



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555  
March 27, 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

Dear Mr. Sorensen:

Subject: Issuance of Amendment No. 38 to Facility Operating  
License No. NPF-21 - WPPSS Nuclear Project No. 2

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 38 to Facility Operating License No. 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 July 10, 1986.

This amendment revises WNP-2 Technical Specification 3.4.2 (Safety/Relief Valves) and Bases Section 3/4.4.2 to reflect revised safety/relief valve set-point tolerances for all 18 valves and to reflect a revised setpoint for 2 valves.

A copy of the related safety evaluation supporting Amendment No. 38 to Facility Operating License No. NPF-21 is enclosed.

Sincerely,

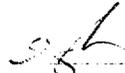
Elinor G. Adensam, Director  
BWR Project Directorate No. 3  
Division of BWR Licensing

Enclosures:

1. Amendment No. 38 to Facility Operating License No. NPF-21
2. Safety Evaluation

cc w/enclosures:  
See next page

DESIGNATED ORIGINAL

Certified By 

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PDR ADOCK 05000397  
P PDR

Mr. C. J. Sorenson, Manager  
Washington Public Power Supply System

WPPSS Nuclear Project No. 2  
(WNP-2)

cc:

Nicholas S. Reynolds, Esq.  
Bishop, Liberman, Cook,  
Purcell & Reynolds  
1200 Seventeenth Street, N.W.  
Washington, D.C. 20036

Regional Administrator, Region V (4)  
U.S. Nuclear Regulatory Commission  
1450 Maria Lane, Suite 210  
Walnut Creek, California 94596

Mr. G. E. Doupe, Esquire  
Washington Public Power Supply System  
P. O. Box 968  
3000 George Washington Way  
Richland, Washington 99352

Mr. Curtis Eschels, Chairman  
Energy Facility Site Evaluation Council  
Mail Stop PY-11  
Olympia, Washington 98504

Mr. P. L. Powell, Licensing Manager  
Washington Public Power Supply System  
P. O. Box 968, MD 956B  
Richland, Washington 99352

Resident Inspector  
U. S. Nuclear Regulatory Commission  
P. O. Box 69  
Richland, Washington 99352

R. B. Glasscock, Director  
Licensing and Assurance  
Washington Public Power Supply System  
P. O. Box 968, MD 280  
Richland, Washington 99352

Mr. C. M. Powers  
WNP-2 Plant Manager  
Washington Public Power Supply System  
P. O. Box MD 927M  
Richland, Washington 99352



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. 38  
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 July 10, 1986, 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. 38, 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



Elinor G. Adensam, Director  
BWR Project Directorate No. 3  
Division of BWR Licensing

Enclosure:  
Changes to the Technical  
Specifications

Date of Issuance: March 27, 1987

ENCLOSURE TO LICENSE AMENDMENT NO. 38

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 area of change.

REMOVE

xiii  
3/4 4-7  
B 3/4 4-1  
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INSERT

xiii  
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B 3/4 4-1  
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## REACTOR COOLANT SYSTEM

### 3/4.4.2 SAFETY/RELIEF VALVES

#### LIMITING CONDITION FOR OPERATION

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3.4.2 The safety valve function of at least 12 of the following reactor coolant system safety/relief valves shall be OPERABLE with the specified code safety valve function lift settings:\*

- 2 safety/relief valves @ 1150 psig +1%/-3%
- 4 safety/relief valves @ 1175 psig +1%/-3%
- 4 safety/relief valves @ 1185 psig +1%/-3%
- 4 safety/relief valves @ 1195 psig +1%/-3%
- 4 safety/relief valves @ 1205 psig +1%/-3%

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

- a. With the safety valve function of one or more of the above required safety/relief valves inoperable, be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.
- b. With one or more safety/relief valves stuck open, provided that suppression pool average water temperature is less than 90°F, close the stuck open safety/relief valve(s); if unable to close the open valve(s) within 2 minutes or if suppression pool average water temperature is 110°F or greater, place the reactor mode switch in the Shutdown position.
- c. With one or more safety/relief valve acoustic monitors inoperable, restore the inoperable monitor(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

#### SURVEILLANCE REQUIREMENTS

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4.4.2 The acoustic monitor for each safety/relief valve shall be demonstrated OPERABLE by performance of a:

- a. CHANNEL CHECK at least once per 31 days, and a
- b. CHANNEL CALIBRATION at least once per 18 months.\*\*

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\*The lift setting pressure shall correspond to ambient conditions of the valves at nominal operating temperatures and pressures.

\*\*The provisions of Specification 4.0.4 are not applicable provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the test.

### 3/4.4 REACTOR COOLANT SYSTEM

#### BASES

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#### 3/4.4.1 RECIRCULATION SYSTEM

Operation with one reactor recirculation loop inoperable has been evaluated and been found to be acceptable during the first fuel cycle only, provided the unit is operated in accordance with the single recirculation loop operation Technical Specifications herein.

An inoperable jet pump is not, in itself, a sufficient reason to declare a recirculation loop inoperable, but it does, in case of a design-basis-accident, increase the blowdown area and reduce the capability of reflooding the core; thus, the requirement for shutdown of the facility with a jet pump inoperable. Jet pump failure can be detected by monitoring jet pump performance on a prescribed schedule for significant degradation.

Recirculation loop flow mismatch limits are in compliance with the ECCS LOCA analysis design criteria. The limits will ensure an adequate core flow coastdown from either recirculation loop following a LOCA. Where the recirculation loop flow mismatch limits cannot be maintained during two recirculation loop operation, continued operation is permitted in the single recirculation loop operation mode.

In order to prevent undue stress on the vessel nozzles and bottom head region, the recirculation loop temperatures shall be within 50°F of each other prior to startup of an idle loop. The loop temperature must also be within 50°F of the reactor pressure vessel coolant temperature to prevent thermal shock to the recirculation pump and recirculation nozzles. Since the coolant in the bottom of the vessel is at a lower temperature than the coolant in the upper regions of the core, undue stress on the vessel would result if the temperature difference was greater than 145°F.

#### 3/4.4.2 SAFETY/RELIEF VALVES

The safety valve capacity is designed to limit the primary system pressure, including transients, in accordance with the requirements of the ASME Boiler and Pressure Vessel Code, Section III, 1971, Nuclear Power Plant components (up to and including Summer 1971 Addenda). The Code allows a peak pressure of 110% of design pressure (1250 (design) X 1.10 = 1375 psig maximum) under upset conditions. In addition, the Code specifications require that the lowest valve setpoint be at or below design pressure and the highest valve setpoint be set so that total accumulated pressure does not exceed 110% of the design pressure.

The safety valve sizing evaluation assumes credit for operation of the scram protective system which may be tripped by one of two sources; i.e., a direct position switch or neutron flux signal. The direct scram signal is derived from position switches mounted on the main steamline isolation valves (MSIV's) or the turbine stop valve, or from pressure switches mounted on the dump valve of the turbine control valve hydraulic actuation system. The position switches are actuated when the respective valves are closing, and following 10% travel of full stroke. The pressure switches are actuated when a fast closure of the control valves is initiated. Further, no credit is taken for power operation of the pressure relieving devices. Credit is only taken for

## REACTOR COOLANT SYSTEM

### BASES

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#### 3/4.4.2 SAFETY/RELIEF VALVES (Continued)

the dual purpose safety/relief valves in their ASME Code qualified mode (spring lift) of safety operation.

The overpressure protection system must accommodate the most severe pressurization transient. There are two major transients that represent the most severe abnormal operational transient resulting in a nuclear system pressure rise. The evaluation of these events with the final plant configuration has shown that the MSIV closure is slightly more severe when credit is taken only for indirect derived scrams; i.e., a flux scram. Utilizing this worse case transient as the design basis event, a minimum of 12 safety/relief valves are required to assure peak reactor pressure remains within the Code limit of 110% of design pressure.

Demonstration of the safety/relief valve lift settings will occur only during shutdown and will be performed in accordance with the provisions of Specification 4.0.5.

#### 3/4.4.3 REACTOR COOLANT SYSTEM LEAKAGE

##### 3/4.4.3.1 LEAKAGE DETECTION SYSTEMS

The RCS leakage detection systems required by this specification are provided to monitor and detect leakage from the reactor coolant pressure boundary. These detection systems are consistent with the recommendations of Regulatory Guide 1.45, "Reactor Coolant Pressure Boundary Leakage Detection Systems," May 1973.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 38 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 from G. C. Sorensen to E. G. Adensam dated July 10, 1986, the Washington Public Power Supply System submitted a proposed change to Specification 3.4.2 of the Nuclear Project No. 2 (WNP-2) Technical Specifications. The proposed changes are to revise the setpoints for 2 safety/relief valves (SRVs) and to revise the setpoint tolerances for all 18 SRVs in the WNP-2 Technical Specifications. The licensee also proposed changes to Bases Section 3/4.4.2, the applicable bases section.

2.0 EVALUATION

WNP-2 uses 18 Crosby safety relief valves for overpressure protection. The Crosby safety relief valves have a setpoint opening scatter band range of 4 percent which was measured during qualification testing of the valves. The present setpoint tolerance in the Technical Specification is  $\pm 1$  percent. The licensee is requesting that Technical Specification 3.4.2 be revised to use the scatter band of the qualification test for the setpoint tolerances of +1 percent and -3 percent.

The licensee is also proposing that the setpoints for two safety relief valves be changed from 1148 psig to 1150 psig to be consistent with the General Electric design documents. Presently, the setpoints for the 18 safety relief valves are as follows: 4 at 1205 psig, 4 at 1195 psig, 4 at 1185 psig, 4 at 1175 psig, and 2 at 1148 psig.

The overpressure protection evaluation considers only the maximum or upper value of the opening pressures of the safety relief valves, which will be maintained by the proposed upper tolerance limit of 1 percent. The plant operating pressure is 1020 psig. The lower tolerance limit of -3 percent would actuate a safety relief valve for the minimum setting at about 1115 psig during plant operation. This lower tolerance provides adequate simmer margin which will reduce the potential for spurious openings. This simmer margin is the difference between the lowest safety relief valve set pressure and the reactor pressure vessel operating pressure.

Based on our review of the information provided by the licensee, the staff concludes that the proposed changes do not affect the overpressure protection analyses or plant performance, and therefore, are acceptable.

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### 3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the 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 CONCLUSION

The Commission made a proposed determination that the amendment involves no significant hazards consideration which was published in the Federal Register (51 FR 32282) on September 10, 1986, and consulted with the state of Washington. No public comments were received, and the state of Washington did not have any comments.

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: Y. Li, NRR

Dated: March 27, 1987

AMENDMENT NO. 38 TO FACILITY OPERATING LICENSE NO. NPF-21  
WPPSS NUCLEAR PROJECT NO. 2

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