

June 5, 2003

Mr. J. V. Parrish
Chief Executive Officer
Energy Northwest
P.O. Box 968 (Mail Drop 1023)
Richland, WA 99352-0968

SUBJECT: COLUMBIA GENERATING STATION – CORRECTION TO AMENDMENT
NO. 185 (TAC NO. MB6319)

Dear Mr. Parrish:

By letter dated May 12, 2003, the Commission issued Amendment No. 185 to Facility Operating License No. NPF-21 for the Columbia Generating Station. The amendment (1) allowed the addition of depleted uranium to the fuel assembly composition described in Technical Specification (TS) 4.2.1, (2) revised TS 5.6.5.b to incorporate the references to the analytical methods to be used to determine the core operating limits and removes those references that will be no longer used, and (3) allowed the format for those document references to be revised as described in the staff-approved Industry/TSTF Standard Technical Specification Change Traveler, TSTF-363, "Revise Topical Report References in ITS 5.6.5, COLR." The amendment was in response to your application dated September 3, 2002, as supplemented by letters dated November 27, 2002, and April 17, 2003.

On page 2 of the safety evaluation, paragraph 4, line 5, "...NPF-21." should read "...NPF-14." Enclosed is the corrected page. It replaces the page in the safety evaluation issued in the letter dated May 12, 2003. We regret any inconvenience caused by this error.

Sincerely,

/RA/

Brian Benney, Project Manager, Section 2
Project Directorate IV
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-397

Enclosure: Page 2 of Safety Evaluation

cc w/encl: See next page

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applicable to fuel performance that were used to evaluate the depleted uranium fuel. Criterion 10 (Appendix A, 10 CFR Part 50) was the cornerstone requirement considered during the evaluation.

The methodologies referenced by the licensee were reviewed to see whether the proposal would assure that the specified acceptable fuel design limits will not be exceeded during any condition of normal operation, including the effects of anticipated operational occurrences. The detailed criteria for the staff's review of the proposed change are described in Section 4.2, "Fuel System Design," of the SRP. The SRP design bases can be demonstrated to be met by the licensee through operating experience, prototype testing, and analytical predictions. These methods are found in the topical reports which are incorporated in the reference section of the plant's FSAR. These documents were used in the evaluation of the licensee's request.

3.0 TECHNICAL EVALUATION

The staff has reviewed the licensee's regulatory and technical analyses in support of its proposed license amendment which were described in Sections 4.0 and 5.0 of the licensee's September 3, 2002, submittal. The licensee requested that depleted uranium be added to the list of fuel materials for the Columbia Generating Station. In its review, the staff considered the fuel's physical properties and behavior inside the core during normal operation, shutdown or during an accident. This type of fuel (depleted uranium) is physically the same as the currently manufactured fuel (uranium oxide) used in their reactor. The difference between them is that the Uranium-235 concentration in the depleted uranium pellets will be lower than in the normal uranium oxide pellets.

The methods for the manufacture and modeling of depleted uranium have already been reviewed by the staff and were found to be acceptable. These methods were reviewed in detail in the Boiling Water Reactor Licensing Methodology Compendium (EMF-2157, Revision 0) and documented in the staff's safety evaluation (SE), dated December 30, 1999, related to Amendment 186 to Facility Operating License No. NPF-14. This boiling water reactor methodology provides acceptable fuel methodologies needed to conform to the plant's licensing bases and to meet the cycle specific parameter limits that have been established using an NRC-approved methodology. The SE for Amendment 186 treats the use of depleted uranium fuel like a mixed core (for this amendment the fuel is mixed with Siemens Power Corporation (SPC) 9x9-2 fuel) to develop the minimum critical power ratio safety limits. As set forth in the staff's SE on EMF-2157, Rev. 0, the staff accepted the use of a mixed core using depleted uranium as long as the fuel safety limits are determined using the NRC approved methodologies. As stated in that SE, use of depleted uranium in the fuel rods does not affect the mechanical performance of the rods. The flux profile measurements performed by the licensee on the core designs used with this type of fuel will be verified to agree with the predicted values.

The methods used by the licensee to ensure that fuel design limits are not exceeded during normal operation or during an anticipated operational occurrence have been reviewed and found acceptable to the staff. These methods are listed in TS Section 5.6.5.b. The licensee also requested a change to this section to include the FRA-ANP methods in the list of approved methods applicable to their plant. In order for the staff to determine the acceptability of these methods it was necessary to review each methodology to verify its applicability to the request.