U.S. EPA Regulations Review Update:
Subpart W NESHAPS (40 CFR 61)
Uranium and Thorium Mill Tailings (40 CFR Part 192)

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Review of 40 CFR 61 Subpart W

- National Emission Standard for Hazardous Air Pollutants (NESHAP) for radon emissions for operating mill tailings
- Review began after receiving Notice of Intent to Sue (NOI) by two Colorado environmental groups
  - ✓ Based on EPA's alleged failure to review & revise regulation within ten years after enactment of Clean Air Act Amendments of 1990 (11/15/2000)
  - ✓ Plaintiffs filed suit against EPA
  - ✓ Settlement agreement reached November 2009

Existing Subpart W Summary

- Applies to radon emissions from operating uranium mill tailings
  - Radon emissions flux standard: 20 pCi/m^2/sec
- After 12/15/1989, new impoundments were required to meet one of two new work practices:
  - ✓ Phased disposal – Impoundment size(2) $\leq$ 40 acres
  - ✓ Continuous disposal – dewatered tailings with no more than 10 acres uncovered
  - ✓ Both must meet design, construction, ground-water monitoring standards at 40 CFR 192.32(a)
- Work practices were designed to achieve at least equivalent risk reductions as obtained by the numerical standard

Existing Subpart W, continued

- Regulation originally written with emphasis on conventional impoundments
- In Situ Leach/Recovery (ISL/ISR) extraction has become more commonplace since original promulgation
  - ✓ Does not generate significant tailings
  - ✓ Wastes containing uranium byproduct material are placed in evaporation ponds/impoundments
- ISL/ISR, conventional mill, heap leach operations expected

Proposed Subpart W Revisions

- EPA is proposing several revisions (under authority of the Clean Air Act Amendments of 1990):
  - ✓ Clearly stating that the standards apply to all units that contain uranium byproduct material. These units include, but are not limited to:
    - conventional tailings impoundments
    - evaporation ponds or other nonconventional impoundments at uranium recovery facilities
    - heap leach piles

Proposed Subpart W Revisions, cont.

- Propose that all uranium recovery facilities comply with Generally Available Control Technology (GACT), or management practices
  - ✓ Management practices incorporate existing “work practices” for conventional impoundments
  - ✓ Management practices also specified for evaporation ponds and heap leach piles
  - ✓ This standard requires double liners and leak detection systems per 40 CFR 192.32(a)

Proposed Subpart W Revisions, cont.

- Proposed GACT removes the requirement for monitoring radon, but still limits the amount of byproduct material that can be exposed
  - ✓ For conventional impoundments, limit tailings exposure using either phased disposal or continuous disposal
  - ✓ For heap leach piles, limit tailings exposure using phased disposal and maintain a 30 % moisture content in the pile
  - ✓ For evaporation ponds, require at least one meter of liquid be constantly maintained in the pond

Proposed Subpart W Revisions, cont.

- Add definitions for:
  - ✓ uranium recovery facility
  - ✓ operation and standby
  - ✓ Conventional impoundment
  - ✓ non-conventional impoundment
  - ✓ heap leach pile
- Require the owner/operator of a uranium recovery facility to maintain records that confirm that impoundments have been constructed according to the requirements

Comments/Public Hearing

- The proposed rule was published in the *Federal Register* on May 2, 2014 (79 FR 25388)
- EPA will accept comment until July 31, 2014 (90 days after the proposed rule was published)
- A public hearing will be held during the comment period

40 CFR 192 - Status

- EPA plans to revise its regulations for uranium and thorium milling
- Regulatory changes will focus on groundwater protection, restoration and stability at ISR sites
- Revisions are currently undergoing interagency review
- Anticipate *Federal Register* publication this fall with public hearings soon thereafter

40 CFR 192 - Background

- Issued under authority of Uranium Mill Tailings Radiation Control Act (UMTRCA) of 1978
- Establishes standards protective of public health, safety and the environment for active and closed mill sites
- Addresses residual radioactive material at Title I (inactive) sites and byproduct material at Title II (active) sites
- Issued in 1983; last revised in 1995

40 CFR 192 – Taking Into Account ISR

- ISR now dominant form of uranium extraction in the US
- ISR directly alters groundwater chemistry
- Current standards lack explicit provisions for ISR operations
- NRC and Agreement States use license conditions to protect public health, safety and the environment
- *We plan to propose an additional subpart focused on uranium in-situ recovery*

40 CFR 192 – Primary Objectives for Rule Revisions

- Ensure that background groundwater conditions are adequately characterized
  - ✓ … with enough detail to provide the data necessary to help determine when groundwater restoration has occurred
- Align groundwater standards in the revised rule with current regulatory criteria
- Ensure that groundwater is stable and likely to stay that way
  - ✓ …by providing detailed requirements regarding restoration metrics and post-restoration monitoring

40 CFR 192 – Next Steps

- Proposal submitted to OMB for Executive Order 12866 review in late April
- We expect the proposal will be published in the *Federal Register* this fall
- Comments will be accepted for 90 days after publication date