

**CHAPTER 33-20-11**  
**LANDFILL DISPOSAL OF TECHNOLOGICALLY ENHANCED NATURALLY OCCURRING**  
**RADIOACTIVE MATERIAL WASTE**

Section

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**33-20-11-01. Radioactive waste disposal.**

Disposal of radioactive waste subject to regulation under chapter 33-10-23, meeting the definition of TENORM, into special waste or industrial waste landfills shall comply with the following requirements and limitations:

1. TENORM waste up to, but not exceeding 50.0 picocuries per gram of radium-226 plus radium-228, may be disposed in a landfill which complies with chapter 33-20-07.1 or chapter 33-20-10, except that the accumulated amount must not exceed twenty-five thousand tons [22,679.22 metric tons] per year or three thousand tons [2,721.55 metric tons] in any one month unless larger amounts in one month resulting from special cleanup projects are preapproved by the department. Drums or shipping containers of TENORM waste which are not of uniform concentration must not exceed an average concentration of 50.0 picocuries per gram of radium-226 plus radium-228.
2. Equipment contaminated with TENORM which does not exceed a maximum exposure level of one hundred microrentgen per hour, including background radiation, at any accessible location may be disposed in a landfill which complies with chapter 33-20-07.1 or chapter 33-20-10.
3. TENORM waste must be covered by at least one foot of non-TENORM waste or daily cover material by the end of each operating day. For landfills that operate continuously (twenty-four hours per day), all TENORM waste shall be covered at least once every twenty-four hour period.
4. TENORM waste must be disposed at depth greater than ten feet below the surface of the final landfill cover.
5. For a landfill that is subject to chapter 33-20-07.1, if any part of the final cover has slope greater than fifteen percent, then the final cover must have an additional two feet of low permeability soil, for a total minimum cover thickness of five feet.

**History:** Effective January 1, 2016.

**General Authority:** NDCC 23-20.1-04, 23-29-04

**Law Implemented:** NDCC 23-20.1-03, 23-20.1-04, 23-29-04

**33-20-11-02. Prohibition.**

Disposal of TENORM waste subject to regulation under article 33-10 is prohibited in all municipal solid waste landfills and inert landfills. Disposal of radioactive waste subject to regulation under article 33-10, which does not meet the definition of TENORM, or TENORM waste that is greater than 50.0 picocuries per gram of radium-226 plus radium-228 is prohibited in all landfills. If prohibited TENORM waste is delivered to a landfill for disposal, the waste must be rejected. The owner or

operator of the landfill shall note the source, amount, generator, and other identifying information about the rejected waste and shall notify the department within five days of the rejection of such material.

**History:** Effective January 1, 2016.

**General Authority:** NDCC 23-20.1-04, 23-29-04

**Law Implemented:** NDCC 23-20.1-03, 23-20.1-04, 23-29-04

### **33-20-11-03. Authorization.**

Approval for acceptance of TENORM waste by a landfill not previously authorized to accept such waste in its permit shall follow procedures in section 33-20-02.1-06. The facility is also subject to applicable approval and licensure requirements of chapter 33-10-23.

**History:** Effective January 1, 2016.

**General Authority:** NDCC 23-20.1-04, 23-29-04

**Law Implemented:** NDCC 23-20.1-03, 23-20.1-04, 23-29-04

### **33-20-11-04. Monitoring.**

The leachate collection system and groundwater monitoring network shall be analyzed for background concentration of radionuclide parameters prior to receipt of any TENORM waste. Leachate shall be analyzed for radionuclides at the same frequency as groundwater samples are collected. If radionuclides are detected in the leachate at a concentration greater than the concentrations listed below, then the groundwater monitoring network must begin analysis for radionuclide parameters.

Radon: 4,000 picocuries per liter (pCi/L).

Combined radium-226 and radium-228: 5 pCi/L.

Alpha particle activity (including radium-226, excluding radon and uranium): 15 pCi/L.

Uranium: 30 micrograms per liter (ug/L).

**History:** Effective January 1, 2016.

**General Authority:** NDCC 23-20.1-04, 23-29-04

**Law Implemented:** NDCC 23-20.1-03, 23-20.1-04, 23-29-04

### **33-20-11-05. Reporting.**

Landfills approved for the disposal of TENORM waste shall file with the department a quarterly summary report stating the date, type, and total quantity by weight in tons, generator, and final disposal facility of each TENORM transferred. Each report shall be filed within thirty days of the end of each quarter. If no transfers of TENORM have been made during the reporting period, the report must so indicate.

**History:** Effective January 1, 2016.

**General Authority:** NDCC 23-20.1-04, 23-29-04

**Law Implemented:** NDCC 23-20.1-03, 23-20.1-04, 23-29-04

### **33-20-11-06. Worker training and safety.**

Landfills approved for the disposal of TENORM waste shall implement a worker training program and safety program to meet the requirements of section 33-10-23-27, so that protection of workers complies with radiation protection standards of chapters 33-10-04.2 and 33-10-10.1. The training and safety program shall be approved by the department prior to receipt of any TENORM waste.

**History:** Effective January 1, 2016.

**General Authority:** NDCC 23-20.1-04, 23-29-04

**Law Implemented:** NDCC 23-20.1-03, 23-20.1-04, 23-29-04

**33-20-11-07. Record of notice.**

The records of notice required by section 33-20-02.1-04 shall specify that the landfill is approved to accept TENORM waste. The final record of notice shall indicate the total quantity of TENORM waste disposed in the landfill.

**History:** Effective January 1, 2016.

**General Authority:** NDCC 23-20.1-04, 23-29-04

**Law Implemented:** NDCC 23-20.1-03, 23-20.1-04, 23-29-04