



Early Stakeholder Outreach —

House Bill 59 – TENORM Acceptance at Solid Waste Landfills and Transfer Facilities

Ohio EPA prepares early stakeholder outreach fact sheets to ensure stakeholders are brought into the review process as early as possible and to obtain additional input and discussion before development of interested party draft rules.

House Bill 59 was passed by the 130th General Assembly on July 1, 2013. This bill amended several sections of Ohio law to provide for greater oversight and coordination between the Ohio Department of Health (ODH), Ohio Department of Natural Resources (ODNR) and the Ohio Environmental Protection Agency (Ohio EPA) in ensuring the safe management of oil and gas waste. It is anticipated more of this waste will need to be disposed of in Ohio landfills due to increased oil and gas drilling.

Among the amendments to the solid waste statute in Ohio Revised Code (ORC) Chapter 3734, effective Sept. 29, 2013, is the authority for Ohio EPA to promulgate rules regarding the receipt, acceptance, processing, handling, management and disposal of material that contains or is contaminated with radioactive material, including technologically enhanced naturally occurring radioactive materials (TENORM) from oil and gas drilling operations. ORC section 3734.02(P)(4) states:

(4) The director of environmental protection may adopt rules in accordance with Chapter 119 of the Revised Code governing the receipt, acceptance, processing, handling, management, and disposal by solid waste facilities of material that contains or is contaminated with radioactive material, including, without limitation, technologically enhanced naturally occurring radioactive material that contains or is contaminated with radium-226, radium-228, or any combination of radium-226 and radium-228 at concentrations less than five picocuries per gram above natural background. Rules adopted by the director may include at a minimum both of the following:

(a) Requirements in accordance with which the owner or operator of a solid waste facility must monitor leachate and ground water for radium-226, radium-228, and other radionuclides;

(b) Requirements in accordance with which the owner or operator of a solid waste facility must develop procedures to ensure that technologically enhanced naturally occurring radioactive material accepted at the facility neither contains nor is contaminated with radium-226, radium-228, or any combination of radium-226 and radium-228 at concentrations equal to or greater than five picocuries per gram above natural background.

How can I provide input?

The Agency is seeking stakeholder input on the proposed concepts included in this document.

When preparing your comments, be sure to:

- explain your views as clearly as possible;
- describe any assumptions used;
- provide any technical information and/or data used to support your views;
- explain how you arrived at your estimate for potential burdens, benefits or costs;
- provide specific examples to illustrate your views; and
- offer alternatives.

Written comments will be accepted through close of business November 1, 2013. Please submit input to:

Ohio EPA – DMWM
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What if I have questions?

Please contact Aaron Shear at (614) 728-5350 or aaron.shear@epa.ohio.gov.

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What are drilling wastes?

The Ohio Department of Natural Resources, Division of Oil and Gas Resources Management (ODNR-DOGRM) has primary regulatory authority over oil and gas drilling activity in Ohio, including rules for well construction, siting, design and operation.

Drilling wastes include, but are not limited to, drill cuttings (e.g. earthen materials), drill cuttings that have come in contact with refined oil-based substances, spent drilling muds and pipe scale. Drill cuttings refer to a mixture of soil, rock and other subterranean matter brought to the surface during drilling of oil and gas production wells. ODNR-DOGRM also regulates brine disposal in Ohio, including permitting and oversight of Class II underground injection wells used for disposal of waste fluids from oil and gas drilling/production operations. ODNR-DOGRM also registers transporters hauling these fluids in Ohio.

For more information, please refer to ODNR-DOGRM's webpage at oilandgas.ohiodnr.gov which provides information regarding oil and gas drilling operations, regulations, a glossary of terms and frequently asked questions.

What are NORM and TENORM?

The Ohio Department of Health (ODH), Bureau of Radiation Protection, has primary regulatory authority over radioactive materials and Ohio's TENORM regulations. It is anticipated that most of the material at drilling operations would consist of soil, rock and other subterranean matter and would be categorized as naturally occurring radioactive materials (NORM). NORM is radioactive material naturally present in the environment (i.e., soils, air and water) and can be found everywhere. Since these materials are found in the natural environment, NORM is exempted from regulation by the U.S. Department of Energy, the U.S. Nuclear Regulatory Commission and ODH. NORM such as *uranium* (U), *radium* (Ra), and *thorium* (Th) emit low levels of naturally occurring radiation. Examples of NORM include radon gas in homes and potassium-40 found in all plants and animals including humans.

A part of the oil and gas drilling waste stream will qualify as TENORM. ODH defines TENORM as naturally occurring radioactive material with radionuclide concentrations that are increased by or as a result of past or present human activities. Examples of potential TENORM from oil and gas drilling include tank bottoms, spent drilling muds and pipe scale. TENORM does not include drill cuttings.

For more information, please refer to ODH's [NORM/TENORM information sheet](#) and [Radiation Protection Program webpage](#).

Solid waste facilities that accept TENORM must comply with both ODH's TENORM and Ohio EPA's solid waste facility laws and rules.

Why is Ohio EPA conducting Early Stakeholder Outreach?

The Agency would like input and suggestions from interested parties regarding the development of ORC section 3734.02(P)(4) based solid waste facility regulations regarding the receipt, acceptance, processing, handling, management and disposal of material that contains or is contaminated with TENORM. At this time, the Agency is specifically interested in development of regulations specific to solid waste landfills and transfer facilities.

Once an interested party draft of the rules is created, that draft will be shared publically and comments will be accepted from interested parties. Ohio EPA will ultimately make necessary amendments to the draft rules and file them with the Joint Committee on Agency Rule Review (JCARR), the secretary of state and the Legislative Service Commission (LSC).

In response to Executive Order 2011-01K, Ohio EPA has included an additional step to ensure stakeholders are brought into the review process as early as possible. This additional interested party notification and request for information will allow for early feedback before the rule language has been developed by the Agency.

What is being suggested?

Current solid waste landfill regulations require that the facility document acceptance of waste in the daily log and specify placement at the landfill's working face, compaction of waste and application of daily cover. At this time, Ohio EPA is not anticipating changes to these rule requirements. However, the Agency seeks input from landfill operators regarding the need to consider changes to address processing, handling, or managing TENORM at solid waste landfills.

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Current solid waste transfer facility regulations require the documentation of acceptance of waste in the daily log and specify placement of wastes on a floor within the designated waste handling areas to be transferred into vehicles for transportation to a solid waste disposal facility.

Waste leaving the transfer facility is documented in the daily log. Transfer facility operations may also include handling and processing of recyclable materials.

At this time, Ohio EPA is not anticipating changes to these rule requirements. However, the Agency seeks input from transfer facility operators regarding the need to consider changes to address processing, handling, or managing TENORM at solid waste transfer facilities.

The Agency is considering whether to develop rules for solid waste landfills and transfer facilities that want to accept TENORM wastes containing less than 5 picocuries per gram above natural background.

In accordance with ORC 3734.02(P)(4), the Director of Ohio EPA is authorized to impose additional rules at these facilities to ensure the safe management of TENORM wastes, including:

- Monitoring leachate (landfills and transfer facilities) and ground water (landfills) for radium-226 and radium-228 and;
- Establishing and implementing procedures to ensure that TENORM equal to or greater than 5 picocuries per gram above natural background is not accepted at the facility. For landfills, such procedures might be incorporated into the landfill's PCB and hazardous waste prevention and detection program under OAC Rule 3745-27-19(L). For transfer facilities, a separate prevention and detection plan may be considered.

Some solid waste landfills are authorized to process semi-solid wastes to solidify the waste before disposal. The Agency conducted previous outreach to the solid waste landfill industry regarding solidification of wastes containing TENORM in a [September 2012 advisory](#).

The Agency is seeking stakeholder input concerning solidification processing of TENORM at solid waste landfills and transfer facilities and the need for additional rules regarding this activity.

Who is regulated by this rule?

Solid waste landfills and transfer facilities that wish to accept, process, handle, manage, transfer and dispose of TENORM would be affected by the proposed rules.

Related solid waste facility prohibitions

TENORM is different than low-level radioactive wastes. ORC section 3734.027 prohibits any operator of a solid waste facility from accepting low-level radioactive wastes.

House Bill 59 added ORC 3734.02(P)(2) which prohibits a solid waste facility from accepting TENORM equal to or greater than 5 picocuries per gram above natural background for transfer or disposal. Also new is ORC 3734.02(P)(3) which allows a solid waste facility with necessary authorizations, including ODH authorization, to receive and process TENORM equal to or greater than 5 picocuries per gram above natural background. However, such solid waste facility is still prohibited from transfer or disposal.

ORC section 3734.02(P)(2) and (3) states:

(2) The owner or operator of a solid waste facility shall not accept for transfer or disposal technologically enhanced naturally occurring radioactive material if that material contains or is contaminated with radium-226, radium-228, or any combination of radium-226 and radium-228 at concentrations equal to or greater than five picocuries per gram above natural background.

(3) The owner or operator of a solid waste facility may receive and process for purposes other than transfer or disposal technologically enhanced naturally occurring radioactive material that contains or is contaminated with radium-226, radium-228, or any combination of radium-226 and radium-228 at concentrations equal to or greater than five picocuries per gram above natural background, provided that the owner or operator has obtained and maintains all other necessary authorizations, including any authorization required by rules adopted by the director of health under section 3748.04 of the Revised Code.

House Bill 59 added ORC 3734.02(Q) prohibiting acceptance of TENORM without representative analytical results.

(Q) Notwithstanding any other provision of this section, the owner or operator of a solid waste facility shall not receive, accept, process, handle, manage, or dispose of technologically enhanced naturally occurring radioactive material associated with drilling operations without first obtaining representative analytical results to determine compliance with divisions (P)(2) and (3) of this section and rules adopted under it.

No rules are necessary to implement these statutory requirements.

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What input is the Agency seeking?

The Agency is seeking stakeholder input on the suggested concepts included in this document. General comments and specific factual information must be submitted by the November 1, 2013 deadline. The following questions may help guide you as you develop your comments.

- Is the general regulatory framework proposed the most appropriate? Should the Agency consider any alternative framework?
- What options are available for improving an identified concept?
- Are there considerations the Agency should take into account when developing a specific concept?
- Is there any information or data the Agency should be aware of when developing program concepts or rule language?

Ohio EPA would especially like to hear information regarding the following from stakeholders who may be impacted by the new program.

- Would this regulatory program have a positive impact on your business? Please explain how.
- Would this regulatory program have an adverse impact on your business? If so, please identify the nature of the adverse impact (for example, license fees, fines, employer time for compliance).

What's the next step?

After the November 1, 2013 comment deadline, Ohio EPA will evaluate feedback and facilitate additional stakeholder engagement as needed to further develop the TENORM receipt, acceptance, processing, handling, management and disposal regulations. The Agency will then prepare a draft version of rules for interested party review. After incorporating interested party comments, Ohio EPA will begin the rules filing process required by the Joint Committee on Agency Rule Review (JCARR) for a 65-day jurisdiction period. They will be heard at JCARR before they are deemed effective as proposed. Visit JCARR's website for meeting dates and agenda items at jcarr.state.oh.us.

How can I track the program and rule-development progress?

Stakeholders are encouraged to sign up for the Agency's "landfill" or "transfer facility" electronic mailing lists at ohioepa.custhelp.com/ci/documents/detail/2/subscriptionpage. Registered users will receive progress updates and be notified when new information is posted on the program website.

Information Sources

- 130th General Assembly webpage — unofficial version of *House Bill 59* passed by on July 1, 2013.
- *Ohio Department of Natural Resources webpage* — oil and gas drilling operations, regulations, glossary of terms and frequently asked questions.
- Ohio Department of Health *NORM/TENORM information sheet* and *Radiation Protection program website*.
- Ohio EPA Division of Materials and Waste Management's *September 2012 advisory* — solidification and disposal activities associated with drilling-related wastes at solid waste landfills.