

December 26, 1991

Docket No. 50-397

Mr. G. C. Sorensen, Manager  
Regulatory Programs  
Washington Public Power Supply System  
3000 George Washington Way  
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Richland, Washington 99352

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Dear Mr. Sorensen:

SUBJECT: ISSUANCE OF AMENDMENT FOR THE WASHINGTON PUBLIC POWER SUPPLY SYSTEM NUCLEAR PROJECT NO. 2 (TAC NO. M79896)

The Commission has issued the enclosed Amendment No. 97 to the 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 February 21, 1991.

This amendment revises Technical Specification to extend certain control rod block instrumentation surveillance test intervals (STIs) from one to three months. This change is consistent with previously accepted STIs extensions for the Reactor Protection System, Emergency Core Cooling System, Reactor Core Isolation Cooling System, and Isolation Actuation instrumentation.

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

Sincerely,

Original Signed By:

Patricia L. Eng, Project Manager  
Project Directorate V  
Division of Reactor Projects III/IV/V  
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Amendment No. 97 to NPF-21
- 2. Safety Evaluation

cc w/enclosures:  
See next page

**NRC FILE CENTER COPY**

\*See previous concurrence

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Mr. G. C. Sorensen  
Washington Public Power Supply System

WPPSS Nuclear Project No. 2  
(WNP-2)

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

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

DOCKET NO. 50-397

NUCLEAR PROJECT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 97  
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 February 21, 1991, 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. 97 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 the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

*Charles M. Trammell*  
for Theodore R. Quay, Director  
Project Directorate V  
Division of Reactor Projects III/IV/V  
Office of Nuclear Reactor Regulation

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: December 26, 1991

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 97 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. The corresponding overleaf pages are also provided to maintain document completeness.

REMOVE

3/4 3-56

INSERT

3/4 3-56

TABLE 4.3.6-1  
CONTROL ROD BLOCK INSTRUMENTATION SURVEILLANCE REQUIREMENTS

<u>TRIP FUNCTION</u>	<u>CHANNEL CHECK</u>	<u>CHANNEL FUNCTIONAL TEST</u>	<u>CHANNEL CALIBRATION</u> <sup>(a)</sup>	<u>OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED</u>
1. <u>ROD BLOCK MONITOR</u>				
a. Upscale	N.A.	S/U(b)(c), Q(c)	Q	1*
b. Inoperative	N.A.	S/U(b)(c), Q(c)	N.A.	1*
c. Downscale	N.A.	S/U(b)(c), Q(c)	Q	1*
2. <u>APRM</u>				
a. Flow Biased Neutron Flux Upscale	N.A.	S/U(b), Q	Q	1
b. Inoperative	N.A.	S/U(b), Q	N.A.	1, 2, 5
c. Downscale	N.A.	S/U(b), Q	Q	1
d. Neutron Flux - Upscale, Startup	N.A.	S/U(b), Q	Q	2, 5
3. <u>SOURCE RANGE MONITORS</u>				
a. Detector not full in	N.A.	S/U(b), W <sup>(#)</sup>	N.A.	2, 5
b. Upscale	N.A.	S/U(b), W	Q	2, 5
c. Inoperative	N.A.	S/U(b), W	N.A.	2, 5
d. Downscale	N.A.	S/U(b), W	Q	2, 5
4. <u>INTERMEDIATE RANGE MONITORS</u>				
a. Detector not full in	N.A.	S/U(b), W <sup>(#)</sup>	N.A.	2, 5
b. Upscale	N.A.	S/U(b), W	Q	2, 5
c. Inoperative	N.A.	S/U(b), W	N.A.	2, 5
d. Downscale	N.A.	S/U(b), W	Q	2, 5
5. <u>SCRAM DISCHARGE VOLUME</u>				
a. Water Level-High	N.A.	Q	R	1, 2, 5**
b. Scram Trip Bypass	N.A.	Q	N.A.	5**
6. <u>REACTOR COOLANT SYSTEM RECIRCULATION FLOW</u>				
a. Upscale	N.A.	S/U(b), Q	Q	1
b. Inoperative	N.A.	S/U(b), Q	N.A.	1
c. Comparator	N.A.	S/U(b), Q	Q	1

CONTROL ROD BLOCK INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
1. <u>ROD BLOCK MONITOR</u>		
a. Upscale	< 0.66 W + 40%	< 0.66 W + 43%
b. Inoperative	N.A.	N.A.
c. Downscale	≥ 5% of RATED THERMAL POWER	≥ 3% of RATED THERMAL POWER
2. <u>APRM</u>		
a. Flow Biased Neutron Flux Upscale	< 0.66 W + 42%*	< 0.66 W + 45%*
b. Inoperative	N.A.	N.A.
c. Downscale	> 5% of RATED THERMAL POWER	> 3% of RATED THERMAL POWER
d. Neutron Flux - Upscale, Startup	≤ 12% of RATED THERMAL POWER	≤ 14% of RATED THERMAL POWER
3. <u>SOURCE RANGE MONITORS</u>		
a. Detector not full in	N.A.	N.A.
b. Upscale	< 1 x 10 <sup>5</sup> cps	< 1.6 x 10 <sup>5</sup> cps
c. Inoperative	N.A.	N.A.
d. Downscale	≥ 0.7 cps	≥ 0.5 cps
4. <u>INTERMEDIATE RANGE MONITORS</u>		
a. Detector not full in	N.A.	N.A.
b. Upscale	< 108/125 divisions of full scale	< 110/125 divisions of full scale
c. Inoperative	N.A.	N.A.
d. Downscale	≥ 5/125 divisions of full scale	≥ 3/125 divisions of full scale
5. <u>SCRAM DISCHARGE VOLUME</u>		
a. Water Level-High	< 527 ft 2 in. elevation	< 527 ft 4 in. elevation
b. Scram Trip Bypass	N.A.	N.A.
6. <u>REACTOR COOLANT SYSTEM RECIRCULATION FLOW</u>		
a. Upscale	≤ 108/125 divisions of full scale	≤ 111/125 divisions of full scale
b. Inoperative	N.A.	N.A.
c. Comparator	≤ 10% flow deviation	≤ 11% flow deviation

\*The Average Power Range Monitor rod block function is varied as a function of recirculation loop flow (W). The trip setting of this function must be maintained in accordance with Specification 3.2.2.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 97 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 February 21, 1991, Washington Public Power Supply System (WPPSS) submitted a request to amend the license NPF-21, of Washington Nuclear Plant 2, (WNP-2) for proposed changes to the Technical Specification (TS). The proposed TS changes would affect the control rod block instrumentation surveillance test interval (STI) time.

### 2.0 BACKGROUND

On July 8, 1983, the NRC staff issued Generic Letter (GL) 83-28 (Ref. 2) requesting that all licensees and applicants respond to the generic issues raised by the analysis of the Salem anticipated transient without scram (ATWS) events. The GL requested that licensees and applicants review existing STIs for reactor protection system (RPS) instrumentation required by TS to assure that current and proposed intervals for such testing are consistent with achieving high RPS availability. In late 1983, the staff issued NUREG-1024, "Technical Specifications - Enhancing the Safety Impact" (Ref. 3), which recommended that TS surveillance requirements and action statements be reviewed to assure that they have an adequate technical basis and minimize risk. Probabilistic risk assessment (PRA) analysis may be used as a basis for TS change.

The BWR owners group (BWROG) formed a TS Improvement Committee in late 1983. The committee developed a program that used PRA analysis to identify improvements to STIs specified in BWR TS. The BWROG commissioned General Electric Company (GE) to perform a generic analyses which could be used by individual BWR plants.

### 3.0 EVALUATION

The licensee proposes to increase the control rod block instrumentation STI time from monthly to every three months. This change is similar to those made for the Reactor Protection System (RPS) instrumentation (Ref. 4), Emergency Core Cooling System and Reactor Core Isolation Cooling System instrumentation (Ref. 5), and Isolation Actuation instrumentation (Ref. 6).

The licensee identified the BWROG TS Improvements contained in the GE Topical Report NEDC 30851 P-A Supplement 1, "Technical Specification Improvement Analysis for BWR Control Rod Block Instrumentation," (Ref. 7), as their basis for these changes.

The methodology, for evaluating the impact of TS changes on plant safety, has been presented in previous General Electric (GE) Topical Reports (TR) which were reviewed by the NRC (Ref. 8 & 9).

GE evaluated the impact of STIs on plant risk, in terms of a change in core melt frequency, using an analysis which followed the latest techniques in probabilistic risk assessment (PRA). The staff's evaluation of the GE TR on control rod block instrumentation STI (Ref. 7) is documented in Safety Evaluation Report (Ref. 10). The staff found the increase in time of the STI acceptable provided the licensee:

- (1) confirm the applicability of the generic analyses to the plant (WNP-2), and
- (2) confirm that any increase in instrument drift due to extended STIs is properly accounted for in the setpoint calculation.

The licensee confirmed that the generic analysis (GE TR NEDC-30851 P-A, Supplement 1) is applicable to WNP-2 in their submittal on February 21, 1991 (Ref. 1).

The staff provided the following clarifications regarding instrument drift due to extended STIs (Ref. 11):

- (1) the instrument drift shall remain within the existing allowance in the instrument setpoint calculation, or the allowance and setpoint will be adjusted to account for the additional drift, and
- (2) although, no additional information is needed for staff review, records showing the actual setpoint calculation and supporting data should be retained onsite for possible future staff audit.

The licensee has reviewed setpoint drift characteristics of the control rod block instrumentation affected by this TS change and confirmed that the setpoints will remain within the existing allowances throughout the extended STIs.

The licensee has concluded that, increasing the STI will reduce test cycles on equipment and diversion of plant personnel and resources to perform tests.

In accordance with the requirements of 10CFR50.92, the licensee has provided a hazard analysis and determined that operating the facility in accordance with the proposed amendment would not:

- (a) involve a significant increase in the probability or consequence of an accident previously evaluated, because the STI increase has a negligible impact on control rod block function; or
- (b) create the possibility of a new or different kind of accident from any accident previously evaluated, because the control rod block function and reliability are not significantly degraded by these changes, and no new mode of plant operation are introduced; or
- (c) involve a significant reduction in the margin of safety because the Topical Report, NEDC-30851 P-A, Supplement 1, indicates that the changes have an insignificant impact on control rod block function availability.

The staff finds acceptable the WPPSS request of February 21, 1991, to amend the license of WNP-2 for the proposed Technical Specification changes to the control rod block instruments STI time (Ref. 1).

The basis for this conclusion are: the staff's previous acceptance of the GE TR, "Technical Specification Improvement Analysis for BWR Control Rod Block Instrumentation" (Ref. 7); the licensee's February 21, 1991, submittal confirming the applicability of the TR to WNP-2 (Ref. 1); and the licensee's response to the staff's setpoint drift concern dated April 27, 1988, (Ref. 11).

#### 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 and changes surveillance requirements. 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 (56 FR 37593). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). 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 Contributors: Frederick P. Paulitz  
Brian J. McDermott

Date: December 26, 1991

## 7.0 REFERENCES

1. Letter to NRC from G. C. Sorensen, WPPSS, G02-91-036, dated February 21, 1991. "Control Rod Block Instrumentation."
2. Letter from Eisenhut, D. G., NRC to all Licensees of Operating Reactor, Applicants for Operating License, and Holders of Construction Permits, "Requested Actions Based on Generic Implications of Salem ATWS Events, (Generic Letter 83-28)," dated July 8, 1983.
3. NUREG-1024, "Technical Specifications - Enhancing the Safety Impact," dated November 1983.
4. Letter to NRC from G. C. Sorensen, WPPSS, G02-89-161, dated September 14, 1989. "Reactor Protection System Instrumentation."
5. Letter to NRC from G. C. Sorensen, WPPSS, G02-91-035. dated February 21, 1991. "ECCS and RCIC Actuation Instrumentation."
6. Letter to NRC from G. C. Sorensen, WPPSS, G02-91-049, Dated March 11, 1991. "Isolation Actuation Instrumentation."
7. General Electric Topical Report NEDC-30851 P-A Supplement 1, "Technical Specification Improvement Analysis for BWR Control Rod Block Instrumentation", dated October 1988 (originally submitted as NEDC-30851 P, Supp. 1, dated June 1986).
8. Letter from Thadani, A. C. NRC, To Pickens, T.A. BWR Owners Group, "General Electric Company Topical Reports NEDC-30844, BWR Owners Group Response to NRC Generic Letter 83-28, and NEDC-30851P, Technical Specification Improvement Analysis for BWR Reactor Protection Systems," dated July 15, 1987.
9. Letter from Thadani, A. C., NRC to Grace, D. D., BWR Owners' Group, "General Electric Company Topical Report NEDC-30936, BWR Owners Group Technical Specification Improvement Methodology (With Demonstrations for BWR ECCS Actuation Instrumentation), Part 1," dated December 9, 1988.
10. Letter, C.E. Rossi (NRR) to D.N. Grace (BWROG) "General Electric Company (GE) Topical Report NEDC-30851P, Supplement 1, 'Technical Specification Improvement Analysis for BWR Control Rod Block Instrumentation.'" September 22, 1988.
11. Letter, C.E. Rossi (NRR) to R.F. Janecek (BWROG), "Staff Guidance for Licensee Determination that the Drift Characteristics for Instrumentation Used in RPS Channels are Bounded by NEDC-30851 Assumptions When the Functional Test Interval is Extended from Monthly to Quarterly," dated April 27, 1988.