

NUREG-1790, Vc

Environmental Impact Statement for the Proposed National Enrichment Facility in Lea County, New Mexico

Appendices H through J

Final Report

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**Division of Waste Management and Environmental Protection
Office of Nuclear Material Safety and Safeguards
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Comment: 316-55

A commenter asked whether LES could engage in cleaning and decontamination of empty UF_6 cylinders at the proposed NEF. The commenter stated that the EIS should consider the environmental effects of cleaning and decontaminating Type 48X or Type 48Y cylinders that have contained UF_6 .

Response: The NRC staff revised section 2.1.7 to state that LES would not conduct internal cleaning or decontamination of the UF_6 cylinders at the proposed NEF site. Cylinders containing DUF_6 would be shipped to a conversion facility, where empty cylinders would be shipped to the feed material suppliers. Any empty cylinders stored at the proposed NEF would be eventually returned to the feed material supplier or properly disposed of at a licensed disposal facility.

I.20.4 Disposal Site

Comment: M-20

Several commenters asked whether the NRC considered Senator Domenici's initiative that would require DOE to take ownership of the proposed NEF depleted uranium waste. If so, the commenters requested that the NRC discuss the initiative and analyze its environmental impacts.

Response: Senator Domenici's initiative is beyond the scope of this EIS. However, for DOE to assume control of the proposed NEF wastes, LES would be required to make a request for DUF_6 conversion and disposition under the USEC Privatization Act. Section 4.2.14.3 of the Draft EIS discusses the environmental impacts of this option.

Comment: M-20; 316-35; 358-18

Several commenters asked whether the proposed NEF could ship depleted uranium indirectly to Barnwell, the Nevada Test Site, or WCS. For example, the commenters wanted to know whether the waste could be shipped to the Nevada Test Site if DOE were to assume ownership of the waste. Other commenters stated that disposition of NEF depleted uranium wastes by DOE, Barnwell and WCS cannot be considered plausible and should be eliminated from the EIS. One commenter also stated that Envirocare or Hanford could not take the waste if no viable private conversion facility exists.

Response: For DOE to assume control of the proposed NEF wastes, LES would be required to make a request for DUF_6 conversion and disposition under the USEC Privatization Act. If LES were to make this request, DOE would be required to take the proposed NEF wastes. The disposition of the depleted U_3O_8 generated from the DOE conversion facilities would be either at the Envirocare site (DOE's proposed disposition site) or at the Nevada Test Site (DOE's optional disposal site). The Nevada Test Site could only receive depleted uranium from the proposed NEF if ownership of the depleted uranium was first transferred to DOE.

With respect to Compact organizations, wastes from the proposed NEF could not be shipped directly to Barnwell unless other regulatory arrangements were made. WCS has applied for a license from the State of Texas to dispose of low-level radioactive waste at its Andrews, Texas facility. A separate licensing process could be required to obtain approval from the State of Texas and agreements must be obtained from the relevant Compact organizations if disposal at WCS is pursued by either DOE or LES. The proposed NEF waste could also be shipped to Hanford if it meets the facility's waste acceptance criteria.

Under its Radioactive Materials License issued by the State of Utah, Envirocare is authorized to accept for disposal the quantities of depleted uranium oxides expected to be generated by the conversion of the

proposed NEF's DUF₆. Section 2.1.9 of the Draft EIS has been revised to clarify the conditions under which waste could be shipped to the various disposal sites.

Comment: 031-3

A commenter asked whether Governor Richardson would withdraw his support for the proposed NEF if the NRC refused to allow representatives from the State of New Mexico to participate in the hearings on waste disposal and other issues.

Response: On July 19, 2004, the NRC's ASLB issued a Memorandum and Order that allowed participation in the hearing process by two State of Mexico entities—the New Mexico Environment Department and the Attorney General of New Mexico.

Comment: 032-3; 032-7; 032-9; 032-16; 036-6; 067-2; 105-7

Several commenters asked about the disposition of the waste and demanded assurance that the waste would be removed from the State of New Mexico. The commenters referred to the responsibility of state and local officials to protect citizens who could be affected by the proposed NEF.

Response: As stated in section 4.2.14 of the Draft EIS, hazardous wastes would be shipped offsite to licensed facilities for processing and disposal in accordance with Federal and State regulations. LES has publicly committed to the removal of DUF₆ from the proposed NEF as soon as practicable. To this end, LES and AREVA, Inc., signed a memorandum of understanding (LES, 2005d) to pursue the licensing, design, and construction of a private DUF₆ conversion facility specifically for the proposed NEF. The depleted uranium would be converted at this private facility and then disposed of at a licensed facility for radioactive waste outside of the State of New Mexico. The location of the private conversion facility would not affect plans for final disposition outside New Mexico. Further, no disposal facilities currently exist within the State.

Should a licensee violate the terms of its license, which includes compliance with all applicable laws and regulations pertaining to uranium enrichment operations and environmental protection, then the NRC, as the Federal oversight agency, may impose penalties, including financial and civil penalties and license revocation. Other Federal and State agencies can also impose requirements and penalties for violations of laws and regulations under their purview.

Comment: 032-31; 103-13; 103-14; 103-15

Commenters noted that no abandoned mines are available and that mines should be eliminated as a disposal option. One commenter stated that the EIS should clarify that costs are the reason underground mines were not considered viable and state why costs are high for this low technology alternative. Another commenter stated that disposal in mines seems to be inconsistent with DOE's preferred alternative discussed in the Depleted Uranium Programmatic Environmental Impact Statement (DOE, 1999).

Response: As discussed in sections 2.1.9 and 4.2.14.4 of the Draft EIS, one of the options proposed by LES is to dispose of the converted wastes as U₃O₈ in an abandoned mine. The NRC staff believes this is a viable option and evaluated the environmental impacts associated with this option. Therefore, the NRC staff did not eliminate mine disposal from further consideration. Section 4.2.14.4 of the EIS contains a discussion of the impacts of disposal in an abandoned mine. DOE's preferred alternative in the Programmatic EIS for depleted uranium is beneficial use. However, the site-specific conversion facility EISs, using more recent information and data, concluded that there is not a significant market for

beneficial use of depleted uranium, and that disposal in a licensed disposal facility is the preferred alternative. The NRC staff agrees with the disposition assessment of the conversion facility EISs.

Comment: 034-13

A commenter noted that the last sentence in the first paragraph of Table 2-8 states that there would be enough existing national capacity to accept low-level radioactive waste generated at the proposed NEF. The commenter stated that the EIS should clarify whether the statement is inclusive of DUF_6 disposal and should address the national capacity for converting and disposing of DUF_6 .

Response: As presented in section 4.2.14.4 of the Draft EIS regarding existing disposal capacity, DUF_6 cannot be disposed of without first being converted into an acceptable form (such as U_3O_8). DUF_6 would be disposed of in a form processed to meet Class A low-level radioactive waste requirements, and for which there is sufficient national capacity. Section 4.2.14.3 of the Draft EIS discusses options for private or DOE conversion of DUF_6 .

Comment: 103-13

The commenter stated that the NRC acknowledges LES proposals for DUF_6 disposition beyond U.S. borders, but does not indicate that such options are not viable.

Response: The NRC staff revised section 2.2.2.4 of the EIS to clarify that overseas locations were eliminated from further consideration due to high costs.

Comment: 104-1

A commenter asked whether states other than the State of New Mexico would have any authority with regard to the disposition of proposed NEF wastes.

Response: The authority for waste disposition rests with the relevant Compact organizations, as described in section 2.1.9 of the EIS.

Comment: 284-8; 316-36; 355-5; 356-4; 358-19

Several commenters stated concerns about disposing of depleted uranium waste at the WCS facility. One commenter stated that there is no basis for including WCS as an option in the EIS. Other commenters stated that the EIS does not evaluate the potential that proposed NEF wastes could be processed, stored and disposed of in the vicinity of the proposed NEF site. Some commenters asked about the regulatory process and whether an intermediary could take possession of the proposed NEF's waste for ultimate transfer to the WCS site. One commenter asked whether LES would transfer possession of its waste to DOE, which would qualify it for disposal at the WCS facility if the facility receives a license for Federal waste.

Response: All wastes to be disposed of at a licensed low-level radioactive waste disposal facility would be required to meet all of the facility's operating license requirements. WCS applied for a license from the State of Texas to dispose of low-level radioactive waste at its Andrews, Texas facility. A separate licensing process could be required to obtain approval from the State of Texas and agreements must be obtained from the relevant Compact organizations if disposal at WCS is pursued by either DOE or LES.

Comment: 316-27; 316-37

A commenter asked why the Draft EIS assumes disposal of depleted uranium may occur at a near-surface site and does not account for the NRC's historical position on this issue. The commenter listed examples of previous NRC statements indicating that near-surface disposal may not be appropriate for depleted

uranium disposition. The commenter also asked whether it would be necessary to amend the operating licenses of the facilities so they may legally accept depleted uranium for disposal. The commenter asked whether an EIS would be necessary to evaluate the impacts associated with a license amendment.

Response: As discussed in section 4.2.14.4 of the EIS, the environmental impacts at shallow disposal sites considered for disposition of low-level radioactive wastes would have been assessed at the time of the initial license approvals of these disposal facilities or as a part of any subsequent amendments to the license. For example, under its Radioactive Materials License issued by the State of Utah, the Envirocare disposal facility is authorized to accept depleted uranium for disposal with no volume restrictions. Therefore, the State of Utah considers the disposal of depleted uranium at the Envirocare site to be acceptable. Several site-specific factors contribute to the acceptability of depleted uranium disposal at the Envirocare site, including a lack of potable groundwater, extremely low annual precipitation, and land use controls by Tooele County.

Comment: 316-28

A commenter stated that Table 4-19 of the Draft EIS fails to disclose the models or parameter values used in its modeling of releases expected from a disposal site. The commenter noted that the text in the Draft EIS suggests that models developed for the Claiborne Enrichment Center were used, but that Table 4-19 results are unlike results for the Claiborne facility. The commenter stated that the performance of a disposal site is highly site-specific; the model addresses two hypothetical sites but no actual disposal sites.

Response: The models and the analysis that are the basis for the values in Table 4-19 are presented in Appendix A of the Claiborne Enrichment Center EIS. The NRC staff added a footnote to Table 4-19 to indicate this. To demonstrate the potential environmental effects of disposal, the NRC staff conducted a generic analysis of potential impacts from disposal in a geologic disposal site. If geologic disposal is pursued, site selection and site-specific environmental analyses also would be conducted by appropriate regulatory authorities.

Comment: 358-18

A commenter stated that the EIS does not recognize that the States of Utah and Nevada have previously prohibited 11e.(2) waste (uranium mill tailings) from Fernald from being shipped to Envirocare and the Nevada Test Site, respectively, and that the proposed NEF waste may not be accepted.

Response: Depleted uranium from an enrichment facility is not classified as 11e.(2) byproduct material. The 11e.(2) byproduct material from Fernald was not disposed of in Utah or Nevada for reasons that are not applicable in this case. As discussed in section 4.2.14.4 of the EIS, under its Radioactive Materials License issued by the State of Utah, Envirocare is authorized to accept for disposal the quantities of depleted uranium oxides expected to be generated by the conversion of the proposed NEF's DUF₆.

I.20.5 Conversion Facility

Comment: M-18; O-1

Several commenters stated that the option of constructing an adjacent conversion facility is too speculative to be considered viable. The commenters stated that this option would not address concerns that the waste be removed from the State of New Mexico.