

September 18, 1991

Docket File

Docket No. 50-397

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

Dear Mr. Sorensen:

SUBJECT: ISSUANCE OF AMENDMENT FOR THE WASHINGTON PUBLIC POWER SUPPLY SYSTEM (WPPSS) NUCLEAR PROJECT NO. 2 (TAC NO. 71427)

The Commission has issued the enclosed Amendment No. 95 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 December 12, 1988 (G02-88-264).

The amendment modifies the Radioactive Gaseous Effluent Monitoring Instrumentation Table 3.3.7.12-1 of the technical specifications to allow operation of the main condenser off-gas treatment system with one of the two redundant hydrogen monitors inoperable without entering the associated action statement.

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

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Enclosures:

1. Amendment No.95 to NPF-21
2. Safety Evaluation

cc w/enclosures:
See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555

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Sincerely,

A handwritten signature in cursive script that reads "Patricia L. Eng".

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

Enclosures:

1. Amendment No. 95 to NPF-21
2. Safety Evaluation

cc w/enclosures:
See next page

Mr. G. C. Sorensen
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. 95
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 December 12, 1988 (G02-88-264), 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. 95 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



James E. Dyer, 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: September 18, 1991

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 95 TO 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 vertical lines indicating the areas of change. The corresponding overleaf page is also provided to maintain document completeness.

REMOVE

3/4 3-91

INSERT

3/4 3-91

TABLE 3.3.7.12-1 (Continued)

TABLE NOTATIONS

*At all times.

**During main condenser offgas treatment system operation.

#Radwaste Building Ventilation Exhaust fan. There are 3 fans; WEA-FN-1A, WEA-FN-1B and WEA-FN-1C.

ACTION STATEMENTS

- ACTION 110 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided that grab samples are taken at least once per 8 hours and analyzed for noble gas gamma emitters within 24 hours.
- ACTION 111 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, operation of main condenser offgas treatment system may continue for up to 30 days provided that grab samples are collected at least once per 4 hours and analyzed within the following 4 hours. If the recombiner temperature remains constant and THERMAL POWER has not changed, the grab sample collection frequency may be changed to 8 hours.
- ACTION 112 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided that within 4 hours after the channel has been declared inoperable samples are continuously collected with auxiliary sampling equipment as required in Table 4.11-2.
- ACTION 113 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway may continue for up to 30 days provided that the flow rate is estimated at least once per 4 hours.
- ACTION 114 - With the number of channels operable less than required by the Minimum Channels OPERABLE requirement, gases from the main condenser offgas treatment system may be released to the environment for up to 72 hours provided:
- a. The offgas treatment system is not bypassed, and
 - b. The offgas post-treatment monitor used in a pretreatment-function shall be OPERABLE.*
- ACTION 115 - With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, effluent releases via this pathway shall be terminated.

*With the offgas post-treatment monitor in a pretreatment function unavailable or inoperable, install a temporary replacement ionization chamber for the pretreatment monitor or be in HOT STANDBY within the following 12 hours.

TABLE 3.3.7.12-1 (Continued)

RADIOACTIVE GASEOUS EFFLUENT MONITORING INSTRUMENTATION

<u>INSTRUMENT</u>	<u>MINIMUM CHANNELS OPERABLE</u>	<u>APPLICABILITY</u>	<u>ACTION</u>
5. Radwaste Building Ventilation Exhaust			
a. Noble Gas Activity Monitor			
1) Low Range	1	*	110
2) Intermediate Range	1	*	110
b. Iodine Sampler	1	*	112
c. Particulate Sampler	1	*	112
d. Effluent System Flow Rate Measurement Device #	1	*	115
e. Sampler Flow Rate Monitor	1	*	113
6. Main Condenser Off-Gas Treatment Explosive Gas Monitoring System			
a. Hydrogen Monitor	1	**	111



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 95 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 12, 1988 (G02-88-264), Washington Public Power Supply System submitted a request for changes to the Technical Specifications (TS) for Nuclear Project No. 2. The proposed changes would modify the Radioactive Gaseous Effluent Monitoring Instrumentation Table 3.3.7.12-1 of the technical specifications to allow operation of the main condenser off-gas treatment system without the associated action statement when one of the two redundant hydrogen monitors is inoperable. Presently, both hydrogen monitors must be operable. In the event of a failure or the need to perform maintenance necessitating shutdown of one monitor, the associated action statement requires sampling and analysis of the process stream at a minimum of eight hour intervals.

2.0 EVALUATION

Hydrogen and oxygen are produced in a BWR by the radiolysis of water. The hydrogen and oxygen produced, along with fission product and other noncondensable gases, are removed from the main condenser by a steam jet air ejector and exhausted to the off-gas treatment system. A catalytic recombiner is provided in the off-gas treatment system to recombine hydrogen and oxygen. Hydrogen concentration upstream of the recombiner is kept below the flammable limit (4 volume percent) by steam dilution.

Two parallel independent hydrogen analyzers measure the hydrogen content of the off-gas process flow downstream of the recombiner and off-gas condenser. The hydrogen concentration measured in volume percent is indicated and recorded in the control room. The hydrogen analyzer output is also provided to an independent alarm annunciator for high hydrogen concentration. Calibration checks are accomplished automatically at periodic intervals by isolating the off-gas process line and admitting a calibration gas. The main condenser vacuum provides the motive force to draw the sample from the off-gas process line through the analyzers.

The Washington Public Power Supply System Nuclear Plant No. 2 (WNP-2) Final Safety Analysis Report (FSAR) states that the pressure boundary of the off-gas treatment system is designed to be detonation resistant. The system design eliminates detonation sources so that a detonation is highly unlikely, even in the event of a recombiner failure.

This evaluation is based on the guidance contained in Standard Review Plan (SRP) 10.4.2. This SRP directs that, if there is a potential for explosive mixtures to exist, the off-gas system should be designed to withstand the effects of an explosion and provide instrumentation to detect and annunciate the buildup of potentially explosive mixtures. Dual instrumentation is prescribed if the system is not designed to withstand the effects of a hydrogen/oxygen explosion.

The proposed amendment to the WNP-2 TSs permits operation of the main condenser off-gas treatment system with one of two installed hydrogen analyzers operable without entering the associated action statement. This action statement currently allows operation of the main condenser off-gas system to continue for up to 30 days with one or more hydrogen monitors inoperable. In this situation, the action statement requires grab samples of the off-gas process stream be collected at least once every four hours (eight hours if recombiner temperature and thermal power have not changed) and analyzed for hydrogen within the following four hours. The proposed TS change would only require grab samples and analysis when no hydrogen monitor is operable. It is the licensee's position that the required grab samples provide no enhancement to plant operation or safety with one or more hydrogen monitors in operation. The NRC staff has reviewed and agrees with the licensee's position.

Since the WNP-2 FSAR states that the pressure boundary of the off-gas treatment system is designed to be detonation resistant, only a single hydrogen monitor is necessary to meet the guidance of the SRP to indicate hydrogen concentration and alarm a potentially explosive condition. The proposed TS amendment satisfies the SRP guidance and provides adequate assurance that a means of detecting an explosive hydrogen concentration will be available whenever the main condenser off-gas system is in operation. The staff finds the proposed TS amendment acceptable.

3.0 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.

4.0 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 or change a surveillance requirement. 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 (55 FR 6125). 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.

5.0 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 Contributor: S. Jones

Date: September 18, 1991