

JUN 29 1983

DOCKET NO.: 70-2950

LICENSE NO.: SNM-1890

LICENSEE: Washington Public Power Supply System

SUBJECT: SAFETY EVALUATION REPORT - REVIEW OF LICENSE AMENDMENT
APPLICATION DATED APRIL 15, 1983 AND ITS SUPPLEMENT
DATED MAY 31, 1983

I. Background

By application dated April 15, 1983, Washington Public Power Supply System (WPPSS) requested authorization for the receipt, possession, assembly into their source holders, and installation in the reactor vessel a total of 14 antimony-beryllium sealed sources containing a maximum of 3,000 curies/source. The present license authorizes the specified activities with 14 antimony-beryllium sources containing a maximum of 1,200 curies/source.

II. Discussion

The amendment application dated April 15, 1983 did not include page or section changes to the existing license nor did it specify controls for the radiation protection of personnel in the handling of the sources. Supplemental information in support of the amendment application was submitted by letter dated May 31, 1983.

The operational sources will be received and stored in their shielded shipping container(s) approved by the Nuclear Regulatory Commission (NRC) by Certificate of Compliance No. 5939. The container(s) will be transported to the refueling floor and placed in the spent fuel pool or the dryer/separator pit for storage in accordance with written procedures reviewed and approved by the Plant Operations Committee. Area postings and accessibility, and radiation monitoring during storage will remain the same as in the existing license.

Prior to fuel load, the area containing the shipping container(s) will be flooded and the container unbolted. The operational sources will be removed from their container(s), assembled in their holders and transferred to the reactor vessel for detector response during core loading. The WPPSS cover letter, but not the text of the application, specifies the sources will always be under at least six feet of water during handling to ensure exposures remain at or below the maximum expected (total of 18 mr). To ensure the radiation protection of personnel when the sources are not shielded by the shipping container, it is recommended Condition 20 be added to the license.

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Condition 20. The antimony-beryllium sources shall remain under at least six feet of water when not shielded by its shipping containers to assure personnel do not exceed the exposure limits of 10 CFR 20.101(a). Personnel neutron exposure shall be measured or calculated in accordance with Regulatory Guide 8.14, "Personnel Neutron Dosimeters."

The licensee has committed to monitor the source handling activities continuously for the radiation protection of personnel and in keeping with the ALARA concept. However, TLD's are used by the licensee's personnel as the primary method of complying with 10 CFR 20.101(a). The staff has determined that, with the addition of Condition 20, the licensee has taken adequate measures to assure the radiation safety of personnel, the public and the environment.

III. General

The application was discussed with Mr. R. A. Feil, Resident Inspector (WPPSS Nuclear Power Section, Unit 2), Mr. G. P. Yuhas, Region V Principal Radiation Safety Inspector and with Mr. A. Schwencer, NRR Branch Chief, Licensing Branch No. 2 on June 20, 1983.

None of the above foresaw any safety or environmental problem with the authorization for the more highly radioactive antimony-beryllium sealed sources.

IV. Recommendations

On the basis of the above, the staff recommends the issuance of a license amendment subject to the modification of Items 8.C. and 9.C. and the addition of Condition 20 as follows:

Condition 8.C. 14 sources enriched in Sb-124 with up to 3,000 curies/ source.

Condition 9.C. For receipt, possession, inspection, storage and use of antimony-beryllium sealed sources in the reactor vessel in accordance with the statements, representations and conditions specified in the licensee's amendment application dated April 15, 1983 and its supplement dated May 31, 1983.

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Condition 20. The antimony-beryllium sources shall remain under at least six feet of water when not shielded by its shipping containers to assure personnel do not exceed the exposure limits of 10 CFR 20.101(a). Personnel neutron exposure shall be measured or calculated in accordance with Regulatory Guide 8.14, "Personnel Neutron Dosimeters."

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