

**Testimony**  
**Proposed Changes to Articles 33-10 and 33-20**  
**Administrative Rules Committee**  
**10:45 A.M., December 7, 2015**  
**North Dakota Department of Health**

Good morning Chairman Devlin and members of the Administrative Rules Committee. My name is Scott Radig. I am the Director for the Division of Waste Management at the Department of Health.

The Department of Health is requesting approval of two sets of proposed rules for the regulation of Technologically Enhanced Naturally Occurring Radioactive Material (TENORM) in North Dakota Administrative Code Article 33-10 and Article 33-20.

TENORM waste is generally very low level radioactive material that is generated primarily in various oilfield processes when wastes, such as produced water that contain small amounts of naturally occurring radioactive elements, are concentrated by human activity. The most common types of TENORM are filter socks, production storage tank sludge and pipe scale. Illegal dumping and mismanagement of some TENORM waste has been a recurrent problem in the Bakken Region and the proposed rules are intended to help prevent future problems.

The Department contracted with Argonne National Laboratory to conduct a risk assessment study on the possibility of disposal of TENORM waste in special waste and industrial waste landfills in North Dakota. Argonne National Laboratory has been a recognized world expert on radiation and radioactive materials since the development of the first nuclear reactors and the Manhattan Project in the early 1940s. Using very conservative assumptions, the Argonne National Laboratory study concluded that the concentration limit for disposal of TENORM waste could safely be increased to 51.6 picocuries per gram (pCi/g) total radium, which the Department rounded down to 50 pCi/g. To put that number into perspective, soil in southwest North Dakota is around 4 pCi/g, granite counter tops in homes range from about 25 to 30 pCi/g, natural phosphate fertilizers have from 25 to 500 pCi/g, and the low-sodium salt substitute recommended for people who have high blood pressure can be as high as 400 pCi/g.

Following are responses to questions posed by the Legislative Council:

1. No, the rules did not result from any statutory changes made by the Legislative Assembly.
2. No, the rules are not related to any federal statute or regulation. Regulation of TENORM is left up to individual states; it is not regulated by the U.S. Environmental Protection Agency or U.S. Nuclear Regulatory Commission. Other states have set landfill limits much higher than the limit proposed for North Dakota. For example, Idaho has a landfill limit of 1500 pCi/g and Utah and Washington have landfills that can accept up to 10,000 pCi/g.
3. The proposed rules were released to the public on December 12, 2014, through news releases, on the Department's web site, through the Department's public notice email notification system, and all official county newspapers in their next available publication date. State law

requires one public hearing for new administrative rules, and most agencies hold the hearing in Bismarck. The Department held three information meetings and hearings in Williston, Bismarck and Fargo in January 2015. State law also requires a 30-day public comment period, but due to many requests, the public comment period was extended to 80 days, ending on March 2, 2015. There were numerous newspaper articles, editorials and TV news stories which discussed the proposed rules and gave the dates of the hearings during the public comment period.

4. Many oral and written comments were received, from both industry and the general public. Most of the comments related to the proposed landfill concentration limit and did not address other parts of the rules. Many of the comments from the public concerned topics such as: there is no safe level of radiation; the health department is raising the landfill limit to increase industry profits; and, the Argonne National Laboratory study is invalid. Industry comments included opinions that the 50 pCi/g landfill limit is too low, recommending that North Dakota should have a landfill limit like California (1800 pCi/g at one landfill there); or, we should regulate TENORM like Texas does, where TENORM can be “land farmed” (mixed with soil around a well site) if the final concentration is less than 30 pCi/g. It is not possible to give a full summary of the more than seven hours of oral comments provided at the hearings or the more than 200 pages of written comments received. The Department did prepare a comprehensive response to the public comments and concluded that no significant scientific data was presented to show that the proposed disposal limit of 50 pCi/g should be changed. There were some minor changes, clarifications and corrections made to other portions of the proposed rules based on other public comments. The full transcript of the hearings, copies of all written comments, and the Department’s response to all comments can be viewed on the Department website at [www.ndhealth.gov/ehs/tenorm/](http://www.ndhealth.gov/ehs/tenorm/).

5. The cost of giving public notice of the proposed rules and hearings was \$2126.76. The cost of public notice for the extension of the comment period was \$2090.40. There were no charges for the venues where the public hearings were held. The cost for the Argonne National Laboratory study was \$191,391.84.

6. The Department drafted the proposed rules based on the results of the Argonne National Laboratory study and recommended practices by several national radiation control and solid waste management organizations. The proposed rules are split between the Radiation Control Program in the Division of Air Quality and the Solid Waste Program in the Division of Waste Management. Proposed new N.D. Administrative Code Chapter 33-10-23 will be administered by the Radiation Control Program. TENORM waste is already subject to many of the requirements of Article 33-10, which regulates ionizing radiation, but the new chapter specifically identifies which requirements are applicable to TENORM and makes a number of new requirements that are specific to TENORM. The new chapter will regulate: (a) the registration of generators; (b) licensing of treatment, decontamination and transport companies; (c) storage requirements; (d) protection standards for licensed facilities; (e) cleanup standards for closure of facilities; and (f) requirements for manifesting and reporting of TENORM waste from where it is generated to where it is disposed.

The Solid Waste Program will administer the requirements for landfill disposal of TENORM waste under proposed new N.D. Administrative Code Chapter 33-20-11. In addition, a number of

other updates to other sections of the Solid Waste Rules are proposed so there is consistency when referring to radioactive waste. TENORM waste up to 50 pCi/g will only be allowed in special waste and large volume industrial waste landfills that commit to meeting the rule requirements and receive a modified permit for managing TENORM. TENORM will not be allowed in municipal landfills. In addition to the concentration limit, the Solid Waste Rules also regulate (a) monitoring of leachate and groundwater, (b) worker protection, (c) daily covering, (d) final closure, and (e) post-closure property notifications.

7. No, a request for regulatory analysis was not filed by the Governor or any member of the Legislative Assembly. In addition, it is not expected that these rules will have an economic impact on the regulated community in excess of \$50,000. The rules will have the potential to reduce disposal costs to the regulated community by providing an opportunity for in-state disposal of a significant percentage of TENORM waste. A copy of the combined regulatory analysis, fiscal note, small entity impact and takings assessment memo is attached.

8. A memo regarding regulatory analysis and statement of economic impact on small entities was prepared, as required by NDCC Section 28-32-08.1 (copy attached). The analysis concluded that having the same performance standards and requirements for all entities is justified because the potential risks to human health and the environment from TENORM waste are the same regardless of the size of the company that generates, transports or disposes of it, and being a small entity does not necessarily imply that the quantity of TENORM waste generated will also be small.

9. A fiscal note was not prepared as these amendments have no probable significant fiscal effect on state revenues and expenditures, including funds controlled by the State Department of Health.

10. The Department does not believe that a takings assessment is required because the proposed rules do not limit the use of any private real property.

11. The proposed rules were not implemented as emergency (interim final) rules under NDCC Section 28-32-03.

In conclusion, the Department believes that the proposed rules will provide the necessary framework to adequately regulate TENORM in the state. I would be glad to take any of your questions at this time.

NORTH DAKOTA DEPARTMENT OF HEALTH  
DEPARTMENTAL MEMORANDUM

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TO: File

FROM: Scott A. Radig, P.E., Director *SAR*  
Division of Waste Management

SUBJECT: TENORM Rulemaking Fiscal Note, Regulatory Analyses, Small Entity Economic Impact Statement, and Takings Assessment

DATE: July 15, 2015 (updated)

**Rulemaking Fiscal Note and Regulatory Analysis**

1. Is a fiscal note required?

No, the proposed rules in NDAC 33-10-21 and 33-29 are not expected to have a significant fiscal impact on the Department. There is not expected to be a significant increase in permit or license fees because all transporters and treatment, storage and disposal facilities are already required to be permitted by the Department. The proposed rules clarify specific requirements for the transporters, facilities and generators of Technologically Enhanced Naturally Occurring Radioactive Material (TENORM) waste. But, whether or not the proposed rules are enacted, the Department will be regulating these entities and TENORM, so the amount of additional work will be relatively minor. There will be some additional review of permit modification applications if any landfill facilities decide to accept TENORM waste, and there will be some additional work on recordkeeping and inspections. The 2015 legislature approved 3 additional FTE's for the Air Quality Division and 2 FTE's for the Waste Management Division to address additional workload from all oilfield activities, of which TENORM related work is included.

2. Is a regulatory analysis required?

No, a request for regulatory analysis was not filed by the Governor or any member of the Legislative Assembly. In addition, it is not expected that these rules will have an economic impact on the regulated community in excess of \$50,000. The rules will have the potential to reduce disposal costs to the regulated community by providing an opportunity for in-state disposal of a significant percentage of TENORM waste. The North Dakota Petroleum Council has told the Department in verbal communications that all reputable and conscientious companies are already documenting their generation of TENORM waste and where it is disposed. Therefore, the only additional paperwork costs will be providing that information to the Department. The proposed rule requirements will only affect waste transporters and landfills if they decide to add TENORM waste handling and disposal as a service to their clients. Each company will have to decide if adding these services will be profitable for their business.

## **Small Entity Regulatory Analysis**

1. Was establishment of less stringent compliance or reporting requirements for small entities considered? To what result?

Small entities may include a few small, independently owned salt water disposal facilities and oilfield service companies that generate filter socks and other TENORM waste, and some small, independently owned trucking companies that transport TENORM waste. Due to the large capital costs involved in permitting, constructing and operating a special waste or industrial waste landfill, none of these facilities are expected to qualify as a small entity. Less stringent compliance and reporting requirements were not considered for small entities because the potential risks to human health and the environment from TENORM waste are the same regardless of the size of the company that generates or transports it. The Department has been told by the North Dakota Petroleum Council that the larger companies have been properly managing their TENORM waste. In addition, it has been a few small, unscrupulous or negligent companies and individuals that are responsible for the three largest illegal dumping incidents in Noonan, Watford City and Williston, to save money on the cost of transporting and disposing of the waste at an out-of-state disposal facility.

2. Was establishment of less stringent schedules or deadlines for compliance or reporting requirements considered for small entities? To what result?

No, being a small entity does not necessarily imply that the quantity of TENORM waste generated will also be small. The quantity of TENORM waste generated is more dependent on the processes that the company performs and the characteristics of the waste they are handling. The requirements for generators of TENORM waste are not significant. Registration will be a simple procedure and companies should already be keeping records of TENORM waste under a requirement of the North Dakota Industrial Commission. TENORM waste transporters, regardless of the size of the company, are already required to submit reports under general radioactive materials license conditions. The proposed rules will clarify the reporting requirements for TENORM waste.

3. Was consolidation or simplification of compliance or reporting requirements for small entities considered? To what result?

No, see previous response.

4. Were performance standards established for small entities for replacement of design or operational standards required in the proposed rule? To what result?

No, all entities have the same standards. The potential risks to human health and the environment from TENORM waste are the same regardless of the size of the company that generates, transports or disposes of it.

5. Was exemption of small entities from all or any part of the requirements in the proposed rule considered? To what result?

No, see previous answer.

### **Small Entity Economic Impact Statement**

1. Which small entities are subject to the proposed rule?

Small entities may include a few small, independently owned salt water disposal facilities and oilfield service companies that generate filter socks and other TENORM waste, and some small, independently owned trucking companies that transport TENORM waste, though it is unknown if they have gross incomes of less than \$2,500,000. Due to the large capital costs involved in permitting, constructing and operating a special waste or industrial waste landfill, none of these facilities are expected to qualify as a small entity.

2. What are the administrative and other costs required for compliance with the proposed rule?

An order previously issued by the North Dakota Industrial Commission, Department of Mineral Resources requires all salt water disposal wells, and oil wells in the drilling and completion phases, to have a waste container on site specifically for TENORM waste, including filter socks. This order also requires pickup of the TENORM waste container by a waste transporter licensed by the Department. Therefore, the only additional costs required by this rule are for reporting to the Department a summary of the records that are already a part of their business practices.

3. What is the probable cost and benefit to private persons and consumers who are affected by the proposed rule?

There are not any expected costs that will trickle down to private persons and consumers, i.e., these rules will not cause an increase in the cost of petroleum products to the consumer. The benefit is that there should be a decrease in illegal dumping of TENORM waste.

4. What is the probable effect of the proposed rule on state revenues?

There is not expected to be any effect on state revenues.

5. Is there any less intrusive or less costly alternative methods of achieving the purpose of the proposed rule?

The proposed rules are as simple and unintrusive as possible to achieve effective management of TENORM waste, with minimal additional costs above what is already required. Currently all TENORM waste is required to be disposed of at facilities in other states, so there may actually be a significant net savings to companies in North Dakota due to decreased transportation costs.

## **Takings Assessment**

The Department does not believe that a takings assessment is required because the proposed rules do not limit the use of any private real property. The existing limitations on the use of closed landfill property will be in place whether or not the proposed rules are enacted.