

March 30, 1989

Docket No. 50-397

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

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Dear Mr. Sorensen:

SUBJECT: ISSUANCE OF AMENDMENT NO. 66 TO FACILITY OPERATING LICENSE  
NO. NPF-21 - WPPSS NUCLEAR PROJECT NO. 2 (TAC NO. 71390)

The U.S. Nuclear Regulatory Commission has issued the enclosed amendment 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 December 2, 1988 as supplemented by your submittal of February 1, 1989. This amendment revises technical specification surveillance requirement 4.8.1.1.2.e.7 regarding verification that automatic diesel generator trips are bypassed upon an accident signal.

On February 2, 1989 NRC granted a temporary waiver of compliance with the technical specification to permit continued operation while we performed our review of the amendment request. The temporary waiver was to be valid for no more than ninety days. Issuance of this amendment precludes the need for the waiver. Accordingly, the waiver is hereby terminated.

A copy of the related safety evaluation supporting the amendment is enclosed. A Notice of Issuance 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. 66 to Facility Operating License No. NPF-21
- 2. Safety Evaluation

cc: w/enclosures  
See next page

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

March 30, 1989

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Regulatory Programs  
Washington Public Power Supply System  
P.O. Box 968  
3000 George Washington Way  
Richland, Washington 99352

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Sincerely,

A handwritten signature in cursive script, reading "Robert B. Samworth".

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. 66 to Facility  
Operating License No. NPF-21
2. Safety Evaluation

cc: w/enclosures  
See next page

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

WPPSS Nuclear Project No. 2  
(WNP-2)

cc:

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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. 66  
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 licensee), dated December 2, 1988 as supplemented by letter dated February 1, 1989 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 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. 66, 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

Attachment:  
Changes to the Technical  
Specifications

Date of Issuance: March 30, 1989

ENCLOSURE TO LICENSE AMENDMENT NO. 66

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. Also to be replaced are the following overleaf pages.

AMENDMENT PAGE

3/4 8-6

OVERLEAF PAGE

3/4 8-5

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

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4. Simulating a loss-of-offsite power by itself, and:
  - a) For divisions 1 and 2:
    - 1) Verifying deenergization of the emergency busses and load shedding from the emergency busses.
    - 2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the autoconnected shutdown loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the shutdown loads. After energization, the steady state voltage and frequency of the emergency busses shall be maintained at  $4160 \pm 420$  volts and  $60 \pm 3.0$  Hz during this test.
  - b) For division 3:
    - 1) Verifying deenergization of the emergency bus.
    - 2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency bus with the permanently connected loads within 13 seconds and operates for greater than or equal to 5 minutes while its generator is loaded with the shutdown loads. After energization, the steady-state voltage and frequency of the emergency bus shall be maintained at  $4160 \pm 420$  volts and  $60 \pm 3.0$  Hz during this test.
5. Verifying that on an ECCS actuation test signal, without loss-of-offsite power, the diesel generator starts on the auto-start signal and operates on standby for greater than or equal to 5 minutes. The generator voltage and frequency shall be  $4160 (+420, -250)$  volts for DG-1 and DG-2,  $4160 \pm 420$  volts for DG-3 and  $60 \pm 3.0$  Hz within 10 seconds for DG-1 and DG-2 and 13 seconds for DG-3 after the auto-start signal; the steady-state generator voltage and frequency shall be maintained within  $4160 \pm 420$  volts and the above frequency limit during this test.
6. Simulating a loss-of-offsite power in conjunction with an ECCS actuation test signal, and:
  - a) For divisions 1 and 2:
    - 1) Verifying deenergization of the emergency busses and loads shedding from the emergency busses.
    - 2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected loads through the load sequencer and operates

## ELECTRICAL POWER SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady state voltage and frequency of the emergency busses shall be maintained at  $4160 \pm 420$  volts and  $60 \pm 3.0$  Hz during this test.

b) For division 3:

- 1) Verifying deenergization of the emergency bus.
  - 2) Verifying the diesel generator starts on the auto-start signal, energizes the emergency bus with the permanently connected loads and the auto-connected emergency loads within 30 seconds and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After energization, the steady state voltage and frequency of the emergency bus shall be maintained at  $4160 \pm 420$  volts and  $60 \pm 3.0$  Hz during this test.
7. Verifying that all automatic diesel generator division 1, 2, and 3 trips are automatically bypassed upon an ECCS actuation signal except engine overspeed, generator differential current, incomplete starting sequence and emergency manual stop.
8. Verifying the diesel generator operates for at least 24 hours. During the first 2 hours of this test, the diesel generator shall be loaded to greater than or equal to 4650 kW for DG-1 and DG-2 and 2850 kW for DG-3. During the remaining 22 hours of this test, the diesel generator shall be loaded to 4400 kW for DG-1 and DG-2 and 2600 kW for DG-3. The generator voltage and frequency shall be 4160 (+420, -250) volts for DG-1 and DG-2,  $4160 \pm 420$  volts for DG-3 and  $60 \pm 3.0$  Hz within 10 seconds for DG-1 and DG-2 and 13 seconds for DG-3 after the start signal; the steady-state generator voltage and frequency shall be maintained within  $4160 \pm 420$  volts and the above frequency limit during this test.

Within 5 minutes after completing this 24-hour test, perform Surveillance Requirement 4.8.1.1.2.e.4.a)2) and b)2).\*

\*If Surveillance Requirements 4.8.1.1.2.e.4.a)2) and/or b)2) are not satisfactorily completed, it is not necessary to repeat the preceding 24-hour test. Instead, the diesel generator may be operated at 4400 kW for DG-1 or DG-2 or 2600 kW for DG-3 for 1 hour or until operating temperature has stabilized.



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
SUPPORTING AMENDMENT NO. 66 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 2, 1988, Washington Public Power Supply System proposed certain changes to the Technical Specifications for Nuclear Project No. 2. Supplemental information was provided by letter dated February 1, 1989.

The proposed amendment would change surveillance requirement 4.8.1.1.2.e.7 which is part of the demonstration of operability of the diesel generators. The current surveillance requirement prescribes that upon loss of voltage on the emergency bus concurrent with an emergency core cooling system (ECCS) actuation signal, all division 3 automatic diesel generator trips will be bypassed except engine overspeed, generator differential current, and manual stop. For division 1 and 2 diesels, the incomplete start sequence trip is also retained. The proposed amendment would show that the bypass occurs on the ECCS actuation signal. It would also include the incomplete start sequence in the set of trips not bypassed for division 3 on the ECCS actuation signal.

Because the configuration of the trip and trip bypass circuitry, as installed, is consistent with the proposed amendment but not consistent with the existing surveillance requirement, the licensee determined on February 1 that the division 3 diesel generator is inoperable in accordance with the current surveillance requirement. The February 1 submittal requested relief from the technical specification to avoid the need for immediate shutdown.

The licensee argued in the December 2, 1988 letter that sections 8.3.1.1.8.1.8 and 8.3.1.1.8.2.8 of the plant's FSAR accurately reflect plant design. The FSAR describes the trip and trip bypasses to be as in the proposed amendment rather than as in the existing technical specification. The licensee contended that the intent of the proposed changes is to bring the technical specifications into agreement with the FSAR and the as-built condition of the plant.

By letter dated February 2, 1989 NRC granted a temporary waiver of compliance with the surveillance requirement to permit WNP-2 to continue operation while the proposed amendment was being reviewed. This temporary waiver was based on staff concurrence with the licensee's determination that the facility could be operated safely during the review period.

## 2.0 EVALUATION

The licensee's proposed change to delete the coincidence on the loss of emergency bus voltage as part of the automatic signal which bypasses the division 1, 2, and 3 diesel generator trips is necessary to bring the technical specifications into agreement with the as built plant design and FSAR description. This change is acceptable on the basis that initiation of the diesel generator trip bypasses by the ECCS actuation signal is consistent with staff requirements and guidance.

The licensee's second proposed change, that is, to retain the incomplete start sequence trip for division 3, is a technical change encompassed by Regulatory Guide 1.9, "Selection, Design, and Qualification of Diesel-Generator Units Used as Standby (Onsite) Electric Power Systems at Nuclear Power Plants." Regulatory Position 7 of that regulatory guide states that "Either (1) a trip should be implemented with two or more independent measurements for each trip parameter with coincident logic provisions for trip actuation, or (2) a trip may be bypassed under accident conditions..."

In the February 1, 1989 letter the licensee stated that the incomplete start sequence trip is generated on coincident, diverse inputs from a diesel generator speed sensor and a diesel generator jacket water pressure switch. This design eliminates the potential for spurious tripping of the diesel generator due to failure of one of the measured inputs (speed or water pressure) which is the concern addressed by Regulatory Position 7 of Regulatory Guide 1.9.

This change is therefore acceptable on the basis that the as-built plant configuration is consistent with the staff guidance provided in Regulatory Guide 1.9 and that the proposed change is consistent with the as-built facility.

## 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 (54 FR 8041, February 24, 1989) 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)(10). 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 and consulted with the State of Washington. No public comments were received, and the State of Washington did not have any comment.

#### 5.0 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 (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: Frederick H. Burrows, SELB/DEST

Dated: March 30, 1989