[7590-01-P]

NUCLEAR REGULATORY COMMISSION

Docket No. 70-1201

Notice of Availability of Environmental Assessment and Finding of No Significant Impact for License Amendment for Framatome ANP, Inc., Lynchburg, VA

AGENCY: Nuclear Regulatory Commission.

ACTION: Notice of availability.

FOR FURTHER INFORMATION CONTACT: Billy Gleaves, Project Manager, Fuel Cycle Facilities Branch, Division of Fuel Cycle Safety and Safeguards, Office of Nuclear Materials Safety and Safeguards, U.S. Nuclear Regulatory Commission, Rockville, MD, 20555-0001. Telephone: (301) 415-5848; fax number: (301) 415-5955; e-mail: bcg@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Introduction

The Nuclear Regulatory Commission (NRC) staff has received a license amendment request from Framatome ANP, Inc., Lynchburg, VA (FANP Lynchburg) dated September 1, 2005 (Ref. 1, 2), to amend Special Nuclear Material License (SNM) -1168 (Ref. 3) to use the International Commission on Radiation Protection (ICRP) Publication 68 for Derived Air Concentration (DAC) and the Annual Limit on Intake (ALI) determinations (Ref. 4). In accordance with the requirements of 10 CFR Part 51, an Environmental Assessment (EA) was performed by the NRC staff in support of its review of FANP Lynchburg's license amendment

request. The conclusion of the EA is a Finding of No Significant Impact (FONSI) for the proposed licensing action. The amendment will be issued following the publication of this notice.

II. Environmental Assessment

Background

The FANP Lynchburg facility is authorized, under Materials License SNM-1168, to possess nuclear materials for the fabrication and assembly of nuclear power fuel components. Principal activities in the fabrication facility include the processing of low-enriched uranium (< 5.1%), received as UO_2 pellets. Uranium pellets are received and then transported to a pellet vault after the receipt inspection process is completed. The fuel pellets are then inserted into rods, which are then assembled into fuel bundles. Finished fuel bundles are then packaged and loaded onto truck transport for delivery to the receiving utility. Other activities conducted in conjunction with nuclear fuel fabrication include: fabrication of poison rods; download of finished fuel bundles and rods; repair of returned fuel assemblies; laboratory operations; and waste disposal operations.

Inhalation of dust in radiologically controlled areas poses an internal radiation hazard, and the NRC regulations in 10 CFR Part 20 require licensees to implement certain protective measures to minimize that hazard. These measures include taking a variety of air samples, using respirators in certain work areas, posting airborne radioactivity warning signs outside the work areas, and putting the potentially exposed workers on a routine bioassay program to assess their intakes and verify the effectiveness of the protection program. Many of these protective measures are triggered when the air concentrations in the workplace reach specified fractions of the air concentrations tabulated in 10 CFR Part 20, Appendix B.

FANP Lynchburg has requested to amend its license to permit the use of values other than those tabulated in 10 CFR Part 20 as the basis for triggering protective measures, and for assessing the internal dose to its workers. The basis for the amendment request is the recommendations in ICRP 68. In the amendment application, FANP Lynchburg maintains that the assessment of the radiological hazard based on 10 CFR Part 20, Appendix B, requires it to implement monitoring and protection programs at levels that are out of proportion with the true level of hazard, and do not significantly add to worker protection. FANP Lynchburg believes that granting the exemption would enable it to reduce the size of its internal exposure program while, at the same time, providing a level of protection proportional to the actual hazard. FANP Lynchburg references an NRC staff requirements memorandum (SECY-99-077) (Ref. 5), which directs the staff to grant exemptions to 10 CFR Part 20 on this modeling issue on a case-by-case basis.

Review Scope

In accordance with 10 CFR Part 51, this EA serves to: (1) present information and analysis for determining whether to issue a FONSI or to prepare an Environmental Impact Statement (EIS); (2) fulfill the NRC's compliance with the National Environmental Policy Act when no EIS is necessary; and (3) facilitate preparation of an EIS when one is necessary. Should the NRC issue a FONSI, no EIS would be prepared and the license amendment would be granted.

The EA serves to evaluate and document the impacts of the proposed amendment. Activities beyond the proposed changes have previously been evaluated and documented in the 2003 EA as part of the FANP Lynchburg license renewal (Ref. 6). The 2003 document remains the most current EA for activities outside the scope of the proposed amendment.

Proposed Action

The proposed action is to amend the NRC Materials License SNM-1168 to authorize the use of DAC and ALI values based on ICRP 68, entitled Dose Coefficients for Intake of Radionuclides by Worker (Ref. 4).

Affected Environment

The affected environment for the proposed activity is the FANP Lynchburg site. A full description of the site and its characteristics are given in the 2003 EA for the renewal of the NRC license for FANP Lynchburg (Ref. 6).

Effluent Releases and Monitoring

A full description of the effluent monitoring program at the site is provided in the 2003 EA for the renewal of the NRC license for FANP Lynchburg (Ref. 6). Monitoring programs at the FANP Lynchburg facility comprise effluent monitoring of air and water and environmental monitoring of various media (air, soil, vegetation, and groundwater). This program provides a basis for evaluation of public health and safety impacts, for establishing compliance with environmental regulations, and for development of mitigation measures if necessary. The monitoring program is not expected to change as a result of the proposed action. In the 2003 renewal, the NRC reviewed the location of the environmental monitoring program sampling points, the frequency of sample collection, and the trends in the sampling program results. The data, taken in conjunction with the environmental pathway and exposure analysis, leads the NRC to conclude that the monitoring program provides adequate protection of public health and safety.

Environmental Impacts of Proposed Action

Radiological Impacts

The basic limits on radiation exposures, as well as the minimum radiation protection practices required of any NRC licensee, are specified in 10 CFR Part 20, “Standards for Protection Against Radiation” (Ref. 7). The models used in 10 CFR Part 20 to regulate internal doses are those described in the ICRP Publications 26 and 30, adopted by the ICRP in 1977 and 1978, respectively (Ref. 8, 9). Much of the basic structure of these models were developed in 1966. However, some of its components and parameters were altered somewhat between 1966 and their formal adoption by the ICRP in 1978. In the same year that the Commission approved the final 10 CFR Part 20 rule (1991), the ICRP published a major revision of its radiation protection recommendations, ICRP 60 (Ref. 10). During the several years following this revision, the ICRP published a series of reports in which it described the components of an extensively updated and revised internal dosimetry model. Due to the restrictions in 10 CFR Part 20, the NRC licensees are not permitted to use the revised and updated internal dosimetry models without receiving an exemption to the regulations.

Although the dose per unit intake calculated, using the new models, does not differ by more than a factor of about two from the values in 10 CFR Part 20 for most radionuclides, the differences are substantial for some, particularly for the isotopes of thorium, uranium, and some of the transuranic radionuclides. For example, for inhalation of insoluble thorium-232 (^{232}Th), the dose per unit intake calculated using the revised ICRP lung model, is a factor of about 15 times lower than that in 10 CFR Part 20. Because protective measures are based on the hazard, and since the hazard is proportional to dose, 10 CFR Part 20 requires significantly more protective measures when using ^{232}Th than would be warranted based on the revised models.

Using the updated ICRP 68 standard would enable FANP Lynchburg to reduce the size of its internal exposure program while, at the same time, providing a level of protection proportional to the actual hazard. This is FANP Lynchburg's primary concern, and it has requested to be allowed to use DAC and ALI values based on the dose coefficients listed in ICRP 68. The NRC staff concluded that FANP Lynchburg has historically maintained worker doses as low as reasonably achievable and is qualified to utilize the ICRP 68 in a manner equivalent to 10 CFR 20.1201(d), (i.e. doses at a level lower than the NRC's regulatory limit of 5 rem, in its Radiation Safety Program). Therefore, FANP Lynchburg's request for an exemption under 10 CFR 20.2301 is acceptable, because it gives its workers equivalent radiological protection as required by 10 CFR Part 20. Thus, the exemption is authorized by law and will not result in an undue hazard to life or property.

Nonradiological Impacts

The NRC determined that there are no non-radiological impacts associated with the proposed action.

Cumulative Impacts

The NRC determined that there are no cumulative impacts associated with the proposed action.

Alternatives to the Proposed Action

The NRC considered one alternative to the proposed action, which was to deny the amendment request. This alternative was rejected because the impacts of the proposed action

on the health and safety of the workers, the public, and the environment were determined to be insignificant. In addition, the licensee will be able to save time and resources using the updated ICRP 68 models. The new models will maintain doses within the regulatory limit, while allowing the licensee to remove unwarranted protective measures required by the old models.

Agencies and Persons Contacted

The NRC contacted the Virginia Department of Environmental Quality (VDEQ) concerning this request. There were no comments, concerns or objections from VDEQ.

Because the proposed action is entirely within existing facilities, and does not involve new or increased effluents or accident scenarios, 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 was not performed.

III. Finding of No Significant Impact

Based on the EA, the staff concludes that the proposed action will not have a significant effect on the quality of the human environment. Accordingly, the staff has determined that preparation of an EIS is not warranted.

IV. Further Information

The following documents are related to the proposed action:

1. C. F. Holman, Framatome ANP, Inc., letter to the U.S. Nuclear Regulatory Commission, "Amendment Request to Use of ICRP 68 for ALI and DAC Values," September 1, 2005 (ML052550120).

2. The NRC administrative review, documented in a letter to Framatome ANP, Inc. dated September 23, 2005 (ML052640365).

3. The U.S. Nuclear Regulatory Commission, Special Nuclear Material License SNM-1168 Amendment 7, October 3, 2005 (ML052840071).

4. International Commission on Radiological Protection, “Dose Coefficients for Intake of Radionuclides by Worker,” Publication 68, Elsevier Science, 1995.

5. The U.S. Nuclear Regulatory Commission, “SRM-SECY-99-0077 - To Request Commission Approval to Grant Exemptions from Portions of 10 CFR Part 20,” April 21, 1999 (ML042750086).

6. The U.S. Nuclear Regulatory Commission, “Environmental Assessment for the Renewal Framatome ANP, Inc., Lynchburg, Virginia,” April 2, 2003 (ML030940720).

7. U.S. Code of Federal Regulations, “Standards for Protection Against Radiation,” Part 20, Chapter 1, Title 10, Energy.

8. International Commission on Radiological Protection, “Recommendations of the International Commission on Radiological Protection,” Publication 26, Elsevier Science, 1977.

9. International Commission on Radiological Protection, “Limits for the Intake of Radionuclides by Workers,” Publication 30, Elsevier Science, 1978.

10. International Commission on Radiological Protection, "1990 Recommendations of the International Commission on Radiological Protection," Publication 60, Elsevier Science, 1991.

The NRC 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 accession numbers for documents contained in ADAMS are provided with the reference. If you do not have access to ADAMS or if there are problems in accessing the documents located in ADAMS, contact the NRC's Public Document Room (PDR) Reference staff at 1-800-397-4209, 301-415-4737, or via email to pdr@nrc.gov.

The documents in ADAMS may also be viewed electronically on the public computers located at the NRC's PDR, O1 F21, One White Flint North, 11555 Rockville Pike, Rockville, MD 20852. The PDR reproduction contractor will copy documents for a fee.

Dated at Rockville, MD this 13th day of January, 2006.

For the Nuclear Regulatory Commission.

/RA/

William C. Gleaves, Project Manager
Fuel Cycle Facilities Branch
Division of Fuel Cycle Safety
and Safeguards,
Office of Nuclear Materials Safety
and Safeguards.