



Notice of Violation to Chemical Waste Management of the Northwest Frequently Asked Questions

1. Why was CWM issued a Notice of Violation?

In Oregon, it is illegal to dispose of radioactive materials (as defined in statute and rule) in the state. In late 2019 following a citizen tip, the Oregon Department of Energy determined that Chemical Waste Management of the Northwest had accepted radioactive materials in its landfill outside of Arlington, Oregon over the course of three years. As a result, ODOE issued the [Notice of Violation](#) to CWM in February 2020, requiring the company to conduct a detailed risk assessment and corrective action plan for the waste.

2. What kind of waste was disposed at the facility, and how much?

Radioactivity occurs naturally in the environment, including the soil and rocks in the earth – this is known as naturally occurring radioactive material, or NORM. That NORM can become concentrated through human activity, like commercial or industry purposes, and becomes technologically-enhanced naturally occurring radioactive material, or TENORM.

In the case of this Notice of Violation, the CWM facility accepted TENORM waste from hydraulic fracturing activities (fracking) that occurred out of state. The waste mostly included the filter socks used for recycling the water used in hydraulic fracturing. Dirt and water are moved through the socks, which creates the concentration of NORM.

The CWM facility accepted about 2.5 million pounds of the TENORM waste between 2016-2019.

3. Is the waste dangerous?

The first thing ODOE did upon learning of the violation was to work with fellow State of Oregon agencies, including the Oregon Health Authority's Radiation Protection Services and the Department of Environmental Quality, to confirm that there was no immediate threat the landfill workers, the public, or the environment from the waste. The landfill is a hazardous waste landfill – so it already has multiple protections in place, including a double-liner for the landfill, and workers are required to wear personal protective equipment.

The TENORM itself isn't highly radioactive, but it is higher than what Oregon legally allows for disposal in the state. CWM's detailed [risk assessment](#) included multiple scenarios for people exposed to the waste in the landfill in the future, and the risk of exposure is extremely low. Even in a theoretical future long after the landfill is closed, if someone were to build a house on top of it, the risk of that person developing cancer because of the TENORM buried beneath is nearly zero. The risk assessment also found that the TENORM waste poses no risk of exceeding drinking water standards in the vicinity of the landfill for hundreds of thousands of years into the future.

4. How did this happen?

CWM misinterpreted Oregon's rules regarding disposal of these materials in the state and has maintained that they erroneously thought this particular waste was legal for disposal in the state. As soon as we alerted the landfill to the illegal TENORM waste, CWM immediately stopped accepting any more of the TENORM.

5. Did ODOE fine CWM for the violation?

Oregon's administrative rules outline penalties for violations; the rules that were in place when the notice was issued allow fines for companies that repeat violations. This was the first Notice of Violation ODOE issued to CWM, so the agency did not fine the company.

However, over the past year, ODOE worked with the Energy Facility Siting Council and a rulemaking advisory committee to update the rules governing Notice of Violation penalties. The new rules, adopted in February 2021, significantly strengthen ODOE's civil penalty authority, and should a similar violation occur in the future, ODOE could levy fines.

6. What happens to the waste now?

ODOE required that CWM complete a [corrective action plan](#) for dealing with the waste already in the landfill. CWM presented two alternatives: 1. Leave the waste in place, or 2. Dig up the waste and move it to a disposal site out of state. CWM proposed, and ODOE concurs, that the first option to leave the waste in place, with additional environmental monitoring, is the best and safest option. Removing the waste, which is already buried within a landfill that includes other chemically-hazardous materials, would pose a greater risk to landfill workers than leaving the waste in place.

7. What other protections are in place to ensure the waste doesn't pose a risk?

On March 24, 2021, following a public comment period, ODOE issued a [letter of determination](#) to CWM, accepting its corrective action plan with some amendments based on ODOE's assessment and the public comments we received. The risk assessment supports the conclusion that the waste in its current burial locations does not pose a direct exposure or radon inhalation risk. Among additional precautions, CWM will regularly test the groundwater underlying the facility, as well as what is known as leachate, a liquid material that collects in the liner at the bottom of the landfill and is recirculated to the top landfill to reduce dust in the dry environment. CWM will also test the bottom of the facility's evaporation ponds to verify the expectation that they pose no risk.

The landfill was built in an area that has a very dry climate and does not have potable groundwater resources that could be exposed to the landfill materials. Because the landfill was designed to safely manage hazardous chemicals, it has multiple liners and will have a rain-catching cap once the landfill is closed to ensure no waste migrates into the environment. The risk assessment found that even if the landfill's cap and liners were to fail, the underlying groundwater and all nearby surface water would never exceed drinking water standards for radionuclides. The risk of groundwater exposure or exposure to nearby streams or the Columbia River is essentially zero.

8. How will CWM ensure this doesn't happen again?

As part of the corrective action plan, CWM will install a radiation portal monitor to scan waste entering the landfill to ensure future shipments are not radioactive. Since the violation, ODOE has worked with CWM to proactively review waste profiles from incoming materials and specifically, potentially-radioactive materials.

9. How can we be sure CWM hasn't accepted other kinds of radioactive materials?

ODOE has requested that CWM review the active and recent waste streams it accepts to assess whether other materials in violation of Oregon law may have been disposed in Waste Management-owned landfills. Any noncompliant waste streams that are identified during the review will be evaluated on a case-by-case basis, and a determination will be made as to whether additional analysis or enforcement response is needed.

10. How can we be sure other Oregon landfills aren't accepting this kind of waste?

After the 2020 Notice of Violation, ODOE sent a notice to all landfills in the state reminding them of the rules around radioactive waste disposal in Oregon. ODOE will send annual reminders to landfill operators to inform them of the rules.

ODOE is also developing an improved prevention and enforcement program to enhance our tracking and oversight of radioactive waste disposal activities in Oregon that may involve TENORM or other radioactive materials.

11. Is ODOE changing how it monitors this waste and issues violations?

Yes. While investigating this incident, the agency identified the need to update and clarify the state's laws around radioactive waste and enhance ODOE's existing enforcement program, corrective action authority, and civil penalty rules. While some of these changes can be accomplished through agency rulemaking, others require legislative action.

At its February 26, 2021 meeting, the Energy Facility Siting Council [adopted rules](#) updating procedures for enforcing laws and rules governing the transport and disposal of radioactive materials and wastes. Among other updates, the rules strengthen ODOE's ability to issue fines for violators. The rules went into effect immediately upon adoption.

ODOE is also working with the legislature to strengthen the state's laws on radioactive waste disposal. [SB 246](#) and [HB 2831](#) would expand and clarify ODOE's: 1) investigative powers to pursue potential violations; 2) authority to require corrective action in the event of unlawful disposal; and 3) authority to require certain preventative measures such as reporting processes, monitoring equipment, or other such systems.

This FAQ document provides a high-level overview of the 2020 Notice of Violation and subsequent actions, including ODOE’s March 2021 assessment and determination of the corrective action plan. Find more details and read documents on [ODOE’s website](#).



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