

NUCLEAR REGULATORY COMMISSION

DOCKET NO. 70-143

**NUCLEAR FUEL SERVICES, INC.,
ENVIRONMENTAL ASSESSMENT AND FINDING OF
NO SIGNIFICANT IMPACT RELATED TO
PROPOSED LICENSE AMENDMENT AUTHORIZING
INCREASED POSSESSION LIMIT**

AGENCY: Nuclear Regulatory Commission

ACTION: Environmental Assessment and Finding of No Significant Impact

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SUPPLEMENTARY INFORMATION:

I. Introduction:

The U. S. Nuclear Regulatory Commission (NRC) staff is considering a request to amend Materials License SNM-124, issued to Nuclear Fuel Services, Inc. (NFS) (the licensee), to authorize an increase in the possession limit of high-enriched uranium (HEU). The NRC has prepared an Environmental Assessment (EA) in support of this action. Based upon 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 HEU with natural uranium and manufacture low-enriched nuclear reactor fuel. License SNM-124 limits the amount of HEU that NFS may possess for these operations. On May 15, 2007, NFS requested a license amendment to increase its possession limit of HEU (Ref. 5).

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 possession limit increase and any cumulative impacts to existing plant operations. The existing conditions and operations at 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 the 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. This assessment presents information and an analysis for determining that the issuance of a FONSI is appropriate and that an EIS will not be prepared.

Proposed Action

The proposed action is to amend NRC Materials License SNM-124, to authorize an increase in the possession limit for uranium enriched up to 100 weight percent in the uranium-235 isotope (Ref. 5). The proposed action is limited to possession and storage only. No changes to processing operations are requested, and no construction of new facilities are requested.

Need for Proposed Action

The proposed action is being requested because a larger inventory of HEU is needed to support NFS operations. Two factors are driving this need. One factor is a request from the U.S. Department of Energy (DOE) that NFS establish an inventory of HEU that would allow continuous operations for six to twelve months of processes that support DOE programs. This would allow NFS to continue operating if an increased threat level or other incidents required shipments of HEU to be interrupted or curtailed. Another factor is the lower-than-planned processing rate at the Blended Low-Enriched Uranium Preparation Facility (BPF). BPF operations support commercial programs that are separate from DOE programs. Difficulties with BPF equipment and operations have caused delays and low processing rates. This has created a backlog of material in storage because material is being received faster than it is being processed.

Alternatives

The alternatives available to the 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 and the alternative is the NFS site. The affected environment is identical to the affected environment assessed in the 2002 EA that is 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 NFS facility is located in Unicoi County, Tennessee, about 32 km (20 mi) southwest of Johnson City, Tennessee. The plant is about 0.8 km (0.5 mi) southwest of the Erwin city limits. 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.

Effluent Releases and Monitoring

A full description of the effluent monitoring program at the site is provided in the 2002 EA, related to the first amendment for the BLEU Project (Ref. 2). Additional information is available in the 1999 EA related to the renewal of the NFS license (Ref. 1). The NFS Erwin plant conducts effluent and environmental monitoring programs to evaluate potential public

health impacts and comply with the NRC effluent and environmental monitoring requirements. The effluent program monitors the airborne, liquid, and solid waste streams produced during operation of the NFS plant. The environmental program monitors the air, surface water, sediment, soil, groundwater, and vegetation in and around the NFS plant.

Airborne, liquid, and solid effluent streams that contain radioactive material are generated at the NFS plant and monitored to ensure compliance with the NRC regulations in 10 CFR Part 20. Each effluent is monitored at or just before the point of release. The results of effluent monitoring are reported to the NRC on a semi-annual basis, in accordance with 10 CFR 70.59.

Airborne and liquid effluents are also monitored for nonradiological constituents in accordance with State discharge permits. For the purpose of this EA, the State of Tennessee is expected to set limits on effluents, under its regulatory control, that are protective of health and safety and the local environment.

Impacts of Proposed Action

1. Normal Operations

The proposed action is limited to increasing the authorized amount of HEU in storage. No construction of new facilities is proposed and no changes to processing operations have been requested. Based on the information provided by NFS, the safety controls to be employed for the proposed action, appear to be sufficient to ensure that planned operations will have no significant impact on the environment.

Radiological Impacts: The proposed action involves no changes to processing operations. No increase is expected in effluent air emissions discharged through stacks at the site. In addition, no increase is expected in liquid effluents discharged to the sanitary sewer. Therefore, the proposed action will have no impact on the total annual dose estimate for the maximally exposed individual from all planned effluents. The dose to workers may increase slightly because more radioactive material will be stored at the site. However, occupational dose is monitored and controlled in accordance with applicable NRC regulations; therefore, no adverse impacts are expected. Surface water quality at the NFS site is currently protected by enforcing release limits and monitoring programs. No change in surface water impacts is expected. The proposed action will not discharge any effluents to the groundwater; therefore, no adverse impacts to groundwater are expected.

The proposed action involves transportation of radioactive feed material to the NFS site, which will lead to transportation of radioactive products and waste material from the NFS site. All transportation will be conducted in accordance with the applicable NRC and U.S. Department of Transportation regulations; therefore, no adverse impacts from transportation activities are expected.

Land Use: The proposed action involves storage of radioactive material at existing facilities. No new facilities will be constructed; therefore, no adverse impact to land use is expected.

Cultural Resources: The proposed action involves storage of radioactive material at existing facilities. The NRC staff considers this a type of activity that does not have the potential to affect historic properties. No adverse impact to cultural resources is expected.

Biotic Resources: The proposed action will not change current land use or effluents at the site. Therefore, the NRC finds that the proposed action will not affect any Federally endangered or threatened species.

2. Potential Accidents

The proposed action will not result in any new or modified accident sequences. The Integrated Safety Analysis performed by NFS already considers all authorized storage locations to be filled to maximum capacity with HEU. The NRC finds that the safety controls to be employed in the proposed action are sufficient to ensure planned activities will be safe.

3. Cumulative Impacts

The NRC has considered the impacts of the proposed action together with the known impacts of the existing facility. After reviewing the information provided, the NRC concludes that the cumulative impacts represent an insignificant change to the existing conditions in the area surrounding the NFS site.

Impacts of No Action Alternative

Under the no action alternative, NFS would not be able to increase its inventory of HEU to support current operations. This would require NFS to stop receiving HEU shipments until enough material has been processed and removed from the site before another shipment could be received. Failure to fulfill its role in government and commercial programs could cause NFS' customers to select other alternatives that may be less cost effective and incur greater environmental impacts. If NFS is unable to fulfill its contractual obligations, customers may transfer work to other facilities.

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. The NRC has determined that the proposed action, the approval of the license amendment as described, is the appropriate alternative for selection. 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 September 21, 2007, the NRC staff contacted the Deputy Director of the Division of Radiological Health at the Tennessee Department of Environment and Conservation (TDEC) concerning this EA. On October 1, 2007, the Deputy Director responded that TDEC reviewed the draft EA and had no comments (Ref. 6).

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, "Amendment Request to Increase the U-235 Possession Limit for the NFS Site," May 15, 2007, ADAMS No. ML072550166.
6. D. Shults, Tennessee Division of Radiological Health, e-mail to K. Ramsey, U.S. Nuclear Regulatory Commission, "Consultation with Tennessee on EA for NFS Possession Limit Increase," October 1, 2007, ADAMS No. ML072760398.

III. Finding of No Significant Impact:

Pursuant to 10 CFR Part 51, the NRC staff has considered the environmental consequences of amending NRC Materials License SNM-124 to increase the possession limit for the NFS facility. On the basis of this assessment, the Commission has concluded that environmental impacts associated with the proposed action would not be significant and the Commission is making a finding of no significant impact. Accordingly, the preparation of an EIS is not warranted.

IV. Further Information

Documents related to this action, including the application for amendment and supporting documentation, are available electronically at the NRC's Electronic Reading Room at <http://www.nrc.gov/reading-rm/adams.html>. From this site, you can access the NRC's Agencywide Document Access and Management System (ADAMS), which provides text and image files of NRC's public documents. The ADAMS accession numbers for the documents related to this notice are listed in the references above. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC Public Document Room (PDR) Reference staff at 1-800-397-4209, 301-415-4737 or by email to pdr@nrc.gov.

These documents may also be viewed electronically on the public computers located at the NRC's Public Document Room (PDR), O 1 F21, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852. The PDR reproduction contractor will copy documents for a fee.

Dated at Rockville, Maryland this 25th day of October, 2007.

For the Nuclear Regulatory Commission.

R/A

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