Statutory and Regulatory Framework for In Situ Recovery Facilities

Title II of the Uranium Mill Tailings Radiation Control Act of 1978, as amended (UMTRCA), made several amendments to the Atomic Energy Act of 1954, as amended (AEA), including AEA Section 11e.(2),[1] which established a new class of byproduct material comprising the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its uranium or thorium.[2] UMTRCA also added AEA Sections 84 and 275,[3] which established a dual regulatory regime for the U.S. Environmental Protection Agency (EPA) and the U.S. Nuclear Regulatory Commission (NRC) over AEA Section 11e.(2) byproduct material. Section 275 authorizes the EPA to issue "standards of general application" or "generally applicable standards" for the protection of the public health, safety, and the environment from radiological and non-radiological hazards associated with processing and the possession, transfer, and disposal of AEA Section 11e.(2) byproduct material at sites at which ores are processed primarily for their source material content or which are used for the disposal of such byproduct material. For non-radiological hazards, AEA Section 275b.(2) directed the EPA to establish standards consistent with those then required under subtitle C of the Solid Waste Disposal Act (SWDA). The SWDA was essentially replaced by the Resource Conservation and Recovery Act, as amended (RCRA), in 1976.

Section 84 directs the NRC to establish a regulatory program to protect the public health and safety and the environment from radiological and non-radiological hazards associated with the processing, possession, and transfer of Section 11e.(2) byproduct material. Section 84a.(2) also requires that the NRC conform its management of Section 11e.(2) byproduct material to the generally applicable standards promulgated by the EPA under Section 275. Additionally, in accordance with Section 84a.(3), the NRC must conform its management of Section 11e.(2) byproduct material to those general requirements established by the NRC, with the concurrence of the EPA Administrator, which are, to the maximum extent practicable, at least comparable to requirements applicable to the possession, transfer, and disposal of similar hazardous material regulated by the EPA under the RCRA.

Other than its Section 84a.(3) concurrence role, the EPA's authority is limited to promulgating generally applicable standards. In this regard, Section 275b.(2) expressly states that "no permit issued by the [EPA] Administrator is required under this Act … for the processing, possession, transfer, or disposal of [Section 11e.(2)] byproduct material." The NRC implements the EPA standards and the NRC or the applicable Agreement State regulatory agency, as appropriate, acts as the licensing and regulatory authority for each Section 11e.(2) byproduct material licensee.

Regulatory Framework

The current regulatory framework implementing the requirements of AEA Sections 84 and 275 concern conventional milling and were promulgated by the NRC and the EPA in the 1980s and 1990s. Notably, the NRC promulgated its implementing regulations in the *Federal Register* (FR) first, on October 3, 1980 (45 FR 65521), several years before the EPA issued its generally applicable standards. The 1980 NRC rule made amendments to Part 40 of Title 10 of the *Code*

[1] 42 U.S.C. § 2014(e)(2).
[2] Title I of UMTRCA concerns inactive uranium mining and milling sites under the jurisdiction of the U.S.Department of Energy.
[3] 42 U.S.C. § 2114 and § 2022, respectively.

of Federal Regulations (10 CFR), "Domestic Licensing of Source Material," to "specify technical, surety, ownership, and long-term care criteria for the management and final disposition of mill tailings" and added Appendix A to 10 CFR Part 40,[4] which sets forth the criteria relating to the operation of uranium mills and the disposition of tailings or wastes produced by uranium extraction. In the 1980 rule's statement of considerations, the NRC justified its issuance of regulations prior to the promulgation of generally applicable standards by EPA:

> an analysis of [UMTRCA] and its legislative history indicates that the Commission not only has the authority but also the immediate duty to insure that the management of uranium mill tailings is carried out in a manner that will protect the public health and safety and the environment. Although NRC could have delayed developing regulations until EPA issued standards, that would have left unfinished the program to develop rules which NRC has been working on for nearly 3 years. In addition, a delay would have made it difficult, if not impossible, for the Agreement States to issue equivalent standards as required.[5]

The EPA promulgated its generally applicable standards for Section 11e.(2) byproduct material in Subpart D of Part 192 of Title 40 of the *Code of Federal Regulations* (40 CFR), "Health and Environmental Protection Standards for Uranium and Thorium Mill Tailings," on October 7, 1983 (48 FR 45926), and updated these standards on November 15, 1993 (58 FR 60340). Subsequently, the NRC promulgated two conforming rules, the first on October 16, 1985 (50 FR 41852), which pertained to the management of uranium and thorium byproduct material, and the second on November 13, 1987 (52 FR 43553), which concerned incorporating into Appendix A to 10 CFR Part 40 the EPA groundwater protection requirements set forth in Subpart D of 40 CFR Part 192. In promulgating the November 1987 regulations, the NRC did not obtain the concurrence of the EPA, stating that the "Commission considers it inappropriate to consider this rulemaking as requiring EPA concurrence under section 84a.(3) of the AEA," as "[n]o discretionary general requirements pursuant to section 84a.(3) are being issued."[6]

On November 15, 1993, the EPA published in the FR (58 FR 60340) its last amendment to its generally applicable standards in Subpart D of 40 CFR Part 192. This amendment added a requirement for the emplacement of a permanent radon barrier upon uranium mill tailings piles or impoundments at nonoperational UMTRCA Title II sites to prevent releases of radon-222. The NRC promulgated a conforming regulation on June 1, 1994 (59 FR 28220).

[4] Appendix A is entitled "Criteria Relating to the Operation of Uranium Mills and the Disposition of Tailing or Wastes Produced by the Extraction or Concentration of Source Material from Ores Processed Primarily for their Source Material Content."
[5] 45 FR 65521, 65523.
[6] 52 FR 43553, 43561. There is no reference in the statement of consideration for the October 1985 rule that the NRC either sought or obtained EPA concurrence.