[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[Docket No. 70-7018; NRC-2008-0369]

Application for Renewal of Special Nuclear Material License SNM-2014 From Tennessee Valley Authority for Watts Bar Nuclear Plant, Unit 2, Spring City, Tennessee

AGENCY: Nuclear Regulatory Commission.

ACTION: Environmental assessment and finding of no significant impact, notice of availability.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is considering the renewal of Special Nuclear Material (SNM) License SNM-2014, issued in June 2011 and held by Tennessee Valley Authority (TVA), to authorize the continued receipt, possession, inspection, and storage of Special Nuclear Material SNM in the form of fresh fuel assemblies at TVA's Watts Bar site in Spring City, TN.

ADDRESSES: Please refer to Docket ID **NRC-2008-0369** when contacting the NRC about the availability of information regarding this document. You may access publicly-available information related to this action by the following methods:

- **Federal Rulemaking Web site:** Go to http://www.regulations.gov and search for Docket ID **NRC-2008-0369**. Address questions about NRC dockets to Carol Gallagher; telephone: 301-287-3422; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individual(s) listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):**

You may access publicly available documents online in the NRC Library at http://www.nrc.gov/reading-rm/adams.html. To begin the search, select "ADAMS Public Documents" and then select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. The ADAMS accession number for each document referenced in this document (if that document is available in ADAMS) is provided the first time that a document is referenced.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

FOR FURTHER INFORMATION CONTACT: Mary T. Adams, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone**:** 301-287-9146; e-mail: Mary.Adams@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Introduction and Background

The U.S. Nuclear Regulatory Commission (NRC) is considering the renewal of Special Nuclear Material (SNM) License SNM-2014, issued in June 2011 and held by Tennessee Valley Authority (TVA), to authorize the continued receipt, possession, inspection, and storage of SNM in the form of fresh fuel assemblies at TVA's Watts Bar site in Spring City, TN. Fresh fuel assemblies are fuel assemblies that have not yet been placed in the reactor vessel. This license is and would continue to be subject to the requirements in part 70 of Title 10 of the *Code of Federal Regulations* (10 CFR), Domestic Licensing of SNM. TVA plans to use this SNM in

operating its proposed Watts Bar Nuclear Plant, Unit 2 (WBN2). TVA's request for authorization to operate WBN2 is the subject of a separate licensing action being evaluated by the NRC in accordance with 10 CFR part 50, Domestic Licensing of Production and Utilization Facilities. TVA's existing reactor at the Watts Bar site (WBN1) has operated since 1996 under NRC license NPF-90.

In accordance with 10 CFR part 51, Environmental Protection Regulations for Domestic Licensing and Related Regulatory Functions, which implements Section 102(2) of the National Environmental Policy Act (NEPA) of 1969, as amended, 42 U.S.C. 4321, et seq., the NRC has prepared an environmental assessment (EA) in support of renewal of SNM-2014. Based on the EA's analysis, the NRC concludes that a Finding of No Significant Impact (FONSI) is appropriate regarding renewal of the SNM-2014 license.

NRC has also prepared a Supplemental Final Environmental Statement for issuance of the Operating License for WBN2, titled NUREG-0498, Supplement 2, "Final Environmental Statement Related to the Operation of WBN2" (Final Report), May 2013 (NUREG – 0498). Notice of issuance of this Supplemental Final Environmental Statement was published in the *Federal Register* on June 14, 2013 (78 FR 35989). The NRC has not yet issued the Operating License for WBN2.

NEPA requires a Federal agency to prepare an environmental impact statement (EIS) for any major federal action having the potential to significantly affect the quality of the human environment. Consistent with their responsibilities as Federal agencies under NEPA, both TVA and the NRC previously prepared EISs regarding the operation of Units 1 and 2 at the Watts Bar Nuclear site. Some of the relevant history in this regard is briefly summarized below.

In 1978, the NRC published NUREG-0498, Final Environmental Statement Related to the Operation of WBN1 and 2 (FES-OL). After safety issues were raised, TVA decided not to pursue its WBN reactor licenses for several years. When TVA did decide to pursue its WBN reactor licenses, the NRC prepared Supplement 1 to NUREG-0498 in April 1995

(ML081430592), regarding Unit 1, to evaluate changes in environmental impacts that occurred as a result of changes made in the WBN Plant design and methods of operations after the 1978, FES-OL.

The TVA Final Supplemental EIS for Unit 2 was issued in June 2007. The related Record of Decision by the TVA Board of Directors was published in the *Federal Register* on August 15, 2007 (72 FR 45859), and TVA submitted its 2007, Final Supplemental EIS to the NRC on February 15, 2008 (ML080510469).

On March 4, 2009, pursuant to 10 CFR part 50, TVA submitted an updated application to the NRC for a power reactor operating license for WBN2 (ML090700378). The TVA Final Safety Analysis Report (FSAR) supporting the WBN2 operating license request was submitted to the NRC on April 30, 2009 (ML091400067). In May 2013, NRC published NUREG-0498, Supplement 2, "Final Environmental Statement Related to the Operation of WBN2" (Final Report); however, the NRC has not yet issued the Operating License for Unit 2.

The Construction Permit held by TVA for construction of WBN2, Docket 50-391, CPPR-92, does not authorize the receipt or possession of fresh fuel assemblies. On November 12, 2009, TVA requested a license pursuant to 10 CFR part 70, to receive, inspect, possess, and store fresh fuel for WBN2 (ML100120487). On June 13, 2011, (76 FR 34273) the NRC published an EA and FONSI for SNM License Application from TVA for WBN2, Spring City, Tennessee. On June 14, 2011, the NRC issued SNM-2014 to authorize TVA to receive, possess, inspect, and store fresh fuel assemblies at WBN2. SNM-2014 was issued for 2 years, expiring on June 30, 2013. On August 23, 2012, TVA requested renewal of SNM-2014. In accordance with 10 CFR 70.38(a), because this application for renewal was filed not less than 30 days before the expiration date of SNM-2014; the existing license continues in effect until the Commission makes a final decision on the renewal application.

The scope of the EA summarized below is limited to assessing the potential impacts of the continued receipt, possession, inspection, and storage of fresh reactor fuel at the WBN2 that

would be used to operate WBN2 if such operating authorization is later granted. This EA's scope does not include completion of construction, or operation, of WBN2.

II. Summary of the Environmental Assessment

Pursuant to 10 CFR part 70, Domestic Licensing of Special Nuclear Material, TVA requested renewal of SNM-2014 by application dated August 23, 2012 (ML12278A337 and ML12264A545). The license renewal would authorize TVA to continue to receive, possess, inspect, and store SNM in the form of 193 fully-assembled fresh fuel assemblies for potential future use in its proposed WBN2 reactor.

Description of the Proposed Action

The proposed action is to renew TVA's SNM-2014 license which would reauthorize TVA to receive, possess, inspect, and store SNM in the form of fully-assembled fuel assemblies that would later form the initial reactor core of WBN2. The SNM in the fuel assemblies is enriched up to 5% in the isotope U-235. The fresh fuel assemblies for WBN2 would continue to be stored in areas common to WBN1 and WBN2. Specifically, these assemblies would continue to be stored with the WBN1 fuel in the existing auxiliary building containing storage racks within a storage vault, and a WBN1 spent fuel pool. TVA did not propose new storage areas or new management practices for fuel storage in the license renewal application.

TVA requested that the renewed SNM-2014 license be extended to September 30, 2016. The additional time requested will allow TVA to complete the engineering, construction, and testing necessary to obtain an operating license for WBN2. TVA is currently in possession of the fuel authorized by the SNM-2014 license. The fuel is stored and maintained in accordance with the existing SNM-2014 license. By letter dated May 17, 2012, TVA requested an extension of the WBN2 Construction Permit (CPPR-92) until September 30, 2016 (ML12143A346). The requested SNM-2014 extension date was chosen to match that requested for the construction permit extension. The safety and environmental

reviews for the proposed WBN2 OL are not part of the proposed action evaluated in this EA. The environmental impacts of the proposed WBN2 OL are evaluated in NUREG-0498 Supplement 2, which also evaluates the impacts of fresh fuel receipt, possession, inspection, and storage during WBN2 operations.

Need for the Proposed Action

As authorized by SNM-2014, TVA received the initial core for WBN2. The NRC has not yet issued the OL for the Unit 2 reactor. The construction permit held by TVA for WBN2, CPPR-92, does not authorize the receipt or possession of reactor fuel. TVA needs this renewed SNM license to authorize WBN2 to continue to receive, possess, inspect, and store the fresh fuel while the NRC continues its review of the Unit 2 OL application. If an OL is issued, the OL would authorize use of the fresh fuel as well as the receipt, possession, storage, and use of additional fresh fuel that would be needed for operating Unit 2. If the OL is issued, a separate part 70 license would no longer be required and SNM-2014 would be terminated.

Alternative to the Proposed Action

An alternative to the proposed action is for the NRC not to renew the SNM license. Pursuant to 10 CFR 70.38(a), if the NRC does not renew the license, SNM-2014 would expire at the end of the day on which the Commission makes a final determination to deny the renewal application, or, if the determination states an expiration date, the expiration date stated in the determination. In that case, TVA would be required to take one of the alternatives to the proposed action described in the EA.

Environmental Impacts of the Proposed Action

The November 12, 2009, SNM license application described the affected environment; this license application is included in the SNM-2014 renewal application by reference. The

proposed action is limited to the continued receipt, possession, inspection, and storage of SNM in the form of fuel assemblies. The NRC determined that the proposed action would have no significant impact on any of resource areas discussed in the EA, therefore the renewal of the license to continue to receive, possess, inspect, and store SNM in the form of fresh fuel assemblies at the Watts Bar site is thus not expected to have any significant impact on the environment. A summary of the analysis supporting these conclusions is discussed below.

Part 20, Standards for Protection Against Radiation, establishes standards for the protection of workers and members of the public against ionizing radiation resulting from activities conducted under licenses issued by the NRC. Sections 20.1201- 20.1208 contain occupational dose limits, and 10 CFR 20.1301 contains dose limits for members of the public. The effluent limits in 10 CFR part 20, appendix B, ensure that the effluent discharges are kept within the dose limits. In addition to meeting the dose limits, an NRC licensee is required under 10 CFR 20.1101(b) to have a program with the goal of achieving doses that are as low as is reasonably achievable (ALARA). The worker protection and environmental protection programs that are currently used for the receipt and storage of WBN1 fuel would also continue to be used for the receipt and storage of WBN2 fuel, and will ensure that there would be no significant exposure to workers and members of the public under the proposed action. Thus, the proposed renewal of SNM-2014 will not result in any change to radioactive effluents that affect radiation exposures to plant workers and members of the public.

The proposed renewal of SNM-2014 does not result in changes to land use, water use, or result in changes to the quality or quantity of non-radiological effluents. No changes to the National Pollution Discharge Elimination System permit are needed. No effects on the aquatic or terrestrial habitat in the vicinity of the plant, or to threatened, endangered, or protected species under the Endangered Species Act, or impacts to essential fish habitat covered by the Magnuson-Stevens Fishery Conservation and Management Act are expected from the continued receipt and storage of fresh fuel at WBN2. There are no impacts to the air or

ambient air quality. There are no impacts to historical and cultural resources. There would be no impact to socioeconomic resources. Because all of the fresh fuel assemblies authorized by SNM-2014 have already been transported to WBN2, the renewal of SNM-2014 will have no transportation impacts. The fresh fuel assemblies will continue to be stored in the vault and pool, and there is no change to the existing conditions.

If WBN2 is licensed to operate, TVA would be required to comply with all NRC, State, and Federal requirements for the transport of un-irradiated fuel, as it currently does for fuel deliveries to WBN1. The environmental impacts of the transport and delivery of fuel for two reactors, if WBN2 is licensed to operate, are addressed in NUREG-0498. Based on the above, the NRC finds that the impacts of WBN2 fresh fuel transport and delivery on human health and the environment would be minimal.

Environmental Impacts of the No-Action Alternative

An alternative to the proposed action is for the NRC not to renew SNM-2014. In that case, SNM-2014 would expire on the date on which the Commission makes a final determination to deny the renewal application, or, if the determination states an expiration date, the expiration date stated in the determination. In that case TVA would be unable to continue to receive, possess, inspect, and store the fresh fuel and would be required to take some other actions regarding the material present on the site. TVA has received 193 fuel assemblies from Westinghouse for use in the first operating cycle of WBN2. These fuel assemblies are stored in both the Spent Fuel Pool and the New Fuel Storage Area. By letter dated July 1, 2013, (ML13189A033) TVA identified three potential alternatives that could be used if SNM-2014 is not renewed. These no-action alternatives and their impacts are discussed in the EA. The NRC has determined that none of the three alternatives is preferable to the proposed action.

List of Agencies and Persons Consulted and Identification of Sources Used

The NRC staff consulted with the Tennessee Division of Radiological Health regarding this EA. By e-mail dated September 9, 2013, (ML13253A053), the state official concurred with the EA and finding of no significant impact.

Because the fuel is already on site and the requested license renewal would only continue to authorize the receipt, possession, inspection, and storage of the fuel, the NRC staff has determined that the proposed action will not affect listed species or critical habitat. Therefore, no further 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 potential to cause effects on historic properties. Therefore, no further consultation is required under Section 106 of the National Historic Preservation Act.

III. Finding of No Significant Impact

The NRC reviewed the documents submitted by TVA in support of its application for renewal of SNM-2014 for the WBN2 facility, including those incorporated by reference from its part 50 operating license application for the WBN2 facility. The NRC also performed independent assessments, as discussed in the EA, and found no significant environmental impacts from the proposed continued fresh fuel receipt, possession, inspection and storage. On the basis of this EA, the NRC concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an EIS for the proposed action.

References

1. WBN2 2, Request for Renewal for Special Nuclear Material License No. SNM-2014 (Docket No. 70-7018), August 23, 2012, ML12278A337.
2. WBN2 – Response to Request for Additional Information Regarding 10 CFR Part 70 Special Nuclear Material License Renewal (TAC L33242), July 1, 2013, ML13189A033.
3. Letter to A. Bhatnagar, Issuance of Special Nuclear Materials License No. SNM-2014 for WBN2 (TAC L32918), June 15, 2011, ML110830141.
4. Enclosure 1: Form 374 – Part 70 License for WBN2; June 14, 2011, ML110830115.
5. Enclosure 2: Safety Evaluation Report for the Special Nuclear Material License Application, WBN2, June 14, 2011, ML110830114.
6. *Federal Register* Notice Regarding Availability of Environmental Assessment and Finding of No Significant Impact for Issuance of Part 70 License for WBN2, June 7, 2011, ML103430330.
7. *Federal Register* Notice, Environmental Assessment and Finding of No Significant Impact for Special Nuclear Material License Application From Tennessee Valley Authority for WBN2, Spring City, TN, 76 *FR* 34273, June 13, 2011.
8. WBN2 – Request for Extension of Construction Permit CPPR-92, May 17, 2012, ML12143A346.
9. NUREG-0498 Supplement 2, Final Environmental Statement Related to the Operation of WBN2, May 2013, ML13144A202.
10. NUREG-0847 Supplement 26 Safety Evaluation Report Related to the Operation of WBN2, June 30, 2013, ML13205A136.
11. Email from D. Shults, Director, Division of Radiological Health, to M. Adams, September 9, 2013, ML13253A053.

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 5th day of December, 2013.

For the Nuclear Regulatory Commission.

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