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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

Dear Mr. Sorensen:

SUBJECT: ISSUANCE OF AMENDMENT NO. 47 TO FACILITY OPERATING LICENSE NO. NPF-21 - WPPSS NUCLEAR PROJECT NO. 2 (TAC NO. 66378)

The U. S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 47 to Facility Operating License NPF-21 to the Washington Public Power Supply System for WPPSS Nuclear Project No. 2, located in Benton County near Richland, Washington. This amendment is in response to your letter dated October 13, 1987, as supplemented October 15, 1987. It was prepared and issued on an emergency basis to avoid the necessity of shutting down the plant.

This amendment revises the WNP-2 Technical Specifications, Tables 3.3.7.5-1 Accident Monitoring Instrumentation, and 4.3.7.5-1, Accident Monitoring Instrumentation Surveillance Requirements, to allow the plant to operate with the acoustic monitor inoperable for safety relief valve MS-RV-2D until the next refueling outage or until the first forced outage of sufficient duration to effect repair prior to that next refueling outage.

The staff reviewed the circumstances associated with your request and concluded that you provided a sufficient basis for finding that the situation could not have been avoided by prior application. Therefore, in accordance with 10 CFR 50.91(a)(5), a valid emergency existed.

A copy of the related safety evaluation supporting Amendment No. 47 to Facility Operating License No. NPF-21 is enclosed. Notice of Issuance and Final Determination of No Significant Hazards Consideration and Opportunity for Hearing will be included in the Commission's bi-weekly Federal Register Notice.

Sincerely,

Original signed by

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

Enclosures:
1. Amendment No. 47 to Facility Operating License No. NPF-21
2. Safety Evaluation

cc: See next page

*See previous concurrence

*DRSP/PDV	*DRSP/PDV	*RSB	*OGC	DRSP/PDV
JLee	RSamworth:rs	WHodges		GWKnighton
10/15/87	10/15/87	10/15/87	10/16/87	10//6/87

A copy of the related safety evaluation supporting Amendment No. 47 to Facility Operating License No. NPF-21 is enclosed. Notice of Issuance and Final Determination of No Significant Hazards Consideration and Opportunity for Hearing will be included in the Commissions bi-weekly Federal Register Notice.

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

Enclosures:
1. Amendment No. 47 to Facility
Operating License No. NPF-21

2. Safety Evaluation

cc: See next page

DRSP/PDV	DRSP/PDV	RSB	OGC	DRSP/D:PDV
JLee	RSamworth:rs	WHodges	RBachmann	GWKnighton
10/15/87	10/15/87	10/15/87	10/16/87	10/ /87

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. 47
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 October 13, 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:

   (2) Technical Specifications and Environmental Protection Plan

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 47, 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
Office of Nuclear Reactor Regulation

Enclosure:
Changes to the Technical
Specifications

Date of Issuance: October 16, 1987

October 16, 1987

ENCLOSURE TO LICENSE AMENDMENT NO. 47

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 contains a vertical line indicating the area of change.

REMOVE	INSERT
3/4 3-71	3/4 3-71
3/4 3-74	3/4 3-74

TABLE 3.3.7.5-1

ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT	REQUIRED NUMBER OF CHANNELS	MINIMUM CHANNELS OPERABLE	APPLICABLE OPERATIONAL CONDITIONS	ACTION
1. Reactor Vessel Pressure	2	1	1, 2	80
2. Reactor Vessel Water Level	2	1	1, 2	80
3. Suppression Chamber Water Level	2	1	1, 2	80
4. Suppression Chamber Water Temperature	2/sector	1/sector	1, 2	80
5. Suppression Chamber Air Temperature	2	1	1, 2	80
6. Drywell Pressure	2	1	1, 2	80
7. Drywell Air Temperature	2	1	1, 2	80
8. Drywell Oxygen Concentration	2	1	1, 2	80
9. Drywell Hydrogen Concentration	2	1	1, 2	80
10. Safety/Relief Valve Position Indicators	2/valve*	1/valve	1, 2	80
11. Suppression Chamber Pressure	2	1	1, 2	80
12. Condensate Storage Tank Level	2	1	1, 2	80
13. Main Steam Line Isolation Valve Leakage Control System Pressure	2	1	1, 2	80

*NOTE - The acoustic monitor for MS-RV-2D may be inoperable until the Third Refueling Outage scheduled for No Later Than May 15, 1988, or until the first forced outage of sufficient duration to effect repair/replacement prior to that date without applying the shutdown requirement of Action 80.a

TABLE 4.3.7.5-1

ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	APPLICABLE OPERATIONAL CONDITIONS
1. Reactor Vessel Pressure	M	R	1, 2
2. Reactor Vessel Water Level	M	R	1, 2
3. Suppression Chamber Water Level	M	R	1, 2
4. Suppression Chamber Water Temperature	M	R	1, 2
5. Suppression Chamber Air Temperature	M	R	1, 2
6. Primary Containment Pressure	M	R	1, 2
7. Drywell Air Temperature	M	R	1, 2
8. Drywell Oxygen Concentration	M	R	1, 2
9. Drywell Hydrogen Concentration	M	Q	1, 2
10. Safety/Relief Valve Position Indicators	M*	R	1, 2
11. Suppression Chamber Pressure	M	R	1, 2
12. Condensate Storage Tank Level	M	R	1, 2
13. Main Steam Line Isolation Valve Leakage Control System Pressure	M	R	1, 2
14. Neutron Flux:			
APRM	M	R	1, 2
IRM	M	R	1, 2
SRM	M	R	1, 2
15. RCIC Flow	M	R	1, 2
16. HPCS Flow	M	R	1, 2
17. LPCS Flow	M	R	1, 2

*Surveillance of the OPERABLE Tailpipe Temperature instrument channel for SRV MS-RV-2D will be performed daily until the acoustic monitor for that valve is once again declared OPERABLE.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 47 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 October 13, 1987 the Washington Public Power Supply System proposed a change to Table 3.3.7.5-1 of the Technical Specifications for WNP-2. The table sets forth operability requirements for accident monitoring instrumentation. Specifically with regard to Safety/Relief Valve Position indicators it is required that there be two instrument channels per valve and that a minimum of one channel per valve be operable. With less than two channels per valve operable, the licensee must restore the inoperable channel to operable status within seven days or be in at least hot shutdown within the next twelve hours.

On Saturday, October 10, 1987 at 4:04 pm hours (PDT), the licensee declared the acoustic monitor channel for relief valve MS-RV-2D inoperable due to spurious "valve-open" signals. This placed the licensee in the seven day action period with repair of the channel or plant shutdown required by Saturday, October 17, 1987. The licensee has determined that the plant will be required to be shut down and cooled down to repair or replace the acoustic monitor to restore the channel to operability.

The proposed change permits continued operation of the plant with one channel (the acoustic monitor) for the specified relief valve inoperable until the next refueling outage, scheduled for no later than May 15, 1988, or until the first forced outage prior to that date which is of sufficient duration to effect repair/replacement.

Table 4.3.7.5-1 of the technical specifications will be changed to specify daily surveillance of the remaining operable channel until the acoustic monitor channel is restored to an operable condition.

The licensee has determined that the loss of position indication does not reduce the capability of the safety relief valve to perform its intended function.

2.0 EVALUATION

TMI Action Plan Item II.D.3 "Direct Indication of Relief and Safety-valve Position" requires that "Reactor coolant system relief and safety valves shall be provided with a positive indication in the control room derived from a reliable valve-position detection device or a reliable indication of flow in the discharge pipe." The technical specifications for WNP-2 require two instrumentation channels for providing this information on valve position. One channel utilizes an acoustic monitor. The second channel utilizes thermocouples to detect a temperature increase indicative of flow past the valve. The staff in its review of the licensee's evaluation considered the basis for the TMI Action Plan requirement and the continued capability at WNP-2 to satisfy the requirement with the inoperable acoustic monitor position indicator.

The staff concurs that the capability of the relief valve to perform its safety function is not impaired by the loss of position indication. The review has focused on the capability of the alternatives for providing accurate position indication in the absence of the acoustic monitor.

The licensee has proposed the following mitigating and compensatory measures to provide assurance that the valve position is reliably detected and indicated:

1) The incorrect indication is spurious by nature. After a short period of time, as well as immediately after being reset, the acoustic monitor reflects the accurate position of the Safety Relief Valve (SRV). The acoustic monitoring channel will remain in operation as long as the indications are spurious. If the channel deteriorates to the point that it becomes a nuisance to Plant Operations, it will be disconnected. Previous testing performed on a channel exhibiting similar problems demonstrated the channel functioned during an SRV actuation.

2) The second instrumentation channel for valve position utilizes tail pipe temperature. Tail pipe temperature indication is monitored and recorded. An increase in temperature would indicate that the valve is open and steam is entering the suppression pool via the tail pipe. This indication has remained within its normal operating range since the spurious action was identified.

   Channel checks of the temperature recorder are currently performed monthly per Technical Specification 3/4.3.7.5. While the acoustic monitor is declared inoperable, the tail pipe temperature surveillance will be performed daily instead of monthly.

The acoustic monitor channel was alarmed. A design change is currently being expedited to add a control room annunciator to alarm on high tail pipe temperature (greater than 250 degrees Fahrenheit). This annunciator will be operational by October 16, 1987. An annunciator response procedure will be written for the additional tail pipe temperature alarm that will uniquely identify appropriate actions for MS-RV-2D.

3) Suppression Pool temperature indication is available and is set to alarm at 85 degrees Fahrenheit. An increase in suppression pool temperature would indicate an open SRV.

4) Suppression Pool level indication is available and is set to alarm at one half inch above Normal Level (466.25 feet). An increase in suppression pool level would indicate an open SRV.

5) Other plant parameters are affected by an SRV actuation and are available as confirmation. Examples are main turbine governor valve position indication change, generator output change, main turbine steam flow change and the resultant reactor pressure perturbation.

3.0 EMERGENCY CIRCUMSTANCES

Spurious indication of the acoustic monitor has only recently been identified. The licensee declared the monitor inoperable at 4:05 p.m. PDT on Saturday, October 10, 1987. This could not have been anticipated. The licensee has determined that repair will require that the reactor be shut down and cooled down in order to permit drywell entry. The licensee has therefore requested an emergency temporary change to the Technical Specifications to allow continued operation until the next outage of adequate duration to make the needed repairs. At the latest, this will be the next refueling outage, scheduled to begin prior to May 15, 1988.

4.0 FINAL NO SIGNIFICANT HAZARDS DETERMINATION

The Commission's regulations in 10 CFR 50.92 state that the Commission may make a final determination that a license amendment involves no significant hazards consideration if operation of the facility in accordance with the amendment would not:

(1) Involve a significant increase in the probability or consequence of an accident previously evaluated; or

(2) Create the possibility of a new or different kind of accident from any accident previously evaluated; or

(3) Involve a significant reduction in a margin of safety.

Based on the availability of alternative methods to determine if safety relief valve MS-RV-2D is open or closed, and on the compensatory action being taken to perform the surveillance of the operable channel daily instead of monthly and to provide an alarm on that operable channel, we have determined that the amendment meets the above criteria.

The requested amendment does not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated because inadvertent opening of a safety relief valve was analysed in FSAR Section 15.1.4. With the compensatory measures noted, the inoperability of the acostic/monitor position indicator does not affect the probability or consequence of inadvertent valve operation; or (2) create the possibility of a new or different type of accident than previously evaluated because the confirmatory devices identified above under the discussion of compensatory actions will allow the operator to recognize that a relief valve is not closed; or (3) involve a significant reduction in a margin of safety because more frequent surveillance of the single channel (daily as opposed to monthly when two channels were operable) should enhance the reliability of the thermocouple channel and compensate for the inoperability of the acoustic monitor channel.

Accordingly, we conclude that the license amendment involves no significant hazards consideration.

5.0 STATE CONSULTATION

The State of Washington was provided a copy of the license amendment application on October 14 and was advised by NRC staff that the application would be processed on an emergency basis.

6.0 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 and changes in surveillance requirements. 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. 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.

7.0 CONCLUSION

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, and (2) such activities will be conducted in compliance with the Commission's regulations and 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: October 16, 1987