

May 29, 1998

Mr. J. V. Parrish
Chief Executive Officer
Washington Public Power Supply System
P.O. Box 968 (Mail Drop 1023)
Richland, Washington 99352-0968

SUBJECT: ISSUANCE OF AMENDMENT FOR THE WASHINGTON PUBLIC POWER
SUPPLY SYSTEM - NUCLEAR PROJECT NO. 2 (TAC NO. MA0263)

Dear Mr. Parrish:

The Commission has issued the enclosed Amendment No. 154 to Facility Operating License No. NPF-21 for WPPSS Nuclear Project No. 2. The amendment consists of changes to the Technical Specifications (TS) in response to your application dated December 4, 1997, as supplemented by letters dated January 28, 1998, March 3, 1998, March 9, 1998, and April 24, 1998.

The amendment permits the continued use of the existing Siemens Power Corporation minimum critical power ratio (MCPR) safety limits for WNP-2 Fuel Cycle 14 and changes the ASEA Brown Boveri (ABB) MCPR safety limit for single loop operation from 1.08 for Cycle 13 to 1.09 for Cycle 14.

A copy of the related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly Federal Register notice.

Sincerely,
Original Signed By

Chester Poslusny, Senior Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-397

Enclosures: 1. Amendment No. 154 to NPF-2
2. Safety Evaluation

cc w/encls: See next page

DISTRIBUTION:

Docket File	OGC
PUBLIC	ACRS
PDIV-2 Reading	TCollins
EAdensam (EGA1)	EPeyton
WBateman	GHill (2), T5C3
CPoslusny	JBianchi, WCFO (2)
PGwynn, RIV	LHurley, RIV
HWong, RIV WCFO	TLH3 (SE)
KPerkins RIV WCFO	
JKilcrease, RIV	

DOCUMENT NAME: WNP0263.AMD

OFC	PDIV-2/PM	OGC <i>all of NRC</i>	PDIV-2/LA
NAME	CPoslusny	<i>all of NRC</i>	EPeyton
DATE	5/19/98	5/29/98	5/15/98

OFFICIAL RECORD COPY

9806040032 980529
PDR ADOCK 05000377
PDR

FILED IN 100-100000-100000

cc w/encls:

Mr. Greg O. Smith (Mail Drop 927M)
WNP-2 Plant General Manager
Washington Public Power Supply System
P. O. Box 968
Richland, Washington 99352-0968

Mr. Rodney L. Webring (Mail Drop PE08)
Vice President, Operations Support/PIO
Washington Public Power Supply System
P. O. Box 968
Richland, Washington 99352

Mr. Albert E. Mouncer (Mail Drop 1396)
Chief Counsel
Washington Public Power Supply System
P.O. Box 968
Richland, Washington 99352-0968

Ms. Deborah J. Ross, Chairman
Energy Facility Site Evaluation Council
P. O. Box 43172
Olympia, Washington 98504-3172

Mr. D. W. Coleman (Mail Drop PE20)
Acting Manager, Regulatory Affairs
Washington Public Power Supply System
P.O. Box 968
Richland, Washington 99352-0968

Mr. Paul Inserra (Mail Drop PE20)
Manager, Licensing
Washington Public Power Supply System
P.O. Box 968
Richland, Washington 99352

Regional Administrator, Region IV
U.S. Nuclear Regulatory Commission
Harris Tower & Pavilion
611 Ryan Plaza Drive, Suite 400
Arlington, Texas 76011-8064

Chairman
Benton County Board of Commissioners
P.O. Box 69
Prosser, Washington 99350-0190

Mr. Scott Boynton, Senior Resident Inspector
U.S. Nuclear Regulatory Commission
P.O. Box 69
Richland, Washington 99352-0968

Mr. Perry D. Robinson, Esq.
Winston & Strawn
1400 L Street, N.W.
Washington, DC 20005-3502



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

DOCKET NO. 50-397

NUCLEAR PROJECT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 154
License No. NPF-21


1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by the Washington Public Power Supply System (licensee) dated December 4, 1997, as supplemented by letters dated January 28, 1998, March 3, 1998, March 9, 1998, and April 24, 1998, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. NPF-21 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 154 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This amendment is effective as of its date of issuance to be implemented within 30 days of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


Chester Poslusny, Senior Project Manager
Project Directorate IV-2
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: May 29, 1998

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 154 TO FACILITY OPERATING LICENSE NO. NPF-21

DOCKET NO. 50-397

Replace the following pages of the Appendix A Technical Specifications with the enclosed pages. The revised pages are identified by amendment number and contain vertical lines indicating the areas of change.

REMOVE

2.0-1
5.0-21
5.0-22

INSERT

2.0-1
5.0-21
5.0-22

2.0 SAFETY LIMITS (SLs)

2.1 SLs

2.1.1 Reactor Core SLs

2.1.1.1 With the reactor steam dome pressure < 785 psig or core flow < 10% rated core flow:

THERMAL POWER shall be \leq 25% RTP.

2.1.1.2 With the reactor steam dome pressure \geq 785 psig and core flow \geq 10% rated core flow:

The MCPR for ATRIUM-9X fuel shall be \geq 1.13 for two recirculation loop operation or \geq 1.14 for single recirculation loop operation. The MCPR for the ABB SVEA-96 fuel shall be \geq 1.07 for two recirculation loop operation or \geq 1.09 for single recirculation loop operation. The MCPR limits for the ATRIUM-9X fuel are applicable to Cycle 14.

2.1.1.3 Reactor vessel water level shall be greater than the top of active irradiated fuel.

2.1.2 Reactor Coolant System Pressure SL

Reactor steam dome pressure shall be \leq 1325 psig.

2.2 SL Violations

With any SL violation, the following actions shall be completed within 2 hours:

2.2.1 Restore compliance with all SLs; and

2.2.2 Insert all insertable control rods.

5.6 Reporting Requirements

5.6.5 CORE OPERATING LIMITS REPORT (COLR) (continued)

1. ANF-1125(P)(A), and Supplements 1 and 2, "ANFB Critical Power Correlation," April 1990;
 2. ANF-NF-524(P)(A), Revision 2 and Supplements 1 and 2, "Advanced Nuclear Fuels Corporation Critical Power Methodology for Boiling Water Reactors," November 1990;
 3. ANF-89-014(P)(A), Revision 1 and Supplements 1 and 2, "Advanced Nuclear Fuels Corporation Generic Mechanical Design for Advanced Nuclear Fuels Corporation 9x9-IX and 9x9-9X BWR Reload Fuel," October 1991;
 4. XN-NF-81-22(P)(A), "Generic Statistical Uncertainty Analysis Methodology," November 1983;
 5. NEDE-23785-1-PA, Revision 1, "The GESTR-LOCA and SAFER Models for the Evaluation of the Loss-of-Coolant Accident, Volume III, SAFER/GESTR Application Methodology," October 1984;
 6. NEDO-20566A, "General Electric Company Analytical Model for Loss-of-Coolant Analysis in Accordance with 10 CFR 50, Appendix K," September 1986;
 7. CENPD-300-P-A, "Reference Safety Report for Boiling Water Reactor Reload Fuel," July 1996; and
 8. WPPSS-FTS-131(A), Revision 1, "Applications Topical Report for BWR Design and Analysis," March 1996.
- c. The core operating limits shall be determined such that all applicable limits (e.g., fuel thermal mechanical limits, core thermal hydraulic limits, Emergency Core Cooling Systems (ECCS) limits, nuclear limits such as SDM, transient analysis limits, and accident analysis limits) of the safety analysis are met.
- d. The COLR, including any midcycle revisions or supplements, shall be provided upon issuance for each reload cycle to the NRC.

(continued)

5.6 Reporting Requirements (continued)

5.6.6 Post Accident Monitoring (PAM) Instrumentation Report

When a report is required by Condition B or F of LCO 3.3.3.1, "Post Accident Monitoring (PAM) Instrumentation," a report shall be submitted within the following 14 days. The report shall outline the preplanned alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the Function to OPERABLE status.



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 154 TO FACILITY OPERATING LICENSE NO. NPF-21

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

NUCLEAR PROJECT NO. 2

DOCKET NO. 50-397

1.0 INTRODUCTION

By letter dated December 4, 1997, as supplemented by letters dated January 28, 1998, March 3, 1998, March 9, 1998, and April 24, 1998, the Washington Public Power Supply System (the Supply System, or the licensee) requested changes to the Technical Specifications (Appendix A to Facility Operating License No. NPF-21) for the WPPSS Nuclear Project No. 2. The proposed changes would revise the technical specifications (TS) to permit the continued use of the existing Siemens Power Corporation minimum critical power ratio (MCPR) safety limits for WNP-2 Fuel Cycle 14 and changes the ASEA Brown Boveri (ABB) MCPR safety limit for single loop operation from 1.08 for Cycle 13 to 1.09 for Cycle 14.

The March 3, 1998, March 9, 1998, and April 24, 1998, supplemental letters provided additional clarifying information and did not change the staff's original no significant hazards consideration determination published in the Federal Register on January 14, 1998 (63 FR 2284).

2.0 EVALUATION

The proposed revisions to the Technical Specifications are described below.

2.1 TS 2.1.1.2

The following changes are proposed for TS 2.1.1.2, Safety Limit MCPR (SLMCPR):

- (1) "For all other fuel, the MCPR" is changed to "The MCPR for the ABB SVEA-96 fuel",
- (2) "1.08" is changed to "1.09" for the MCPR for single recirculation loop operation, and
- (3) "13 only" is changed to "14" for the cycle number for the MCPR limits for the ATRIUM-9X fuel.

For the Cycle 14 SLMCPR analyses, the licensee has justified its bases, assumptions, and codes used for the SLMCPR analyses for ABB SVEA-96 fuel to support the TS change for the single loop operation (Reference 1). The two loop and single loop SLMCPRs for the ABB SVEA-96 fuel in WNP-2 Cycle 14 are determined using the reference core loading pattern and state point depletion strategy in the WNP-2 Cycle 14 Reload Design Report (Reference 2) and the approved methodologies including CENPD-300-P-A (Sections 5.3.2.1, 5.3.2.2 and 5.3.2.3) (Reference 3). The treatment of SLMCPR in mixed cores involving non-ABB fuel follows the procedures described in Section 5.3.2.2 of Reference 3. ABB has evaluated the cycle dependent SVEA-96 SLMCPR for WNP-2 Cycle 14 and the results show that the Cycle 14 SLMCPRs are 1.07 for two loop operation and 1.09 for single loop operation. The proposed change of the single loop SLMCPR value is needed because the calculated results are about 0.006 greater for Cycle 14 than that for Cycle 13. This is because the assembly radial power distribution used for Cycle 14 has a slightly greater number of assemblies close to the peak assembly power than that for Cycle 13. The interim SLMCPR values for the ATRIUM-9X fuel were determined by Siemens Power Corporation (SPC) to be 1.13 for two loop operation and 1.14 for single loop operation using NRC approved methodology and an additive constant uncertainty (ACU) of 0.029 for Cycle 13. This is continuously valid for Cycle 14 operation since the thrice-burned ATRIUM-9X fuel for Cycle 14 will have much lower peak uncontrolled bundle power than that for the fresh ATRIUM-9X fuel. Also, the calculation of delta CPR includes the application of a conservative adder as described in the Operating License condition imposed by Amendment 151 (Reference 4). Based on our review of the licensee's submittals (References 1, 5, 6, and 7), the staff finds that the proposed TS change for the single loop SLMCPR of 1.09 for SVEA-96 fuel in Cycle 14 operation is acceptable because the proposed changes will ensure that the fuel design safety criteria, that more than 99.9 percent of the fuel rods avoid transition boiling during normal operation as well as anticipated operational occurrences, is met.

The wording changes from "for all other fuel, the MCPR" to "The MCPR for the ABB SVEA-96 fuel" and from cycle "13 only" to "14" reflect the applicability for WNP-2 Cycle 14 operation and that fuel design safety criteria will be met. Therefore, the proposed changes are acceptable.

2.2 Bases 2.1.1.2

The proposed change to the Bases is merely to change the Cycle number from "13" to "14" to reflect the applicability of the interim use of increased ANFB additive constant uncertainty for the SPC ATRIUM-9X fuel to Cycle 14. This change is consistent with the change to TS 2.1.1.2.

2.3 TS 5.6.5, Core Operating Limits Report

The following analytic methods used to determine core operating limits are no longer used and are being deleted from the TS:

- a. 5.6.5.2, "NRC Approval of ANFB Additive Constants for ANF 9x9 9x BWR Fuel," dated November 14, 1996.
- b. 5.6.5.4, XN-NF-85-67(P)(A), Revision 1, "Generic Mechanical Design for Exxon Nuclear Jet Pump BWR Reload Fuel," September 1986.

- c. 5.6.5.7, NEDE-24011 P A 10 US, "General Electric Standard Application for Reactor Fuel," U.S., Supplement, March 1991.
- d. 5.6.5.10, EMF-CC-074(P)(A), "Volume 1 -- STAIF -- A Computer Program for BWR Stability in the Frequency Domain, Volume 2 -- STAIF -- A Computer Program for BWR Stability in the Frequency Domain, Code Qualification Report," July 1994.

The remaining methods have been renumbered for continuity in the TS.

The proposed deletions and renumbering to the list of approved methodologies in TS 5.6.5.b are acceptable since these changes are appropriate to reflect the methodologies necessary for Cycle 14 specific operating limits in TS 5.6.5.a.

Based on the review, as discussed above, the staff concludes that the proposed TS revisions are acceptable for WNP-2 Cycle 14 application.

3.0 REFERENCES

- 1. Letter (GO2-98-042) from D. W. Coleman to USNRC, "WNP-2 Operating License NPF-21 Request for Amendment Submittal of Additional Information," March 3, 1998.
- 2. Attachment 1 to Letter dated April 24, 1998, transmitting Supply System Report WNP2-FTS-148, "WNP-2 Cycle 14 Reload Design Report."
- 3. CENPD-300-P-A, "Reference Safety Report for Boiling Water Reactor Reload Fuel," July 1996.
- 4. Letter USNRC to J. V. Parrish transmitting Amendment No. 151 to Facility Operating License No. NPF-21 dated July 3, 1997.
- 5. Letter (GO2-97-219) from P. R. Bemis to USNRC, "WNP-2 Operating License NPF-21 Request for Amendment Minimum Critical Power Ratio Safety Limits," December 4, 1997.
- 6. Letter (GO2-98-049) from P. R. Bemis to USNRC, "WNP-2 Operating License NPF-21 Request for Amendment of SLMCPR - Modification of Request," March 9, 1998.
- 7. Letter (GO2-98-063) from D. W. Coleman to USNRC, "WNP-2 Operating License NPF-21 Request for Amendment Submittal of Additional Information," April 24 1998.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Washington State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (63 FR 2284). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). This amendment also involves changes in recordkeeping, reporting, or administrative procedures or requirements. Accordingly, with respect to these items, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: T. Huang

Date: May 29, 1998