

December 4, 1987

Docket No. 50-397

Mr. G. C. Sorensen, Manager
Regulatory Programs
Washington Public Power Supply System
P. O. Box 968
3000 George Washington Way
Richland, Washington 99352

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Dear Mr. Sorensen:

SUBJECT: ISSUANCE OF AMENDMENT NO. 48 TO FACILITY OPERATING LICENSE
NPF-21 - WPPSS NUCLEAR PROJECT NO. 2 (TAC 66074)

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 48 to the Washington Public Power Supply System for WPPS Nuclear Project No. 2, located in Benton County near Richland, Washington. This amendment is in response to your letter dated September 1, 1987 (G02-87-397).

This amendment revises the WNP-2 Technical Specification Table 3.3.2.2, "Isolation Actuation Instrumentation Setpoints." For the trip setpoint for trip function 1.d, Primary Containment Isolation, Main Steam Line Tunnel Temperature - High, the Allowable Range will be changed from "less than or equal to 150 degrees Fahrenheit" to "less than or equal to 164 degrees Fahrenheit."

Your letter of November 19, 1987 (G02-87-275) asked that we make additional changes to Table 3.3.2-1. You considered these changes to be an administrative action which would correct errors in the Technical Specifications. Because the particular items which you asked to correct appear in the WNP-2 Technical Specifications as they do in the BWR model Technical Specifications, it is inappropriate to do this as an administrative action. Therefore the changes requested in your November 19 letter are not incorporated into this amendment.

A copy of related safety evaluation supporting Amendment No. 48 to Facility Operating License No. NPF-21 is enclosed.

Sincerely,

Robert B. Samworth, Senior Project Manager
Project Directorate V
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

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Enclosures:

- 1. Amendment No. 48 to Facility Operating License No. NPF-21
- 2. Safety Evaluation

cc w/enclosures: See next page.

OFC	:DRSA/PDV	:DRSP/PDV	:SICB	OGC	DRSP/PDV	:	:	:
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DATE	:12/4/87	:12/4/87	:11/ /87	:12/4/87	:12/4/87	:	:	:

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**Mr. G. C. Sorensen, Manager
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

WPPSS NUCLEAR PROJECT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 48
License No. NPF-21

1. The Nuclear Regulatory Commission (the Commission or the NRC) has found that:
 - A. The application for amendment filed by the Washington Public Power Supply System (the Supply System, also the licensee), dated September 1, 1987 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 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 set forth in 10 CFR Chapter I;
 - 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 enclosure to this license amendment and paragraph 2.C.(2) of the Facility Operating License No. NPF-21 is hereby amended to read as follows:

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(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 48, 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


George W. Knighton, Director
Project Directorate V
Division of Reactor Projects - III,
IV, V and Special Projects

Enclosure: Changes to the Technical
Specifications

Date of Issuance: December 4, 1987

December 4, 1987

ENCLOSURE TO LICENSE AMENDMENT NO. 48

FACILITY OPERATING LICENSE NO. NPF-21

DOCKET NO. 50-397

Replace the following page of the Appendix "A" Technical Specifications with the enclosed page. The revised page is identified by Amendment number and contains a vertical line indicating the area of change.

REMOVE

3/4 3-16

INSERT

3/4 3-16

TABLE 3.3.2-2

ISOLATION ACTUATION INSTRUMENTATION SETPOINTS

<u>TRIP FUNCTION</u>	<u>TRIP SETPOINT</u>	<u>ALLOWABLE VALUE</u>
1. <u>PRIMARY CONTAINMENT ISOLATION</u>		
a. Reactor Vessel Water Level		
1) Low, Level 3	> 13.0 inches*	> 11.0 inches
2) Low Low, Level 2	> -50 inches*	> -57 inches
b. Drywell Pressure - High	< 1.68 psig	< 1.88 psig
c. Main Steam Line		
1) Radiation - High	< 3.0 x full power background	< 3.6 x full power background
2) Pressure - Low	> 831 psig	> 811 psig
3) Flow - High	< 105.5 psid	< 108 psid
d. Main Steam Line Tunnel Temperature - High	< 164°F	< 170°F
e. Main Steam Line Tunnel Δ Temperature - High	< 80°F	< 90°F
f. Condenser Vacuum - Low	> 23 inches Hg absolute pressure	> 24.5 inches Hg absolute pressure
g. Manual Initiation	N.A.	N.A.
2. <u>SECONDARY CONTAINMENT ISOLATION</u>		
a. Reactor Building Vent Exhaust Plenum Radiation - High	< 13.0 mR/h	< 16.0 mR/h
b. Drywell Pressure - High	< 1.68 psig	< 1.88 psig
c. Reactor Vessel Water Level - Low Low, Level 2	> -50 inches*	> -57 inches
d. Manual Initiation	N.A.	N.A.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 48 TO FACILITY OPERATING LICENSE NO. NPF-21

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

WPPSS NUCLEAR PROJECT NO. 2

DOCKET NO. 50-397

1.0 INTRODUCTION

By letter dated September 1, 1987 Washington Public Power Supply System (the licensee) proposed a modification to Table 3.3.2-2, "Isolation Actuation Instrumentation Setpoints," of the WNP-2 Technical Specifications. The proposed amendment is to change the allowable range for the trip setpoint for trip function 1.d., Primary Containment Isolation, Main Steam Line Tunnel Temperature - High. The new trip setpoint range would be "less than or equal to 164 degrees Fahrenheit" in place of the currently specified range of "less than or equal to 150 degrees Fahrenheit." The allowable value (the third column in Table 3.3.2-2) would not be affected by the proposed amendment.

The action statement in Technical Specification 3.3.2 is based on the allowable value in the table rather than on the allowable trip setpoint range. The specified trip setpoint range does not include the allowable value. The margin between the trip setpoint range and the allowable value is normally established in order to accommodate realities of monitoring instrumentation such as calibration accuracy and drift between calibration intervals as well to accommodate precision with which an instrument can be set.

This amendment is necessary because the temperature in the tunnel, without a steam line leak, sometime approaches the trip setpoint temperature.

2.0 EVALUATION

The objective of monitoring steam line tunnel temperature is to provide an early indication of and response to a main steam line leak. The trip setpoint for steamline tunnel temperature was established by the licensee using methodology described to the staff in a letter from G.C. Sorensen, WPPSS, to A. Schwencer, NRC, dated May 6, 1985 regarding "Instrument Setpoint Methodology for WNP-2." This methodology is under review concurrent with a broader review of General Electric instrumentation setpoint methodology.

In the September 1, 1987 letter, the licensee described the basis for the steamline tunnel temperature trip setpoint as follows:

"The original calculation performed to establish the leak detection high ambient temperatures analytical limit was based upon an equivalent 25 gpm condensate leak which resulted in 185 degree Fahrenheit tunnel temperature. The allowable value was an adjustment applied to the analytical limit accounting for seven degrees of loop calibration uncertainty/inaccuracy and six degrees of additional margin combined by the square-root-of-the-sum-of-the-squares method as described (in the above cited reference letter). This would have produced an allowable value of 175.8 degrees Fahrenheit but was conservatively reduced to 170 degrees Fahrenheit as the submitted Technical Specification Allowable Value. A trip setpoint limit was arrived at by further reducing the allowable value for instrument drift by six degrees yielding 164 degrees Fahrenheit. The 150 degree Fahrenheit trip setpoint was arrived at by consideration of long term plant life concrete degradation effects not attributable to instrumentation constraints and presenting no immediate significant hazards concern."

During the summer of 1987, temperature in the main steam line tunnel exceeded the trip setpoint value but with no steam line leak contributing to the heat load. In the summer of 1986 the licensee had also experienced elevated temperatures in the tunnel and subsequently attempted to eliminate the condition by improving area cooler performance and reducing heat loads.

In recognition of the higher ambient temperature prevailing in the tunnel during the summer months, the licensee has proposed that the trip setpoint range be revised to "less than or equal to 164 degrees Fahrenheit." The licensee contends that "the 164 degree Fahrenheit value accounts for drift, total loop inaccuracy and calibration error providing a twenty-one degree margin to the analytical limit. The six degree margin to the Allowable Value accounts for the maximum expected instrumentation drift between required calibration frequencies of eighteen months."

Although the staff has not completed its review of the instrument setpoint methodology set forth in the May 6, 1985 letter, the staff concurs that the proposed 164 degree Fahrenheit upper limit for the allowable setpoint range does include adequate margin for monitoring instrumentation calibration accuracy and drift between calibration intervals as well as accomodate precision with which the instruments can be set.

Above normal ambient temperatures combined with higher cooling water temperatures and reduced cooling water flow to the steam tunnel air coolers cause the steam tunnel temperatures to exceed expected values. Although the licensee has advised verbally that studies are in progress to determine whether the steam line tunnel temperature can be reduced to the expected range, this review was limited to analysis of the acceptability of the proposed setpoint range.

The objective of providing a reactor trip signal in the event of a steam line leak will not be compromised by the change to the allowable setpoint range. The allowable value remains unchanged. That is, the trip will still occur at a temperature below 170 degrees Fahrenheit. Because tunnel temperature is higher than the original value, the trip will occur on a smaller leak than the design leak.

The effects of the temperature now prevailing in the tunnel on MSIV solenoids valves and cabling are adequately accounted for by the current EQ program. Continued operation at the higher temperature will remain in compliance with environmental qualification requirements. Although it is known that concrete may begin to deteriorate over a long period of time at temperatures above 150 degrees Fahrenheit and accelerated degradation can occur above 200 degrees Fahrenheit, the minor temperature excursion above the 150 threshold limit, coupled with relatively short time periods of exposure, will have no measurable effect on the concrete.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the installation and use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that this 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 this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this 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 this amendment.

4.0 CONTACT WITH STATE OFFICIAL

The Commission made a proposed determination that the amendment involves no significant hazards consideration which was published in the Federal Register on October 21, 1987 (52 FR 39309). The staff has also consulted with the State of Washington. No public comments were received.

5.0 CONCLUSION

Although the overall WNP-2 instrumentation setpoint methodology submitted by the licensee on May 6, 1985 remains under staff review, the proposed change to the allowable range for the trip setpoint for this one trip function has been reviewed and found to be acceptable. Since the allowable trip value is not changed, since the difference between the upper end of the setpoint range and the allowable value remains adequate to account for instrument precision, calibration, setting and drift, and since the impact of steam line tunnel temperature exceeding previously evaluated values has been addressed, we have 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 this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: R. Samworth, NRR

Dated: December 4, 1987