

# National Emission Standards for Operating Mill Tailings (Subpart W)



## 2016 Revision

### LIMITS ON AIR POLLUTION FROM URANIUM MILL TAILINGS

EPA limits emissions of hazardous air pollutants under the authority of the Clean Air Act. EPA's "National Emission Standards for Hazardous Air Pollutants (NESHAP)" (40 CFR Part 61) set limits on hazardous air pollutants from different activities and facilities. Subpart W of 40 CFR Part 61, "National Emission Standards for Operating Mill Tailings," limits radon emissions from uranium byproduct material or tailings at operating uranium recovery facilities. EPA originally issued Subpart W in 1989 (54 FR 51703, December 15, 1989). Subpart W was updated in 2016.

### STANDARDS FOR URANIUM MILL TAILINGS

The updated standards limit the radon releases to the ambient air from the normal operations of facilities licensed to manage uranium byproduct material or tailings during and following the processing of uranium ores. The rule includes standards for three types of uranium byproduct material or tailings management:

- *Conventional impoundments*, which are permanent structures used for disposal of mostly solid wastes.
- *Non-conventional impoundments*, which are also known as holding or evaporation ponds. These impoundments manage process liquids or other liquid effluents.
- *Heap leach piles*, which consist of ores that have a chemical solution applied to extract uranium.

### 2016 UPDATES TO THE STANDARDS

The Clean Air Act Amendments of 1990 required EPA to review and, if appropriate, revise the standards in Subpart W. After completing the review and soliciting public comment, EPA concluded that revisions were needed to clarify definitions and to be more specific about what kind of uranium byproduct material or tailings management is subject to the standard. EPA also concluded that requirements for generally available control technology (GACT) or management practices are an appropriate means to control radon emissions from uranium byproduct material or tailings. GACT consists of commercially available methods, practices and techniques for operation and maintenance of emissions control systems.

### PROVISIONS OF THE 2016 REVISIONS

**Definition of Uranium Recovery Facilities:** The final rule applies to all operating uranium recovery facilities, which are defined as those facilities that manage uranium byproduct material or tailings, including conventional uranium mills, *in-situ* leach recovery facilities and heap leach facilities. "Operating" means that an impoundment is being used for the continued placement of uranium byproduct material or tailings or is in standby status for such placement.

**Radon Flux Monitoring for Conventional Impoundments in Existence on December 15, 1989:** The 2016 rule retains the 1989 provision for older conventional impoundments: a radon flux standard of 20 picocuries per square meter per second (pCi/m<sup>2</sup>-sec) and monitoring requirements.

**GACT or Conventional Impoundments Constructed After December 15, 1989:** In the 2016 rule, EPA retains the previous rule's requirements for conventional impoundments constructed after 1989 as GACT-based standards. Post-1989 conventional impoundments must control radon limits through one of the two following management practices:

1. No more than two impoundments may operate at any time, and each cannot be larger than 40 acres. Disposal takes place in phases.
2. Dewatering (drying) and disposal takes place immediately, and no more than 10 acres may be uncovered at any time.

**GACT for Non-Conventional Impoundments:** "Non-conventional" impoundments (commonly known as evaporation or holding ponds) contain uranium byproduct material or tailings suspended in and/or covered by liquids. The 2016 rule requires control of radon emissions by keeping the solid uranium byproduct material or tailings in the ponds saturated with liquid at all times. No solid material may be visible above the liquid level.

**GACT for Heap Leach Piles:** EPA is requiring heap leach piles that have completed processing, but not entered closure, to be managed such that there are no more than two such piles, with neither larger than 40 acres.

**Construction Requirements for All Impoundments:** Subpart W references other regulations that require impoundments to be designed, constructed and installed in a way that protects adjacent soils and waters. The final rule specifies that these requirements apply to all types of uranium recovery facilities.

**Record-Keeping Requirements:** Under the final regulations, uranium recovery facilities must maintain records to demonstrate compliance with requirements for impoundment construction and liquid coverage of ponds. Digital photographs are required to demonstrate liquid levels in non-conventional impoundments, and photographs are to be submitted electronically to EPA.

## EPA and Uranium Extraction Operations

EPA's mission is to protect human health and natural resources from pollution. The Agency sets limits on the amount of radioactivity that can be released into the environment. EPA enforces the Clean Air Act requirements at Subpart W. The Nuclear Regulatory Commission (NRC) has regulatory responsibility for licensing and operation of uranium extraction facilities and other commercial facilities that use radioactive materials. This rule does not relieve the owner or operator of the uranium recovery facility of the monitoring and maintenance requirements specified in the operating license issued by the NRC or its Agreement States.