

NUCLEAR REGULATORY COMMISSION

Docket No. 72-04

Notice of Availability of Environmental Assessment and Finding of No Significant Impact

For the Renewal of U.S. Nuclear Regulatory Commission

License No. SNM-2503 for

Oconee Nuclear Station Independent Spent Fuel Storage Installation

AGENCY: Nuclear Regulatory Commission

ACTION: Notice of availability

FOR FURTHER INFORMATION CONTACT: Haimanot Yilma, Environmental Project Manager, Environmental Review Branch, Division of Waste Management and Environmental Protection, Office of Federal and State Materials and Environmental Management Programs, U. S. Nuclear Regulatory Commission, Rockville, Maryland 20852. Telephone: (301) 415-8029; fax number: (301) 415-3502; e-mail: haimanot.yilma@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Introduction

The U.S. Nuclear Regulatory Commission (NRC) is considering an application dated January 30, 2008 from Duke Power Company LLC d/b/a Duke Energy Carolinas, LLC, (Duke) for the renewal of its Special Nuclear Material (SNM) License SNM-2503, under the provisions of 10 CFR Part 72, for the receipt, possession, storage and transfer of spent fuel and other radioactive materials associated with spent fuel storage at the Oconee Nuclear Station (ONS) Independent Spent Fuel Storage Installation (ISFSI), located at the ONS site in Oconee County, South Carolina. If granted, the renewed license will authorize Duke to continue to store spent fuel in a dry cask storage system at the ISFSI. Pursuant to the provisions of 10 CFR 72.42, the

renewal term of the license for an ISFSI is limited to 20 years. Duke, however, has also submitted an exemption request with its license renewal application, pursuant to 10 CFR 72.7, seeking a license renewal term of 40 years. In accordance with 10 CFR 72.34, Duke's renewal application included an environmental report (which is attached at Enclosure 3, Appendix E of Duke's application).

SNM-2503 expires on January 31, 2010. This renewal and exemption request, if granted, will extend the term of SNM-2503 to January 31, 2050.

The NRC has prepared an Environmental Assessment (EA) in support of this action in accordance with the requirements of 10 CFR Part 51. Based on the EA, the NRC has determined that a Finding of No Significant Impact (FONSI) is appropriate. If Duke's request is approved, the NRC will issue the renewed license following the publication of this EA and FONSI.

II. EA Summary

Description of the Proposed Action:

Duke requests approval to renew SNM-2503 for an additional 40 years at the ONS, South Carolina facility. If approved, Duke will be allowed to receive, possess, store and transfer the power reactor spent fuel and other radioactive materials associated with spent fuel storage at the ISFSI until January 31, 2050.

Need for the Proposed Action:

Duke owns and operates three nuclear power reactor units on the ONS site, Oconee Units 1, 2, and 3, which began commercial operation on July 15, 1973, September 9, 1974, and December 16, 1974 respectively. The current facility operating licenses (FOLs) for Oconee Units 1, 2, and 3, will expire on February 6, 2033; October 6, 2033; and July 19, 2034, respectively. The ONS ISFSI is needed to provide continued spent fuel storage capacity so that the ONS can continue to generate electricity. SNM-2503, if renewed for only the twenty year

term provided by the applicable regulation, 10 CFR 72.42, will expire on January 31, 2030, which is approximately four years before the FOLs expire. During that time, Duke anticipates that the ISFSI will continue to be required for spent fuel storage in concert with the ONS spent fuel pools and the additional independent spent fuel installation on the ONS site, constructed and operated under the 10 CFR Part 72 general license (10 CFR 72.210).

It is unclear when DOE will begin to accept spent nuclear fuel at the Federal geological repository mandated by the Nuclear Waste Policy Act of 1982. Development of the repository continues to experience delays and it is not projected to commence operation until 2017, at the earliest. Even if DOE does begin taking spent fuel in 2017, it is unlikely that the ISFSI could be emptied of spent fuel before 2030. Duke's most recent decommissioning analyses, which assume DOE accepts ONS spent fuel beginning in 2015, project operation of the ISFSI licensed under SNM-2503, the subject of this proposed action, and the ISFSI operated under the general license, through 2044.

Offsite shipment of the spent fuel from the ISFSI prior to a 2030 expiration of the renewed license would not be practical for a variety of reasons. Currently, there are no commercial or federal facilities available to accept spent fuel. If such a facility becomes available, shipment would require repackaging of the spent fuel since the ISFSI canisters are not licensed for transport. Spent fuel shipping containers would have to be either leased or purchased. Also, this would result in considerable occupational exposure for both ONS personnel and personnel at the receiving facility. Finally, the spent fuel would still have to be shipped to the repository once it becomes available.

Transfer of the spent fuel from the SNM-2503 ISFSI into the ONS general license ISFSI, prior to a 2030 expiration of SNM-2503, would also not be practical. As the ISFSI storage units are not approved for use under the general license, this would require repackaging the spent fuel assemblies from the ISFSI into general license storage units. The cost of an additional

40 storage units coupled with the additional occupational exposure and the potential for fuel handling incidents, render this option impractical.

Therefore, Duke, under 10 CFR 72.7, requests an exemption from the 20 year renewal term specified in 10 CFR 72.42, and seeks a 40 year renewal term for SNM-2503, which would allow the ISFSI to continue to store spent fuel until January 31, 2050.

Environmental Impacts of the Proposed Action:

The NRC has prepared an environmental assessment that analyzed the impact of renewing SNM-2503 on 12 environmental categories: land use; transportation; socioeconomics; air quality; water quality; geology and soils; endangered and threatened species; noise; historic and cultural; scenic and visual; public and occupational health; and waste management as a result of the proposed action. Based on this assessment, the NRC staff has determined that no significant radiological or non-radiological impact from normal operations of the ISFSI during the 40 years renewal period are expected. The ISFSI is a passive facility that produces no liquid or gaseous effluents and requires no power or regular maintenance. The license renewal request does not require altering the site footprint nor does it change the operating processes of the existing facility, therefore there are no anticipated impacts in any of the above listed environmental categories.

The radiological dose rates from the ISFSI will be limited by the design of the horizontal storage module. Occupational dose estimates from routine monitoring activities and transfer of spent fuel for disposal must be maintained “as low as is reasonably achievable” (ALARA) and must be within the limits of 10 CFR 20.1201 per the ONS radiation protection program. The annual dose to the nearest potential member of the public from ISFSI activities remains significantly below the annual dose limits specified in 10 CFR 72.104 and 10 CFR 20.1301(a). The cumulative dose to an individual offsite from all site activities will be less than the limits specified in 10 CFR 72.104 and 10 CFR 20.1301. These doses are also a small fraction of the

doses resulting from naturally-occurring terrestrial and cosmic radiation of about 300 mrem/yr in the vicinity of the ONS ISFSI.

Therefore, the NRC staff concludes that the proposed action will not result in a significant impact to the human health or the environment.

Agencies and Persons Contacted:

NRC staff consulted with other agencies regarding the proposed action, including the U.S. Fish and Wildlife Service, the South Carolina State Historic Preservation Office, the Economic Development Commission of Oconee County, the Oconee County Planning Office, the Oconee Soil and Water Conservation District Office, the Oconee County Park, Recreation and Tourism office, and the School District of Oconee County. The consultations ensured that the requirements of Section 7 of the Endangered Species Act and Section 106 of the National Historic Preservation Act were met and provided the designated liaison agency the opportunity to comment on the proposed action. The conclusions by all agencies consulted were consistent with the staff's conclusions.

III. Finding of No Significant Impact

On the basis of the EA, the NRC staff concludes that there are no significant radiological or non-radiological impacts associated with the proposed action and that issuance of renewal of the license for the interim storage of spent nuclear fuel at the ONS ISFSI for a renewal term of 40 years will have no significant impact on the quality of the human environment. Therefore, pursuant to 10 CFR 51.31 and 51.32, a finding of no significant impact is appropriate and an environmental impact statement need not be prepared for the renewal of SNM-2503.

IV. Further Information

Documents related to this action, including the application for renewal of SNM-2503 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 Agency wide 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:

Document ADAMS Accession Number

ONS ISFSI License Renewal Application (Duke's environmental report is at Enclosure 3, Appendix E of the application)	ML081280084
Consultation Letters: Section 106 and Section 7	ML081410669
FWS Response Letter to Section 7 Request	ML081850455
SHPO Response email to section 106 Request	ML091271071
RAI for EA Review	ML083110387
Environmental Assessment	

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 PDR, O1F21, 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 day of May 2009.

FOR THE NUCLEAR REGULATORY COMMISSION

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