



## Department of Energy

Washington, DC 20585

July 22, 2002

Mr. Martin J. Virgilio  
Director  
Office of Nuclear Material Safety and Safeguards  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555-0001

Dear Mr. Virgilio:

The U.S. Department of Energy (DOE) is requesting the U.S. Nuclear Regulatory Commission (NRC) to classify radioactive materials in silos 1, 2, and 3 at DOE's Fernald Environmental Management Project (Fernald) as "11e.(2) byproduct material" under section 11e.(2) of the Atomic Energy Act of 1954, as amended (AEA), 42 U.S.C. 2014(e)(2), so that it may be disposed of at the NRC-licensed 11e.(2) disposal cell. This material consists of the waste produced by DOE's extraction and concentration of uranium from ore processed for its source material content. Closure of Fernald by 2006 is among DOE's highest priorities, and disposition of the silo materials is on the critical path to that goal. NRC's 11e.(2) designation would open a cost-effective disposal option that would otherwise be unavailable.

DOE believes that classification of the silo materials as "11e.(2) byproduct material" is not inconsistent with the December 13, 2000, NRC Director's Decision (Decision) which focused on the applicability of NRC's jurisdiction to tailings from the Formerly Utilized Sites Remedial Action Program (FUSRAP) sites and concluded that such material is outside NRC's jurisdiction. The radioactive material in the silos at Fernald was not addressed in the Decision, and we believe that NRC should classify it as 11e.(2) byproduct material for the following three reasons:

- (1) Unlike the FUSRAP sites, Fernald was an active uranium milling site when the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA) was enacted;
- (2) DOE has maintained continuous management of Fernald under its AEA authority; and
- (3) Fernald was never designated as a FUSRAP site.

Additionally, we wish to emphasize that DOE does not presently manage any other sites (other than UMTRCA Title I sites) with similar material. Therefore, we do not believe that a decision to designate the silo materials as "11e.(2) byproduct material" would have any precedential implications. The enclosure describes in

*Add. m. Virgilio*  
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*NM-39*



more detail the logic supporting our request and addresses questions raised by your staff.

If you have any questions, please contact me at (202) 586-7709 or Ms. Patrice M. Bubar, Associate Deputy Assistant Secretary, Office of Integration and Disposition, at (202) 586-5151.

Sincerely,

A handwritten signature in black ink, appearing to read "Jessie Hill Roberson", with a long horizontal flourish extending to the right.

Jessie Hill Roberson  
Assistant Secretary for  
Environmental Management

Enclosure

The Department of Energy (DOE) is requesting the Nuclear Regulatory Commission (NRC) to designate the radioactive materials in silos 1, 2, and 3 at DOE's Fernald Environmental Management Project (Fernald) as "11e.(2) byproduct material," under section 11e.(2) of the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2014(e)(2), so that it may be disposed of at the NRC-licensed Envirocare 11e.(2) disposal cell. The material was placed in the silos between 1952 and 1960 and consists of the waste produced by DOE's extraction and concentration of uranium from ore processed for its source material content. Closure of Fernald is among the highest priorities of DOE, and disposition of the silo materials is on the critical path for closing Fernald by 2006. NRC's 11e.(2) designation would open a cost-effective disposal option that would otherwise be unavailable if the material had to be disposed of as source material.

DOE believes that classification of the silo materials as "11e.(2) byproduct material" is not inconsistent with the December 13, 2000, NRC Director's Decision (Decision) which focused on the applicability of NRC's jurisdiction to radioactive wastes from the Formerly Utilized Sites Remedial Action Program (FUSRAP) sites and concluded that such material is outside NRC's regulatory jurisdiction. That decision concluded in part that:

Tailings that were produced in activities under NRC license at the time of the enactment of the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA) in 1978, or that were licensed thereafter, fall under Title II of UMTRCA. Under Title II, if a license for the activity was issued or in effect in 1978 or thereafter, cleanup of the site is regulated by NRC. Tailings produced in activities not under an NRC license at the time of enactment of UMTRCA, or thereafter, are not regulated by NRC because the agency has concluded that its authority does not extend to such material.

DOE understands NRC's position regarding NRC's lack of regulatory jurisdiction over the management of materials from FUSRAP sites. However, at the time of the enactment of UMTRCA, the Fernald site was an active uranium processing facility managed under AEA authority by DOE. Production at this site continued until 1989, when DOE shifted its focus from materials production to environmental cleanup. By comparison, it is our understanding that the FUSRAP sites were inactive sites at the time of UMTRCA's enactment, and were unregulated either by DOE or, with a few exceptions, by NRC at that time. FUSRAP sites were commercial facilities that had previously been contracted by DOE and its predecessor agencies to provide specific materials and services. Once the contracts at these commercial facilities had been completed, many of these facilities were closed and/or abandoned.

DOE believes the active status of the Fernald site in 1978 -- and the difference between this site and the FUSRAP sites in that regard -- supports the requested 11e.(2) classification. The Decision relies in part upon legislative history distinguishing between "active" sites, or sites with "active mill operations," on the one hand, and "inactive," or "defunct," sites on the other. Fernald was a site where "active mill operations" were being conducted. In the context of the Decision, Fernald more appropriately fits in the group of "active sites" which are otherwise eligible for an 11e.(2) designation.

Moreover, the Decision very clearly focuses on FUSRAP sites specifically, not on DOE-managed sites. The Decision provides in part that:

The question before the Commission is whether its regulatory jurisdiction extends to those ore processing residuals or mill tailings currently being remediated by the Corps under FUSRAP. See Decision at 7 (emphasis added).

It states in conclusion that:

The NRC will continue to refrain from imposing disposal requirements for the mill tailings generated at FUSRAP sites because this material is outside of the agency's jurisdiction. *Id.* at 23 (emphasis added).

It is not inconsistent with those statements to conclude that the silo materials should be classified as "11e.(2) byproduct material" because Fernald, unlike the FUSRAP sites, was and has continued to be under continuous management by DOE under its AEA authority. If the site and silo materials had been owned by a private party, instead of DOE, the site would have been continually licensed and so would have met the conditions for designation as "11e.(2) byproduct material."

NRC's classification of the silo materials as "11e.(2) byproduct material" would afford DOE an additional option for the disposal of these materials. Without the classification, DOE could not dispose of the material at a licensed 11e.(2) facility. NRC's Interim Guidance on Disposal of Non-Atomic Energy Act of 1954, Section 11e.(2) Byproduct Material in Tailings Impoundments provides in part that:

The 11e.(2) licensee must provide documentation showing necessary approvals of other affected regulators (e.g., the U.S. Environmental Protection Agency or State) for material containing listed hazardous waste or any other material regulated by another Federal agency or State because of environmental or safety considerations.

NRC staff asked us to comment on the feasibility of disposing of the silo materials in Envirocare of Utah's NRC licensed 11e.(2) disposal cell as non-11e.(2) material in accordance with this Interim Guidance. The State of Utah is an "Agreement State" for the regulation of source material, but not for "11e.(2) byproduct material." If the silo materials are not classified by NRC as "11e.(2) byproduct material," it may need to be regulated by the State of Utah as "source material," since its uranium concentration exceeds 0.05%, unless the State grants an exemption, in accordance with NRC's Interim Guidance. DOE has no indication that the State of Utah is amenable to granting such an exemption and that this requirement could be satisfied. A more straightforward course of action would be for NRC to classify and regulate the material as "11e.(2) byproduct material" under its regulatory scheme for such material.

NRC staff also asked us to describe any disadvantages of disposing of the silo materials in the Envirocare disposal facilities for low-level or mixed low-level waste. Envirocare has a license from the State of Utah to dispose of low-level waste, including source material, or mixed low-

level waste, up to “Class A” in these facilities. Disposal of the silo materials at these facilities is not a viable option because the majority of the silo materials do not meet Envirocare’s waste acceptance criteria for “Class A” waste.

Finally, NRC staff asked us to address the question of alternative disposal sites for the silo materials. DOE is also pursuing disposal of these materials at DOE’s facilities at the Nevada Test Site (NTS) and at the Hanford Site in Washington. NTS is not accessible by rail. Therefore, disposal at NTS would require either direct truck transport of approximately 3800 shipments from Fernald to NTS, or the use of intermodal transport. Under the latter approach, the material would leave Fernald by means of dedicated trains, and would later be transferred to trucks before reaching its final destination in Nevada. Hanford also presently lacks rail access to the site. Therefore, transportation to Hanford would have to be either by truck, or intermodal by means of a transfer facility in Pasco, Washington. Disposal at Envirocare could be accomplished through direct rail using dedicated trains. Consequently, disposal at either of the DOE facilities would add transportation costs and significant schedule risk to the project due to the additional transportation logistics.

DOE does not presently manage any other sites (other than UMTRCA Title I sites) that contain tailings or waste from the processing of ore for its source material content. We believe, therefore, that a decision to classify the silo materials as “11e.(2) byproduct material” would not have precedential implications for other materials.