

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