

**U.S. NUCLEAR REGULATORY COMMISSION**

**DOCKET NO. 70-143**

**NUCLEAR FUEL SERVICES, INC., ENVIRONMENTAL  
ASSESSMENT AND ISSUANCE OF FINDING OF NO SIGNIFICANT IMPACT  
RELATED TO PROPOSED FINANCIAL ASSURANCE EXEMPTION  
FOR THE BLENDED LOW-ENRICHED URANIUM PREPARATION FACILITY**

**ACTION:** Finding of No Significant Impact and Environmental Assessment

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**SUPPLEMENTARY INFORMATION:**

**I. Introduction:**

The U.S. Nuclear Regulatory Commission (NRC) is considering the issuance of an amendment to NRC Materials License SNM-124 to exempt Nuclear Fuel Services (NFS) from the financial assurance requirements in 10 CFR 70.25(f) for the proposed Blended Low-Enriched Uranium Preparation Facility (BPF) in Erwin, Tennessee, and 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 NRC staff has received an exemption request (Ref. 1), dated October 27, 2003, to exempt NFS from the provision in 10 CFR 70.25(f)(4) limiting the use of a letter of intent to government licensees only. NFS is a non-government licensee and wishes to use a letter of intent from the U.S. Department of Energy (DOE) to guarantee part of the funds for decommissioning the BPF. NRC has received a letter from DOE (Ref. 2), dated October 20, 2003, stating its intent to reimburse the actual costs of decommissioning the BPF within the limits stated in the letter. The purpose of this document is to assess the environmental consequences of the proposed exemption.

The NFS facility in Erwin, Tennessee is authorized under SNM-124 to manufacture high-enriched nuclear reactor fuel. NFS is constructing a new complex at the Erwin site to manufacture low-enriched nuclear reactor fuel. NFS has requested an amendment to authorize operations at the BPF that will prepare low-enriched uranium solutions for use in the new complex (Ref. 3). The BPF operations will be conducted within the existing complex because that facility is already authorized to handle high-enriched material. After the high-enriched material is downblended and converted to a low-enriched uranium solution, it will be transferred from the BPF to the new complex. NFS must provide financial assurance for decommissioning the BPF before operations can be authorized.

### Review Scope

The purpose of this EA is to assess the environmental impacts of the exemption request. It does not approve the request. This EA is limited to the financial assurance of proposed BPF activities at the Erwin Plant. The existing conditions and operations for the Erwin facility were evaluated by NRC for environmental impacts in a 1999 EA related to the renewal of the NFS license (Ref. 4), and a 2002 EA related to another amendment request for the Blended Low-Enriched Uranium (BLEU) Project (Ref. 5). The proposed operations at the BPF were evaluated for environmental impacts in a 2003 EA related to the BPF amendment request (Ref. 6). This assessment will determine whether to issue a FONSI or to prepare an Environmental Impact Statement (EIS). Should the NRC issue a FONSI, no EIS will be prepared.

### Proposed Action

The proposed action is to grant an exemption from the requirements in 10 CFR 70.25(f)(4) and authorize NFS to use a DOE letter of intent to provide part of the financial assurance for decommissioning the BPF.

### Purpose and Need for Proposed Action

The BLEU Project is part of a DOE program to reduce stockpiles of surplus high-enriched uranium. DOE has entered into an interagency agreement with the Tennessee Valley Authority (TVA) to convert 7400 kilograms of high-enriched uranium to commercial reactor fuel for a TVA nuclear power reactor. Under the interagency agreement, DOE has assumed the obligation to reimburse TVA and its contractors for the actual decommissioning costs associated with processing the high-enriched uranium. The DOE letter of intent recognizes NFS as a TVA

contractor under the interagency agreement and commits to reimbursing the actual decommissioning costs associated with processing the high-enriched uranium at NFS.

### Alternatives

The alternatives available to the NRC are:

1. Approve the exemption request as submitted;
2. No action (i.e., deny the exemption request).

### Affected Environment

The affected environment for Alternatives 1 and 2 is the NFS site. A full description of the site and its characteristics is given in the 1999 EA related to the renewal of the NFS license (Ref. 1) and a 2002 EA related to another amendment request for the BLEU Project (Ref. 2). 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 1999 EA related to the renewal of the NFS license (Ref. 4), a 2002 EA related to another amendment request for the BLEU Project (Ref. 5), and a 2003 EA related to the BPF amendment request (Ref. 6). 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 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 on a semi-annual basis to the NRC 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. On October 10, 2002, the Tennessee Air Pollution Control Board issued a discharge permit for airborne effluents from the BPF.

### Environmental Impacts of Proposed Action

The proposed action will not result in the release of any chemical or radiological constituents to the environment. In addition, the proposed action will not cause any adverse impacts to local land use, biotic resources, or cultural resources.

### Environmental Impacts of No Action Alternative

Under the no action alternative, NFS would have to provide financial assurance for decommissioning the BPF using another method. Obtaining another funding mechanism would cause delays and increase the costs of NFS' contract obligations for the BLEU Project.

Based on its review, the NRC staff has concluded that the environmental impacts associated with the proposed action are insignificant. Thus, the staff considers that Alternative 1 is the appropriate alternative for selection.

### Agencies and Persons Contacted

On October 29, 2003, the NRC staff contacted the Director of the Division of Radiological Health in the Tennessee Department of Environment and Conservation concerning this request. On October 29, 2003, the Director responded that the Division of Radiological Health, Tennessee Department of Environment and Conservation concurred with the draft EA.

Because the BPF operations are entirely within existing facilities, the NRC has concluded that there is no potential to affect endangered species or historic resources, and therefore consultation with the State Historic Preservation Society and the U.S. Fish and Wildlife Service is not necessary.

## References

Unless otherwise noted, a copy of this document and the references listed below will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

1. Nuclear Fuel Services, Inc., Letter to U.S. Nuclear Regulatory Commission, "Request for Exemption from 10 CFR 70.25(f) Requirements for Portions of the BLEU Preparation Facility at Building 333," October 27, 2003, ADAMS no. ML033030311.
2. U.S. Department of Energy, Letter to U.S. Nuclear Regulatory Commission, "Assurance of Funding for Decommissioning the Equipment and Facilities Associated with the BLEU Project at Nuclear Fuel Services, Inc. Erwin Site," October 20, 2003, ADAMS no. ML033010362.
3. Nuclear Fuel Services, Inc., Letter to U.S. Nuclear Regulatory Commission, "License Amendment Request for BLEU Preparation Facility," October 11, 2002, ADAMS No. ML023380210.
4. U.S. Nuclear Regulatory Commission, "Environmental Assessment for Renewal of Special Nuclear Material License No. SNM-124," January 1999, ADAMS No. ML031150418.

5. 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.
  
6. U.S. Nuclear Regulatory Commission, "Environmental Assessment and Finding of No Significant Impact for the BLEU Preparation Facility," September 17, 2003, ADAMS no. ML032390428.

### **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 exempt NFS from the financial assurance requirements in 10 CFR 70.25(f) for the BPF. 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, preparation of an environmental impact statement is not warranted.

### **IV. Further Information:**

For further details, see the references listed above. Documents may be examined, and/or copied for a fee, at the NRC's Public Document Room (PDR), located at One White Flint North, Room O-1F21, 11555 Rockville Pike, Rockville, Maryland. Publicly available records will be accessible electronically from the Agencywide Document Access and Management System (ADAMS) Public Electronic Reading Room on the Internet at the NRC Web site, <http://www.nrc.gov/reading-rm/adams.html>. Persons who do not have access to ADAMS or

who encounter problems in accessing the documents located in ADAMS, should contact the NRC PDR Reference staff by telephone at 1-800-397-4209 or (301) 415-4737, or by e-mail to [pdr@nrc.gov](mailto:pdr@nrc.gov).

Dated at Rockville, Maryland, the 3<sup>rd</sup> day of November 2003.

FOR THE NUCLEAR REGULATORY COMMISSION

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