

May 23, 2006

MEMORANDUM TO: Michael T. Lesar, Chief
Rules Review and Directives Branch
Division of Administrative Services
Office of Administration

FROM: Kevin M. Ramsey, Project Manager /RA/
Fuel Cycle Facilities Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
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SUBJECT: NOTICE OF AVAILABILITY OF ENVIRONMENTAL ASSESSMENT AND
FINDING OF NO SIGNIFICANT IMPACT CONCERNING REQUEST FOR
EXEMPTION FROM NUCLEAR FUEL SERVICES, ERWIN, TN

Attached please find one signed original, four copies, and an electronic version on a 3.5-inch diskette of the subject *Federal Register Notice* for transmittal to the Office of the Federal Register for publication.

ADM/DAS/RDB has been given owner's rights to the Notice in the U.S. Nuclear Regulatory Commission (NRC) Agencywide Documents Access Management System (ADAMS) (ML061220658). Please note that most of the documents referenced in the notice are nonpublic. A statement concerning how documents may be made available is provided in Section III, Further Information.

Docket No.: 70-143
License No.: SNM-124

Staff Contact: Kevin Ramsey
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Attachments: 1. One original and four copies
2. One 3.5-inch diskette

NUCLEAR REGULATORY COMMISSION

DOCKET NO. 70-143

**NUCLEAR FUEL SERVICES, INC.,
ENVIRONMENTAL ASSESSMENT AND FINDING OF
NO SIGNIFICANT IMPACT FOR PROPOSED
EXEMPTION OF WASTE SHIPMENTS
FROM CERTAIN REQUIREMENTS**

AGENCY: Nuclear Regulatory Commission.

ACTION: Environmental Assessment and Finding of No Significant Impact.

FOR FURTHER INFORMATION CONTACT: Kevin M. Ramsey, Project Manager, Fuel Cycle Facilities Branch, Division of Fuel Cycle Safety and Safeguards, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Mail Stop T-8F42, Rockville, MD. 20555-0001, Telephone (301) 415-7887; fax (301) 415-5955; e-mail kmr@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Introduction:

The Nuclear Regulatory Commission (NRC) staff is considering the issuance of a license amendment to Materials License SNM-124, to Nuclear Fuel Services, Inc. (NFS) (the licensee), to exempt it from certain safety requirements when shipping low-level radioactive

waste. The NRC has prepared an Environmental Assessment (EA) in support of this amendment in accordance with the requirements of 10 CFR Part 51. Based on the EA, the NRC has concluded that a Finding of No Significant Impact (FONSI) is appropriate and, therefore, an Environmental Impact Statement (EIS) will not be prepared.

II. Environmental Assessment:

Background

The NFS facility in Erwin, Tennessee is authorized, under License SNM-124 to manufacture high-enriched nuclear reactor fuel. In addition, NFS is authorized to blend highly enriched uranium (HEU) with natural uranium and manufacture low-enriched nuclear reactor fuel. These activities generate low-level radioactive waste contaminated with small amounts of enriched uranium. In addition, ongoing decommissioning activities generate large quantities of soil and debris contaminated with enriched uranium. Regulations in 10 CFR define enriched uranium as special nuclear material (SNM) and specify safety requirements when SNM is shipped. On June 20, 2005, NFS requested an exemption from certain safety requirements when the SNM is shipped as contamination on radioactive waste (Ref. 5). On December 16, 2005, and March 24, 2006, NFS provided additional information to support its request (Ref. 6 and 7).

Review Scope

The purpose of this EA is to assess the environmental impacts of the proposed license amendment. It does not approve the request. This EA is limited to the proposed exemption and any cumulative impacts on existing plant operations. The existing conditions and operations for the Erwin facility were evaluated by the NRC for environmental impacts in a 1999 EA related to the renewal of the NFS license (Ref. 1) and a 2002 EA related to the first

amendment for the Blended Low-Enriched Uranium (BLEU) Project (Ref. 2). The 2002 EA assessed the impact of the entire BLEU Project, using information available at that time. A 2003 EA (Ref. 3) and a 2004 EA (Ref. 4), related to additional BLEU Project amendments, confirmed the FONSI issued in 2002. The present EA sets forth information and analysis for determining that the issuance of a FONSI is appropriate, and that an EIS will not be prepared in connection with the exemption request now being considered.

Proposed Action

The proposed action is to amend NRC Materials License SNM-124 to exempt shipments of low-level radioactive waste contaminated with SNM from certain safety measures normally required for such shipments. The exemption would authorize less stringent measures. The proposed action is limited to safety measures for waste shipments only. No change to processing, packaging, or storage operations is requested, and no construction of new facilities is requested.

Need for Proposed Action

The proposed action is being requested because NFS has generated a large quantity of low-level radioactive waste from decommissioning activities and normal operations. This waste contains SNM which is not readily separable from the waste and is uneconomical for further uranium recovery processing. When waste packages meeting disposal site requirements are grouped together for a shipment, the total quantity of SNM can exceed the threshold requiring more stringent safety measures. To avoid the need for more stringent measures, NFS is making waste shipments with smaller quantities of SNM. This results in shipments that are not fully loaded and requires additional shipments to dispose of the waste. NFS believes that the

more stringent measures are inappropriate for waste bearing incidental SNM in the form of contamination.

Alternatives

The alternatives available to NRC are:

1. Approve the license amendment as described; or
2. No action (i.e., deny the request).

Affected Environment

The affected environment for the proposed action is the vicinity of the vehicle used to transport the waste to a disposal facility.

The affected environment for the no action alternative is the NFS site. The NFS facility is located in Unicoi County, Tennessee, about 32 km (20 mi) southwest of Johnson City, Tennessee. The facility is about 0.8 km (0.5 mi) southwest of the Erwin city limits. The affected environment is identical to the affected environment assessed in the 2002 EA related to the first amendment for the BLEU Project (Ref. 2). A full description of the site and its characteristics is given in the 2002 EA. Additional information can be found in the 1999 EA related to the renewal of the NFS license (Ref. 1). The site occupies about 28 hectares (70 acres). The site is bounded to the northwest by the CSX Corporation (CSX) railroad property and the Nolichucky River, and by Martin Creek to the northeast. The plant elevation is about 9 m (30 ft) above the nearest point on the Nolichucky River.

The area adjacent to the site consists primarily of residential, industrial, and commercial areas, with a limited amount of farming to the northwest. Privately owned residences are

located to the east and south of the facility. Tract size is relatively large, leading to a low housing density in the areas adjacent to the facility. The CSX railroad right-of-way is parallel to the western boundary of the site. Industrial development is located adjacent to the railroad on the opposite side of the right-of-way. The site is bounded by Martin Creek to the north, with privately owned, vacant property and low-density residences.

Environmental Impacts of Proposed Action and Alternatives

1. Occupational and Public Health

Proposed Action

The risk to human health from the transportation of all radioactive material in the U.S. was evaluated in the Final Environmental Impact Statement on the Transportation of Radioactive Material by Air and Other Modes (Ref. 8). The principal radiological environmental impact during normal transportation is direct radiation exposure to nearby persons from radioactive material in the package. The average annual individual dose from all radioactive material transportation in the U.S. was calculated to be approximately 0.5 mrem, well below the 10 CFR Part 20 requirement of 100 mrem for a member of the public. The proposed action would result in fewer shipments. Fewer shipments would expose fewer members of the public to radiation, reduce nonradiological truck emissions, and reduce the risk of injuries from traffic accidents. However, the reductions would be so small that the differences would be negligible.

Occupational health was also considered in the Final Environmental Impact Statement on the Transportation of Radioactive Material by Air and Other Modes (Ref. 8). The average annual occupational dose to the driver(s) is estimated to be 8.7 mSv (870 mrem), which is below the 10 CFR Part 20 requirement of 50 mSv (5000 mrem). The Department of

Transportation (DOT) regulations in 49 CFR 177.842(g) require that the radiation dose rate may not exceed 0.02 mSv (2 mrem) per hour in any position normally occupied in a motor vehicle. The proposed action would not cause dose rates to the driver exceeding the DOT limit.

The NRC staff is evaluating the possibility of an incident due to transportation of this material. Incidents involving SNM were considered in the Final Environmental Impact Statement on the Transportation of Radioactive Material by Air and Other Modes (Ref. 8). The NRC staff concluded that the risks of an incident in transit, resulting in a significant release, were sufficiently small to constitute no significant adverse impact on the environment. The staff will approve the proposed amendment only if it concludes that the safety measures are adequate to protect public health and safety, and the environment, based on the statements and representations in the application. A detailed discussion of this evaluation will be provided in the Safety Evaluation Report for the amendment if it is approved.

Under the proposed action, the doses to the public and to the workers are not increased beyond those considered in the Final Environmental Impact Statement on the Transportation of Radioactive Material by Air and Other Modes (Ref. 8). Therefore, shipment of these materials as proposed would be consistent with the previous assessment of environmental impacts and the conclusions reached.

No Action

Denying this amendment request would not result in any significant difference in the risk to the public health from radiological materials. If this amendment request is denied, the licensee would be required to ship the contaminated waste more frequently in smaller

quantities. The larger number of shipments is also consistent with the assessment of environmental impacts, and the conclusions in the Final Environmental Impact Statement on the Transportation of Radioactive Material by Air and Other Modes (Ref. 8). As noted above, the level of nonradiological truck emissions and the risk of injuries from traffic accidents would be higher, but the differences would be negligible.

The occupational health impacts would not change significantly as a result of denial of this amendment request. Occupational doses at the facility may be slightly higher as a result of the larger number of shipments that workers must prepare, however, the facility will continue to implement NRC-approved radiation safety procedures for handling radioactive materials. Thus, the dose to workers under the “no action” alternative will remain within acceptable regulatory limits.

2. Effluent Releases, Environmental Monitoring, Water Resources, Geology, Soils, Air Quality, Demography, Biota, Cultural and Historic Resources

Proposed Action

The NRC staff has determined that the approval of the proposed amendment will not impact effluent releases, environmental monitoring, water resources, geology, soils, air quality, demography, biota, or cultural or historic resources under normal transport conditions.

No Action

The NRC staff has determined that denial of the proposed amendment will not impact effluent releases, environmental monitoring, water resources, geology, soils, air quality, demography, biota, or cultural or historic resources at or near the NFS site.

Conclusion

Based on its review, the NRC has concluded that the environmental impacts associated with the proposed action are not significant and, therefore, do not warrant denial of the proposed license amendment. Based on an evaluation of the environmental impacts of the proposed license amendment, the NRC has determined that the proper action is to issue a FONSI.

Agencies and Persons Contacted

On January 11, 2005, the NRC staff contacted the Deputy Director of the Division of Radiological Health in the Tennessee Department of Environment and Conservation (TDEC) concerning this EA. On February 2, 2006, the Deputy Director responded that TDEC reviewed the draft EA and had no comments (Ref. 9).

The NRC staff has determined that the proposed action will not affect listed species or critical habitat. Therefore, no consultation is required under Section 7 of the Endangered Species Act. Likewise, the NRC staff has determined that the proposed action is not the type of activity that has the potential to cause effects on historic properties. Therefore, no consultation is required under Section 106 of the National Historic Preservation Act.

References

1. U.S. Nuclear Regulatory Commission, "Environmental Assessment for Renewal of Special Nuclear Material License No. SNM-124," January 1999, ADAMS No. ML031150418.
2. U.S. Nuclear Regulatory Commission, "Environmental Assessment for Proposed License Amendments to Special Nuclear Material License No. SNM-124 Regarding Downblending

and Oxide Conversion of Surplus High-Enriched Uranium,” June 2002, ADAMS No. ML021790068.

3. U.S. Nuclear Regulatory Commission, “Environmental Assessment and Finding of No Significant Impact for the BLEU Preparation Facility,” September 2003, ADAMS No. ML032390428.
4. U.S. Nuclear Regulatory Commission, “Environmental Assessment and Finding of No Significant Impact for the Oxide Conversion Building and the Effluent Processing Building at the BLEU Complex,” June 2004, ADAMS No. ML041470176.
5. Nuclear Fuel Services, “Request for Exemption,” June 20, 2005, ADAMS No. ML051810254.
6. Nuclear Fuel Services, “Response to Request for Additional Information Concerning Request for Exemption of Low-Level Waste from Definitions in 10 CFR 73,” December 16, 2005, ADAMS No. ML053610013.
7. Nuclear Fuel Services, “Response to Second Request for Additional Information Concerning Request for Exemption of Low-Level Waste from Definitions in 10 CFR 73,” March 24, 2006, ADAMS No. ML061090569.
8. U.S. Nuclear Regulatory Commission, NUREG-0170, “Final Environmental Impact Statement on the Transportation of Radioactive Material by Air and Other Modes,” December 1977, ADAMS No. ML022590355.
9. D. Shults, Tennessee Division of Radiological Health, e-mail to K. Ramsey, U.S. Nuclear Regulatory Commission, “EA for NFS Exemption,” February 2, 2006, ADAMS No. ML060370160.

