBN
		INCIN
K045 Spent carbon from the treatment of wastewaters containing explosives.	CHOXD	CHOXD
	CHRED	CHRED
	INCIN	BIODG
		CARBN
		INCIN

APPENDIX X (Continued)

RECOMMENDED TECHNOLOGIES TO ACHIEVE DEACTIVATION OF CHARACTERISTICS IN SECTION 33-24-05-282

Waste code/subcategory	Nonwastewaters	Wastewaters
K047 Pink/red water from TNT operations.....	CHOXD.....	CHOXD
	CHRED.....	CHRED
	INCIN.....	BIODG
		CARBN
		INCIN

Note: "n.a." stands for "not applicable;" "fb." stands for "followed by."

APPENDIX XI

EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRS*
[Comprehensive List]

Waste code	Waste category	Effective date
California list...	Liquid hazardous wastes, including free liquids associated with solid or sludge, containing free cyanides at concentrations greater than or equal to 1,000 mg/l or certain metals or compounds of these metals greater than or equal to the prohibition levels.	July 8, 1987.
California list...	Liquid (aqueous) hazardous wastes having a pH less than or equal to 2.	July 8, 1987.
California list...	Dilute HOC wastewaters, defined as HOC-waste mixtures that are primarily water and that contain greater than or equal to 1,000 mg/l but less than 10,000 mg/l.	July 8, 1987.
California list...	Liquid hazardous waste containing PCBs greater than or equal to 50 ppm.	July 8, 1987.
California list...	Other liquid and non-liquid hazardous wastes containing HOCs in total concentration greater than or equal to 1,000 mg.	Nov. 8, 1988.
California list...	Soil and debris HOCs not from CERCLA/RCRA corrective actions.	July 8, 1989.
California list...	Soil and debris HOCs from CERCLA/RCRA corrective actions.	Nov. 8, 1990.
D001.....	All.....	Aug. 8, 1990.
D002.....	All.....	Aug. 8, 1990.
D003.....	All.....	Aug. 8, 1990.
D004.....	Inorganic solid debris.....	May 8, 1992.
D004.....	Nonwastewater.....	May 8, 1992.
D004.....	Wastewater.....	Aug. 8, 1990.
D005.....	Inorganic solid debris.....	May 8, 1992.
D005.....	All others.....	Aug. 8, 1990.
D006.....	Inorganic solid debris.....	May 8, 1992.
D006.....	All others.....	Aug. 8, 1990.
D007.....	Inorganic solid debris.....	May 8, 1992.
D007.....	All others.....	Aug. 8, 1990.
D008.....	Inorganic solid debris.....	May 8, 1992.
D008.....	Lead acid batteries.....	May 8, 1992.
D008.....	All others.....	Aug. 8, 1990.
D009.....	Inorganic solid debris.....	May 8, 1992.
D009.....	High mercury nonwastewater.....	May 8, 1992.
D009.....	Low mercury nonwastewater.....	May 8, 1992.
D009.....	All others.....	Aug. 8, 1990.
D010.....	Inorganic solid debris.....	May 8, 1992.
D010.....	All others.....	Aug. 8, 1990.
D011.....	Inorganic solid debris.....	May 8, 1992.
D011.....	All others.....	Aug. 8, 1990.
D012.....	All.....	Aug. 8, 1990.
D013.....	All.....	Aug. 8, 1990.
D0014.....	All.....	Aug. 8, 1990.
D0015.....	All.....	Aug. 8, 1990.
D0016.....	All.....	Aug. 8, 1990.
D0017.....	All.....	Aug. 8, 1990.
F001-F005.....	All, except:.....	Nov. 8, 1986.

APPENDIX XI (Continued)

EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRS[a]
[Comprehensive List]

Waste code	Waste category	Effective date
F001-F005.....	Small quantity generators, CERCLA/ RCRA corrective action, initial generator's solvent-water mixtures, solvent-containing sludges and solids, and non CERCLA/RCRA corrective action soils with less than 1 percent total solvent constituents.	Nov. 8, 1988.
F001-F005.....	Soil and debris.....	Nov. 8, 1990.
F002[b].....	All.....	Aug. 8, 1990.
F005[c].....	All.....	Aug. 8, 1990.
F006.....	Wastewater.....	Aug. 8, 1990.
F006.....	Nonwastewater.....	Aug. 8, 1988.
F006 (cyanides)...	Nonwastewater.....	July 8, 1989.
F007.....	All.....	July 8, 1989.
F008.....	All.....	July 8, 1989.
F009.....	All.....	July 8, 1989.
F010.....	Soil and debris.....	June 8, 1991.
F010.....	All others.....	June 8, 1989.
F011.....	All.....	July 8, 1989.
F012.....	All.....	July 8, 1989.
F019.....	All.....	Aug. 8, 1990.
F020.....	Soil and debris.....	Nov. 8, 1990.
F020.....	All others.....	Nov. 8, 1988.
F021.....	Soil and debris.....	Nov. 8, 1990.
F021.....	All others.....	Nov. 8, 1988.
F022.....	Soil and debris.....	Nov. 8, 1990.
F022.....	All others.....	Nov. 8, 1988.
F023.....	Soil and debris.....	Nov. 8, 1990.
F023.....	All others.....	Nov. 8, 1988.
F024.....	Soil and debris.....	June 8, 1991.
F024 (metals).....	Nonwastewater.....	Aug. 8, 1990.
F024 (dioxins/ furans).	All.....	Aug. 8, 1990.
F024.....	All others.....	June 8, 1989.
F025.....	All.....	Aug. 8, 1990.
F026.....	Soil and debris.....	Nov. 8, 1990.
F026.....	All others.....	Nov. 8, 1988.
F027.....	Soil and debris.....	Nov. 8, 1990.
F027.....	All others.....	Nov. 8, 1988.
F028.....	Soil and debris.....	Nov. 8, 1990.
F028.....	All others.....	Nov. 8, 1988.
F039.....	Wastewater.....	Aug. 8, 1990.
F039.....	Nonwastewater.....	May 8, 1992.
K001.....	Soil and debris.....	Aug. 8, 1990.
K001 (lead/ organics).	All.....	Aug. 8, 1990.
K001.....	All others.....	Aug. 8, 1988.
K002.....	All.....	Aug. 8, 1990.
K003.....	All.....	Aug. 8, 1990.
K004.....	All.....	Aug. 8, 1990.
K005[d].....	All.....	Aug. 8, 1990.
K006.....	All.....	Aug. 8, 1990.
K007[d].....	All.....	Aug. 8, 1990.
K008.....	All.....	Aug. 8, 1990.
K009.....	Soil and debris.....	June 8, 1991.
K009.....	All others.....	June 8, 1989.
K010.....	Soil and debris.....	June 8, 1991.
K010.....	All others.....	June 8, 1989.

APPENDIX XI (Continued)

EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRS[a]
[Comprehensive List]

Waste code	Waste category	Effective date
K011	Wastewater	Aug. 8, 1990.
K011	Nonwastewater	June 8, 1989.
K011	Soil and debris	June 8, 1991.
K013	Wastewater	Aug. 8, 1990.
K013	Nonwastewater	June 8, 1989.
K013	Soil and debris	June 8, 1991.
K014	Wastewater	Aug. 8, 1990.
K014	Nonwastewater	June 8, 1989.
K014	Soil and debris	June 8, 1991.
K015	Wastewater	Aug. 8, 1988.
K015	Nonwastewater	Aug. 8, 1990.
K016	Soil and debris	Aug. 8, 1990.
K016	All others	Aug. 8, 1988.
K017	All	Aug. 8, 1990.
K018	Soil and debris	Aug. 8, 1990.
K018	All others	Aug. 8, 1988.
K019	Soil and debris	Aug. 8, 1990.
K019	All others	Aug. 8, 1988.
K020	Soil and debris	Aug. 8, 1990.
K020	All others	Aug. 8, 1988.
K021[a]	All	Aug. 8, 1990.
K022	Wastewater	Aug. 8, 1990.
K022	Nonwastewater	Aug. 8, 1988.
K022	Soil and debris	Aug. 8, 1990.
K023	Soil and debris	June 8, 1991.
K023	All others	June 8, 1989.
K024	Soil and debris	Aug. 8, 1990.
K024	All others	Aug. 8, 1988.
K025[a]	All	Aug. 8, 1990.
K026	All	Aug. 8, 1990.
K027	Soil and debris	June 8, 1991.
K027	All others	June 8, 1989.
K028	Soil and debris	June 8, 1991.
K028 (metals)	Nonwastewater	Aug. 8, 1990.
K028	All others	June 8, 1989.
K029	Wastewater	Aug. 8, 1990.
K029	Nonwastewater	June 8, 1989.
K029	Soil and debris	June 8, 1991.
K030	Soil and debris	Aug. 8, 1990.
K030	All others	Aug. 8, 1988.
K031	Wastewater	Aug. 8, 1990.
K031	Nonwastewater	May 8, 1992.
K032	All	Aug. 8, 1990.
K033	All	Aug. 8, 1990.
K034	All	Aug. 8, 1990.
K035	All	Aug. 8, 1990.
K036[a]	All	Aug. 8, 1990.
K037	Soil and debris	Aug. 8, 1990.
K037	Wastewater	Aug. 8, 1988.
K037	All others	Aug. 8, 1990.
K038	Soil and debris	June 8, 1991.
K038	All others	June 8, 1989.
K039	Soil and debris	June 8, 1991.
K039	All others	June 8, 1989.
K040	Soil and debris	June 8, 1991.
K040	All others	June 8, 1989.
K041	All	Aug. 8, 1990.
K042	All	Aug. 8, 1990.

APPENDIX XI (Continued)

EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRS*

[Comprehensive List]

Waste code	Waste category	Effective date
K043.....	Soil and debris.....	June 8, 1991.
K043.....	All others.....	June 8, 1989.
K044.....	All.....	Aug. 8, 1990.
K045.....	All.....	Aug. 8, 1990.
K046.....	Nonreactive nonwastewater.....	Aug. 8, 1988.
K046.....	All others.....	Aug. 8, 1990.
K047.....	All.....	Aug. 8, 1990.
K048.....	Wastewater.....	Aug. 8, 1990.
K048.....	Nonwastewater.....	Nov. 8, 1990.
K049.....	Wastewater.....	Aug. 8, 1990.
K049.....	Nonwastewater.....	Nov. 8, 1990.
K050.....	Wastewater.....	Aug. 8, 1990.
K050.....	Nonwastewater.....	Nov. 8, 1990.
K051.....	Wastewater.....	Aug. 8, 1990.
K051.....	Nonwastewater.....	Nov. 8, 1990.
K052.....	Wastewater.....	Aug. 8, 1990.
K052.....	Nonwastewater.....	Nov. 8, 1990.
K060*.....	All.....	Aug. 8, 1990.
K061.....	Wastewater.....	Aug. 8, 1990.
K061.....	Nonwastewater.....	Aug. 8, 1988.
K062.....	All.....	Aug. 8, 1988.
K069.....	All.....	Aug. 8, 1990.
K073.....	All.....	Aug. 8, 1990.
K083.....	All.....	Aug. 8, 1990.
K084.....	Wastewater.....	Aug. 8, 1990.
K084.....	Nonwastewater.....	May 8, 1992.
K085.....	All.....	Aug. 8, 1990.
K086.....	All.....	Aug. 8, 1990.
K087.....	Soil and debris.....	Aug. 8, 1990.
K087.....	All others.....	Aug. 8, 1988.
K093.....	Soil and debris.....	June 8, 1991.
K093.....	All others.....	June 8, 1989.
K094.....	Soil and debris.....	June 8, 1991.
K094.....	All others.....	June 8, 1989.
K095.....	Wastewater.....	Aug. 8, 1990.
K095.....	Nonwastewater.....	June 8, 1989.
K095.....	Soil and debris.....	June 8, 1991.
K096.....	Wastewater.....	Aug. 8, 1990.
K096.....	Nonwastewater.....	June 8, 1989.
K096.....	Soil and debris.....	June 8, 1991.
K097.....	All.....	Aug. 8, 1990.
K098.....	All.....	Aug. 8, 1990.
K099.....	All.....	Aug. 8, 1988.
K100*.....	All.....	Aug. 8, 1990.
K101.....	Wastewater.....	Aug. 8, 1988.
K101.....	Nonwastewater.....	May 8, 1992.
K102.....	Wastewater.....	Aug. 8, 1988.
K102.....	Nonwastewater.....	May 8, 1992.
K103.....	Soil and debris.....	Aug. 8, 1990.
K103.....	All others.....	Aug. 8, 1988.
K104.....	Soil and debris.....	Aug. 8, 1990.
K104.....	All others.....	Aug. 8, 1988.
K105.....	All.....	Aug. 8, 1990.
K106.....	High mercury nonwastewater.....	May 8, 1992.
K106.....	Low mercury non-wastewater.....	May 8, 1992.
K106.....	All others.....	Aug. 8, 1990.
K113.....	Soil and debris.....	June 8, 1991.
K113.....	All others.....	June 8, 1989.

APPENDIX XI (Continued)

EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRS
[Comprehensive List]

Waste code	Waste category	Effective date
K114	Soil and debris	June 8, 1991.
K114	All others	June 8, 1989.
K115	Soil and debris	June 8, 1991.
K115	All others	June 8, 1989.
K116	Soil and debris	June 8, 1991.
K116	All others	June 8, 1989.
P001	All	Aug. 8, 1990.
P002	All	Aug. 8, 1990.
P003	All	Aug. 8, 1990.
P004	All	Aug. 8, 1990.
P005	All	Aug. 8, 1990.
P006	All	Aug. 8, 1990.
P007	All	Aug. 8, 1990.
P008	All	Aug. 8, 1990.
P009	All	Aug. 8, 1990.
P010	Wastewater	Aug. 8, 1990.
P010	Nonwastewater	May 8, 1992.
P011	Wastewater	Aug. 8, 1990.
P011	Nonwastewater	May 8, 1992.
P012	Wastewater	Aug. 8, 1990.
P012	Nonwastewater	May 8, 1992.
P013	All	Aug. 8, 1990.
P014	All	Aug. 8, 1990.
P015	All	Aug. 8, 1990.
P016	All	Aug. 8, 1990.
P017	All	Aug. 8, 1990.
P018	All	Aug. 8, 1990.
P020	All	Aug. 8, 1990.
P021	All	June 8, 1989.
P022	All	Aug. 8, 1990.
P023	All	Aug. 8, 1990.
P024	All	Aug. 8, 1990.
P026	All	Aug. 8, 1990.
P027	All	Aug. 8, 1990.
P028	All	Aug. 8, 1990.
P029	All	June 8, 1990.
P030	All	June 8, 1990.
P031	All	Aug. 8, 1990.
P033	All	Aug. 8, 1990.
P034	All	Aug. 8, 1990.
P036	Wastewater	Aug. 8, 1990.
P036	Nonwastewater	May 8, 1992.
P037	All	Aug. 8, 1990.
P038	Wastewater	Aug. 8, 1990.
P038	Nonwastewater	May 8, 1992.
P039	Soil and debris	June 8, 1991.
P039	All others	June 8, 1989.
P040	Soil and debris	June 8, 1991.
P040	All others	June 8, 1989.
P041	Soil and debris	June 8, 1991.
P041	All others	June 8, 1989.
P042	All	Aug. 8, 1990.
P043	Soil and debris	June 8, 1991.
P043	All others	June 8, 1989.
P044	Soil and debris	June 8, 1991.
P044	All others	June 8, 1989.
P045	All	Aug. 8, 1990.
P046	All	Aug. 8, 1990.

APPENDIX XI (Continued)

EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRS
[Comprehensive List]

Waste code	Waste category	Effective date
P047	All	Aug. 8, 1990.
P048	All	Aug. 8, 1990.
P049	All	Aug. 8, 1990.
P050	All	Aug. 8, 1990.
P051	All	Aug. 8, 1990.
P054	All	Aug. 8, 1990.
P056	All	Aug. 8, 1990.
P057	All	Aug. 8, 1990.
P058	All	Aug. 8, 1990.
P059	All	Aug. 8, 1990.
P060	All	Aug. 8, 1990.
P062	Soil and debris	June 8, 1991.
P062	All others	June 8, 1989.
P063	All	June 8, 1989.
P064	All	Aug. 8, 1990.
P065	High mercury nonwastewater	May 8, 1992.
P065	Low mercury nonwastewater	May 8, 1992.
P065	All others	Aug. 8, 1990.
P066	All	Aug. 8, 1990.
P067	All	Aug. 8, 1990.
P068	All	Aug. 8, 1990.
P069	All	Aug. 8, 1990.
P070	All	Aug. 8, 1990.
P071	Soil and debris	June 8, 1991.
P071	All others	June 8, 1989.
P072	All	Aug. 8, 1990.
P073	All	Aug. 8, 1990.
P074	All	June 8, 1990.
P075	All	Aug. 8, 1990.
P076	All	Aug. 8, 1990.
P077	All	Aug. 8, 1990.
P078	All	Aug. 8, 1990.
P081	All	Aug. 8, 1990.
P082	All	Aug. 8, 1990.
P084	All	Aug. 8, 1990.
P085	Soil and debris	June 8, 1991.
P085	All others	June 8, 1989.
P087	All	May 8, 1992.
P088	All	Aug. 8, 1990.
P089	Soil and debris	June 8, 1991.
P089	All others	June 8, 1989.
P092	High mercury nonwastewater	May 8, 1992.
P092	Low mercury nonwastewater	May 8, 1992.
P092	All others	Aug. 8, 1990.
P093	Soil and debris	May 8, 1992.
P093	All others	Aug. 8, 1990.
P094	Soil and debris	June 8, 1991.
P094	All others	June 8, 1989.
P095	Soil and debris	May 8, 1992.
P095	All others	Aug. 8, 1990.
P096	All	Aug. 8, 1990.
P097	Soil and debris	June 8, 1991.
P097	All others	June 8, 1989.
P098	All	June 8, 1989.
P099 (silver)	Wastewater	Aug. 8, 1990.
P099 (cyanides)	Wastewater	June 8, 1989.
P099 (cyanides/ silver).	Nonwastewater	June 8, 1989.

APPENDIX XI (Continued)

EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRS[a]

[Comprehensive List]

Waste code	Waste category	Effective date
P101	All	Aug. 8, 1990.
P012	All	Aug. 8, 1990.
P103	All	Aug. 8, 1990.
P104 (silver)	Wastewater	Aug. 8, 1990.
P104 (cyanides)	Wastewater	June 8, 1989.
P104 (cyanides/ silver).	Nonwastewater	June 8, 1989.
P105	All	Aug. 8, 1990.
P106	All	June 8, 1989.
P108	Soil and debris	May 8, 1992.
P108	All others	Aug. 8, 1990.
P109	Soil and debris	June 8, 1991.
P109	All others	June 8, 1989.
P110	All	Aug. 8, 1990.
P111	Soil and debris	June 8, 1991.
P111	All others	June 8, 1989.
P112	All	Aug. 8, 1990.
P113	All	Aug. 8, 1990.
P114	All	Aug. 8, 1990.
P115	All	Aug. 8, 1990.
P116	Soil and debris	May 8, 1992.
P116	All others	Aug. 8, 1990.
P118	Soil and debris	May 8, 1992.
P118	All others	Aug. 8, 1990.
P119	All	Aug. 8, 1990.
P120	All	Aug. 8, 1990.
P121	All	June 8, 1989.
P122	All	Aug. 8, 1990.
P123	All	Aug. 8, 1990.
U001	All	Aug. 8, 1990.
U002	All	Aug. 8, 1990.
U003	Soil and debris	May 8, 1992.
U003	All others	Aug. 8, 1990.
U004	All	Aug. 8, 1990.
U005	All	Aug. 8, 1990.
U006	Soil and debris	May 8, 1992.
U006	All others	Aug. 8, 1990.
U007	Soil and debris	May 8, 1992.
U007	All others	Aug. 8, 1990.
U008	All	Aug. 8, 1990.
U009	All	Aug. 8, 1990.
U010	Soil and debris	May 8, 1992.
U010	All others	Aug. 8, 1990.
U011	Soil and debris	May 8, 1992.
U011	All others	Aug. 8, 1990.
U012	All	Aug. 8, 1990.
U014	Soil and debris	May 8, 1992.
U014	All others	Aug. 8, 1990.
U015	Soil and debris	May 8, 1992.
U015	All others	Aug. 8, 1990.
U016	All	Aug. 8, 1990.
U017	Soil and debris	May 8, 1992.
U017	All others	Aug. 8, 1990.
U018	All	Aug. 8, 1990.
U019	All	Aug. 8, 1990.
U020	Soil and debris	May 8, 1992.
U020	All others	Aug. 8, 1990.
U021	Soil and debris	May 8, 1992.

APPENDIX XI (Continued)

EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRS
[Comprehensive List]

Waste code	Waste category	Effective date
U021	All others	Aug. 8, 1990.
U022	All	Aug. 8, 1990.
U023	All	Aug. 8, 1990.
U024	All	Aug. 8, 1990.
U025	All	Aug. 8, 1990.
U026	Soil and debris	May 8, 1992.
U026	All others	Aug. 8, 1990.
U027	All	Aug. 8, 1990.
U028	Soil and debris	June 8, 1991.
U028	All others	June 8, 1989.
U029	All	Aug. 8, 1990.
U030	All	Aug. 8, 1990.
U031	All	Aug. 8, 1990.
U032	All	Aug. 8, 1990.
U033	Soil and debris	May 8, 1992.
U033	All others	Aug. 8, 1990.
U034	Soil and debris	May 8, 1992.
U034	All others	Aug. 8, 1990.
U035	Soil and debris	May 8, 1992.
U035	All others	Aug. 8, 1990.
U036	All	Aug. 8, 1990.
U037	All	Aug. 8, 1990.
U038	Soil and debris	May 8, 1992.
U038	All others	Aug. 8, 1990.
U039	All	Aug. 8, 1990.
U041	Soil and debris	May 8, 1992.
U041	All others	Aug. 8, 1990.
U042	Soil and debris	May 8, 1992.
U042	All others	Aug. 8, 1990.
U043	All	Aug. 8, 1990.
U044	All	Aug. 8, 1990.
U045	All	Aug. 8, 1990.
U046	Soil and debris	May 8, 1992.
U046	All others	Aug. 8, 1990.
U047	All	Aug. 8, 1990.
U048	All	Aug. 8, 1990.
U049	Soil and debris	May 8, 1992.
U049	All others	Aug. 8, 1990.
U050	All	Aug. 8, 1990.
U051	All	Aug. 8, 1990.
U052	All	Aug. 8, 1990.
U053	All	Aug. 8, 1990.
U055	All	Aug. 8, 1990.
U056	All	Aug. 8, 1990.
U057	All	Aug. 8, 1990.
U058	Soil and debris	June 8, 1992.
U058	All others	June 8, 1989.
U059	Soil and debris	May 8, 1992.
U059	All others	Aug. 8, 1990.
U060	Soil and debris	May 8, 1992.
U060	All others	Aug. 8, 1990.
U061	Soil and debris	May 8, 1992.
U061	All others	Aug. 8, 1990.
U062	Soil and debris	May 8, 1992.
U062	All others	Aug. 8, 1990.
U063	All	Aug. 8, 1990.
U064	All	Aug. 8, 1990.
U066	All	Aug. 8, 1990.

APPENDIX XI (Continued)

EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRS
[Comprehensive List]

Waste code	Waste category	Effective date
U067	All	Aug. 8, 1990.
U068	All	Aug. 8, 1990.
U069	Soil and debris	June 8, 1991.
U069	All others	June 8, 1989.
U070	All	Aug. 8, 1990.
U071	All	Aug. 8, 1990.
U072	All	Aug. 8, 1990.
U073	Soil and debris	May 8, 1992.
U073	All others	Aug. 8, 1990.
U074	Soil and debris	May 8, 1992.
U074	All others	Aug. 8, 1990.
U075	All	Aug. 8, 1990.
U076	All	Aug. 8, 1990.
U077	All	Aug. 8, 1990.
U078	All	Aug. 8, 1990.
U079	All	Aug. 8, 1990.
U080	All	Aug. 8, 1990.
U081	All	Aug. 8, 1990.
U082	All	Aug. 8, 1990.
U083	All	Aug. 8, 1990.
U084	All	Aug. 8, 1990.
U085	All	Aug. 8, 1990.
U086	All	Aug. 8, 1990.
U087	Soil and debris	June 8, 1991.
U087	All others	June 8, 1989.
U088	Soil and debris	June 8, 1991.
U088	All others	June 8, 1989.
U089	All	Aug. 8, 1990.
U090	All	Aug. 8, 1990.
U091	Soil and debris	May 8, 1992.
U091	All others	Aug. 8, 1990.
U092	Soil and debris	May 8, 1992.
U092	All others	Aug. 8, 1990.
U093	Soil and debris	May 8, 1992.
U093	All others	Aug. 8, 1990.
U094	All	Aug. 8, 1990.
U095	Soil and debris	May 8, 1992.
U095	All others	Aug. 8, 1990.
U096	All	Aug. 8, 1990.
U097	Soil and debris	May 8, 1992.
U097	All others	Aug. 8, 1990.
U098	All	Aug. 8, 1990.
U099	All	Aug. 8, 1990.
U101	All	Aug. 8, 1990.
U102	Soil and debris	June 8, 1991.
U102	All others	June 8, 1989.
U103	All	Aug. 8, 1990.
U105	All	Aug. 8, 1990.
U106	All	Aug. 8, 1990.
U107	Soil and debris	June 8, 1991.
U107	All others	June 8, 1989.
U108	All	Aug. 8, 1990.
U109	All	Aug. 8, 1990.
U110	Soil and debris	May 8, 1992.
U110	All others	Aug. 8, 1990.
U111	All	Aug. 8, 1990.
U112	All	Aug. 8, 1990.
U113	All	Aug. 8, 1990.

APPENDIX XI (Continued)

EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRS*
[Comprehensive List]

Waste code	Waste category	Effective date
U114	Soil and debris	May 8, 1992.
U114	All others	Aug. 8, 1990.
U115	All	Aug. 8, 1990.
U116	Soil and debris	May 8, 1992.
U116	All others	Aug. 8, 1990.
U117	All	Aug. 8, 1990.
U118	All	Aug. 8, 1990.
U119	Soil and debris	May 8, 1992.
U119	All others	Aug. 8, 1990.
U120	All	Aug. 8, 1990.
U121	All	Aug. 8, 1990.
U122	All	Aug. 8, 1990.
U123	All	Aug. 8, 1990.
U124	All	Aug. 8, 1990.
U125	All	Aug. 8, 1990.
U126	All	Aug. 8, 1990.
U127	All	Aug. 8, 1990.
U128	All	Aug. 8, 1990.
U129	All	Aug. 8, 1990.
U130	Soil and debris	May 8, 1992.
U130	All others	Aug. 8, 1990.
U131	All	Aug. 8, 1990.
U132	Soil and debris	May 8, 1992.
U132	All others	Aug. 8, 1990.
U133	All	Aug. 8, 1990.
U134	All	Aug. 8, 1990.
U135	All	Aug. 8, 1990.
U136	Wastewater	Aug. 8, 1990.
U136	Nonwastewater	May 8, 1992.
U137	All	Aug. 8, 1990.
U138	All	Aug. 8, 1990.
U140	All	Aug. 8, 1990.
U141	All	Aug. 8, 1990.
U142	All	Aug. 8, 1990.
U143	Soil and debris	May 8, 1992.
U143	All others	Aug. 8, 1990.
U144	All	Aug. 8, 1990.
U145	All	Aug. 8, 1990.
U146	All	Aug. 8, 1990.
U147	All	Aug. 8, 1990.
U148	Soil and debris	May 8, 1992.
U148	All others	Aug. 8, 1990.
U149	Soil and debris	May 8, 1992.
U149	All others	Aug. 8, 1990.
U150	Soil and debris	May 8, 1992.
U150	All others	Aug. 8, 1990.
U151	High mercury nonwastewater	May 8, 1992.
U151	Low mercury nonwastewater	May 8, 1992.
U151	Soil and debris	May 8, 1992.
U151	All others	Aug. 8, 1990.
U152	All	Aug. 8, 1990.
U153	Soil and debris	May 8, 1992.
U153	All others	Aug. 8, 1990.
U154	All	Aug. 8, 1990.
U155	All	Aug. 8, 1990.
U156	Soil and debris	May 8, 1992.
U156	All others	Aug. 8, 1990.
U157	All	Aug. 8, 1990.

APPENDIX XI (Continued)

EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRS
[Comprehensive List]

Waste code	Waste category	Effective date
U158	All	Aug. 8, 1990.
U159	All	Aug. 8, 1990.
U160	All	Aug. 8, 1990.
U161	All	Aug. 8, 1990.
U162	All	Aug. 8, 1990.
U163	Soil and debris	May 8, 1992.
U163	All others	Aug. 8, 1990.
U164	Soil and debris	May 8, 1992.
U164	All others	Aug. 8, 1990.
U165	All	Aug. 8, 1990.
U166	All	Aug. 8, 1990.
U167	Soil and debris	May 8, 1992.
U167	All others	Aug. 8, 1990.
U168	Soil and debris	May 8, 1992.
U168	All others	Aug. 8, 1990.
U169	All	Aug. 8, 1990.
U170	All	Aug. 8, 1990.
U171	Soil and debris	May 8, 1992.
U171	All others	Aug. 8, 1990.
U172	All	Aug. 8, 1990.
U173	Soil and debris	May 8, 1992.
U173	All others	Aug. 8, 1990.
U174	All	Aug. 8, 1990.
U176	Soil and debris	May 8, 1992.
U176	All others	Aug. 8, 1990.
U177	Soil and debris	May 8, 1992.
U177	All others	Aug. 8, 1990.
U178	Soil and debris	May 8, 1992.
U178	All others	Aug. 8, 1990.
U179	All	Aug. 8, 1990.
U180	All	Aug. 8, 1990.
U181	All	Aug. 8, 1990.
U182	All	Aug. 8, 1990.
U183	All	Aug. 8, 1990.
U184	Soil and debris	May 8, 1992.
U184	All others	Aug. 8, 1990.
U185	All	Aug. 8, 1990.
U186	All	Aug. 8, 1990.
U187	All	Aug. 8, 1990.
U188	All	Aug. 8, 1990.
U189	All	Aug. 8, 1990.
U190	Soil and debris	June 8, 1991.
U190	All others	June 8, 1989.
U191	Soil and debris	May 8, 1992.
U191	All others	Aug. 8, 1990.
U192	All	Aug. 8, 1990.
U193	Soil and debris	May 8, 1992.
U193	All others	Aug. 8, 1990.
U194	Soil and debris	May 8, 1992.
U194	All others	Aug. 8, 1990.
U196	All	Aug. 8, 1990.
U197	All	Aug. 8, 1990.
U200	Soil and debris	May 8, 1992.
U200	All others	Aug. 8, 1990.
U201	All	Aug. 8, 1990.
U202	Soil and debris	May 8, 1992.
U202	All others	Aug. 8, 1990.
U203	All	Aug. 8, 1990.

APPENDIX XI (Continued)

EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRS[a]
[Comprehensive List]

Waste code	Waste category	Effective date
U204	All	Aug. 8, 1990.
U205	All	Aug. 8, 1990.
U206	Soil and debris	May 8, 1992.
U206	All others	Aug. 8, 1990.
U207	All	Aug. 8, 1990.
U208	All	Aug. 8, 1990.
U209	All	Aug. 8, 1990.
U210	All	Aug. 8, 1990.
U211	All	Aug. 8, 1990.
U213	All	Aug. 8, 1990.
U214	All	Aug. 8, 1990.
U215	All	Aug. 8, 1990.
U216	All	Aug. 8, 1990.
U217	All	Aug. 8, 1990.
U218	Soil and debris	May 8, 1992.
U218	All others	Aug. 8, 1990.
U219	Soil and debris	May 8, 1992.
U219	All others	Aug. 8, 1990.
U220	All	Aug. 8, 1990.
U221	Soil and debris	June 8, 1991.
U221	All others	June 8, 1989.
U222	Soil and debris	May 8, 1992.
U222	All others	Aug. 8, 1990.
U223	Soil and debris	May 8, 1992.
U223	All others	Aug. 8, 1990.
U225	All	Aug. 8, 1990.
U226	All	Aug. 8, 1990.
U227	All	Aug. 8, 1990.
U228	All	Aug. 8, 1990.
U234	Soil and debris	June 8, 1991.
U234	All others	June 8, 1989.
U235	Soil and debris	June 8, 1991.
U235	All others	June 8, 1989.
U236	Soil and debris	May 8, 1992.
U236	All others	Aug. 8, 1990.
U237	Soil and debris	May 8, 1992.
U237	All others	Aug. 8, 1990.
U238	Soil and debris	May 8, 1992.
U238	All others	Aug. 8, 1990.
U239	All	Aug. 8, 1990.
U240	Soil and debris	May 8, 1992.
U240	All others	Aug. 8, 1990.
U243	All	Aug. 8, 1990.
U244	Soil and debris	May 8, 1992.
U244	All others	Aug. 8, 1990.
U246	All	Aug. 8, 1990.
U247	All	Aug. 8, 1990.
U248	All	Aug. 8, 1990.
U249	All	Aug. 8, 1990.

[a]This table does not include mixed radioactive wastes (from the First, Second, and Third Third rules) which are receiving a national capacity variance until May 8, 1992 for all applicable treatment technologies.
[b]Standards are being promulgated for 1,1,2-trichloroethane and 2-nitropropane for wastewaters and nonwastewaters.
[c]Standards are being promulgated for benzene and 2-ethoxyethanol for wastewaters and nonwastewaters.

APPENDIX XI (Continued)

EFFECTIVE DATES OF SURFACE DISPOSED WASTES REGULATED IN THE LDRS[a]
[Comprehensive List]

[d]Treatment standards for nonwastewaters disposed of after June 8, 1989, were promulgated June 8, 1989.
[e]Treatment standards for nonwastewaters disposed of after August 17, 1988, were promulgated May 2, 1989.

Note: This appendix is provided for the convenience of the reader.

APPENDIX XII

Ground-Water Monitoring List[1]

Common name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (µg/L)[6]
Acenaphthene	83-32-9	Acenaphthylene, 1,2-dihydro-	8100	200
			8270	10
Acenaphthylene	208-96-8	Acenaphthylene	8100	200
			8270	10
Acetone	67-64-1	2-Propanone	8240	100
Acetophenone	98-86-2	Ethanone, 1-phenyl-	8270	10
Acetonitrile; Methyl cyanide	75-05-8	Acetonitrile	8015	100
2-Acetylaminofluorene; 2-AAF	53-96-3	Acetamide, N-9H-fluoren-2-yl-	8270	10
Acrolein	107-02-8	2-Propenal	8030	5
			8240	5
Acrylonitrile	107-13-1	2-Propenenitrile	8030	5
			8240	5
Aldrin	309-00-2	1,4:5,8-Dimethanonaphthalene,1,2,3,4,10,10-hexachloro-, 1,1,4,4a,5,8,8a-hexahydro- (1a,4a,4ab,5a,8a,8ab)-	8080	0.05
			8270	10
Allyl chloride	107-05-1	1-Propene, 3-chloro-	8010	5
			8240	100
4-Aminobiphenyl	92-67-1	[1,1'-Biphenyl]-4-amine	8270	10
Aniline	62-53-3	Benzenamine	8270	10
Anthracene	120-12-7	Anthracene	8100	200
			8270	10
Antimony	(Total)	Antimony	6010	300
			7040	2,000
			7041	30
Aramite	140-57-8	Sulfurous acid, 2-chloroethyl 2-[4-(1,1-dimethylethyl)phenoxy]-1-methylethyl ester	8270	10
Arsenic	(Total)	Arsenic	6010	500
			7060	10
			7061	20
Barium	(Total)	Barium	6010	20
			7080	1,000
Benzene	71-43-2	Benzene	8020	2
			8240	5
Benzo[a]anthracene; Benzanthracene	56-55-3	Benz[a]anthracene	8100	200
			8270	10
Benzo[b]fluoranthene	205-99-2	Benz[e]acephenanthrylene	8100	200
			8270	10
Benzo[k]fluoranthene	207-08-9	Benzo[k]fluoranthene	8100	200
			8270	10
Benzo[ghi]perylene	191-24-2	Benzo[ghi]perylene	8100	200
			8270	10
Benzo[a]pyrene	50-32-8	Benzo[a]pyrene	8100	200
			8270	10
Benzyl alcohol	100-51-6	Benzenemethanol	8270	20
Beryllium	(Total)	Beryllium	6010	3
			7090	50
			7091	2
alpha-BHC	319-84-6	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1a,2a,3b,4a,5b,6b)-	8080	0.05
			8250	10
beta-BHC	319-85-7	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1a,2b,3a,4b,5a,6b)-	8080	0.05
			8250	40
delta-BHC	319-86-8	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1a,2a,3a,4b,5a,6b)-	8080	0.1
			8250	30
gamma-BHC; Lindane	58-89-9	Cyclohexane, 1,2,3,4,5,6-hexachloro-,(1a,2a,3b,4a,5a,6b)-	8080	0.05
			8250	10
Bis(2-chloroethoxy)methane	111-91-1	Ethane, 1,1'-[methylenebis(oxy)]bis[2-chloro-	8270	10
Bis(2-chloroethyl)ether	111-44-4	Ethane, 1,1'-oxybis[2-chloro-	8270	10
Bis(2-chloro-1-methylethyl) ether; 2,2'-Dichlorodiisopropyl ether	108-60-1	Propane, 2,2'-oxybis[1-chloro-	8010	100
			8270	10
Bis(2-ethylhexyl)phthalate	117-81-7	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl)ester	8060	20
			8270	10
Bromodichloromethane	75-27-4	Methane, bromodichloro-	8010	1
			8240	5
Bromoform; Tribromomethane	75-25-2	Methane, tribromo-	8010	2
			8240	5
4-Bromophenyl phenyl ether	101-55-3	Benzene, 1-bromo-4-phenoxy-	8270	10
Butyl benzyl phthalate; Benzyl butyl phthalate	85-68-7	1,2-Benzenedicarboxylic acid, butyl phenylmethyl ester	8060	5
			8270	10
Cadmium	(Total)	Cadmium	6010	40
			7130	50
			7131	1
Carbon disulfide	75-15-0	Carbon disulfide	8240	5
Carbon tetrachloride	56-23-5	Methane, tetrachloro-	8010	1
			8240	5
Chlordane	57-74-9	4,7-Methano-1H-indene, 1,2,4,5,6,7,8,8-octachloro-2,3,3a,4,7,7a-hexahydro-	8080	0.1
			8250	10
p-Chloroaniline	106-47-8	Benzenamine, 4-chloro-	8270	20
Chlorobenzene	108-90-7	Benzene, chloro-	8010	2
			8020	2
			8240	5
Chlorobenzilate	510-15-6	Benzeneacetic acid, 4-chloro-a-(4-chlorophenyl)-a-	8270	10

APPENDIX XII (Continued)

Ground-Water Monitoring List[1]

Common name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (µg/L)[6]
		hydroxy, ethyl ester		
p-Chloro-m-cresol	59-50-7	Phenol, 4-chloro-3-methyl-	8040	5
			8270	20
Chloroethane; Ethyl chloride	75-00-3	Ethane, chloro-	8010	5
			8240	10
Chloroform	67-66-3	Methane, trichloro-	8010	0.5
			8240	5
2-Chloronaphthalene	91-58-7	Naphthalene, 2-chloro-	8120	10
			8270	10
2-Chlorophenol	95-57-8	Phenol, 2-chloro-	8040	5
			8270	10
4-Chlorophenyl phenyl ether	7005-72-3	Benzene, 1-chloro-4-phenoxy-	8270	10
Chloroprene	126-99-8	1,3-Butadiene, 2-chloro-	8010	50
			8240	5
Chromium	(Total)	Chromium	6010	70
			7910	500
			7191	10
Chrysene	218-01-9	Chrysene	8100	200
			8270	10
Cobalt	(Total)	Cobalt	6010	70
			7200	500
			7201	10
Copper	(Total)	Copper	6010	60
			7210	200
m-Cresol	108-39-4	Phenol, 3-methyl-	8270	10
o-Cresol	95-48-7	Phenol, 2-methyl-	8270	10
p-Cresol	106-44-5	Phenol, 4-methyl-	8270	10
Cyanide	57-12-5	Cyanide	9010	40
2,4-D; 2,4-Dichlorophenoxyacetic acid	94-75-7	Acetic acid, (2,4-dichlorophenoxy)-	8150	10
4,4'-DDD	72-54-8	Benzene 1,1'-(2,2-dichloroethylidene)bis[4-chloro-	8080	0.1
			8270	10
4,4'-DDE	72-55-9	Benzene 1,1'-(dichloroethylidene)bis[4-chloro-	8080	0.05
			8270	10
4,4'-DDT	50-29-3	Benzene 1,1'-(2,2,2-trichloroethylidene)bis[4-chloro-	8080	0.1
			8270	10
Diallate	2303-16-4	Carbamothioic acid, bis(1-methylethyl)-, S- (2,3-dichloro-2-propenyl) ester	8270	10
Dibenz[a,h]anthracene	53-70-3	Dibenz[a,h]anthracene	8100	200
			8270	10
Dibenzofuran	132-64-9	Dibenzofuran	8270	10
Dibromochloromethane; Chlorodibromomethane	124-48-1	Methane, dibromochloro-	8010	1
			8240	5
1,2-Dibromo-3-chloropropane; DBCP	96-12-8	Propane, 1,2-dibromo-3-chloro-	8010	100
			8240	5
			8270	10
1,2-Dibromoethane; Ethylene dibromide	106-93-4	Ethane, 1,2-dibromo-	8010	10
			8240	5
Di-n-butyl phthalate	84-74-2	1,2-Benzenedicarboxylic acid, dibutyl ester	8060	5
			8270	10
o-Dichlorobenzene	95-50-1	Benzene, 1,2-dichloro-	8010	2
			8020	5
			8120	10
			8270	10
m-Dichlorobenzene	541-73-1	Benzene, 1,3-dichloro-	8010	5
			8020	5
			8120	10
			8270	10
p-Dichlorobenzene	106-46-7	Benzene, 1,4-dichloro-	8010	2
			8020	5
			8120	15
			8270	10
3,3'-Dichlorobenzidine	91-94-1	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dichloro-	8270	20
trans-1,4-Dichloro-2-butene	110-57-6	2-Butene, 1,4-dichloro-, (E)-	8240	5
Dichlorodifluoromethane	75-71-8	Methane, dichlorodifluoro-	8010	10
			8240	5
1,1-Dichloroethane	75-34-3	Ethane, 1,1-dichloro-	8010	1
			8240	5
1,2-Dichloroethane; Ethylene dichloride	107-06-2	Ethane, 1,2-dichloro-	8010	0.5
			8240	5
1,1-Dichloroethylene; Vinylidene chloride	75-35-4	Ethene, 1,1-dichloro-	8010	1
			8240	5
trans-1,2-Dichloroethylene	156-60-5	Ethene, 1,2-dichloro-, (E)-	8010	1
			8240	5
2,4-Dichlorophenol	120-83-2	Phenol, 2,4-dichloro-	8040	5
			8270	10
2,6-Dichlorophenol	87-65-0	Phenol, 2,6-dichloro-	8270	10
1,2-Dichloropropane	78-87-5	Propane, 1,2-dichloro-	8010	0.5
			8240	5
cis-1,3-Dichloropropene	10061-01-5	1-Propene, 1,3-dichloro-, (Z)-	8010	20
			8240	5

APPENDIX III (Continued)

Ground-Water Monitoring List[1]

Common name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (µg/L)[6]
trans-1,3-Dichloropropene	10061-02-6	1-Propene, 1,3-dichloro-, (E)-	8010	5
			8240	5
Dieldrin	60-57-1	2,7:3,6-Dimethanonaphth[2,3-]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aa,2b,2aa,3b,6b,6aa,7b,7aa)-	8080	0.05
			8270	10
Diethyl phthalate	84-66-2	1,2-Benzenedicarboxylic acid, diethyl ester	8060	5
			8270	10
O,O-Diethyl O-2-pyrazinyl phosphorothioate; Thionazin	297-97-2	Phosphorothioic acid, O,O-diethyl O-pyrazinyl ester	8270	10
Dimethoate	60-51-5	Phosphorodithioic acid, O,O-dimethyl S-[2-(methylamino)-2-oxoethyl] ester	8270	10
p-(Dimethylamino)azobenzene	60-11-7	Benzenamine, N,N-dimethyl-4-(phenylazo)-	8270	10
7,12-Dimethylbenz[a]anthracene	57-97-6	Benz[a]anthracene, 7,12-dimethyl-	8270	10
3,3'-Dimethylbenzidine	119-93-7	[1,1'-Biphenyl]-4,4'-diamine, 3,3'-dimethyl-	8270	10
alpha, alpha-Dimethylphenethylamine	122-09-8	Benzeneethanamine, a,a-dimethyl-	8270	10
2,4-Dimethylphenol	105-67-9	Phenol, 2,4-dimethyl-	8040	5
			8270	10
Dimethyl phthalate	131-11-3	1,2-Benzenedicarboxylic acid, dimethyl ester	8060	5
			8270	10
m-Dinitrobenzene	99-65-0	Benzene, 1,3-dinitro-	8270	10
4,6-Dinitro-o-cresol	534-52-1	Phenol, 2-methyl-4,6-dinitro-	8040	150
			8270	50
2,4-Dinitrophenol	51-28-5	Phenol, 2,4-dinitro-	8040	150
			8270	50
2,4-Dinitrotoluene	121-14-2	Benzene, 1-methyl-2,4-dinitro-	8090	0.2
			8270	10
2,6-Dinitrotoluene	606-20-2	Benzene, 2-methyl-1,3-dinitro-	8090	0.1
			8270	10
Dinoseb; DNBP; 2-sec-Butyl-4,6-dinitrophenol	88-85-7	Phenol, 2-(1-methylpropyl)-4,6-dinitro-	8150	1
			8270	10
Di-n-octyl phthalate	117-84-0	1,2-Benzenedicarboxylic acid, dioctyl ester	8060	30
			8270	10
1,4-Dioxane	123-91-1	1,4-Dioxane	8015	150
Diphenylamine	122-39-4	Benzenamine, N-phenyl-	8270	10
Disulfoton	298-04-4	Phosphorodithioic acid, O,O-diethyl S-[2-(ethylthio)- S-[2-ethyl]ester	8140	2
			8270	10
Endosulfan I	959-98-8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro-1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3a,5ab,6a,9a,9ab)-	8080	0.1
			8250	10
Endosulfan II	33213-65-9	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro- 1,5,5a,6,9,9a-hexahydro-, 3-oxide, (3a,5aa,6b,9b,9aa)-	8080	0.05
Endosulfan sulfate	1031-07-8	6,9-Methano-2,4,3-benzodioxathiepin, 6,7,8,9,10,10-hexachloro- 1,5,5a,6,9,9a-hexahydro-, 3,3-dioxide	8080	0.5
			8270	10
Endrin	72-20-8	2,7:3,6-Dimethanonaphth[2,3-b]oxirene, 3,4,5,6,9,9-hexachloro-1a,2,2a,3,6,6a,7,7a-octahydro-, (1aa,2b,2ab,3a,6a,6ab,7b,7aa)-	8080	0.1
			8250	10
Endrin aldehyde	7421-93-4	1,2,4-Methenocyclopenta[cd]pentalene-5-carboxaldehyde, 2,2a,3,3,4,7-hexachlorodecahydro-, (1a,2b,2ab,4b,4ab,5b,6ab,6bb,7R*)-	8080	0.2
			8270	10
Ethylbenzene	100-41-4	Benzene, ethyl-	8020	2
			8240	5
Ethyl methacrylate	97-63-2	2-Propenoic acid, 2-methyl-, ethyl ester	8015	10
			8240	5
			8270	10
Ethyl methanesulfonate	62-50-0	Methanesulfonic acid, ethyl ester	8270	10
Famphur	52-85-7	Phosphorothioic acid, O-[4-[(dimethylamino)sulfonyl]phenyl]-O,O-dimethyl ester	8270	10
Fluoranthene	206-44-0	Fluoranthene	8100	200
			8270	10
Fluorene	86-73-7	9H-Fluorene	8100	200
			8270	10
Heptachlor	76-44-8	4,7-Methano-1H-indene, 1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-	8080	0.05
			8270	10
Heptachlor epoxide	1024-57-3	2,5-Methano-2H-indeno[1,2-b]oxirene, 2,3,4,5,6,7,7-tachloro-1a,1b,5,5a,6,6a,-hexahydro-, (1aa,1bb, 2a,5ab,6b,6aa)	8080	1
			8270	10
Hexachlorobenzese	118-74-1	Benzene, hexachloro-	8120	0.5
			8270	10
Hexachlorobutadiene	87-68-3	1,3-Butadiene, 1,1,2,3,4,4-hexachloro-	8120	5
			8270	10
Hexachlorocyclopentadiene	77-47-4	1,3 Cyclopentadiene, 1,2,3,4,5,5-hexachloro-	8120	5
			8270	10
Hexachloroethane	67-72-1	Ethane, hexachloro-	8120	0.5
			8270	10
Hexachlorophene	70-30-4	Phenol, 2,2'-methylenebis[3,4,6-trichloro-	8270	10
Hexachloropropene	1888-71-7	1-Propene, 1,1,2,3,3,3-hexachloro-	8270	10
2-Hexanone	591-76-6	2-Hexanone	8240	50
Indeno(1,2,3-cd)pyrene	193-39-5	Indeno[1,2,3-cd]pyrene	8100	200
			8270	10
Isobutyl alcohol	78-83-1	1-Propanol, 2-methyl-	8015	50

APPENDIX III (Continued)

Ground-Water Monitoring List[1]

Common name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (µg/L)[6]
Isodrin	465-73-6	1,4,5,8-Dimethanonaphthalene,1,2,3,4,10,10-hexachloro-1,4,4a,5,8,8a hexahydro-(1a,4a,4ab,5b,8b,8ab)-	8270	10
Isophorone	78-59-1	2-Cyclohexen-1-one, 3,5,5-trimethyl-	8090	60
			8270	10
Isosafrole	120-58-1	1,3-Benzodioxole, 5-(1-propenyl)-	8270	10
Kepone	143-50-0	1,3,4-Metheno-2H-cyclobuta- [cd]pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachloroctahydro-	8270	10
Lead	(Total)	Lead	6010	40
			7420	1,000
			7421	10
Mercury	(Total)	Mercury	7470	2
Methacrylonitrile	128-98-7	2-Propenenitrile, 2-methyl-	8015	5
			8240	5
Methapyrilene	91-80-5	1,2,Ethanediamine, N,N-dimethyl-N'-2-pyridinyl-N'-(2-thien-ylmethyl)-	8270	10
Methoxychlor	72-43-5	Benzene, 1,1'-(2,2,2,trichloroethylidene)bis[4-methoxy-	8080	2
			8270	10
Methyl bromide; Bromomethane	74-83-9	Methane, bromo-	8010	20
			8240	10
Methyl chloride; Chloromethane	74-87-3	Methane, chloro-	8010	1
			8240	10
3-Methylcholanthrene	56-49-5	Benz[j]aceanthrylene, 1,2-dihydro-3-methyl-	8270	10
Methylene bromide; Dibromomethane	74-95-3	Methane, dibromo-	8010	15
			8240	5
Methylene chloride; Dichloromethane	75-09-2	Methane, dichloro-	8010	5
			8240	5
Methyl ethyl ketone, MEK	78-93-3	2-Butanone	8015	10
			8240	100
Methyl iodide; Iodomethane	74-88-4	Methane, iodo-	8010	40
			8240	5
Methyl methacrylate	80-62-6	2-Propenoic acid, 2-methyl-, methyl ester	8015	2
			8240	5
Methyl methanesulfonate	66-27-3	Methanesulfonic acid, methyl ester	8270	10
2-Methylnaphthalene	91-57-6	Naphthalene, 2-methyl-	8270	10
Methyl parathion; Parathion methyl	298-00-0	Phosphorothioic acid, O,O-dimethyl O-(4-nitrophenyl) ester	8140	0.5
			8270	10
4-Methyl-2-pentanone; Methyl isobutyl ketone	108-10-1	2-Pentanone, 4-methyl-	8015	5
			8240	50
Naphthalene	91-20-3	Naphthalene	8100	200
			8270	10
1,4-Naphthoquinone	130-15-4	1,4-Naphthalenedione	8270	10
1-Naphthylamine	134-32-7	1-Naphthalenamine	8270	10
2-Naphthylamine	91-59-8	2-Naphthalenamine	8270	10
Nickle	(Total)	Nickle	6010	50
			7520	400
o-Nitroaniline	88-74-4	Benzenamine, 2-nitro-	8270	50
m-Nitroaniline	99-09-2	Benzenamine, 3-nitro-	8270	50
p-Nitroaniline	100-01-6	Benzenamine, 4-nitro-	8270	50
Nitrobenzene	98-95-3	Benzene, nitro-	8090	40
			8270	10
o-Nitrophenol	88-75-5	Phenol, 2-nitro-	8040	5
			8270	10
p-Nitrophenol	100-02-7	Phenol, 4-nitro-	8040	10
			8270	50
4-Nitroquinoline 1-oxide	56-57-5	Quinoline, 4-nitro, 1-oxide	8270	10
N-Nitrosodi-n-butylamine	924-16-3	1-Butanamine, N-butyl-N-nitroso-	8270	10
N-Nitrosodiethylamine	55-18-5	Ethanamine, N-ethyl-N-nitroso-	8270	10
N-Nitrosodimethylamine	62-75-9	Methanamine, N-methyl-N-nitroso-	8270	10
N-Nitrosodiphenylamine	86-30-6	Benzenamine, N-nitroso-N-phenyl	8270	10
N-Nitrosodipropylamine; Di-n-propylnitrosamine	621-64-7	1-Propanamine, N-nitroso-N-propyl-	8270	10
N-Nitrosomethylethylamine	10595-95-6	Ethanamine, N-methyl-N-nitroso-	8270	10
N-Nitrosomorpholine	59-89-2	Morpholine, 4-nitroso-	8270	10
N-Nitrosopiperidine	100-75-4	Piperidine, 1-nitroso-	8270	10
N-Nitrosopyrrolidine	930-55-2	Pyrrolidine, 1-nitroso-	8270	10
5-Nitro-o-toluidine	99-55-8	Benzenamine, 2-methyl-5-nitro-	8270	10
Parathion	56-38-2	Phosphorothioic acid, O,O-diethyl-O-(4-nitrophenyl) ester	8270	10
Polychlorinated biphenyls; PCBs	See Note 7	1,1'-Biphenyl, chloro derivatives	8080	50
			8250	100
Polychlorinated dibenzo-p-dioxins; PCDDs	See Note 8	Dibenzo[b,e][1,4]dioxin, chloro derivatives	8280	0.01
Polychlorinated dibenzofurans; PCDFs	See Note 9	Dibenzofuran, chloro derivatives	8280	0.01
Pentachlorobenzene	608-93-5	Benzene, pentachloro-	8270	10
Pentachloroethane	76-01-7	Ethane, pentachloro-	8240	5
			8270	10
Pentachloronitrobenzene	82-68-8	Benzene, pentachloronitro-	8270	10
Pentachlorophenol	87-86-5	Phenol, pentachloro-	8040	5
			8270	50

APPENDIX XIII (Continued)

Ground-Water Monitoring List[1]

Common name[2]	CAS RN[3]	Chemical abstracts service index name[4]	Suggested methods[5]	PQL (µg/L)[6]
Phenacetin	62-44-2	Acetamide, N-(4-ethoxyphenyl)	8270	10
Phenanthrene	85-01-8	Phenanthrene	8100	200
			8270	10
Phenol	108-95-2	Phenol	8040	1
			8270	10
p-Phenylenediamine	106-50-3	1,4-Benzenediamine	8270	10
Phorate	298-02-2	Phosphorodithioic acid, O,O-diethyl S-[(ethylthio)methyl] ester	8140	2
			8270	10
2-Picoline	109-06-8	Pyridine, 2-methyl-	8240	5
			8270	10
Pronamide	23950-58-5	Benzamide, 3,5-dichloro-N-(1,1-dimethyl-2-propynyl)-	8270	10
Propionitrile; Ethyl cyanide	107-12-0	Propanenitrile	8015	60
			8240	5
Pyrene	129-00-0	Pyrene	8100	200
			8270	10
Pyridine	110-86-1	Pyridine	8240	5
			8270	10
Safrole	94-59-7	1,3-Benzodioxole, 5-(2-propenyl)-	8270	10
Selenium	(Total)	Selenium	6010	750
			7740	20
			7741	20
Silver	(Total)	Silver	6010	70
			7760	100
Silvex; 2,4,5-TP	93-72-1	Propanoic acid, 2-(2,4,5-trichlorophenoxy)-	8150	2
Styrene	100-42-5	Benzene, ethenyl-	8020	1
			8240	5
Sulfide	18496-25-8	Sulfide	9030	10,000
2,4,5-T; 2,4,5-Trichlorophenoxy-acetic acid	93-76-5	Acetic acid, (2,4,5-trichlorophenoxy)-	8150	2
2,3,7,8-TCDD; 2,3,7,8-Tetrachloro-dibenzo-p-dioxin	1746-01-6	Dibenzo[b,e][1,4]dioxin, 2,3,7,8-tetrachloro-	8280	0.005
1,2,4,5-Tetrachlorobenzene	95-94-3	Benzene, 1,2,4,5-tetrachloro-	8270	10
1,1,1,2-Tetrachloroethane	630-20-6	Ethane, 1,1,1,2-tetrachloro-	8010	5
			8240	5
1,1,2,2-Tetrachloroethane	79-34-5	Ethane, 1,1,2,2-tetrachloro-	8010	0.5
			8240	5
Tetrachloroethylene; Perchloro-ethylene; Tetrachloroethene	127-18-4	Ethene, tetrachloro-	8010	0.5
			8240	5
2,3,4,6-Tetrachlorophenol	58-90-2	Phenol, 2,3,4,6-tetrachloro-	8270	10
Tetraethyl dithiopyrophosphate; Sulfotepp	3689-24-5	Thiodiphosphoric acid ([(HO)$_2$P(S)]$_2$O), tetraethyl ester	8270	10
Thallium	(Total)	Thallium	6010	400
			7840	1,000
			7841	10
Tin	(Total)	Tin	7870	8,000
Toluene	108-88-3	Benzene, methyl-	8020	2
			8240	5
o-Toluidine	95-53-4	Benzenamine, 2-methyl-	8270	10
Toxaphene	8001-35-2	Toxaphene	8080	2
			8250	10
1,2,4-Trichlorobenzene	120-82-1	Benzene, 1,2,4-trichloro-	8270	10
1,1,1-Trichloroethane; Methylchloroform	71-55-6	Ethane, 1,1,1-trichloro-	8240	5
1,1,2-Trichloroethane	79-00-5	Ethane, 1,1,2-trichloro-	8010	0.2
			8240	5
Trichloroethylene; Trichloroethene	79-01-6	Ethene, trichloro-	8010	1
			8240	5
Trichlorofluoromethane	75-69-4	Methane, trichlorofluoro-	8010	10
			8240	5
2,4,5-Trichlorophenol	95-95-4	Phenol, 2,4,5-trichloro-	8270	10
2,4,6-Trichlorophenol	88-06-2	Phenol, 2,4,6-trichloro-	8040	5
			8270	10
1,2,3-Trichloropropane	96-18-4	Propane, 1,2,3-trichloro-	8010	10
			8240	5
O,O,O-Triethyl phosphorothioate	126-68-1	Phosphorothioic acid, O,O,O-triethyl ester	8270	10
sym-Trinitrobenzene	99-35-4	Benzene, 1,3,5-trinitro-	8270	10
Vanadium	(Total)	Vanadium	6010	80
			7910	2,000
			7911	40
Vinyl acetate	108-05-4	Acetic acid, ethenyl ester	8240	5
Vinyl chloride	75-01-4	Ethene, chloro-	8010	2
			8240	10
Xylene (total)	1330-20-7	Benzene, dimethyl-	8020	5
			8240	5
Zinc	(Total)	Zinc	6010	20
			7950	50

[1]The regulatory requirements pertain only to the list of substances; the right hand columns (Methods and PQL) are given for informational purposes only. See also footnotes 5 and 6.

Ground-Water Monitoring List[1]

[2]Common names are those widely used in government regulations, scientific publications, and commerce; synonyms exist for many chemicals.
[3]Chemical Abstracts Service registry number. Where "Total" is entered, all species in the ground water that contain this element are included.
[4]CAS index names are those used in the 9th Cumulative Index.
[5]Suggested Methods refer to analytical procedure numbers used in EPA Report SW-846 "Test Methods for Evaluating Solid Waste," third edition, November 1986. Analytical details can be found in SW-846 and in documentation on file at the agency. CAUTION: The methods listed are representative SW-846 procedures and may not always be the most suitable method(s) for monitoring an analyte under the regulations.
[6]Practical Quantitation Limits (PQLs) are the lowest concentrations of analytes in ground waters that can be reliably determined within specified limits of precision and accuracy by the indicated methods under routine laboratory operating conditions. The PQLs listed are generally stated to one significant figure. CAUTION: The PQL values in many cases are based only on a general estimate for the method and not on a determination for individual compounds; PQLs are not a part of the regulation.
[7]Polychlorinated biphenyls (CAS RN 1336-36-3); this category contains congener chemicals, including constituents of Aroclor 1016 (CAS RN 12674-11-2), Aroclor-1221 (CAS RN 1104-28-2), Aroclor-1232 (CAS RN 11141-16-5), Aroclor-1242 (CAS RN 53469-21-9), Aroclor-1248 (CAS RN 12672-29-6), Aroclor-1254 (CAS RN 11097-69-1), and Aroclor-1260 (CAS RN 11096-82-5). The PQL shown is an average value for PCB congeners.
[8]This category contains congener chemicals, including tetrachlorodibenzo-p-dioxins (see also 2,3,7,8-TCDD), pentachlorodibenzo-p-dioxins, and hexachlorodibenzo-p-dioxins. The PQL shown is an average value for PCDD congeners.
[9]This category contians congener chemicals, including tetrachlorodibenzofurans, pentachlorodibenzofurans, and hexachlorodibenzofurans. The PQL shown is an average value for PCDF congeners.

33-24-06-01. Application for a permit.

1. **Permit application.** Any person who is required to have a permit (including new applicants and permittees with expiring permits) shall complete, sign, and submit an application to the department as described in this section and section 33-24-06-16. Persons currently authorized with interim status shall apply for permits when required by the department. Persons covered by permits by rule (section 33-24-06-18) need not apply. Procedures for applications, issuance, and administration of emergency permits are found exclusively in section 33-24-06-19. Procedures for application, issuance, and administration of research, development, and demonstration permits are found exclusively in section 33-24-06-20.

2. ~~Who must have a permit? North Dakota Century Code chapter 23-20.3 requires that a permit be obtained for the treatment, storage, or disposal of any hazardous waste as identified in chapter 33-24-02. Owners and operators of hazardous waste management units must have permits during the active life (including the closure period) of the unit, during any compliance period specified under section 33-24-05-53, including any extension of that period under subsection 3 of section 33-24-05-53 and, for any unit which closes after January 26, 1983, during any postclosure care period required under section 33-24-05-66~~ Who must have a permit? North Dakota Century Code chapter 23-20.3 requires that a permit be obtained for the treatment, storage, or disposal of any hazardous waste as identified or listed in chapter 33-24-02. Owners and operators of hazardous waste management units must have permits during the active life (including the closure period) of the unit, during any compliance period specified under section 33-24-05-53, including any extension of that period under subsection 3 of section 33-24-05-53. Owners or operators of surface impoundments, landfills, land treatment units, and waste pile units that received wastes after July 26, 1982, or that certified closure after January 26, 1983, must have postclosure permits, unless they demonstrate closure by removal as provided under subdivisions d and e. If a postclosure permit is required, the permit must address applicable chapter 33-24-05 ground water monitoring, unsaturated zone monitoring, corrective action, and postclosure care requirements of this article. The denial of a permit for the active life of a hazardous waste management facility or unit does not affect the requirement to obtain a postclosure permit under this section.

   a. **Specific inclusions.** Hazardous waste permits are required for:

      (1) Injection wells that dispose of hazardous waste, and associated surface facilities that treat, store, or dispose of hazardous waste (see section 33-24-06-20).

However, the owner or operator with an underground injection control permit will be deemed to have a hazardous waste permit for the injection well itself if the owner or operator complies with requirements of subsection 2 of section 33-24-06-18.

(2) Treatment, storage, or disposal of hazardous waste at facilities requiring a North Dakota pollutant discharge elimination system permit. However, the owner or operator of a publicly owned treatment works receiving hazardous waste will be deemed to have a hazardous waste permit for that waste if the owner or operator complies with the requirements of subsection 3 of section 33-24-06-18.

b. Specific exclusions. Hazardous waste permits are not required for:

(1) Generators who accumulate hazardous waste onsite for less than time periods as provided in section 33-24-03-12.

(2) Farmers who dispose of pesticide containers from their own use as provided in section 33-24-03-40.

(3) Persons who own or operate facilities solely for the treatment, storage, or disposal of hazardous waste excluded from regulation by section 33-24-02-04 or 33-24-02-05.

(4) Owners or operators of totally enclosed treatment facilities as defined in section 33-24-01-04.

(5) Owners or operators of elementary neutralization units or wastewater treatment units as defined in section 33-24-01-04.

(6) Transporters storing manifested shipments of hazardous waste in containers meeting the requirements of section 33-24-03-08 at a transfer facility for a period of ten days or less.

(7) Persons mixing absorbent material and waste in a container, provided this mixing occurs at the time waste is first placed in the container, and the person complies with sections 33-24-05-90 and 33-24-05-91, and subsection 2 of section 33-24-05-08.

(8) Immediate response activities.

(a) A person is not required to obtain a hazardous waste permit for treatment or containment

activities taken during immediate response to any of the following situations:

[1] A discharge of a hazardous waste.

[2] An imminent and substantial threat of a discharge of hazardous waste.

[3] A discharge of a material which, when discharged, becomes a hazardous waste.

(b) Any person who continues or initiates hazardous waste treatment or containment activities after the immediate response is over is subject to all applicable requirements of this chapter for those activities.

c. Permits for less than an entire facility. The department may issue or deny a permit for one or more units at a facility without simultaneously issuing or denying a permit to all of the units at the facility. The interim status of any unit for which a permit has not been issued or denied is not affected by the issuance or denial of a permit to any other unit at the facility.

d. Closure by removal. Owners or operators of surface impoundments, land treatment units, and waste piles closing by removal or decontamination under chapter 33-24-05 standards must obtain a postclosure permit unless they can demonstrate to the department that the closure met the standards for closure by removal or decontamination in section 33-24-05-119, subsection 5 of section 33-24-05-167, or section 33-24-05-135 respectively. The demonstration may be made in the following ways:

(1) If the owner or operator has submitted a part B application for a postclosure permit, the owner or operator may request a determination, based on information contained in the application, that chapter 33-24-05 closure by removal standards were met. If the department believes that chapter 33-24-05 standards were met, the department will notify the public of this proposed decision, allow for public comment, and reach a final determination according to the procedures in subdivision e.

(2) If the owner or operator has not submitted a part B application for a postclosure permit, the owner or operator may petition the department for a determination that a postclosure permit is not required because the closure met the applicable chapter 33-24-05 closure standards.

(a) The petition must include data demonstrating that closure by removal or decontamination standards were met, or it must demonstrate that the unit closed under requirements that met or exceeded the chapter 33-24-05 closure by removal standard.

(b) The department shall approve or deny the petition according to the procedures outlined in subdivision e.

e. Procedures for closure equivalency determination.

(1) If a facility owner or operator seeks an equivalency demonstration under subdivision d, the department will provide the public, through a newspaper notice, the opportunity to submit written comments on the information submitted by the owner or operator within thirty days from the notice. The department will also, in response to your request, or at the department's own discretion, hold a public hearing whenever such a hearing might clarify one or more issues concerning the equivalence of the closure period. The department will give public notice of the hearing at least thirty days before it occurs (public notice of the hearing may be given at the same time as notice of the opportunity for the public to submit written comments, and the two notices may be combined.)

(2) The department will determine whether the chapter 33-24-05 closure met the standards for closure by removal or decontamination in section 33-24-05-119, subsection 5 of section 33-24-05-167, or section 33-24-05-135 respectively within ninety days of its receipt. If the department finds that the closure did not meet the applicable chapter 33-24-05 standards, the department will provide the owner or operator with a written statement of the reasons why the closure failed to meet chapter 33-24-05 standards. The owner or operator may submit additional information in support of an equivalency demonstration within thirty days after receiving such written statement. The department will review any additional information submitted and make a final determination within sixty days.

(3) If the department determines that the facility did not close in accordance with chapter 33-24-05 closure by removal standards, the facility is subject to postclosure permitting requirements.

3. **Who applies?** When a facility or activity is owned by one person but is operated by another person, it is the operator's duty to obtain a permit, however, the owner must also sign the permit application.

4. **Completeness.** The department will not issue a permit before receiving a complete application for a permit, except for permits by rule, or emergency permits. An application for a permit is complete when the department receives an application form and any supplemental information which is completed to its satisfaction. The completeness of any application for a permit shall be judged independently of the status of any other permit application or permit for the same facility or activity. An application for a permit is complete notwithstanding the failure of the owner or operator to submit the exposure information described in subsection 10.

5. **Information requirements.** All applicants for hazardous waste permits shall provide the information required by section 33-24-06-17 to the department.

6. **Recordkeeping.** Applicants shall keep records of all data used to complete permit applications and any supplemental information submitted under this chapter for a period of at least three years from the date the application is signed.

7. **When to apply for a permit.**

   a. **Existing hazardous waste management facilities.**

      (1) Owners and operators of existing hazardous waste management facilities shall submit part A of their permit application (see subsection 1 of section 33-24-06-17) to the department no later than:

         (a) Six months after the date of publication of rules which first require them to comply with the standards set forth in chapter 33-24-05; or

         (b) Thirty days after the date they first become subject to the standards set forth in chapter 33-24-05,

      whichever occurs first.

      (2) The department may extend the date by which owners and operators of specified classes of existing hazardous waste management facilities must submit part A of their permit application if it finds that:

         (a) There has been substantial confusion as to whether the owners and operators of such

facilities were required to file a permit application; and

(b) Such confusion is attributable to ambiguities in the department's rules in chapters 33-24-01 through 33-24-05.

(3) The department may, by compliance order, extend the date by which the owner or operator of an existing hazardous waste management facility must submit part A of the permit application.

(4) The owner and operator of an existing hazardous waste management facility may be required to submit part B of the permit application at any time. Any owner or operator must be allowed at least six months from the date of request to submit the application. Any owner or operator of an existing hazardous waste management facility may voluntarily submit an application at any time.

(5) Failure to furnish a requested permit application on time or to furnish in full the information required by the application is grounds for termination of the facility's operating status under the procedures of chapter 33-24-07.

b. New hazardous waste management facilities.

(1) No person may begin physical construction of a new hazardous waste management facility without having submitted a complete permit application (including both part A and part B) and having received a finally effective hazardous waste permit.

(2) An application for a permit for a new hazardous waste management facility (including both part A and part B) may be filed any time after promulgation of those standards in sections 33-24-05-89, et seq. applicable to such facility. The application must be submitted to the department at least one hundred eighty days before physical construction is expected to commence.

8. Updating permit applications.

a. If any owner or operator of a hazardous waste management facility has filed part A of a permit application and has not yet filed part B, the owner or operator shall amend part A of the application with the department:

(1) No later than the effective date of regulatory provisions listing or designating wastes as

hazardous, if the facility is treating, storing, or disposing of any of those listed or designated wastes; or

(2) As necessary to comply with the provisions of section 33-24-06-16 for changes prior to the department making final administrative disposition of the application.

b. The owner or operator of a facility who fails to comply with the updating requirements of subdivision a of this subsection is not authorized to treat, store, or dispose of those wastes not covered by a duly filed part A of the application.

9. Reapplications. Any hazardous waste management facility with an effective permit shall submit a new application at least one hundred eighty days before the expiration date of the effective permit unless permission for a later date has been granted by the department (the department shall not grant permission for applications to be submitted later than the expiration date of the existing permit).

10. Exposure information.

a. Any permit part B applications submitted by an owner or an operator of a facility that stores, treats, or disposes of hazardous waste in a surface impoundment or landfill must be accompanied by information, reasonably ascertainable by the owner or operator, on the potential for the public to be exposed to hazardous wastes or hazardous constituents through releases related to the unit. At a minimum, such information must address:

(1) Reasonably foreseeable potential releases from both normal operations and accidents at the unit, including releases associated with transportation to or from the unit; and

(2) The potential pathways of human exposure to hazardous wastes or constituents resulting from the releases described under paragraph 1.

(3) The potential magnitude and nature of the human exposure resulting from such releases.

b. Owners and operators of a landfill or surface impoundment who have already submitted a part B application must submit the exposure information required in subdivision a of subsection 10.

11. General requirements. The department may require a permittee or an applicant to submit information in order to establish

permit conditions under subdivision b of subsection 1 of section 33-24-06-05 and subsection 1 of section 33-24-06-06.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04, 23-20.3-05

33-24-06-04. Conditions applicable to permits. The following conditions apply to all hazardous waste permits. All conditions applicable to permits must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to this article must be given in the permit.

1. Duty to comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the North Dakota Century Code and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. However, the permittee need not comply with the conditions of this permit to the extent and for the duration such noncompliance is authorized in an emergency permit. (See section 33-24-06-19.)

2. Duty to reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit.

3. Need to halt or reduce activity not a defense. It is not a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

4. Duty to mitigate. In the event of noncompliance with the permit, the permittee shall take all reasonable steps to minimize releases to the environment, and shall carry out such measures as are reasonable to prevent any adverse impacts on human health or the environment.

5. Proper operation and maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance include effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems only when

necessary to achieve compliance with the conditions of the permit.

6. Permit actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

7. Property rights. This permit does not convey any property rights of any sort or any exclusive privilege.

8. Duty to provide information. The permittee shall furnish to the department, within a reasonable time, any relevant information which the department may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the department, upon request, copies of records required to be kept by this permit.

9. Inspection and entry. The permittee shall allow the department, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

   a. Enter at reasonable times upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

   b. Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit;

   c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

   d. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized, any substances or parameters at any location.

10. Monitoring and records.

   a. Samples and measurements taken for the purposes of monitoring must be representative of the monitoring activity.

   b. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all

reports required by this permit, the certification required by subdivision i of subsection 2 of section 33-24-05-40, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report, certification, or application. This period may be extended by the request of the department at any time.

c. Records of monitoring information must include:

(1) The date, exact place, and time of sampling or measurements;

(2) The individuals who performed the sampling or measurements;

(3) The dates analyses were performed;

(4) The individuals who performed the analyses;

(5) The analytical techniques or methods used; and

(6) The results of such analyses.

d. The permittee shall maintain records from all ground water monitoring wells and associated ground water surface elevations for the active life of the facility, and, for disposal facilities, for the postclosure care period as well.

11. Signatory requirement. All applications, reports, or information submitted to the department must be signed and certified. (See section 33-24-06-03.)

12. Reporting requirements.

a. Planned changes. The permittee shall give notice to the department as soon as possible of any planned physical alterations or additions to the permitted facility. For a new hazardous waste management facility, the permittee may not commence treatment, storage, or disposal of hazardous waste; and for a facility being modified, the permittee may not treat, store, or dispose of hazardous waste in the modified portion of the facility, until:

(1) The permittee has submitted to the department by certified mail or hand delivery a letter signed by the permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the permit; and

(2) Either of the following:

(a) The department has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit; or

(b) Within fifteen days of the date of submission of the letter in paragraph 1, the permittee has not received notice from the department of its intent to inspect. If so, prior inspection by the department is waived and the permittee may commence treatment, storage, or disposal of hazardous waste.

b. Anticipated noncompliance. The permittee shall give advance notice to the department of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. For a new facility, the permittee may not treat, store, or dispose of hazardous waste; and for a facility being modified, the permittee may not treat, store, or dispose of hazardous waste in the modified portion of the facility except as provided in chapter 33-24-06, until:

(1) The permittee has submitted to the department by certified mail or hand delivery a letter signed by the permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the permit; and

(2) Complied with the following:

(a) The department has inspected the modified or newly constructed facility and finds it is in compliance with the conditions of the permit; or

(b) Within fifteen days of the date of submission of the letter in paragraph 1, the permittee has not received notice from the department of the department's intent to inspect, prior inspection is waived and the permittee may commence treatment, storage, or disposal of hazardous waste.

c. Transfers. This permit is not transferable to any person except after notice to the department. The department may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary. (See section 33-24-06-11; in some cases, modification or revocation and reissuance is mandatory.)

d. Monitoring reports. Monitoring results must be reported at the intervals specified elsewhere in this permit.

e. Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit must be submitted no later than fourteen days following each schedule date.

f. Twenty-four-hour reporting.

(1) The permittee shall report any noncompliance which may endanger health or the environment.

(2) Any information shall be provided orally within twenty-four hours from the time the permittee becomes aware of the circumstances. The following shall be included as information which must be reported orally:

(a) Information concerning release of any hazardous waste that may cause an endangerment to public drinking water supplies; and

(b) Any information of a release or discharge of hazardous waste, or of a fire or explosion from a hazardous waste management facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause must include:

[1] Name, address, and telephone number of the owner or operator.

[2] Name, address, and telephone number of the facility.

[3] Date, time, and type of incident.

[4] Name and quantity of materials involved.

[5] The extent of injuries, if any.

[6] An assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable.

[7] Estimated quantity and disposition of recovered material that resulted from the incident.

(3) A written submission must also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission must contain a description of the noncompliance and its

cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(4) The department may waive the five-day written notice requirement in favor of a written report within fifteen days.

g. Other noncompliance. The permittee shall report all instances of noncompliance not reported under subdivisions a, d, e, and f, at the time monitoring reports are submitted. The reports must contain the information listed in subdivision f.

h. Manifest discrepancy reports. If a significant discrepancy in a manifest is discovered, the permittee shall attempt to reconcile the discrepancy. If not resolved within fifteen days, the permittee shall submit a letter report, including a copy of the manifest to the department.

i. Unmanifested waste report. An unmanifested waste report must be submitted to the department within fifteen days of receipt of unmanifested waste.

j. Annual report. An annual report must be submitted by March first of each calendar year covering facility activities during the previous calendar year.

k. Other information. Where the permittee becomes aware that the permittee failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the department, the permittee shall promptly submit such facts or information.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04, 23-20.3-05

33-24-06-06. Duration and scope of permits.

1. Hazardous waste permits are effective for a fixed term of five years. Every five years permits must be modified as necessary to assure that the facility continues to comply with the currently applicable requirements of Resource Conservation and Recovery Act sections 3004 and 3005, and take into account improvements in technology as well as applicable rules.

2. Except as provided in section 33-24-06-02, the term of a permit may not be extended by modification beyond the maximum duration specified in this section.

3. Permits for less than an entire facility. The department may issue or deny a permit for one or more units at a facility without simultaneously issuing or denying a permit to all of the units at the facility. The status of any unit for which a permit has not been issued or denied is not affected by the issuance or denial of a permit to any other unit at the facility.

History: Effective January 1, 1984; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-05

33-24-06-10. Effect of a permit.

1. Compliance with a permit during its term constitutes compliance for purposes of enforcement, with North Dakota Century Code chapter 32-20.3. However, a permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in sections 33-24-06-12 and 33-24-06-13, or the permit may be modified upon the request of the permittee as set forth in section 33-24-06-14.

2. The issuance of a permit does not convey any property rights of any sort, or any exclusive privilege.

3. The issuance of a permit does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04, 23-20.3-05

33-24-06-11. Transfer of permits. ~~A permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under subdivision b of subsection 2 of section 33-24-06-12) or a minor modification made (under subsection 4 of section 33-24-06-14), to identify the new permittee and incorporate such other requirements as may be necessary under North Dakota Century Code chapter 23-20.3.~~

1. A permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under subsection 2 or subdivision b of subsection 2 of section 33-24-06-12) to identify the new permittee and incorporate such other requirements as may be necessary.

2. Changes in the ownership or operational control of a facility may be made as a class 1 modification with prior written approval of the department in accordance with section 33-24-06-14. The new owner or operator must submit a revised permit application no later than ninety days prior to a scheduled change. A written agreement containing a specific date for transfer of permit responsibility between the current and new permittees must also be submitted to the department. When a transfer of ownership or operational control occurs, the old owner or operator shall comply with the requirements of sections 33-24-05-74 through 33-24-05-88 (financial requirements) until the new owner or operator has demonstrated that the owner or operator is complying with the requirements of those sections. The new owner or operator must demonstrate compliance with sections 33-24-05-74 through 33-24-05-88 requirements within six months of the date of the change of ownership or operational control of the facility. Upon demonstration to the department by the new owner or operator of compliance with sections 33-24-05-74 through 33-24-05-88, the department shall notify the old owner or operator that the owner or operator no longer needs to comply with sections 33-24-05-74 through 33-24-05-88 as of the date of demonstration.

History: Effective January 1, 1984; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04, 23-20.3-05

33-24-06-12. ~~Major modification or revocation and reissuance of permits. When the department receives any information [e.g., inspects the facility, receives information submitted by the permittee as required in the permit (see section 33-24-06-04), receives a request for modification or revocation and reissuance, or conducts a review of the permit file] it may determine whether or not one or more of the causes listed in subsections 1 and 2 for modification, or revocation and reissuance, or both, exist. If cause exists, the department may modify or revoke and reissue the permit accordingly, subject to the limitations of subsection 3, and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term. See subdivision b of subsection 3 of section 33-24-07-03. If cause does not exist under this section or section 33-24-06-14, the department may not modify or revoke and reissue the permit. If a permit modification satisfies the criteria in section 33-24-06-14 for "minor modifications", the permit may be modified without a draft permit or public review. Otherwise a draft permit must be prepared and other procedures in chapter 33-24-07 followed.~~ Modification or revocation and reissuance of permits. When the department receives any information (for example, inspects the facility, receives information submitted by the permittee as required in the permit (see section 33-24-06-04), receives a request for revocation and reissuance under section

33-24-07-03 or conducts a review of the permit file), the department may determine whether one or more of the causes listed in subsections 1 and 2 for modification, or revocation and reissuance, or both, exist. If cause exists, the department may modify or revoke and reissue the permit accordingly, subject to the limitations of subsection 3, and may request an updated application if necessary. When a permit is modified, only the conditions subject to modification are reopened. If a permit is revoked and reissued, the entire permit is reopened and subject to revision and the permit is reissued for a new term (see section 33-24-07-03). If cause does not exist under this section, the department may not modify or revoke and reissue the permit, except on request of the permittee. If a permit modification is requested by the permittee, the director shall approve or deny the request according to the procedures of section 33-24-06-14. Otherwise, a draft permit must be prepared and other procedures in chapter 33-24-07 followed.

1. Causes for modifications. The following are causes for modification, but not revocation and reissuance of permits. However, the following may be causes for revocation and reissuance as well as modification when the permittee requests or agrees:

   a. Alterations. There are material and substantial alterations or additions to the permitted facility or activity which occurred after permit issuance which justify the application of permit conditions that are different or absent in the existing permit.

   b. Information. The department has received information that was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and would have justified the application of different permit conditions at the time of issuance.

   c. ~~New regulation. The standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued. Permits may be modified during their terms for this cause only as follows:~~

      ~~(1) For promulgation of amended standards or regulations, when:~~

         ~~(a) The permit condition requested to be modified was based on an effective rule in chapters 33-24-01 through 33-24-05;~~

         ~~(b) The department has revised, withdrawn, or modified that portion of the rule on which the permit condition was based; and~~

         ~~(c) A permittee requests modification in accordance with section 33-24-07-03 within ninety days~~

~~after the department's action on which the request is based.~~

~~(2) For judicial decisions, a court of competent jurisdiction has remanded and stayed effective regulations, if the remand and stay concern that portion of the regulations on which the permit condition was based and a request is filed by the permittee in accordance with section 33-24-07-03 within ninety days of judicial remand.~~

New statutory requirements or regulations. The standards or regulations on which the permit was based have been changed by statute, through promulgation of new or amended standards or regulations, or by judicial decision after the permit was issued. Permits may be modified during their terms for this cause as follows:

(1) The department may modify the permit when the standards or regulations on which the permit was based have been changed by statute or amended standards or regulations.

(2) Permittee may request may request modification when:

(a) The permit condition to be modified was based on a promulgated regulation under article 33-24; and

(b) The state has revised, withdrawn, or modified that portion of the regulation on which the permit condition was based; or

(c) A permittee requests modification in accordance with section 33-24-07-03.

(3) For judicial decisions, a court of competent jurisdiction has remanded and stayed state promulgated regulations if the remand and stay concern that portion of the regulations on which the permit condition was based or if a request is filed by the permittee in accordance with section 33-24-07-03 within ninety days of judicial remand.

d. Compliance schedules. The department determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood, or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy.

e. The department may modify a permit:

(1) When modification of a closure plan is required under subsection 2 of section 33-24-05-61 or subsection 2 of section 33-24-05-66.

(2) After the department receives the notification of expected closure under section 33-24-05-62, when the department determines that extension of the ninety- or one hundred eighty-day periods under section 33-24-05-62, modifications of the thirty-year postclosure period under subsection 1 of section 33-24-05-65, continuation of security requirements under subsection 2 of section 33-24-05-65, or permission to disturb the integrity of the containment system under subsection 3 of section 33-24-05-65 are unwarranted.

(3) When the permittee has filed a request under subsection 3 of section 33-24-05-79 for a variance to the level of financial responsibility or when the department demonstrates under subsection 4 of section 33-24-05-79 that an upward adjustment of the level of financial responsibility is required.

(4) When the corrective action program specified in the permit under section 33-24-05-57 has not brought the regulated unit into compliance with the ground water protection standard within a reasonable period of time.

(5) To include a detection monitoring program meeting the requirements of section 33-24-05-55 when the owner or operator has been conducting a compliance monitoring program under section 33-24-05-56 or a corrective action program under section 33-24-05-57 and the compliance period ends before the end of the postclosure care period for the unit.

(6) When a permit requires a compliance monitoring program under section 33-24-05-56, but monitoring data collected prior to permit issuance indicate that the facility is exceeding the ground water protection standard.

(7) To include conditions applicable to units at a facility that were not previously included in the facility's permit.

(8) When a land treatment unit is not achieving complete treatment of hazardous constituents under its current permit conditions.

f. Notwithstanding any other provision in this section, when a permit for a land disposal facility is reviewed by the

department when it comes up for reissuance in accordance with section 33-24-06-06, the department shall modify the permit as necessary to assure that the facility continues to comply with the currently applicable requirements in chapters 33-24-01 through 33-24-07.

2. Causes for modification or revocation and reissuance. The following are causes to modify or, alternatively, revoke and reissue a permit:

   a. Cause exists for termination under section 33-24-06-13, and the department determines that modification or revocation and reissuance is appropriate.

   b. The department has received notification (as required in the permit, see subsection 4 of section 33-24-06-14) of a proposed transfer of the permit.

3. Facility siting. Suitability of the facility location will not be considered at the time of permit modification or revocation and reissuance unless new information or standards indicate that a threat to human health or the environment exists which was unknown at the time of permit issuance.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04, 23-20.3-05

33-24-06-13. Termination of permits and permit denial.

~~1. The following are causes for terminating a permit during its term, or for denying a permit renewal application:~~

~~a. Noncompliance by the permittee with any condition of the permit;~~

~~b. The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts or the permittee's misrepresentation of any relevant facts at any time; or~~

~~c. A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.~~

~~2. The department shall follow the applicable procedures in chapter 33-24-07 in terminating any permit under this section.~~

1. Termination of permits.

a. The following are causes for terminating a permit during its term, or for denying a permit renewal application:

(1) Noncompliance by the permittee with any condition of the permit;

(2) The permittee's failure in the application or during the permit issuance process to disclose fully all relevant factors or the permittee's misrepresentation of any relevant facts at any time; or

(3) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination.

b. The department shall follow the applicable procedures in chapter 33-24-07 in terminating any permit under this section.

2. Permit denial. The department may, pursuant to the procedures in chapter 33-24-07, deny the permit application either in its entirety or as to the active life of a hazardous waste management facility or unit only.

History: Effective January 1, 1984; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04, 23-20.3-05

33-24-06-14. ~~Minor modifications of permits. Upon the consent of the permittee, the department may modify a permit to make the correction or allowances for changes in the permitted activity listed in this section, without following the procedures of chapter 33-24-07. Any permit modification not processed as a minor modification under this section must be made for cause and with a draft permit and public notice as required in section 33-24-06-12. Minor modifications may only:~~

~~1. Correct typographical errors.~~

~~2. Require more frequent monitoring or reporting by the permittee.~~

~~3. Change an interim compliance date in a schedule of compliance, provided, the new date is not more than one hundred twenty days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement.~~

~~4. Allow for a change in ownership or operational control of a facility where the department determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit~~

~~responsibility between the current and new permittees has been submitted to the department. Changes in the ownership or operational control of a facility may be made if the new owner or operator submits a revised permit application no later than ninety days prior to the scheduled change. When a transfer of ownership or operational control of a facility occurs, the old owner or operator shall comply with the requirements of sections 33-24-05-74 through 33-24-05-88 of chapter 33-24-05 (financial requirements), until the new owner or operator has demonstrated to the department that the new owner or operator is complying with the requirements of sections 33-24-05-74 through 33-24-05-88. The new owner or operator shall demonstrate compliance with sections 33-24-05-74 through 33-24-05-88 requirements within six months of the date in the change of the ownership or operational control of the facility. Upon demonstration to the department by the new owner or operator of compliance with sections 33-24-05-74 through 33-24-05-88, the department shall notify the old owner or operator in writing that the old owner no longer needs to comply with sections 33-24-05-74 through 33-24-05-88 as of the date of demonstration.~~

~~5. Change the lists of facility emergency coordinators or equipment in the permit's contingency plan.~~

~~6. Change estimates of maximum inventory under subdivision b of subsection 1 of section 33-24-05-61.~~

~~7. Change estimates of expected year of closure or schedules for final closure under subdivision d of subsection 1 of section 33-24-05-61.~~

~~8. Approve periods longer than ninety days or one hundred eighty days under subsections 1 and 2 of section 33-24-05-62.~~

~~9. Change the ranges of the operating requirements set in the permit to reflect the results of the trial burn, provided, that the change is minor.~~

~~10. Change the operating requirements set in the permit for conducting a trial burn, provided the change is minor.~~

~~11. Grant one extension of the time period for determining operational readiness following completion of construction for up to seven hundred twenty hours operating time for treatment of hazardous waste.~~

~~12. Change the treatment program required for land treatment units under section 33-24-05-161 to improve the treatment of hazardous constituents provided that the change is minor.~~

~~13. Change any conditions specified in the permit for land treatment units to reflect the results of field tests or~~

laboratory analyses used in making a treatment demonstration in accordance with subsection 3 of section 33-24-06-19; provided, that the change is minor.

14. Allow a second treatment demonstration for land treatment to be conducted when the results of the first demonstration have not shown the conditions under which the waste or wastes can be treated completely as required in subsection 1 of section 33-24-05-162; provided, the conditions for the second demonstration are substantially the same as the conditions for the first demonstration.

15. Allow treatment of hazardous wastes not previously specified in the permit if:

a. The hazardous waste has been prohibited from one or more methods of land disposal under sections 33-24-05-270 through 33-24-05-279 of chapter 33-24-05 or Resource Conservation and Recovery Act section 3004;

b. Treatment is in accordance with section 33-24-05-253 (if applicable), section 33-24-05-252, and:

(1) Treatment is in accordance with applicable standards established under section 33-24-05-281, 33-24-05-282, or 33-24-05-283; or

(2) Where no treatment standards have been established, treatment renders the waste no longer subject to the applicable prohibitions set forth in section 33-24-05-272 or Resource Conservation and Recovery Act section 3004;

c. Handling and treatment of the restricted waste will not present risks substantially different from those of wastes listed in the permit; and

d. Federal or state approval of a minor permit modification request is granted. No permit changes can occur except for the addition of new waste codes and administrative or technical changes necessary to handle new wastes. Changes in treatment processes or physical equipment may not be made under this section.

16. Allow permitted facilities to change their operations to treat or store hazardous waste subject to land disposal restrictions imposed by sections 33-24-05-250 through 33-24-05-300 of chapter 33-24-05 or Resource Conservation and Recovery Act section 3004 provided such treatment or storage occurs in containers or tanks and the permittee:

a. Requests a major permit modification pursuant to section 33-24-06-12;

~~b. Demonstrates in the major permit modification request that the treatment or storage is necessary to comply with the land disposal restrictions of sections 33-24-05-250 through 33-24-05-300 of chapter 33-24-05 or Resource Conservation and Recovery Act section 3004; and~~

~~c. Ensures that the treatment or storage units comply with applicable sections of chapter 33-24-05 pending final administrative disposition of the major modification request. The authorization to make changes conferred in this section terminates upon final administrative disposition of the permittee's major modification request under section 33-24-06-12 or termination of the permit under section 33-24-06-13.~~

Permit modification at the request of the permittee.

1. Class 1 modifications.

a. Except as provided in subdivision b, the permittee may put into effect class 1 modifications listed in appendix I of this section under the following conditions.

(1) The permittee must notify the department concerning the modification by certified mail or other means that establish proof of delivery within seven calendar days after the change is put into effect. This notice must specify the changes being made to permit conditions or supporting documents referenced by the permit and must explain why they are necessary. Along with the notice, the permittee must provide applicable information required by section 33-24-06-17.

(2) The permittee must send a notice of the modification to all persons on the facility mailing list, maintained by the department in accordance with chapter 33-24-07, and the appropriate units of state and local governments, as specified in section 33-24-07-06. This notification must be made within ninety calendar days after the change is put into effect. For the class 1 modifications that require prior department approval, the notification must be made within ninety calendar days after the department approves the request.

(3) Any person may request the department to review, and the department may for cause reject, any class 1 modification. The department must inform the permittee by certified mail that a class 1 modification has been rejected, explaining the reasons for the rejection. If a class 1 modification

has been rejected, the permittee must comply with the original permit conditions.

b. Class 1 permit modifications identified in appendix I by an asterisk may be made only with the prior written approval of the department.

c. For a class 1 permit modification, the permittee may elect to follow the procedures in subsection 2 of section 33-24-06-14 for class 2 modifications instead of the class 1 procedures. The permittee must inform the department of this decision in the notice required in subdivision a of subsection 2 of section 33-24-06-14.

2. Class 2 modifications.

a. Listed in appendix I of this section, the permittee must submit a modification request to the department that:

(1) Describes the exact change to be made to the permit conditions and supporting documents referenced by the permit;

(2) Identifies that the modification is a class 2 modification;

(3) Explains why the modification is needed; and

(4) Provides the applicable information required by section 33-24-06-17.

b. The permittee must send a notice of the modification request to all persons on the facility mailing list maintained by the department and to the appropriate units of state and local government as specified in section 33-24-07-06 and must publish this notice in a major local newspaper of general circulation. This notice must be mailed and published within seven days before or after the date of submission of the modification request, and the permittee must provide to the department evidence of the mailing and publication. The notice must include:

(1) Announcement of a sixty-day comment period, in accordance with subdivision e of subsection 6 of section 33-24-06-14, and the name and address of an agency contact to whom comments must be sent;

(2) Announcement of the date, time, and place for a public meeting held in accordance with subdivision d of subsection 2 of section 33-24-06-14;

(3) Name and telephone number of the permittee's contact person;

(4) Name and telephone number of an agency contact person;

(5) Location where copies of the modification request and any supporting documents can be viewed and copied; and

(6) The following statement: "The permittee's compliance history during the life of the permit being modified is available from the department contact person."

c. The permittee must place a copy of the permit modification request and supporting documents in a location accessible to the public in the vicinity of the permitted facility.

d. The permittee must hold a public meeting no earlier than fifteen days after the publication of the notice required in subdivision b of subsection 2 and no later than fifteen days before the close of the sixty-day comment period. The meeting must be held to the extent practicable in the vicinity of the permitted facility.

e. The public must be provided sixty days to comment on the modification request. The comment period will begin on the date the permittee publishes the notice in the local newspaper. Comments should be submitted to the department contact identified in the public notice.

f. Notification request.

(1) No later than ninety days after receipt of the notification request, the department must:

(a) Approve the modification request, with or without changes, and modify the permit accordingly;

(b) Deny the request;

(c) Determine that the modification request must follow the procedures in subsection 3 of section 33-24-06-14 for class 3 modifications for the following reasons:

[1] There is significant public concern about the proposed modification; or

[2] The complex nature of the change requires the more extensive procedures of class 3;

(d) Approve the request, with or without changes, as a temporary authorization having a term of up to one hundred eighty days; or

(e) Notify the permittee that the department will decide on the request within the next thirty days.

(2) If the department notifies the permittee of a thirty-day extension for a decision, the department must, no later than one hundred twenty days after receipt of the modification request:

(a) Approve the modification request with or without changes, and modify the permit accordingly;

(b) Deny the request; or

(c) Determine that the modification request must follow the procedures in subsection 3 of section 33-24-06-14 for class 3 modifications for the following reasons:

[1] There is significant public concern about the proposed modification; or

[2] The complex nature of the change requires the more extensive procedures of class 3.

(d) Approve the request, with or without changes, as a temporary authorization having a term of up to one hundred eighty days.

(3) If the department fails to make one of the decisions specified in paragraph 2 of subdivision f of subsection 2 by the one hundred twentieth day after receipt of the modification request, the permittee is automatically authorized to conduct the activities described in the modification request for up to one hundred eighty days, without formal department action. The authorized activities must be conducted as described in the permit modification request and must be in compliance with all appropriate standards of section 33-24-06-16. If the department approves, with or without changes, or denies the modification request during the term of the temporary or automatic authorization provided for in paragraph 1, 2, or 3 of subdivision f of subsection 2, such action cancels the temporary or automatic authorization.

(4) The following applies:

(a) In the case of an automatic authorization under paragraph 3 of subdivision f of subsection 6, or a temporary authorization under subparagraph d of paragraph 1 of subdivision f of subsection 2 or subparagraph d of paragraph 2, if the

department has not made a final approval or denial of the modification request by the date fifty days prior to the end of the temporary or automatic authorization, the permittee must, within seven days of that time, send a notification to persons on the facility mailing list, and make a reasonable effort to notify other persons who submitted written comments on the modification request, that:

[1] The permittee has been authorized temporarily to conduct the activities described in the permit modification request; and

[2] Unless the department acts to give final approval or denial of the request by the end of the authorization period, the permittee will receive authorization to conduct such activities for the life of the permit.

(b) If the owner or operator fails to notify the public by the date specified in subparagraph a of paragraph 4 of subdivision f of subsection 2, the effective date of the permanent authorization will be deferred until fifty days after the owner or operator notifies the public.

(5) Except as provided in paragraph 7 of subdivision f of subsection 2, if the department does not finally approve or deny a modification request before the end of the automatic or temporary authorization period or reclassify the modification as a class 3, the permittee is authorized to conduct the activities described in the permit modification request for the life of the permit unless modified later under section 33-24-06-12 or 33-24-06-14. The activities authorized under this paragraph must by conducted as described in the permit modification request and must be in compliance with all appropriate standards of section 33-24-06-16.

(6) In making a decision to approve or deny a modification request including a decision to issue a temporary authorization or to reclassify a modification as a class 3, the department must consider all written comments submitted to the department during the public comment period and must respond in writing to all significant comments in the department's decision.

(7) With the written consent of the permittee, the department may extend, indefinitely or for a specified period, the time periods for final approval or denial of a modification request or for reclassifying a modification as a class 3.

g. The department may deny or change the terms of a class 2 permit modification request under paragraphs 1 through 3 of subdivision f of subsection 2 for the following reasons:

(1) Modification request is incomplete;

(2) The requested modification does not comply with the appropriate requirements of chapter 33-24-05 or other applicable requirements; or

(3) The conditions of the modification failed to protect human health and the environment.

h. The permittee may perform any construction associated with a class 2 permit modification request beginning sixty days after the submission of the request unless the department establishes a later date for commencing construction and informs the permittee in writing before day sixty.

3. Class 3 modifications.

a. For class 3 modifications listed in appendix I of this section, the permittee must submit a modification request to the department that:

(1) Describes the exact change to be made to the permit conditions and supporting documents referenced by the permit;

(2) Identifies that the modification is a class 3 modification;

(3) Explains why the modification is needed; and

(4) Provides the applicable information required by section 33-24-06-17.

b. The permittee must send a notice of the modification request to all persons on the facility mailing list maintained by the department and to the appropriate units of state and local government as specified in section 33-24-07-06 and must publish this notice in a major local newspaper of general circulation. This notice must be mailed and published within seven days before or after the date of submission of the modification request, and the

permittee must provide to the department evidence of the mailing and publication. The notice must include:

(1) Announcement of a sixty-day comment period, and a name and address of a department contact to whom comments must be sent;

(2) Announcement of the date, time, and place for a public meeting on the modification request, in accordance with subdivision d of subsection 3 of section 33-24-06-14;

(3) Name and telephone number of the permittee's contact person;

(4) Name and telephone number of a department contact person;

(5) Location where copies of the modification request and any supporting documents can be viewed and copied; and

(6) The following statement: "The permittee's compliance history during the life of the permit being modified is available from the department contact person."

c. The permittee must place a copy of the permit modification request and supporting documents in a location accessible to the public in the vicinity of the permitted facility.

d. The permittee must hold a public meeting no earlier than fifteen days after the publication of the notice required in subdivision b of subsection 3 and no later than fifteen days before the close of the sixty-day comment period. The meeting must be held to the extent practicable in the vicinity of the permitted facility.

e. The public must be provided at least sixty days to comment on modification requests. The comment period will begin on the date the permittee publishes the notice in the local newspaper. Comments should be submitted to the department contact identified in the notice.

f. After the conclusion of the sixty-day comment period, the department must grant or deny the permit modification request according to the permit modification procedures of chapter 33-24-07. In addition, the department must consider and respond to all significant written comments received during the sixty-day comment period.

4. Other modifications.

a. In the case of modifications not explicitly listed in appendix I of this section, the permittee may submit a class 3 modification request to the department, or the permittee may request a determination by the department that the modification should be reviewed and approved as a class 1 or class 2 modification. If the permittee requests that the modification be classified as a class 1 or 2 modification, the permittee must provide the department with the necessary information to support the requested classification.

b. The department shall make the determination described in subdivision a of subsection 4 as promptly as practicable. In determining the appropriate class for a specific modification, the department shall consider the similarity of the modification to other modifications codified in appendix I and the following criteria:

(1) Class 1 modifications applied to minor changes to keep the permit current with routine changes to the facility or its operation. These changes do not substantially alter the permit conditions or reduce the capacity of the facility to protect human health or the environment. In the case of class 1 modifications, the department may require prior approval.

(2) Class 2 modifications apply to changes that are necessary to enable a permittee to respond, in a timely manner, to:

(a) Common variations in the types and quantities of the wastes managed under the facility permit;

(b) Technological advancement; and

(c) Changes necessary to comply with new regulations, where these changes can be implemented without substantially changing design specifications or management practices in the permit.

(3) Class 3 modifications substantially alter the facility or its operation.

5. Temporary authorizations.

a. Upon request of the permittee, the department may, without prior public notice and comment, grant the permittee a temporary authorization in accordance with this section. Temporary authorizations must have a term of not more than one hundred eighty days.

b. Temporary authorizations.

(1) The permittee may request a temporary authorization for:

(a) Any class 2 modification meeting the criteria of paragraph 2 of subdivision c of subsection 5, and

(b) Any class 3 modification that meets the criteria in subparagraph a or b of paragraph 2 of subdivision c; or that meets the criteria in subparagraphs c through e of paragraph 2 of subdivision c and provides improved management or treatment of a hazardous waste already listed in the facility permit.

(2) The temporary authorization request must include:

(a) A description of the activities to be conducted under the temporary authorization;

(b) An explanation of why the temporary authorization is necessary; and

(c) Sufficiant information to ensure compliance with chapter 33-24-05 standards.

(3) The permittee must send a notice about the temporary authorization request to all persons on the facility mailing list maintained by the department and to appropriate units of state and local governments as specified in section 33-24-07-06. This notification must be made within seven days of submission of the authorization request.

c. The department shall approve or deny the temporary authorization as quickly as practical. To ensure a temporary authorization, the department must find:

(1) The authorized activities are in compliance with the standards of chapter 33-24-05.

(2) The temporary authorization is necessary to achieve one of the following objectives before action is likely to be taken on a modification request:

(a) To facilitate timely implementation of closure or corrective action activities;

(b) To allow treatment or storage in tanks or containers of restricted wastes in accordance with chapter 33-24-05;

(c) To prevent disruption of ongoing waste management activities;

(d) To enable the permittee to respond to sudden changes in the types or quantities of the wastes managed under the facility permit; or

(e) To facilitate other changes to protect human health and the environment.

d. A temporary authorization may be issued for one additional term of up to one hundred eighty days provided that the permittee has requested a class 2 or 3 permit modification for the activity covered in the temporary authorization, and:

(1) The reissued temporary authorization constitutes the department's decision on a class 2 permit modification in accordance with subparagraph d of paragraph 1 of subdivision f of subsection 2 or subparagraph d of paragraph 2; or

(2) The department determines that the reissued temporary authorization involving a class 3 permit modification request is warranted to allow the authorized activities to continue while the modification procedures of subsection 3 are conducted.

6. Public notice and appeals of permit modification decisions.

a. The department shall notify persons on the facility mailing list and appropriate units of state and local government within ten days of any decision under this section to grant or deny a class 2 or 3 permit modification request. The department shall also notify such persons within ten days after an automatic authorization for a class 2 modification goes into effect under paragraph 3 or 4 of subdivision f of subsection 2 of this section.

b. The department's decision to grant or deny a class 2 or 3 permit modification request under this section may be appealed under the permit appeal procedures of section this section.

c. An automatic authorization that goes into effect under paragraph 3 or 5 of subdivision f of subsection 2 of this section may be appealed under the permit appeal procedure of section 33-24-07-14; however the permittee must continue to conduct the activities pursuant to the automatic authorization until the appeal has been granted pursuant to section 33-24-07-14, not withstanding the provisions of section 33-24-07-11.

7. Newly listed or identified wastes.

a. The permittee is authorized to continue to manage wastes listed or identified as hazardous under chapter 33-24-02 if the permittee:

(1) Was in existence as a hazardous waste facility with respect to the newly listed or characterized waste on the effective date on the final rule listing or identifying the waste;

(2) Submits a class 1 modification request on or before the date on which the waste becomes subject to the new requirements;

(3) Is in compliance with the standards of section 33-24-06-16;

(4) In the case of class 2 and 3 modifications, also submits a complete permit modification request within one hundred eighty days after the effective date of the rule listing or identifying the waste; and

(5) In the case of land disposal units, certifies that such unit is in compliance with all applicable ground water monitoring and financial responsibility requirements in article 33-24 on the date twelve months after the effective date of the rule identifying or listing the waste as hazardous. If the owner or operator fails to clarify compliance with these requirements, the owner or operator shall lose authority to operator under this chapter.

b. New wastes for units added to a facility's permit under this section do not constitute expansions for the purpose of the twenty-five percent capacity expansion limit for class 2 modifications.

8. Permit modification list. The department must maintain a list of all approved permit modifications and must publish a notice once a year in a statewide newspaper that an updated list is available for review.

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04, 23-20.3-05

33-24-06-16. Operating status prior to final administrative disposition of the permit application.

1. Qualifying for ~~such status~~ operating status prior to final administrative disposition of the permit application. Any person who owns or operates an existing hazardous waste management facility shall be treated as having been issued a permit to the extent that person has:

   a. Complied with section 3010(a) of the Resource Conservation and Recovery Act by filing a notification of hazardous waste activity form with the department.

   b. Complied with the requirements of subsections 7 and 8 of section 33-24-06-01 governing submission of part A of the application.

2. Failure to qualify for ~~such status~~ operating status prior to final administrative disposition of the permit application. If the department has reason to believe upon examination of a part A application that it fails to meet the requirements of subsection 1 of section 33-24-06-17, it shall notify the owner or operator in writing of the apparent deficiency. Such notice must specify the grounds for the department's belief that the application is deficient. The owner or operator has thirty days from receipt to respond to such a notification and to explain or cure the alleged deficiency in its part A application. If, after such notification and opportunity for response, the department determines that the application is deficient it may take appropriate enforcement action.

3. Coverage. During the period of ~~such status~~ operating status prior to final administrative disposition of the permit application, the facility may not:

   a. Treat, store, or dispose of hazardous waste not specified in part A of the permit application;

   b. Employ processes not specified in part A of the permit application; or

   c. Exceed the design capacities specified in part A of the permit application.

4. Changes during ~~such status~~ operating status prior to final administrative disposition of the permit application.

   a. New hazardous waste not previously identified in part A of the permit application may be treated, stored, or disposed of at a facility if the owner or operator submits a revised part A of the permit application prior to such a change.

   b. Increases in the design capacity of processes used at a facility may be made if the owner or operator submits a revised part A of the permit application prior to such a

change (along with a justification explaining the need for the change) and the department approves the change because of a lack of available treatment, storage, or disposal capacity at other hazardous waste management facilities.

c. Changes in the processes for the treatment, storage, or disposal of hazardous waste may be made at a facility or additional processes may be added if the owner or operator submits a revised part A of the permit application prior to such a change (along with a justification explaining the need for the change) and the department approves the change because:

(1) It is necessary to prevent a threat to human health or the environment because of an emergency situation; or

(2) It is necessary to comply with federal, state, or local laws or regulations.

d. Changes in the ownership or operational control of a facility may be made if the new owner or operator submits a revised part A permit application no later than ninety days prior to the scheduled change. When a transfer of ownership or operational control of a facility occurs, the old owner or operator shall comply with the requirements of sections 33-24-05-74 through 33-24-05-88 (financial requirements), until the new owner or operator has demonstrated to the department that the owner or operator is complying with the requirements of sections 33-24-05-74 through 33-24-05-88. The new owner or operator must demonstrate compliance with sections 33-24-05-74 through 33-24-05-88 within six months of the date of the change in the ownership or operational control of the facility. Upon demonstration to the department by the new owner or operator of compliance with sections 33-24-05-74 through 33-24-05-88, the department shall notify the old owner or operator in writing that the owner or operator no longer needs to comply with sections 33-24-05-74 through 33-24-05-88 as of the date of demonstration. All other duties concerning ~~such status~~ operating status prior to final administrative disposition of the permit application are transferred effective immediately upon the date of the change of ownership or operational control of the facility.

e. In no event may changes be made to a hazardous waste facility during ~~such status~~ operating status prior to final administrative disposition of the permit application which amounts to reconstruction of the facility. Reconstruction occurs when the capital investment and the changes to the facility exceed fifty percent of the capital cost of a comparable entirely new hazardous waste

management facility. Changes prohibited under this section do not include changes to treat or store in containers or tanks hazardous waste subject to land disposal restrictions imposed by sections 33-24-05-250 through 33-24-05-300 or Resource Conservation and Recovery Act section 3004, provided that such changes are made solely for the purpose of complying with sections 33-24-05-250 through 33-24-05-300 or Resource Conservation and Recovery Act section 3004.

5. During ~~such status~~ operating status prior to final administrative disposition of the permit application, owners or operators shall comply with the federal interim status standards, 40 CFR part 265 and 270.

6. ~~Such status~~ Operating status prior to final administrative disposition of the permit application terminates when:

   a. Final administrative disposition of a permit application is made; or

   b. ~~Such status~~ Operating status prior to final administrative disposition of the permit application is terminated as provided in paragraph 5 of subdivision a of subsection 7 of section 33-24-06-01.

7. Subsection 1 does not apply to any facility which has been previously denied a hazardous waste permit or if authority to operate the facility under article 33-24 has been previously terminated.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04, 23-20.3-05

33-24-06-17. Contents of a permit application.

1. Part A of the application must include the following information:

   a. The activities conducted by the applicant which require it to obtain a permit.

   b. Name, mailing address, and location of the facility for which the application is submitted.

   c. Up to four standard industrial codes which best reflect the principle products or services provided by the facility.

d. The operator's name, address, telephone number, ownership status and status as a federal, state, private, public, or other entity.

e. A listing of all permits or construction approvals at all governmental levels received or applied for under any of the following programs:

(1) Hazardous waste management program under the Resource Conservation and Recovery Act.

(2) Underground injection control program under the Safe Drinking Water Act.

(3) North Dakota pollutant discharge elimination system program under the Clean Water Act.

(4) Prevention of significant deterioration program under the Clean Air Act.

(5) Nonattainment program under the Clean Air Act.

(6) National emissions standards for hazardous air pollutants preconstruction approval under the Clean Air Act.

(7) Dredge or fill permits under section 404 of the Clean Water Act.

(8) Other relevant environmental permits.

f. A topographic map (or other map if a topographic map is unavailable), extending one mile [1.61 kilometers] beyond the property boundaries of the source, depicting the facility and each of its intake and discharge structures; each of its hazardous waste treatment, storage, or disposal facilities; each well where fluids from the facility are injected underground; and those well springs, other surface water bodies, and drinking water wells listed in public records or otherwise known to the applicant in the map area.

g. A brief description of the nature of the business.

h. The latitude and longitude of the facility.

i. The name, address, and telephone number of the owner of the facility.

j. An indication of whether the facility is new or existing and whether it is a first or revised application.

k. For existing facilities, a scale drawing of the facility showing the location of all past, present, and future treatment, storage, and disposal areas.

l. For existing facilities, photographs of the facility clearly delineating all existing structures; existing treatment, storage, and disposal areas; and types of future treatment, storage, and disposal areas.

m. A description of the processes to be used for treating, storing, and disposing of hazardous waste, and the design capacity of these items.

n. A specification of the hazardous wastes listed or designated under chapter 33-24-02 to be treated, stored, or disposed at the facility; an estimate of the quantity of such waste to be treated, stored, or disposed annually; and a general description of the processes to be used for such wastes.

2. The information requirements for part B of the permit application presented below reflect the standards in chapter 33-24-05. These information requirements are necessary in order for the department to determine compliance with chapter 33-24-05 standards. If owners and operators of hazardous waste management facilities can demonstrate that the information required for part B of the application cannot be provided to the extent required, the department may make allowances for submission of such information on a case-by-case basis. Information required for part B of the application must be submitted to the department and signed in accordance with requirements in section 33-24-06-03. Certain technical data, such as design drawings and specifications, and engineering studies must be certified by a registered professional engineer. Part B of the application includes the following (information in subdivisions a through r is required for all hazardous waste management facilities except as section 33-24-05-01 provides otherwise; that in subdivisions s through y and hh is additional information required for specific types of facilities; and that in subdivisions z through gg is additional information regarding protection of ground water, and is required for surface impoundments, piles, land treatment units, and landfills, except as otherwise provided in subsection 2 of section 33-24-05-47):

a. General description of the facility.

b. Chemical and physical analyses of the hazardous waste to be handled at the facility. At a minimum, these analyses must contain all the information which must be known to treat, store, or dispose of the waste properly in accordance with chapter 33-24-05.

c. A copy of the waste analysis plan required by subsection 2 of section 33-24-05-04 and, if applicable, subsection 3 of section 33-24-05-04.

d. A description of the security procedures and equipment required by section 33-24-05-05, or a justification demonstrating the reason for requesting a waiver of this requirement.

e. A copy of the general inspection schedule required by subsection 2 of section 33-24-05-06; include, where applicable, as part of the inspection schedule, specific requirements in section 33-24-05-93, subsection 9 of section 33-24-05-106, sections 33-24-05-108, 33-24-05-117, 33-24-05-132, 33-24-05-163, and 33-24-05-178.

f. A justification of any request for waivers of the preparedness and prevention requirements of sections 33-24-05-15 through 33-24-05-25.

g. A copy of the contingency plan required by sections 33-24-05-26 through 33-24-05-36. Include, where applicable, as part of the contingency plan, specific requirements in sections 33-24-05-110 and 33-24-05-118.

h. A description of procedures, structures, or equipment used at the facility to:

(1) Prevent hazards in unloading operations, e.g., ramps and special forklifts;

(2) Prevent runoff from hazardous waste handling areas to other areas of the facility or environment, or to prevent flooding, e.g., berms, dikes, and trenches;

(3) Prevent contamination of water supplies;

(4) Mitigate effects of equipment failure and power outages; ~~and~~

(5) Prevent undue exposure of personnel to hazardous waste~~, e.g., protective clothing.~~ (for example, protective clothing); and

(6) Prevent releases to atmosphere.

i. A description of precautions to prevent accidental ignition or reaction of ignitable, reactive, or incompatible wastes as required to demonstrate compliance with section 33-24-05-08, including documentation demonstrating compliance with subsection 3 of section 33-24-05-08.

j. Traffic pattern, estimated volume (number, type of vehicles) and control, e.g., show turns across traffic lanes and stacking lanes, if appropriate; describe access road, surfacing and load-bearing capacity; show traffic control signals.

k. [Reserved]

l. An outline of both the introductory and continuing programs by owners or operators to prepare persons to operate and maintain a hazardous waste management facility in a safe manner as required to demonstrate compliance with section 33-24-05-07. A brief description of how training will be designed to meet actual job tasks in accordance with requirements in subdivision c of subsection 1 of section 33-24-05-07.

m. A copy of the closure plan and where applicable, the postclosure plan required by sections 33-24-05-61, 33-24-05-67, and 33-24-05-110. Include, where applicable, as part of the plans, specific requirements in sections 33-24-05-97, 33-24-05-110, 33-24-05-119, 33-24-05-135, 33-24-05-151, 33-24-05-167, ~~and~~ 33-24-05-180, 33-24-05-301, and 33-24-05-303.

n. For hazardous waste disposal units that have been closed, documentation that notices required under section 33-24-05-68 have been filed.

o. The most recent closure and, where applicable, postclosure cost estimate for the facility prepared in accordance with section 33-24-05-76 and a copy of the documentation required to demonstrate financial assurance under section 33-24-05-77. For a new facility, a copy of the required documentation may be submitted sixty days prior to the initial receipt of hazardous waste, if that is later than the submission of the part B application.

p. Where applicable, a copy of the insurance policy or other documentation which comprises compliance with the requirements of section 33-24-05-79. For a new facility, documentation showing the amount of insurance meeting the specification of subsection 1, and subsection 2, if applicable, of section 33-24-05-79, that the owner or operator plans to have in effect before initial receipt of hazardous waste for treatment, storage, or disposal. A request for a variance in the amount of required coverage, for a new or existing facility, may be submitted as specified in subsection 3 of section 33-24-05-79.

q. A topographic map showing a distance of one thousand feet [304.8 meters] around the facility at a scale of two and five-tenths centimeters [1 inch] equal to not more than

sixty-one meters [200 feet]. (The department may allow the use of other scales on a case-by-case basis.) Contours must be shown on the map. The contour interval must be sufficient to clearly show the pattern of surface water flow in the vicinity of and from each operational unit of the facility. For example, contours with an interval of one and five-tenths meters [5 feet], if relief is greater than six and one-tenth meters [20 feet], or an interval of six-tenths meter [2 feet], if relief is less than six and one-tenth meters [20 feet]. Owners and operators of hazardous waste management facilities located in mountainous areas should use larger contour intervals to adequately show topographic profiles of the facilities. The map must clearly show the following:

(1) Map scale and date.

(2) One hundred-year floodplain area.

(3) Surface waters including intermittent streams.

(4) Surrounding land uses (residential, commercial, agricultural, recreational).

(5) A wind rose, i.e., prevailing wind speed and direction.

(6) Orientation of the map (north arrow).

(7) Legal boundaries of the hazardous waste management facility site.

(8) Access control (fences, gates).

(9) Injection and withdrawal wells, both onsite and offsite.

(10) Buildings; treatment, storage, or disposal operations; or other structures (recreation areas, runoff control systems, access and internal roads, storm, sanitary, and processed sewerage systems, loading and unloading areas, fire control facilities, etc.).

(11) Barriers for drainage or flood control.

(12) Location of operational units within the hazardous waste management facility site, where hazardous waste is (or will be) treated, stored, or disposed (include equipment cleanup areas).

r. Applicants may be required to submit such information as may be necessary to enable the department to carry out its

duties under federal or other state laws as required in section 33-24-06-09.

s. For facilities that store containers of hazardous waste, except as otherwise provided in section 33-24-05-89:

(1) A description of the containment system to demonstrate compliance with section 33-24-05-94. Show at least the following:

(a) Basic design parameters, dimensions, and materials of construction.

(b) How the design promotes drainage or how containers are kept from contact with standing liquids in the containment system.

(c) Capacity of the containment system relative to the number and volume of containers to be stored.

(d) Provisions for preventing or managing run-on.

(e) How accumulated liquids can be analyzed and removed to prevent overflow.

(2) For storage areas that store containers holding wastes that do not contain free liquids, a demonstration of compliance with subsection 3 of section 33-24-05-94, including:

(a) Test procedures and results or other documentation or information to show that the wastes do not contain free liquids; and

(b) A description of how the storage area is designed or operated to drain and remove liquids or how containers are kept from contact with standing liquids.

(3) Sketches, drawings, or data demonstrating compliance with section 33-24-05-95 (location of buffer zone and containers holding ignitable or reactive wastes) and subsection 3 of section 33-24-05-96 (location of incompatible wastes), where applicable.

(4) Where incompatible wastes are stored or otherwise managed in containers, a description of the procedures used to ensure compliance with subsections 1 and 2 of section 33-24-05-96 and subsections 2 and 3 of section 33-24-05-08.

t. Except as otherwise provided in section 33-24-05-103, owners and operators of facilities that use tanks to store or treat hazardous waste shall provide the following additional information:

(1) A written assessment that is reviewed and certified by an independent, qualified, registered professional engineer to the structural integrity and suitability for handling hazardous waste of each tank system, as required under sections 33-24-05-104 and 33-24-05-105;

(2) Dimensions and capacity of each tank;

(3) Description of feed systems, safety cutoff, bypass systems, and pressure controls, e.g., vents;

(4) A diagram of piping, instrumentation, and process flow for each tank system;

(5) A description of materials and equipment used to provide external corrosion protection, as required under subsection 3 of section 33-24-05-104;

(6) For new tank systems, a detailed description of how the tank systems will be installed in compliance with subsections 2, 3, 4, and 5 of section 33-24-05-105;

(7) Detailed plans and description of how the secondary containment system for each tank system is or will be designed, constructed, and operated to meet the requirements of subsections 1, 2, 3, 4, 5, and 6 of section 33-24-05-106;

(8) For tank systems for which a variance from the requirements of section 33-24-05-106 is sought (as provided by subsection 7 of section 33-24-05-106):

(a) Detailed plans and engineering and hydrogeologic reports, as appropriate, describe alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous waste or hazardous constituents into the ground water or surface water during the life of the facility; or

(b) A detailed assessment of the substantial present or potential hazards posed to human health or the environment should a release enter the environment.

(9) Description of controls and practices to prevent spills and overflows, as required under subsection 2 of section 33-24-05-107; and

(10) For tank systems in which ignitable, reactive, or incompatible wastes are to be stored or treated, a description of how operating procedures and tank system and facility design will achieve compliance with the requirements of section 33-24-05-111 and 33-24-05-112.

u. For facilities that store, treat, or dispose of hazardous waste in surface impoundments, except as otherwise provided in section 33-24-05-01:

(1) A list of the hazardous wastes placed or to be placed in each surface impoundment.

(2) Detailed plans and an engineering report describing how the surface impoundment is or will be designed, constructed, operated, and maintained to meet the requirements of section 33-24-05-116. This submission must address the following items as specified in that section.

(a) The liner system. Submit detailed plans and an engineering report explaining the location of the saturated zone in relation to the surface impoundment, and the design of the double-liner system that incorporates a leak detection system between the liners. If an exemption from the requirement for a liner system is sought as provided by subsection 2 of section 33-24-05-116, submit detailed plans and engineering and hydrogeologic reports as appropriate, describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the ground water or surface water at any future time. If an exemption is sought from the design and operating requirements for an existing portion of the surface impoundment as provided by subsection 3 of section 33-24-05-116, the owner or operator shall submit detailed plans and engineering and hydrogeologic reports as appropriate, describing how the existing design and operating practices, together with the location of the facility will prevent migration of any hazardous constituents into the ground water or surface water during the active life of the facility (for impoundments to be closed in accordance with subdivision a of subsection 1 of

section 33-24-05-119), or the active life and the postclosure care period (for impoundments to be closed in accordance with subdivision b of subsection 1 of section 33-24-05-119).

(b) Prevention of overtopping.

(c) Structural integrity of dikes.

(3) A description of how each surface impoundment, including the liner and cover systems and appurtenances for control of overtopping will be inspected in order to meet the requirements of subsections 1 and 2 of section 33-24-05-117. This information should be included in the inspection plan submitted under subdivision e of subsection 2 of this section.

(4) A certification by a qualified engineer which attests to the structural integrity of each dike as required under subsection 3 of section 33-24-05-117. For new units, the owner or operator must submit a statement by a qualified engineer that the engineer will provide such a certification upon completion of construction in accordance with the plans and specifications.

(5) A description of the procedure to be used for removing a surface impoundment from service as required under subsections 2 and 3 of section 33-24-05-118. This information should be included in the contingency plan submitted under subdivision g of subsection 2 of this section.

(6) A description of how hazardous waste residues and contaminated materials will be removed from the unit at closure as required under subdivision a of subsection 1 of section 33-24-05-119. For any wastes not to be removed from the unit upon closure, the owner or operator shall submit detailed plans and an engineering report describing how subsection 2 and subdivision b of subsection 1 of section 33-24-05-118 will be complied with. This information should be included in the closure plan and where applicable, the postclosure plan submitted under subdivision m of subsection 2 of this section.

(7) If ignitable or reactive wastes are to be placed in a surface impoundment an explanation of how section 33-24-05-120 will be complied with.

(8) If incompatible wastes or incompatible wastes and materials will be placed in the surface impoundment,

an explanation of how section 33-24-05-121 will be complied with.

(9) A waste management plan for hazardous wastes F020, F021, F022, F023, F026, and F027 describing how the surface impoundment is or will be designed, constructed, operated, and maintained to meet the requirements of section 33-24-05-122. This submission must address the following items as specified in section 33-24-05-122:

(a) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere.

(b) The attenuative properties of underlying and surrounding soils or other materials.

(c) The mobilizing properties of other materials codisposed with these wastes.

(d) The effectiveness of additional treatment, design, or monitoring techniques.

v. For facilities that treat or store hazardous waste in waste piles, except as otherwise provided in section 33-24-05-01:

(1) A list of hazardous wastes placed, or to be placed, in each waste pile.

(2) If an exemption is sought to section 33-24-05-131 and sections 33-24-05-47 through 33-24-05-58, as provided by subsection 3 of section 33-24-05-130 or subdivision b of subsection 2 of section 33-24-05-47, an explanation of how the requirements of subsection 3 of section 33-24-05-130 will be complied with or detailed plans and an engineering report describing how the requirements of subdivision b of subsection 2 of section 33-24-05-47 will be met.

(3) Detailed plans and an engineering report describing how the pile is or will be designed, constructed, operated, and maintained to meet the requirements of section 33-24-05-131. This submission must address the following items as specified in that section:

(a) The liner system. If an exemption is sought from the design and operating requirements as provided by subsection 5 of section 33-24-05-131, the owner or operator shall submit detailed plans and engineering and hydrogeologic

reports as appropriate describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituents into the ground water or surface water at any future time. If an exemption from the design and operating requirements is sought for an existing portion of a pile as provided by subsection 6 of section 33-24-05-131, the owner or operator shall submit detailed plans and engineering and hydrogeologic reports as appropriate describing how the existing design and operating practices, together with the location of the facility, will prevent migration of any hazardous constituents into the ground water or surface water during the active life of the facility (including the closure period).

(b) The location of the seasonal high water table.

(c) If applicable, a description of how the wastes will be periodically removed and the liner inspected in accordance with subdivision b of subsection 1 of section 33-24-05-131.

(d) Control of run-on.

(e) Control of runoff.

(f) Management of collection and holding units associated with run-on and runoff control systems.

(g) Control of wind dispersal of particulate matter, where applicable.

(4) A description of how each waste pile, including the liner and appurtenances for control of run-on and runoff, will be inspected in order to meet the requirements of subsections 1 and 2 of section 33-24-05-132. This information should be included in the inspection plan submitted under subdivision e of subsection 2 of this section.

(5) If treatment is carried out on or in the pile, details of the process and equipment used, and the nature and quality of the residuals.

(6) If ignitable or reactive wastes are to be placed in a waste pile an explanation of how the requirements of section 33-24-05-133 will be complied with.

(7) If incompatible wastes or incompatible wastes and materials will be placed in a waste pile, an explanation of how section 33-24-05-134 will be complied with.

(8) A description of how hazardous waste residues and contaminated materials will be removed from the waste pile at the closure, as required under subsection 1 of section 33-24-05-135. For any wastes not to be removed from the waste pile upon closure, the owner or operator must submit detailed plans and an engineering report describing how subsections 1 and 2 of section 33-24-05-180 will be complied with. This information should be included in the closure plan and where applicable, the postclosure plan, submitted under subdivision m of subsection 2 of this section.

(9) A waste management plan for hazardous wastes F020, F021, F022, F023, F026, and F027 describing how a waste pile that is not enclosed (as defined in subsection 3 of section 33-24-05-130) is or will be designed, constructed, operated, and maintained to meet the requirements of section 33-24-05-136. This submission must address the following items as specified in section 33-24-05-136:

(a) The volume, physical, and chemical characteristics of the wastes to be disposed in the waste pile, including their potential to migrate through soil or to volatilize or escape into the atmosphere.

(b) The attenuative properties of underlying and surrounding soils or other materials.

(c) The mobilizing properties of other materials codisposed with these wastes.

(d) The effectiveness of additional treatment, design, or monitoring techniques.

w. For facilities that incinerate hazardous waste, except as section 33-24-05-144 provides otherwise, the applicant must fulfill the requirements of paragraph 1, 2, or 3.

(1) When seeking an exemption in accordance with subsection 1 of section 33-24-05-144, submit a demonstration that the waste to be burned:

(a) Is hazardous (either listed in or fails the characteristic tests in chapter 33-24-02) solely because it is:

[1] Ignitable, or corrosive, or both; or

[2] Reactive for characteristics other than those in subdivisions d and e of subsection 1 of section 33-24-02-13, and will not be burned when other hazardous wastes are present in the combustion zone; and

(b) Contains insignificant concentrations of the hazardous constituents listed in appendix V of chapter 33-24-02.

(2) Submit a trial burn plan or the results of a trial burn including all required determinations in accordance with subsection 2 of section 33-24-06-19.

(3) In lieu of a trial burn, the applicant may submit the following information:

(a) An analysis of each waste or mixture of wastes to be burned including:

[1] Heat value of the waste in the form and composition in which it will be burned.

[2] Viscosity (if applicable), or description of physical form of the waste.

[3] An identification of any hazardous organic constituents listed in chapter 33-24-02, appendix V of this article which are present in the waste to be burned, except that the applicant need not analyze for constituents listed in chapter 33-24-02, appendix V, of this article which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified and the basis for their exclusion stated. The waste analysis must rely on analytical techniques specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see section 33-24-01-05), or their equivalent.

[4] An approximate quantification of the hazardous constituent identified in the waste, within the precision specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods"

(incorporated by reference, see section 33-24-01-05).

[5] A quantification of those hazardous constituents in the waste which may be designated as principle organic hazardous constituents based on data submitted from the other trial or operational burns which demonstrate compliance with the performance standard in section 33-24-05-147.

(b) A detailed engineering description of the incinerator, including:

[1] Manufacturer's name and model number of incinerator.

[2] Type of incinerator.

[3] Linear dimension of incinerator unit including cross-sectional area of combustion chamber.

[4] Description of auxiliary fuel system (type/feed).

[5] Capacity of prime mover.

[6] Description of automatic waste feed cutoff systems.

[7] Stack gas monitoring and pollution control monitoring system.

[8] Nozzle and burner design.

[9] Construction materials.

[10] Location and description and temperature, pressure, and flow indicating devices and control devices.

(c) A description and analysis of the waste to be burned compared with the waste for which data from operational or trial burns are provided to support the contention that a trial burn is not needed. The data should include those items listed in subparagraph a of paragraph 3 of subdivision w. This analysis should specify the principle organic hazardous constituents which the applicant has identified in the waste for which a permit is sought and any differences from the principle organic hazardous

constituents in the waste for which burn data are provided.

(d) The design and operating conditions of the incinerator unit to be used, compared with that for which comparable burn data are available.

(e) A description of the results submitted from any previously conducted trial burns including:

[1] Sampling and analysis techniques used to calculate performance standards in section 33-24-05-147.

[2] Methods and results of monitoring temperatures, waste feed rates, carbon monoxide, and an appropriate indicator of combustion gas velocity (including a statement concerning the precision and accuracy of this measurement).

[3] The certification and results required by paragraph 7 of subdivision b of subsection 2 of section 33-24-06-19.

(f) The expected incinerator operation information to demonstrate compliance with sections 33-24-05-147 and 33-24-05-149 including:

[1] Expected carbon monoxides level in the stack exhaust gas.

[2] Waste feed rate.

[3] Combustion zone temperature.

[4] Indication of combustion gas velocity.

[5] Expected stack gas volume, flow rate, and temperature.

[6] Computed residence time for waste in the combustion zone.

[7] Expected hydrochloric acid removal efficiency.

[8] Expected fugitive emissions and their control procedures.

[9] Proposed waste feed cutoff limits based on the identified significant operating parameters.

(g) Such supplemental information as the department finds necessary to achieve the purposes of this subdivision.

(h) Waste analysis data, including that submitted in subparagraph a of paragraph 3 of subdivision w, sufficient to allow the department to specify as permit principle organic hazardous constituents those constituents for which destruction and removal efficiencies will be required.

(4) The department shall approve a permit application without a trial burn if it finds that:

(a) The wastes are sufficiently similar; and

(b) The incinerator units are sufficiently similar, and the data from other trial burns are adequate to specify (under section 33-24-05-149) operating conditions that will ensure that the performance standards in section 33-24-05-147 will be met.

x. For facilities that use land treatment to dispose of hazardous waste, except as otherwise provided in section 33-24-05-01:

(1) A description of plans to conduct a treatment demonstration as required under section 33-24-05-162. The description must include the following information:

(a) The wastes for which the demonstration will be made and the potential hazardous constituents in the waste.

(b) The data sources to be used to make the demonstration, e.g., literature, laboratory data, field data, or operating data.

(c) Any specific laboratory or field test that will be conducted, including:

[1] The type of test, e.g., column leaching, degradation.

[2] Materials and methods, including analytical procedures.

[3] Expected time for completion.

[4] Characteristics of the unit that will be simulated in the demonstration, including

treatment zone characteristics, climatic conditions, and operating practices.

(2) A description of a land treatment program as required under section 33-24-05-161. This information must be submitted with the plans for the treatment demonstration and updated following the treatment demonstration. The land treatment program must address the following items:

(a) The wastes to be land treated.

(b) Design measures and operating practices necessary to maximize treatment in accordance with subsection 1 of section 33-24-05-163, including:

[1] Waste application method and rate.

[2] Measures to control soil pH.

[3] Enhancement of microbial or chemical reactions.

[4] Control of moisture content.

(c) Provisions for unsaturated zone monitoring, including:

[1] Sampling equipment, procedures, and frequency.

[2] Procedures for selecting sampling locations.

[3] Analytical procedures.

[4] Chain of custody control.

[5] Procedures for establishing background values.

[6] Statistical methods for interpreting results.

[7] Justification for any hazardous constituents recommended for selection as principle hazardous constituents in accordance with the criteria for such selection in subsection 1 of section 33-24-05-165.

(d) A list of hazardous constituents reasonably expected to be in or derived from the waste to be land treated based on waste analysis performed pursuant to section 33-24-05-04.

(e) The proposed dimensions of the treatment zone.

(3) A description of how the unit is, or will be designed, constructed, operated, and maintained in order to meet the requirements of section 33-24-05-163. This submission must address the following items:

(a) Control of run-on.

(b) Collection and control of runoff.

(c) Minimization of runoff of hazardous constituents from the treatment zone.

(d) Management of collection and holding facilities associated with run-on and runoff control systems.

(e) Periodic inspection of the unit. This information should be included in the inspection plan submitted under subdivision e.

(f) Control of wind dispersal of particulate matter, if applicable.

(4) If food chain crops are to be grown in or on the treatment zone of the land treatment unit, a description of how the demonstration required under subsection 1 of section 33-24-05-164 will be conducted including:

(a) Characteristics of the food chain crop for which the demonstration will be made.

(b) Characteristics of the waste treatment zone and waste application method and rate to be used in the demonstration.

(c) Procedures for crop growth, sample collection, sample analysis, and data evaluation.

(d) Characteristics of the comparison crop, including the location and conditions under which it was or will be grown.

(5) If food chain crops are to be grown and cadmium is present in the land treated waste, a description of

how the requirements of subsection 5 of section 33-24-05-164 will be complied with.

(6) A description of the vegetative cover to be applied to closed portions of the facility and a plan for maintaining such cover during the postclosure care period as required under subdivision h of subsection 1 and subdivision b of subsection 3 of section 33-24-05-167. This information should be included in the closure plan and where applicable, the postclosure care plan submitted under subdivision m.

(7) If ignitable or reactive wastes will be placed in or on the treatment zone, an explanation of how the requirements of section 33-24-05-168 will be complied with.

(8) If incompatible wastes or incompatible wastes or materials will be placed in or on the same treatment zone, an explanation of how section 33-24-05-169 will be complied with.

(9) A waste management plan for hazardous wastes F020, F021, F022, F023, F026, and F027 describing how a land treatment facility is or will be designed, constructed, operated, and maintained to meet the requirements of section 33-24-05-170. This submission must address the following items as specified in section 33-24-05-170:

(a) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere.

(b) The attenuative properties of underlying and surrounding soils or other materials.

(c) The mobilizing properties of other materials codisposed with these wastes.

(d) The effectiveness of additional treatment, design, or monitoring techniques.

y. For facilities that dispose of hazardous waste in landfills, except as otherwise provided in section 33-24-05-01:

(1) A list of the hazardous wastes placed or to be placed in each landfill or landfill cell.

(2) Detailed plans and an engineering report describing how the landfill is or will be designed, constructed, operated, and maintained to comply with the requirements of section 33-24-05-177. This submission must address the following items as specified in that section:

(a) The liner system and leachate collection and removal system. If an exemption from the design and operating requirements for the landfill is sought as provided by subsection 5 of section 33-24-05-177 submit detailed plans and engineering and hydrogeologic reports as appropriate describing alternate design and operating practices that will, in conjunction with location aspects, prevent the migration of any hazardous constituent into the ground water or surface water at any future time. If an exemption from the design and operating requirements is sought for an existing portion of a landfill as provided by subsection 6 of section 33-24-05-177, the owner or operator shall submit detailed plans and engineering and hydrogeologic reports as appropriate describing how the existing design and operating practices, together with the location of the facility, will prevent migration of any hazardous constituents into the ground water or surface water during the active life of the facility (including the closure period) and the postclosure care period.

(b) Control of run-on.

(c) Control of runoff.

(d) Management of collection and holding facilities associated with run-on and runoff control systems.

(e) Control of wind dispersal of particulate matter where applicable.

(3) Detailed plans and an engineering report explaining the location of the saturated zone in location to the landfill. The design of the double-liner system that incorporates a leak detection system between the liners, and a leachate collection and removal system above the liner.

(4) A description of how each landfill, including the liner and cover systems will be inspected in order to meet the requirements of subsections 1 and 2 of section 33-24-05-178. This information should be

included in the inspection plan submitted under subdivision e.

(5) Detailed plans and an engineering report describing the final cover which will be applied to each landfill or landfill cell at closure in accordance with subsection 1 of section 33-24-05-180 and a description of how each landfill will be maintained and monitored after closure in accordance with subsection 2 of that section. This information should be included in the closure and postclosure plans submitted under subdivision m.

(6) If ignitable or reactive wastes will be landfilled, an explanation of how the requirements of section 33-24-05-181 will be complied with.

(7) If incompatible wastes or incompatible wastes and materials will be landfilled an explanation of how section 33-24-05-182 will be complied with.

(8) If containers of hazardous waste are to be landfilled an explanation of how the requirements of section 33-24-05-184 or 33-24-05-185, as applicable, will be complied with.

(9) A waste management plan for hazardous wastes F020, F021, F022, F023, F026, and F027 describing how a landfill is or will be designed, constructed, operated, and maintained to meet the requirements of section 33-24-05-186. This submission must address the following items as specified in section 33-24-05-186:

(a) The volume, physical, and chemical characteristics of the wastes, including their potential to migrate through soil or to volatilize or escape into the atmosphere.

(b) The attenuative properties of underlying and surrounding soils or other materials.

(c) The mobilizing properties of other materials codisposed with these wastes.

(d) The effectiveness of additional treatment, design, or monitoring techniques.

z. A summary of the ground water monitoring data obtained during the federal interim status period under 40 CFR part 265.90 through 265.94, were applicable, or during the period of operating status prior to final administrative

approval of the permit application under section 33-24-06-16.

aa. Identification of the uppermost aquifer and aquifers hydraulically interconnected beneath the facility property, including ground water flow direction and rate, and the basis for such identification, i.e., the information obtained from hydrogeologic investigations of the facility area.

bb. On the topographic map required under subdivision q a delineation of the waste management area, the property boundary, the proposed "point of compliance" as defined under section 33-24-05-52, the proposed location of ground water monitoring wells as required under section 33-24-05-54 and, to the extent possible, the information required in subdivision aa.

cc. A description of any plume of contamination that has entered the ground water from a regulated unit at the time the application is submitted that:

(1) Delineates the extent of the plume on the topographic map required under subdivision q.

(2) Identifies the concentration of each appendix IX constituent throughout the plume or identifies the maximum concentrations of each appendix IX constituent in the plume.

dd. Detailed plans and an engineering report describing the proposed ground water monitoring program to be implemented to meet the requirements of section 33-24-05-54.

ee. If the presence of hazardous constituents has not been detected in the ground water at the time of permit application the owner or operator must submit sufficient information, supporting data, and analyses to establish a detection monitoring program which meets the requirements of section 33-24-05-55. This submission must address the following items as specified under that section:

(1) A proposed list of indicator parameters, waste constituents, or reaction products that can provide a reliable indication of hazardous constituents in the ground water.

(2) A proposed ground water monitoring system.

(3) Background values for each proposed monitoring parameter or constituent or procedures to calculate such values.

(4) A description of proposed sampling analysis and statistical comparison procedures to be utilized in evaluating ground water monitoring data.

ff. If the presence of hazardous constituents has been detected in the ground water at the point of compliance at the time of the permit application, the owner or operator shall submit sufficient information, supporting data, and analysis to establish a compliance monitoring program which meets the requirements of section 33-24-05-56. Except as provided in subdivision e of subsection 8 of section 33-24-05-55, the owner or operator shall also submit an engineering feasibility plan for a corrective action program necessary to meet the requirements of section 33-24-05-57, unless the owner or operator obtains written authorization in advance from the department to submit a proposed permit schedule for submittal of such a plan. To demonstrate compliance with section 33-24-05-56, the owner or operator shall address the following items:

(1) A description of the wastes previously handled at the facility.

(2) A characterization of the contaminated ground water, including concentrations of hazardous constituents.

(3) A list of hazardous constituents for which compliance monitoring will be undertaken in accordance with sections 33-24-05-54 and 33-24-05-56.

(4) Proposed concentration limits for each hazardous constituent based on the criteria set forth in subsection 1 of section 33-24-05-51, including a justification for establishing any alternate concentration limits.

(5) Detailed plans and an engineering report describing the proposed ground water monitoring system in accordance with the requirements of section 33-24-05-54.

(6) A description of proposed sampling analysis and statistical comparison procedures to be utilized in evaluating ground water monitoring data.

gg. If hazardous constituents have been measured in the ground water which exceed the concentration limits established under table 1 of section 33-24-05-51, or if ground water monitoring conducted at the time of permit application under sections 33-24-05-47 through 33-24-05-51 at the waste boundary indicates the presence of hazardous constituents from the facility in ground water over background concentrations, the owner or operator shall

submit sufficient information, supporting data, and analyses to establish a corrective action program which meets the requirements of section 33-24-05-57. However, an owner or operator is not required to submit information to establish a corrective action program if the owner or operator demonstrates to the department that alternate concentration limits will protect human health and the environment after considering the criteria listed in subsection 2 of section 33-24-05-51. An owner or operator who is not required to establish a corrective action program for this reason shall instead submit sufficient information to establish a compliance monitoring program which meets the requirements of section 33-24-05-56 and subdivision ee of subsection 2 of this section. To demonstrate compliance with section 33-24-05-57 the owner or operator shall address, at a minimum, the following items:

(1) A characterization of the contaminated ground water, including concentrations of hazardous constituents.

(2) The concentration limit for each hazardous constituent found in the ground water as set forth in section 33-24-05-51.

(3) Detailed plans and an engineering report describing the corrective action to be taken.

(4) A description of how the ground water monitoring program will assess the adequacy of the corrective action.

(5) The permit may contain a schedule for submittal of the information required in paragraphs 3 and 4 provided the owner or operator obtains written authorization from the department prior to submittal of the <u>complete</u> permit application.

hh. For land disposal facilities, if a case-by-case extension has been approved under section 33-24-05-254 or a petition has been approved under section 33-24-05-255, a copy of the notice of approval for the extension or petition is required.

<u>ii. Except as otherwise provided in section 33-24-05-300, owners and operators of facilities that treat, store, or dispose of hazardous waste in miscellaneous units must provide the following additional information:</u>

<u>(1) A detailed description of the unit being used or proposed for use, including the following:</u>

(a) Physical characteristics, materials of construction, and dimensions of the unit;

(b) Detailed plans and engineering reports describing how the unit will be located, designed, constructed, operated, maintained, monitored, inspected, and closed to comply with the requirements of sections 33-24-05-301 and 33-24-05-302; and

(c) For disposal units, a detailed description of the plans to comply with the postclosure requirements of section 33-24-05-303.

(2) Detailed hydrologic, geologic, and meteorologic assessments and land use maps for the region surrounding the site that address and ensure compliance of the unit with each factor in the environmental performance standards of section 33-24-05-301. If the applicant can demonstrate that the applicant does not violate the environmental performance standards of section 33-24-05-301 and the department agrees with such demonstration, preliminary hydrologic, geologic, and meteorologic assessments will suffice.

(3) Information on the potential pathways of exposure of humans or environmental receptors to hazardous waste or hazardous constituents and on the potential magnitude and nature of such exposures.

(4) For any treatment unit, a report on a demonstration of the effectiveness of the treatment based on laboratory or field data.

(5) Any additional information determined by the department to be necessary for evaluation of compliance of the unit with the environmental performance standards of section 33-24-05-301.

jj. Except as otherwise provided in section 33-24-05-01, owners and operators of facilities that have process vents to which sections 33-24-05-400 through 33-24-05-419 apply must provide the following additional information:

(1) For facilities that cannot install a closed-vent system and control device to comply with the provisions of sections 33-24-05-400 through 33-24-05-419 on the effective date that the facility becomes subject to the provisions of these sections, an implementation schedule as specified in subdivision b of subsection 1 of section 33-24-05-403.

(2) Documentation of compliance with the process vent standards in section 33-24-05-402, including:

(a) Information and data identifying all affected process vents, annual throughput and operating hours of each affected unit, estimated emission rates for each affected vent and for the overall facility, i.e., the total emissions for all affected vents at the facility, and the approximate location within the facility of each affected unit, e.g., identify the hazardous waste management units on a facility plot plan.

(b) Information and data supporting estimates of vent emissions and emission reduction achieved by add-on control devices based on engineering calculations of source tests. For the purpose of determining compliance, estimates of vent emissions and emission reductions must be made using operating parameter values, e.g., temperatures, flow rates, or concentrations, that representative conditions that exist when the waste management unit is operating at the highest load or capacity level reasonably expected to occur.

(c) Information and data used to determine whether or not a process vent is subject to the requirements of section 33-24-05-402.

(3) Where an owner or operator applies for permission to use a control device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system to comply with the requirements of section 33-24-05-402, and chooses to use the test data to determine the organic removal efficiency or the total organic compound concentration achieved by the control device, a performance test plan as specified in subdivision c of subsection 2 of section 33-24-05-405.

(4) Documentation of compliance with section 33-24-05-403 including:

(a) A list of all information references and sources used in preparing the documentation.

(b) Records including the dates and each compliance test required by subsection 11 of section 33-24-05-405.

(c) A design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on the appropriate sections of "APTI course 415: control of gaseous emissions" (incorporated by reference as specified in section 33-24-01-05) or other engineering texts acceptable to the department that present basic control device design information. The design analysis shall address the vent stream characteristics and control device operation parameters as specified in paragraph 3 of subdivision d of subsection 3 of section 33-24-05-405.

(d) A statement signed and dated by the owner or operator certifying the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is or would be operating at the highest load or capacity level reasonably expected to occur.

(e) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of ninety-five weight percent or greater unless the total organic emission limits of subsection 1 of section 33-24-05-402 for affected access vents at the facility can be attained by a control device involving vapor recovery at an efficiency level less than ninety-five weight percent.

kk. Except as otherwise provided in section 33-24-05-01, owners and operators of facilities that have equipment to which sections 33-24-05-420 through 33-24-05-449 apply must provide the following additional information:

(1) For each piece of equipment to which sections 33-24-05-420 through 33-24-05-449 apply:

(a) Equipment identification number and hazardous waste management unit identification.

(b) Approximate locations within the facility, e.g., identify the hazardous waste management unit on a facility plot plan.

(c) Type of equipment, e.g., a pump or pipeline valve.

(d) Percent by weight total organics in the hazardous waste stream at the equipment.

(e) Hazardous waste state at the equipment, e.g., gas or vapor or liquid.

(f) Method of compliance with the standard, e.g., "monthly leak detection and repairs" or "equipped with dual mechanical seals".

(2) For facilities that do not install a closed-vent system and control device to comply with the provisions of sections 33-24-05-420 through 33-24-05-449 on the effective date that the facility becomes subject to the provisions of these sections, an implementation schedule as specified in subdivision b of subsection 1 of section 33-24-05-403.

(3) Where an owner or operator applies for permission to control a device other than a thermal vapor incinerator, catalytic vapor incinerator, flare, boiler, process heater, condenser, or carbon adsorption system, and chooses to use test data to determine the organic removal efficiency or the total organic compound concentration achieved by the control device, a performance test plan as specified in subdivision c of subsection 2 of section 33-24-05-405.

(4) Documentation that demonstrates compliance with the equipment standards in sections 33-24-05-422 to 33-24-05-429. This documentation must contain the records required under section 33-24-05-434. The department may request further documentation before deciding if compliance has been demonstrated.

(5) Documentation to demonstrate compliance with section 33-24-05-430 must include the following information:

(a) A list of all information references and sources used in preparing the documentation.

(b) Records including the dates of each compliance test required by subsection 10 of section 33-24-05-403.

(c) A design analysis, specifications, drawings, schematics, and piping and instrumentation diagrams based on appropriate sections of "ATPI course 415: control of gaseous emissions" (incorporated by reference as specified in section 33-24-01-05) or other engineering texts acceptable to the department that present basic control device design information. The design analysis should address the vent stream

characteristics and control device operation parameters as specified in paragraph 3 of subdivision d of subsection 2 of section 33-24-05-405.

(d) A statement signed and dated by the owner or operator certifying that the operating parameters used in the design analysis reasonably represent the conditions that exist when the hazardous waste management unit is operating at the highest load or capacity level reasonably expected to occur.

(e) A statement signed and dated by the owner or operator certifying that the control device is designed to operate at an efficiency of ninety-five weight percent or greater.

3. Additional information requirements. The following additional information regarding protection of ground water is required from owners or operators of hazardous waste facilities containing a regulated unit except as provided in subsection 2 of section 33-24-05-47.

a. A summary of the ground water monitoring data obtained during the interim status period under section 33-24-06-16, where applicable.

b. Identification of the uppermost aquifer and aquifers hydrolically interconnected beneath the facility property, including ground water flow direction and rate, and the basis for such identification, i.e., the information obtained from hydrogeologic investigations of the facility area.

c. On the topographic map required under subdivision f of subsection 1, a delineation of the waste management area, the property boundary, the proposed "point of compliance" as defined under section 33-24-05-52, the proposed location of ground water monitoring wells as required under section 33-24-05-54, and to the extent possible, the information required in subdivision b.

d. A description of any plume of contamination that has entered the ground water from a regulated unit at the time that the application was submitted:

(1) Delineates the extent of the plume on the topographic map required under subdivision f of subsection 1;

(2) Identifies the concentration of each appendix IX, of chapter 33-24-05, constituent throughout the plume or

identifies the maximum concentrations of each appendix IX constituent in the plume.

e. Detailed plans and an engineering report describing the proposed ground water monitoring program to be implemented to meet the requirements of section 33-24-05-54.

f. If the presence of hazardous constituents has not been detected in the ground water at the time of permit application, the owner or operator must submit sufficient information, supporting data, and analysis to establish a detection monitoring program which meets the requirements of section 33-24-05-55. This submission must address the following items specified under section 33-24-05-55.

(1) A proposed list of indicator parameters, waste constituents, or reaction products that can provide a reliable indication of the presence of hazardous constituents in the ground water;

(2) A proposed ground water monitoring system;

(3) Background values for each proposed monitoring parameter or constituent, or procedures to calculate such values; and

(4) A description of proposed sampling, analysis and statistical comparison procedures to be analyzed in evaluating ground water monitoring data.

g. If the presence of hazardous constituents has been detected in the ground water at the point of compliance at the time of the permit application, the owner or operator must submit sufficient information, supporting data, and analysis to establish a compliance monitoring program which meets the requirements of section 33-24-05-56. Except as provided in subdivision e of subsection 8 of section 33-24-05-55, the owner or operator must also submit an engineering feasibility plan for a corrective action program necessary to meet the requirements of section 33-24-05-57 unless the owner or operator obtains a written authorization in advance from the department to submit a proposed permit schedule for submittal of such a plan. To demonstrate compliance with section 33-24-05-56, the owner or operator must address the following items:

(1) A description of the wastes previously handled at the facility;

(2) A characterization of the contaminated ground water, including concentrations of hazardous constituents;

(3) A list of hazardous constituents for which compliance monitoring will be undertaken in accordance with sections 33-24-05-54 and 33-24-05-56;

(4) Proposed concentration limits for each hazardous constituent, based on the criteria set forth in subsection 1 of section 33-24-05-51 including a justification for establishing any alternate concentration limit;

(5) Detailed plans and an engineering report describing the proposed ground water monitoring system, in accordance with the requirements of section 33-24-05-54; and

(6) A description of proposed sampling, analysis, and statistical comparison procedures to be utilized in evaluating ground water monitoring data.

h. If hazardous constituents have been measured in the ground water which exceed the concentration limits established under section 33-24-05-51, table 1, or if ground water monitoring conducted at the time of permit application under sections 33-24-05-47 through 33-24-05-51 at the waste boundary indicates the presence of hazardous constituents from the facility in ground water over the background concentrations, the owner or operator must submit sufficient information, supporting data, and analysis to establish a corrective action program which meets the requirements of section 33-24-05-57. However, an owner or operator is not required to submit information to establish a corrective action program if he demonstrates to the department that alternate concentration limits will protect human health and the environment after considering the criteria listed in subsection 2 of section 33-24-05-51. An owner or operator who is not required to establish a corrective action program for this reason must instead submit sufficient information to establish a compliance monitoring program which meets the requirements of section 33-24-05-56 and subdivision f. To demonstrate compliance with section 33-24-05-57, the owner or operator must address, at a minimum, the following items:

(1) A characterization of the contaminated ground water, including concentrations of hazardous constituents;

(2) The concentration limit for each hazardous constituent found in the ground water as set forth in section 33-24-05-51;

(3) Detailed plans and an engineering report describing the corrective action to be taken; and

(4) A description of how the ground water monitoring program will demonstrate the adequacy of the corrective action.

The permit may contain a schedule for submittal of the information required in paragraphs 3 and 4 provided the owner and operator obtains written authorization from the department prior to submittal of the complete permit application.

4. Information requirements for solid waste management units.

a. The following information is required for each solid waste management unit at a facility seeking a permit:

(1) The location of a unit on the topographic map required under subdivision f of subsection 1.

(2) Designation of type of unit.

(3) General dimensions and structural description (supply any available drawings).

(4) When the unit was operated.

(5) Specification of all wastes that have been managed at the unit to the extent available.

b. The owner or operator of any facility containing one or more solid waste management units must submit all available information pertaining to any release of hazardous wastes or hazardous constituents from such unit or units.

c. The owner or operator must conduct and provide the results of sampling and analysis of ground water, land surface, and subsurface strata, surface water, or air, which may include the installation of wells, where the department ascertains it is necessary to complete a hazardous waste facility assessment that will determine if a more complete investigation is necessary.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04, 23-20.3-05

33-24-06-18. Permits by rule. Notwithstanding any other provision of this chapter or chapter 33-24-07, the following are deemed to have a hazardous waste permit if the conditions listed are met:

1. **Injection wells.** The owner or operator of an injection well disposing of hazardous waste, if the owner or operator:

   a. Has a permit for underground injection issued under 40 CFR part 144 or 145;

   b. Complies with the conditions of that permit and the requirements of section 33-25-01-18 (requirements for wells managing hazardous waste) of article 33-25 (underground injection control)~~.~~; and

   c. ~~Complies with section 33-24-05-58.~~ For underground injection control permits issued after November 8, 1984:

      (1) Complies with section 33-24-05-58; and

      (2) Where the underground injection control well is the only unit at a facility which requires a hazardous waste permit, complies with subsection 4 of section 33-24-06-17.

2. **Publicly owned treatment works.** The owner or operator of a publicly owned treatment works which accepts for treatment hazardous waste, if the owner or operator:

   a. Has a North Dakota pollutant discharge elimination system permit;

   b. Complies with the conditions of that permit; and

   c. Complies with the following:

      (1) Section 33-24-05-02, identification number.

      (2) Section 33-24-05-38, use of manifest system.

      (3) Section 33-24-05-39, manifest discrepancies.

      (4) Subsection 1 and subdivision a of subsection 2 of section 33-24-05-40, operating record.

      (5) Section 33-24-05-42, annual report.

      (6) Section 33-24-05-43, unmanifested waste report.

      (7) Section 33-24-05-58, corrective action for solid waste management units.

History: Effective January 1, 1984; amended effective October 1, 1986; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-30.3-04, 23-20.3-05

33-24-06-19. Short term and phased permits.

1. Emergency permits. Notwithstanding any other provisions of this chapter or chapter 33-24-07, if the department finds an imminent and substantial endangerment to human health or the environment, the department may issue a temporary emergency permit to a nonpermitted facility to allow treatment, storage, or disposal of hazardous waste or a permitted facility to allow treatment, storage, or disposal of a hazardous waste not covered by an effective permit. This emergency permit:

   a. May be oral or written. If oral, it shall be followed in five days by a written emergency permit;

   b. May not exceed ninety days in duration;

   c. Must clearly specify the hazardous wastes to be received and the manner and location of their treatment, storage, or disposal;

   d. May be terminated by the department at any time without process if it determines that termination is appropriate to protect human health and the environment;

   e. Must be accompanied by a public notice published under subsection 4 of section 33-24-07-06, including:

      (1) Name and address of the office granting the emergency authorization;

      (2) Name and location of the permitted hazardous waste management facility;

      (3) A brief description of the wastes involved;

      (4) A brief description of the action authorized and reasons for authorizing it; and

      (5) Duration of the emergency permit.

   f. Must incorporate, to the extent possible and not inconsistent with the emergency situation, all applicable requirements of this chapter and chapter 33-24-05.

2. Hazardous waste incinerator permits.

   a. For the purposes of determining operational readiness following completion of physical construction, the department shall establish permit conditions, including, but not limited to, allowable waste feeds and operating conditions in the permit to a new hazardous waste incinerator. These permit conditions will be effective for the minimum time required to bring the incinerator to

a point of operational readiness sufficient to conduct a trial burn, not to exceed seven hundred twenty hours operating time for treatment of hazardous waste. The department may extend the duration of this operational period once for up to seven hundred twenty additional hours at the request of the applicant when good cause is shown. The permit may be modified to reflect the extension according to section 33-24-06-14 ~~(minor modifications of permits)~~ (minor modifications at the request of the permittee).

(1) Applicants shall submit a statement with the permit application which suggests the conditions necessary to operate in compliance with the performance standards of section 33-24-05-147 during this period. This statement should include, at a minimum, restrictions on waste constituents, waste feed rates, and the operating parameters identified in section 33-24-05-149.

(2) The department will review this statement and any other relevant information submitted with the permit application and specify requirements for this period sufficient to meet the performance standards of section 33-24-05-147 based on its engineering judgment.

b. For the purposes of determining feasibility of compliance with the performance standards of section 33-24-05-147 and of determining adequate operating conditions under section 33-24-05-149, the department shall establish conditions in the permit to a new hazardous waste incinerator to be effective during the trial burn.

(1) Applicants must propose a trial burn plan prepared under paragraph 2 with the permit application.

(2) The trial burn plan must include the following information:

(a) An analysis of each waste or mixture of wastes to be burned which includes:

[1] Heat value of the waste in the form and composition in which it will be burned.

[2] Viscosity (if applicable), or description of physical form of the waste.

[3] An identification of any hazardous organic constituents listed in chapter 33-24-02, appendix V, which are present in the wastes to be burned, except that the applicant

need not analyze for constituents listed in chapter 33-24-02, appendix V, which would reasonably not be expected to be found in the waste. The constituents excluded from analysis must be identified and the basis for their exclusion stated. The waste analysis must rely on analytical techniques specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see section 33-24-01-05), or their equivalent.

[4] An approximate quantification of the hazardous constituents identified in the waste within the precision produced by the analytical methods specified in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" (incorporated by reference, see section 33-24-01-05), or their equivalent.

(b) A detailed engineering description of the incinerator for which the trial burn permit is sought including:

[1] Manufacturer's name and model number of incinerator (if available).

[2] Type of incinerator.

[3] Linear dimensions of the incinerator unit including cross-sectional area of combustion chamber.

[4] Description of the auxiliary fuel system (type/feed).

[5] Capacity of prime mover.

[6] Description of automatic waste feed cutoff systems.

[7] Stack gas monitoring and pollution control equipment.

[8] Nozzle and burner design.

[9] Construction materials.

[10] Location and description of temperature, pressure, and flow indicating and control devices.

(c) A detailed description of sampling and monitoring procedures including sampling and monitoring locations in the system, the equipment to be used, sampling and monitoring frequency, and planned analytical procedures for sample analysis.

(d) A detailed test schedule for each waste for which the trial burn is planned including dates, duration, quantity of waste to be burned, and other factors relevant to the department's decision under paragraph 5.

(e) A detailed test protocol, including, for each waste identified, the ranges of temperature, waste feed rate, combustion gas velocity, use of auxiliary fuel, and any other relevant parameters that will be varied to affect the destruction and removal efficiency of the incinerator.

(f) A description of, and planned operating conditions for, any emission control equipment which will be used.

(g) Procedures for rapidly stopping waste feed, shutting down the incinerator, and controlling emissions in the event of an equipment malfunction.

(h) Such other information as the department reasonably finds necessary to determine whether to approve the trial burn plan in light of the purposes of this paragraph and the criteria in paragraph 5.

(3) In reviewing the trial burn plan, the department shall evaluate the sufficiency of the information provided and may require the applicant to supplement this information, if necessary, to achieve the purposes of this subsection.

(4) Based on the waste analysis data in the trial burn plan, the department will specify as trial principle organic hazardous constituents (trial principle organic hazardous constituents), those constituents for which destruction and removal efficiencies must be calculated during the trial burn. These trial principle organic hazardous constituents will be specified by the department based on its estimate of the difficulty of incineration of the constituents identified in the waste analysis, the concentration or mass in the waste feed, and, for wastes listed in

chapter 33-24-02, the hazardous waste organic constituent or constituents identified in appendix IV of that chapter as the basis for listing.

(5) The department shall approve a trial burn plan if it finds that:

(a) The trial burn is likely to determine whether the incinerator performance standard required by section 33-24-05-147 can be met;

(b) The trial burn itself will not present an imminent hazard to human health or the environment;

(c) The trial burn will help the department determine operating requirements to be specified under section 33-24-05-149; and

(d) The information sought in subparagraphs a and c cannot reasonably be developed through other means.

(6) During each approved trial burn (or as soon after the burn as practicable), the applicant must make the following determinations:

(a) A quantitative analysis of the trial principle organic hazardous constituents in the waste feed to the incinerator.

(b) A quantitative analysis of the exhaust gas for the concentration and mass emissions of the trial principle organic hazardous constituents, oxygen, and hydrogen chloride.

(c) A quantitative analysis of the scrubber water (if any), ash residues, and other residues, for the purpose of estimating the fate of the trial principle organic hazardous constituents.

(d) A computation of destruction and removal efficiency, in accordance with the destruction and removal efficiency formula specified in subsection 1 of section 33-24-05-147.

(e) If the hydrogen chloride emission rate exceeds one and eight-tenths kilograms of hydrogen chloride per hour [4 pounds per hour], a computation of the hydrogen chloride removal efficiency in accordance with subsection 2 of section 33-24-05-147.

(f) A computation of particulate emissions, in accordance with subsection 3 of section 33-24-05-147.

(g) An identification of sources of fugitive emissions and their means of control.

(h) A measurement of average, maximum, and minimum temperatures and combustion gas velocity.

(i) A continuous measurement of carbon monoxides in the exhaust gas.

(j) Such other information as the department may specify as necessary to ensure that the trial burn will determine compliance with the performance standard in section 33-24-05-147 and to establish the operating conditions required by section 33-24-05-149 as necessary to meet that performance standard.

(7) The applicant shall submit to the department a certification that the trial burn has been carried out in accordance with the approved trial burn plan, and shall submit the results of all the determinations required in paragraph 6. This submission must be made within ninety days of the completion of the trial burn, or later if approved by the department.

(8) All data collected during any trial burn must be submitted to the department following the completion of the trial burn.

(9) All submissions required by this subsection must be certified on behalf of the applicant by the signature of a person authorized to sign a permit application or a report under section 33-24-06-03.

(10) Based on the results of the trial burn, the department shall set the operating requirements in the final permit according to section 33-24-05-149. ~~The permit modification must proceed as a minor modification according to section 33-24-06-14~~ The permit modification shall proceed according to section 33-24-06-14.

c. For the purposes of allowing operation of a new hazardous waste incinerator following completion of the trial burn and prior to final modification of the permit conditions to reflect the trial burn results, the department may establish permit conditions including, but not limited to, allowable waste feeds and operating conditions sufficient

to meet the requirements of section 33-24-05-149 in the permit to a new hazardous waste incinerator. These permit conditions will be effective for the minimum time required to complete sample analysis, data computation, and submission of the trial burn results by the applicant, and modification of the facility permit by the department.

(1) Applicants shall submit a statement with the permit application which identifies the conditions necessary to operate in compliance with the performance standards of section 33-24-05-147 during this period. This statement should include, at a minimum, restrictions on waste constituents, waste feed rates, and the operating parameters identified in section 33-24-05-149.

(2) The department will review this statement and any other relevant information submitted with the permit application and specify those requirements for this period most likely to meet the performance standards of section 33-24-05-147 based on its engineering judgment.

d. ~~For the purposes of determining feasibility of compliance with the performance standards of section 33-24-05-147 and of determining adequate operating conditions under section 33-24-05-149, the applicant for a permit to an existing hazardous waste incinerator may prepare and submit a trial burn plan and perform a trial burn in accordance with paragraphs 2 through 9 of subdivision b. Applicants who submit trial burn plans and receive approval before submission of a permit application shall complete the trial burn and submit the results, specified in paragraph 6 of subdivision b, with the permit application. If completion of this process conflicts with the date set for submission of part B of the permit application, the applicant shall contact the department to establish a later date for submission of part B of the application or the trial burn results. If the applicant submits a trial burn plan with part B of the permit application, the trial burn must be conducted and the results submitted within a time period to be specified by the department.~~ For the purpose of determining feasibility of compliance with the performance standards of section 33-24-05-147 and of determining adequate operating conditions under section 33-24-05-149, the applicant for a permit for an existing hazardous waste incinerator must prepare and submit a trial burn plan and perform a trial burn in accordance with paragraph 2 of subdivision w of subsection 2 of section 33-24-06-17 and paragraph 2 through 9 of subdivision b or, instead, submit other information as specified in paragraph 3 of subdivision w of subsection 2 of section 33-24-06-17. Applicants submitting information

under paragraph 1 of subdivision w of subsection 2 of section 33-24-06-17 are exempt from compliance with sections 33-24-05-147 and 33-24-05-149 and, therefore, are exempt from the requirement to conduct a trial burn. Applicants who submit trial burn plans and receive approval before submission of a permit application must complete the trial burn and submit the results specified in paragraph 6 of subdivision b, with part b of the permit application. If the completion of this process conflicts with the date set for submission of the part b application, the applicant must contact the department to establish a later date for submission of the part b application or the trail burn results. Trial burn results must be submitted prior to issuance of the permit. When the applicant submits a trial burn plan with part b of the permit application, the department will specify a time period prior to permit issuance in which the trial burn must be conducted and the results submitted.

3. Permits for land treatment demonstrations using field tests or laboratory analyses.

   a. For the purpose of allowing an owner or operator to meet the treatment demonstration requirements of section 33-24-05-162, the department may issue a treatment demonstration permit. The permit must contain only those requirements necessary to meet the standards in subsection 3 of section 33-24-05-162. The permit may be issued either as a treatment or disposal permit covering only the field test or laboratory analyses or as a two-phase facility permit covering field tests or laboratory analyses and design construction, operation, and maintenance of the land treatment unit.

      (1) The department may issue a two-phase facility permit if the department finds that based on information submitted in the permit application substantial, although incomplete or inconclusive, information already exists on which to base the issuance of a facility permit.

      (2) If the department finds that not enough information exists upon which the department can establish permit conditions to attempt to provide for compliance with all the requirements of the land treatment requirements in sections 33-24-05-160 through 33-24-05-175, the department shall issue a treatment demonstration permit covering only the field test or laboratory analyses.

   b. If the department finds that a phased permit may be issued, the department will establish as requirements in the first phase of the facility permit conditions for

conducting a field test or laboratory analyses. These permit conditions will contain design and operating parameters (including the duration of the tests or analyses and, in the case of field tests, the horizontal and vertical dimensions of the treatment zone), monitoring procedures, postdemonstration cleanup activities, and any other conditions which the department finds may be necessary under subsection 3 of section 33-24-05-162. The department will include conditions in the second phase of the facility permit to attempt to meet all the land treatment requirements in sections 33-24-05-160 through 33-24-05-175 pertaining to unit design, construction, operation, and maintenance. The department will establish these conditions in the second phase of the permit, based upon the substantial but incomplete or inconclusive information contained in the permit application.

(1) The first phase of the permit will be effective as provided in subsection 2 of section 33-24-07-11.

(2) The second phase of the permit will be effective as provided in subdivision d.

c. When the owner or operator who has been issued a two-phase permit has completed the treatment demonstration, the owner or operator shall submit to the department a certification signed by a person authorized to sign a permit application or report under section 33-24-06-03 that the field tests or laboratory analyses have been carried out in accordance with the conditions specified in phase one of the permit for conducting such tests or analyses. The owner or operator shall also submit all data collected during the field tests or laboratory analyses within ninety days of completion of those tests or analyses, unless the department approves a later date.

d. If the department determines that the results of the field tests or laboratory analyses meet the requirements of section 33-24-05-162, the department will modify the second phase of the permit to incorporate any requirements necessary for operation of the facility in compliance with the land treatment requirements of sections 33-24-05-160 through 33-24-05-175, based upon the results of the field tests or laboratory analyses.

(1) ~~This permit modification may proceed as a minor modification under section 33-24-06-14, provided any such change is minor; or otherwise will proceed as a modification under subdivision b of subsection 1 of section 33-24-06-12~~ This permit modification may proceed under section 33-24-06-14, or otherwise proceed as a modification under subdivision b of subsection 1 of section 33-24-06-12. If such

modifications are necessary, the second phase of the permit will become effective only after those modifications have been made..

(2) ~~If no modifications of the second phase of the permit are necessary, or if only minor modifications are necessary and have been made, the department will give notice of its final decision to the permit applicant and to each person who submitted written comments on the phased permit, or who requested notice of final decision on the second phase of the permit. The second phase of the permit will then become effective as specified in subsection 2 of section 33-24-07-11~~ If no modifications of the second phase of the permit are necessary, the department will give notice of the department's final decision to the permit applicant and to each person who submitted written comments on the phase permit or who requested notice of the final decision on the second phase of the permit. The second phase of the permit then will become effective as specified in chapter 33-24-07.

~~(3) If modifications under subdivision b of subsection 1 of section 33-24-06-12 are necessary, the second phase of the permit will become effective only after those modifications have been made.~~

History: Effective January 1, 1984; amended effective December 1, 1988; December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04, 23-20.3-05

APPENDIX I
to Section 33-24-06-14

CLASSIFICATION OF PERMIT MODIFICATION

Modifications	Class
A. General Permit Provisions.	
1. Administrative and informational changes.	1
2. Correction of typographical errors.	1
3. Equipment replacement or upgrading with functionally equivalent components (e.g., pipes, valves, pumps, conveyors, controls).	1
4. Changes in the frequency of or procedures for monitoring, reporting, sampling, or maintenance activities by the permittee:	1
a. To provide for more frequent monitoring, reporting, sampling, or maintenance.	1
b. Other changes.	2
5. Schedule of compliance:	
a. Changes in interim compliance dates, with approval of the department.	1*
b. Extension of final compliance date.	3
6. Changes in expiration date of permit to allow earlier permit termination, with prior approval of the department.	1*
7. Changes in ownership or operational control of a facility, provided the procedures of subsection 2 of section 33-24-06-11 are followed.	1*
B. General Facility Standards.	
1. Changes to waste sampling or analysis methods:	
a. To conform with agency guidance or regulations.	1
b. Other changes.	2
2. Changes to analytical quality assurance/control plan:	
a. To conform with agency guidance or regulations.	1
b. Other changes.	2
3. Changes in procedures for maintaining the operating record.	1
4. Changes in frequency or content of inspection schedules.	2
5. Changes in the training plan:	
a. That affect the type or decrease the amount of training given to employees.	2
b. Other changes.	1
6. Contingency plan:	
a. Changes in emergency procedures (i.e., spill or release response procedures).	2

APPENDIX I
to Section 33-24-06-14 (Continued)

CLASSIFICATION OF PERMIT MODIFICATION

Modifications	Class
b. Replacement with functionally equivalent equipment, upgrade, or relocate emergency equipment listed.	1
c. Removal of equipment from emergency equipment list.	2
d. Changes in name, address, or phone number of coordinators or other persons or agencies identified in the plan.	1
Note: When a permit modification (such as introduction of a new unit) requires a change in facility plans or other general facility standards, that change shall be reviewed under the same procedures as the permit modification.	
C. Ground Water Protection.	
1. Changes to wells:	
a. Changes in the number, location, depth, or design of upgradient or downgradien wells of permitted ground water monitoring system.	2
b. Replacement of an existing well that has been damaged or rendered inoperable, without change to location, design, or depth of the well.	1
2. Changes in ground water sampling or analysis procedures or monitoring schedule, with prior approval of the department.	1*
3. Changes in statistical procedure for determining whether a statistically significant change in ground water quality between upgradient and downgradient wells has occurred, with prior approval of the department.	1*
4. Changes in point of compliance.	*2
5. Changes in indicator parameters, hazardous constituents, or concentration limits (including ACLs):	
a. As specified in the ground water protection standard.	3
b. As specified in the detection monitoring program.	2
6. Changes to a detection monitoring program as required by subsection 10 of section 33-24-05-55, unless otherwise specified in this appendix.	2

APPENDIX I
to Section 33-24-06-14 (Continued)

CLASSIFICATION OF PERMIT MODIFICATION

Modifications	Class
7. Compliance monitoring program:	
a. Addition of compliance monitoring program as required by subdivision d of subsection 8 of section 33-24-05-55 and section 33-24-05-56.	3
b. Changes to a compliance monitoring program as required by subsection 11 of section 33-24-05-56 unless otherwise specified in this appendix.	2
8. Corrective action program:	
a. Addition of a corrective action program as required by subdivision b of subsection 9 of section 33-24-05-56 and section 33-24-05-57.	3
b. Changes to a corrective action program as required by subsection 8 of section 33-24-05-5.	2
D. Closure.	
1. Changes to the closure plan:	
a. Changes in estimate of maximum extent of operations or maximum inventory of waste onsite at any time during the active life of the facility, with prior approval of the department.	1*
b. Changes in the closure schedule for any unit, changes in the final closure schedule for the facility, or extension of the closure period, with prior approval of the department.	1*
c. Changes in the expected year of final closure, where other permit conditions are not changed, with prior approval of the department.	1*
d. Changes in procedures for decontamination of facility equipment or structures, with prior approval of the department.	
2. Changes in approved closure plan resulting from unexpected events occurring during partial or final closure, unless otherwise specified in this appendix.	2
3. Creation of a new andfill unit as part of closure.	3
4. Addition of the following new units to be used temporarily for closure activities:	
a. Surface impoundments.	3
b. Incinerators.	3
c. Waste piles that do not comply with sub-	3

APPENDIX I
to Section 33-24-06-14 (Continued)

CLASSIFICATION OF PERMIT MODIFICATION

Modifications	Class
section 3 of section 33-24-05-130.	
d. Waste piles that comply with subsection 3 of section 33-24-05-130.	2
e. Tanks or containers (other than specified below.)	2
f. Tanks used for neutralization, dewatering, phase separation, or component separation, with prior approval of the department.	1*
E. Post-Closure.	
1. Changes in name, address, or phone number of contact in post-closure plan.	1
2. Extension of post-closure care period.	2
3. Reduction in the post-closure care period.	3
4. Changes to the expected year of final closure, where other permit conditions are not changed.	1
5. Changes in post-closure plan necessitated by events occurring during the active life of the facility, including partial and final closure.	2
F. Containers.	
1. Modification or addition of container units:	3
a. Resulting in greater than twenty-five percent increase in the facility's container storage capacity.	
b. Resulting in up to twenty-five percent increase in the facility's container storage capacity.	2
2.:	
a. Modification of a container unit without increasing the capacity of the unit.	2
b. Addition of a roof to a container unit without alteration of the containment system.	1
3. Storage of different wastes in containers:	
a. That require additional or different management practices from those authorized in the permit.	3
b. That do not require additional or different management practices from those authorized in the permit.	2
Note: See subsection 7 of section 33-24-06-14 for modification procedures to be used for the management of newly listed or identified wastes.	
4. Other changes in container management practices (e.g., aisle space; types of containers, segregation).	2

APPENDIX I
to Section 33-24-06-14 (Continued)

CLASSIFICATION OF PERMIT MODIFICATION

Modifications	Class
G. Tanks.	
1.:	
a. Modification or addition of tank units resulting in greater than twenty-five percent increase in the facility's tank capacity, except as provided in G(1)(c) and G(1)(d) of this appendix.	3
b. Modification or addition of tank units resulting in up to twenty-five percent increase in the facility's tank capacity, except as provided in G(1)(d) of this appendix.	2
c. Addition of a new tank that will operate for more than ninety days using any of the following physical or chemical treatment technologies: neutralization, dewatering, phase separation, or component separation.	2
d. After prior approval of the department, addition of a new tank that will operate for up to ninety days using any of the following physical or chemical treatment technologies: Neutralization, dewatering, phase separation, or component separation.	*1
2. Modification of a tank unit or secondary containment system without increasing the capacity of the unit.	2
3. Replacement of a tank with a tank that meets the same design standards and has a capacity within ±1 percent of the replaced tank provided: - The capacity difference is no more than one thousand five hundred gallons, - The facility's permitted tank capacity is not increased, and - The replacement tank meets the same conditions in the permit.	1
4. Modification of a tank management practice.	2
5. Management of different wastes in tanks:	
a. That require additional or different management practices, tank design, different fire protection specifications, or significantly different tank treatment process from that authorized in the permit.	3

APPENDIX I
to Section 33-24-06-14 (Continued)

CLASSIFICATION OF PERMIT MODIFICATION

Modifications	Class
b. That do not require additional or different management practices, tank design, different fire protection specifications, or significantly different tank treatment process than authorized in the permit.	2

Note: See subsection 7 of section 33-24-06-14 for modification procedures to be used for the management of newly listed or identified wastes.

H. Surface Impoundments.	
1. Modification or addition of surface impoundment units that result in increasing the facility's surface impoundment storage or treatment capacity.	3
2. Replacement of a surface impoundment unit.	3
3. Modification of a surface impoundment unit without increasing the facility's surface impoundment storage or treatment capacity and without modifying the unit's liner, leak detection system, or leachate collection system.	2
4. Modification of a surface impoundment management practice.	2
5. Treatment, storage, or disposal of different wastes in surface impoundments:	
a. That require additional or different management practices or different design of the line or leak detection system than authorized in the permit.	3
b. That do not require additional or different management practices or different design of the liner or leak detection system than authorized in the permit.	2

Note: See subsection 7 of section 33-24-06-14 for modification procedures to be used for the management of newly listed or identified wastes.

I. Enclosed Waste Piles. For all waste piles except those complying with subsection 3 of section 33-24-05-130, modifications are treated the same as for a landfill. The following modifications are applicable only to waste piles complying with subsection 3 of section 33-24-05-130.	
1. Modification or addition of waste pile units:	
a. Resulting in greater than twenty-five percent increase in the facility's waste pile storage or treatment capacity.	3

APPENDIX I
to Section 33-24-06-14 (Continued)

CLASSIFICATION OF PERMIT MODIFICATION

Modifications	Class
b. Resulting in up to twenty-five percent increase in the facility's waste pile storage or treatment capacity.	2
2. Modification of waste pile unit without increasing the capacity of the unit.	2
3. Replacement of a waste pile unit with another waste pile unit of the same design and capacity and meeting all waste pile conditions in the permit.	1
4. Modification of a waste pile management practice.	2
5. Storage or treatment of different wastes in waste piles:	
a. That require additional or different management practices or different design of the unit.	3
b. That do not require additional or different management practices or different design of the unit.	2
Note: See subsection 7 of section 33-24-06-14 for modification procedures to be used for the management of newly listed or identified wastes.	
J. Landfills and Unenclosed Waste Piles.	
1. Modification or addition of landfill units that result in increasing the facility's disposal capacity.	3
2. Replacement of a landfill.	3
3. Addition or modification of a liner, leachate collection system, leachate detection system, run-off control, or final cover system.	3
4. Modification of a landfill unit without changing a liner, leachate collection system, leachate detection system, run-off control, or final cover system.	2
5. Modification of a landfill management practice.	2
6. Landfill different wastes:	
a. That require additional or different management-management practices, different design of the liner, leachate collection system, or leachate detection system.	3
b. That do not require additional or different management practices, different design of the liner, leachate collection system, or leachate detection system.	3

APPENDIX I
to Section 33-24-06-14 (Continued)

CLASSIFICATION OF PERMIT MODIFICATION

Modifications	Class
Note: See subsection 7 of section 33-24-06-14 for modification procedures to be used for the management of newly listed or identified wastes.	
K. Land Treatment.	
1. Lateral expansion of or other modification of a land treatment unit to increase areal extent.	3
2. Modification of run-on control system.	2
3. Modify run-off control system.	3
4. Other modifications of land treatment unit component specifications or standards required in permit.	2
5. Management of different wastes in land treatment units:	
a. That require a change in permit operating conditions or unit design specifications.	3
b. That do not require a change in permit operating conditions or unit design specifications.	2
Note: See subsection 7 of section 33-24-06-14 for modification procedures to be used for the management of newly listed or identified wastes.	
6. Modification of a land treatment unit management practice to:	
a. Increase rate or change method of waste application.	3
b. Decrease rate of waste application.	1
7. Modification of a land treatment unit management practice to change measures of pH or moisture content, or to enhance microbial or chemical reaction.	2
8. Modification of a land treatment unit management practice to grow food chain crops, to add to or replace existing permitted crops with different food chain crops, or to modify operating plans for distribution of animal feeds resulting from such crop.	3
9. Modification of operating practice due to detection of releases from the land treatment unit pursuant to subdivision d of subsection 7 of section 33-24-05-165.	3

APPENDIX I
to Section 33-24-06-14 (Continued)

CLASSIFICATION OF PERMIT MODIFICATION

Modifications	Class
10. Changes in the unsaturated zone monitoring system resulting in a change to the location, depth, number of sampling points, or replace unsaturated zone monitoring devices or components of devices with devices or components that have specification different from permit requirements.	3
11. Changes in the unsaturated zone monitoring system that do not result in a change to the location, depth, number of sampling points, or that replace unsaturated zone monitoring devices or components of devices with devices or components having specifications different from permit requirements.	2
12. Changes in background values for hazardous constituents in soil and soil-pore liquid.	2
13. Changes in sampling, analysis, or statistical procedure.	2
14. Changes in land treatment demonstration program prior to or during the demonstration.	2
15. Changes in any condition specified in the permit for a land treatment unit to reflect results of the land treatment demonstration, provided performance standards are met, and the department's prior approval has been received.	1
16. Changes to allow a second land treatment demonstration to be conducted when the results of the first demonstration have not shown the conditions under which the wastes can be treated completely, provided the conditions for the second demonstration are substantially the same as the conditions for the first demonstration and have received the prior approval of the department.	*1
17. Changes to allow a second land treatment demonstration to be conducted when the results of the first demonstration have not shown the conditions under which the wastes can be treated completely, where the conditions for the second demonstration are not substantially the same as the conditions for the first demonstration.	3
18. Changes in vegetative cover requirements for closure.	2
L. Incinerators.	
1. Changes to increase by more than twenty-five percent any of the following limits authorized in the permit: A thermal feed rate limit, a waste	3

APPENDIX I
to Section 33-24-06-14 (Continued)

CLASSIFICATION OF PERMIT MODIFICATION

Modifications	Class
feed rate limit, or an organic chlorine feed rate limit. The department will require a new trial burn to substantiate compliance with the regulator performance standards unless this demonstration can be made through other means.	
2. Changes to increase by up to twenty-five percent any of the following limits authorized in the permit: A thermal feed rate limit, a waste feed limit, or an organic chlorine feed rate limit. The Department will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means.	2
3. Modification of an incinerator unit by changing the internal size or geometry of the primary or secondary combustion units, by adding a primary or secondary combustion unit, by substantially changing the design of any component used to remove HCl or particulate from the combustion gases, or by changing other features of the incinerator that could affect its capability to meet the regulatory performance standards. The department will require a new trial burn to substantiate compliance with the regulator performance standards unless this demonstration can be made through other means.	3
4. Modification of an incinerator unit in a manner that would not likely affect the capability of the unit to meet the regulatory performance standards but which would change the operating conditions or monitoring requirements specified in the permit. The department may require a new trial burn to demonstrate compliance with the regulatory performance standards.	2
5. Operating requirements:	
a. Modification of the limits specified in the permit for minimum combustion gas temperature, minimum combustion gas residence time, or oxygen concentration in the secondary combustion chamber. The Department will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means.	3

APPENDIX I
to Section 33-24-06-14 (Continued)

CLASSIFICATION OF PERMIT MODIFICATION

Modifications	Class
b. Modification of any stack gas emission limits specified in the permit, or modification of any conditions in the permit concerning emergency shutdown or automatic waste feed cutoff procedures or controls.	3
c. Modification of any other operating condition or any inspection or recordkeeping requirement specified in the permit.	2
6. Incineration of different wastes:	
a. If the waste contains a Principle Organic Hazardous Constituent that is more difficult incinerate than authorized by the permit or if incineration of the waste requires compliance with different regulatory performance standard than specified in the permit. The department will require a new trial burn to substantiate compliance with the regulatory performance standards unless this demonstration can be made through other means.	3
b. If the waste does not contain a Principle Organic Hazardous Constituent that is more difficult to incinerate than authorized by the permit and if incineration of the waste does not require compliance with different regulatory performance standards than specified in the permit.	2
Note: See subsection 7 of section 33-24-06-14 for modification procedures to be used for the management of newly listed or identified wastes.	
7. Shakedown and trial burn:	
a. Modification of the trial burn plan or any of the permit conditions applicable during the shakedown period for determining operational readiness after construction, the trial burn period, or the period immediately following the trial burn.	2
b. Authorization of up to an additional seven hundred twenty hours of waste incineration during the shakedown period for determining operational readiness after construction, with the prior approval of the department.	*1
c. Changes in the operating requirements set in the permit for conducting a trial burn, provided the change is minor and has received the prior approval of the department.	*1

APPENDIX I
to Section 33-24-06-14 (Continued)

CLASSIFICATION OF PERMIT MODIFICATION

Modifications	Class
d. Changes in the ranges of the operating requirements set in the permit to reflect the requirements of the trial burn, provided the change is minor and has received the prior approval of the department.	*1
8. Substitution of an alternate type of fuel that is not specified in the permit.	1

*Class 1 modifications requiring prior departmental approval.

33-24-07-01. Purpose and scope. This chapter contains procedures for issuing, modifying, revoking and reissuing, or terminating all permits, other than "emergency permits" (see section 33-24-06-19) and "permits by rule" (see section 33-24-06-18). The latter kinds of permits are governed by chapter 33-24-06. Operating status prior to final administrative approval of the permit application is not a "permit" and is covered by specific provisions in chapter 33-24-06. The procedures of this chapter also apply to denial of a permit for the active life of a hazardous waste management facility or unit under subsection 2 of section 33-24-06-13.

History: Effective January 1, 1984; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04, 23-20.3-05

33-24-07-11. Issuance and effective date of permit.

1. After the close of the public comment period under section 33-24-07-06 on a draft permit, the department shall issue a final permit decision (or a decision to deny a permit for the active life of a hazardous waste management facility or unit under subsection 2 of section 33-24-06-13). The department shall notify the applicant and each person who has submitted written comments or requested notice of the final permit decision. This notice must include reference to the procedures for appealing a decision on a permit or a decision to terminate a permit. For the purposes of this section, a final permit decision means a final decision to issue, deny, modify, revoke and reissue, or terminate a permit.

2. A final permit decision ~~becomes~~ (or a decision to deny a permit for the active life of a hazardous waste management facility or unit under subsection 2 of section 33-24-06-13) shall become effective thirty days after the service of notice of the decision under subsection 1, unless:

   a. A later effective date is specified in the decision;

   b. Review is requested under section 33-24-07-14; or

   c. No comments required a change in the draft permit, in which case the permit shall become effective immediately upon issuance.

History: Effective January 1, 1984; amended effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04, 23-20.3-05

33-24-07-14. Appeal of permit.

1. Within thirty days after a final permit decision (or a decision under subsection 2 of section 33-24-06-13 to deny a permit for the active life of a hazardous waste management facility or unit) has been issued under section 33-24-07-11, any person who filed comments on that draft permit or participated in the public hearing may petition the department to review any condition of the permit decision. Any person who failed to file comments or failed to participate in the public hearing on the draft permit may petition for administrative review only to the extent of the changes from the draft to the final permit decision. The thirty-day period within which a person may request review under this section begins with the service of notice of the department's action unless a later date is specified in that notice. The petition must include a statement of the reasons supporting that review, including a demonstration that any issues being raised were raised during the public comment period (including any public hearing) to the extent required by these rules and, when appropriate, a showing that the condition in question is based on:

   a. A finding of fact or conclusion of law which is clearly erroneous; or

   b. An exercise or discretion or an important policy consideration which the department should, in its discretion, review.

2. The department may also decide on its initiative to review any condition of any permit issued under this article. The department must act under this section within thirty days of the service date of notice of the department's action.

3. Within a reasonable time following the filing of the petition for review, the department shall issue an order either granting or denying the petition for review. To the extent review is denied, the conditions of the final permit decision become final department action. Public notice of any grant of review by the department under subsection 1 or 2 must be given as provided in section 33-24-07-06. Public notice must set forth a briefing schedule for the appeal and must state that any interested person may file an amicus brief. A notice of denial of review may be sent only to the person requesting review.

4. Final department action occurs when a final permit is issued or denied by the department and the department review procedures are exhausted. A final permit decision must be issued by the department:

   a. When the department issues notice to the parties that review has been denied.

b. When the department issues a decision on the merits of the appeal and the decision does not include a remand of the proceedings; or upon the completion of remand proceedings if the proceedings are remanded, unless the department remand order specifically provides that appeal of the remand decision will be required to exhaust administrative remedies.

History: Effective December 1, 1991.
General Authority: NDCC 23-20.3-03
Law Implemented: NDCC 23-20.3-03, 23-20.3-04, 23-20.3-05

33-33-06-01. Definitions.

1. "Approved" means acceptable to the department based on a determination as to conformance with appropriate standards and good public health practice.

2. ~~"Bed and breakfast facility" means a private home which is used to provide accommodations for a charge to the public, with at most two lodging units for up to eight persons per night and in which no more than two family style meals per day are provided.~~

~~3.~~ "Corrosion-resistant material" means a material which maintains its original surface characteristics under prolonged influence of the food, cleaning compounds, and sanitizing solutions which may contact it.

~~4.~~ 3. "Department" means the state department of health and consolidated laboratories or its designated agent.

~~5.~~ 4. "Easily cleanable" means that surfaces are readily accessible and made of such materials and finish and so fabricated that residue may be effectively removed by normal cleaning methods.

~~6.~~ 5. "Employee" means the permitholder, individuals having supervisory or management duties, and any other person working in a bed and breakfast facility.

~~7.~~ 6. "Equipment" means stoves, ovens, ranges, hoods, slicers, mixers, meatblocks, tables, counters, refrigerators, sinks, dishwashing machines, steamtables, and similar items other than utensils, used in the operation of a bed and breakfast facility.

~~8.~~ 7. "Family style meal" means a meal ordered by persons staying at a bed and breakfast facility which is served from common food service containers, as long as any food not consumed by those persons is not reused or fed to other people if the food is unwrapped.

~~9.~~ 8. "Food" means any raw, cooked, processed edible substance, or combination of substances, beverage, or ingredient used or intended for use or for sale in whole or in part for human consumption.

~~10.~~ 9. "Food contact surfaces" means those surfaces of equipment and utensils with which food normally comes in direct contact, and those surfaces with which food may come in contact and drain back onto surfaces normally in contact with food.

~~11.~~ 10. "Food processing establishment" means a commercial establishment in which food is manufactured or packaged for human consumption. The term does not include a food service establishment, retail food store, or commissary operation.

~~12.~~ 11. "Kitchenware" means all multiuse utensils other than tableware.

12. "Lodging unit" means a room with one or more beds for an unspecified number of persons.

13. "Perishable food" means any food of such type or in such condition as may spoil.

14. "Potentially hazardous food" means any perishable food which consists in whole or in part of milk or milk products, eggs, meat, poultry, fish, shellfish, or other ingredients capable of supporting rapid and progressive growth of infectious or toxigenic microorganisms.

15. "Private home" means a place of residence of an individual or family.

16. "Proprietor" means the person in charge of the bed and breakfast facility whether as owner, lessee, manager, or agent.

~~16.~~ 17. "Sanitize" means effective bactericidal treatment of clean surfaces of equipment and utensils by a process which has been approved by the department as being effective in destroying microorganisms, including pathogens.

~~17.~~ 18. "Single-service articles" means cups, containers, lids or closures, plates, knives, forks, spoons, stirrers, paddles, straws, place mats, napkins, doilies, wrapping materials, and all similar articles which are constructed wholly or in part from paper, paperboard, molded pulp, foil, wood, plastic synthetic, or readily destructible materials, and which are intended for one usage only, then to be discarded.

~~18.~~ 19. "Tableware" means multiuse eating and drinking utensils.

~~19.~~ 20. "Utensil" means any implement used in the storage, preparation, transportation, or service of food.

History: Effective August 1, 1988; amended effective January 1, 1990; December 1, 1991.
General Authority: NDCC 23-01-03(3), 23-09.1-02
Law Implemented: NDCC 23-09.1-02