UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

April 9, 1993

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 NUCLEAR PROJECT NO. 2 (TAC NO. M86106)

The Commission has issued the enclosed Amendment No. 114 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 April 1, 1993.

The amendment adds a footnote to TS 3.7.3, "Reactor Core Isolation Cooling System," that allows plant operation to continue with the Reactor Core Isolation Cooling (RCIC) automatic transfer of the suction path to the suppression pool disabled until May 17, 1993, or the beginning of the 1993 refueling outage, whichever comes first. The change was requested on an emergency basis when you discovered a postulated single failure that could result in a containment bypass path after RCIC actuation with subsequent automatic transfer of the RCIC suction to the suppression pool.

With issuance of this TS, the staff is no longer exercising discretion not to enforce compliance with the action statement of TS 3.7.3. Approval of this TS is contingent on your commitment, stated in your April 1, 1993 application, to not enter the limiting condition for operation (LCO) for the High Pressure Core Spray (HPCS) system to perform preventative maintenance or conduct other activities on the HPCS system that could be deferred until the refueling outage.

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A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance and Final Determination of No Significant Hazards Consideration and Opportunity for Hearing will be included in the Commission's next regular biweekly Federal Register notice.

Sincerely,

Shein R Peterson

for James W. Clifford, Senior Project Manager
Project Directorate V
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 114 to NPF-21
2. Safety Evaluation

cc w/enclosures:
See next page

A copy of the related Safety Evaluation is also enclosed. A Notice of Issuance and Final Determination of No Significant Hazards Consideration and Opportunity for Hearing will be included in the Commission's next regular biweekly Federal Register notice.

Sincerely,

Original signed by
Sheri R. Peterson for

James W. Clifford, Senior Project Manager
Project Directorate V
Division of Reactor Projects III/IV/V
Office of Nuclear Reactor Regulation

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OFFICIAL RECORD COPY DOCUMENT NAME: WNP86106.AMD

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

WPPSS Nuclear Project No. 2
(WNP-2)

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

DOCKET NO. 50-397

NUCLEAR PROJECT NO. 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 114
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 April 1, 1993, 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. 114 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

Steven R Peterson for

Theodore R. Quay, 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: April 9, 1993

ATTACHMENT TO LICENSE AMENDMENT

AMENDMENT NO. 114 TO 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. The corresponding overleaf pages are also provided to maintain document completeness.

REMOVE	INSERT
3/4 7-8	3/4 7-8

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that on each of the below pressurization mode actuation test signals, the train automatically switches to the pressurization mode of operation and the control room is maintained at a positive pressure of 1/8 inch water gauge relative to the outside atmosphere during train operation at a flow rate less than or equal to 1000 cfm:

   a) Drywell pressure-high,

   b) Reactor vessel water level-low, and

   c) Reactor Building exhaust plenum-high radiation.

3. Verifying that the heaters dissipate 5.0 ± 0.5 kW when tested in accordance with ANSI N510-1980.

f. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter bank satisfies the inplace penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 while operating the train at a flow rate of 1000 cfm ± 10%.

g. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorber bank satisfies the inplace penetration and bypass leakage testing acceptance criteria of less than 0.05% in accordance with ANSI N510-1980 for a halogenated hydrocarbon refrigerant test gas while operating the train at a flow rate of 1000 cfm ± 10%.

3/4.7.3 REACTOR CORE ISOLATION COOLING SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3 The reactor core isolation cooling (RCIC) system shall be OPERABLE with an OPERABLE flow path capable of automatically taking suction from the suppression pool and transferring the water to the reactor pressure vessel.**

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3 with reactor steam dome pressure greater than 150 psig.

ACTION:

With the RCIC system inoperable, operation may continue provided the HPCS system is OPERABLE; restore the RCIC system to OPERABLE status within 14 days or be in at least HOT SHUTDOWN within the next 12 hours and reduce reactor steam dome pressure to less than or equal to 150 psig within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.7.3 The RCIC system shall be demonstrated OPERABLE:

a. At least once per 31 days by:

1. Verifying by venting at the high point vents that the system piping from the pump discharge valve to the system isolation valve is filled with water.

2. Verifying that each valve (manual, power-operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

3. Verifying that the pump flow controller is in the correct position.

b. When tested pursuant to Specification 4.0.5 by verifying that the RCIC pump develops a flow of greater than or equal to 600 gpm in the test flow path with a system head corresponding to reactor vessel operating pressure when steam is being supplied to the turbine at 1000 + 20, - 80 psig.*

*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.

**The ability of automatically taking RCIC suction from the suppression pool is not a requirement for RCIC OPERABILITY until May 17, 1993 or the beginning of the spring 1993 refueling outage when RCIC OPERABILITY is no longer required; whichever occurs first.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 114 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 April 1, 1993, Washington Public Power Supply System (Supply System) submitted a request for changes to the Technical Specifications (TS) for Washington Nuclear Project No. 2 (WNP-2). The proposed changes would add a footnote to TS 3.7.3, "Reactor Core Isolation Cooling System," that allows plant operation to continue with the Reactor Core Isolation Cooling (RCIC) automatic transfer of the suction path to the suppression pool disabled until May 17, 1993, or the beginning of the 1993 refueling outage, whichever comes first.

2.0 EVALUATION

At WNP-2, RCIC is designed to provide core cooling and to attain and maintain hot shutdown conditions following a reactor shutdown with concurrent loss of feedwater. RCIC is also designed, through the use of manually installed flexible hoses, for mitigation of Anticipated Transient Without Scram (ATWS) events, and for situations requiring remote shutdown. To meet these requirements, RCIC is maintained as a safe shutdown system, but not a safety system, at WNP-2. In addition, RCIC is used in emergency operating procedures (EOPs) as a supplemental water and boron injection supply to the reactor.

RCIC suction is normally aligned, on automatic system actuation, to the condensate storage tank (CST). The CST is not designed to withstand a design basis seismic event. RCIC is designed to switch suction paths automatically to the suppression pool on a low level in the CST. TS 3.7.3 requires RCIC to be operable with an operable flow path capable of automatically taking suction from the suppression pool and transferring the water to the reactor pressure vessel.

During a review of the safety related containment isolation portions of the RCIC system, the Supply System identified a potential single failure that could result in a flow path that provides a containment bypass leakage path from the suppression pool to an equipment drain sump in the reactor building.

The potential single failure involves a loss of Division 1 DC power that would, during a postulated accident with subsequent switch of RCIC suction path to the suppression pool, result in two valves remaining open that would allow the containment bypass. On discovering this potential condition, the licensee initially closed the RCIC suppression pool suction valve (RCIC-V-31) and deenergized its motor operator by opening the electrical supply breaker to limit the likelihood of attaining the containment bypass flow path. With this action, the licensee rendered RCIC inoperable because this deactivated the automatic transfer of RCIC suction to the suppression pool as required by TS 3.7.3. On March 19, 1993, at 2:30 pm, PST, the licensee entered the Limiting Condition for Operation (LCO) for TS 3.7.3. The LCO has a 14-day allowed outage time (AOT). This condition would still allow the licensee to manually transfer the RCIC suction to the suppression pool by having an equipment operator close the breaker, which is located in a mild environment, and manually operating the RCIC suction valve to the suppression pool from the control room.

The potential still exists that a hot short of electric cables between the breaker and the motor operator could cause the RCIC suction valve to the suppression pool to open. To fully electrically isolate this valve, the licensee would have to disconnect the power cables at the valve motor operator, located in a potentially harsh environment following postulated accident conditions. Under this condition, restoration of power to the valve motor operator would take several hours, under potentially harsh post-accident conditions. The NRC staff considers the likelihood of a hot short occurring in conjunction with an initiating event and subsequent transfer of RCIC suction to the suppression pool, during the short period until the refueling outage to be sufficiently low to accept the alternate RCIC configuration for this period.

The licensee felt it was more prudent to retain the ability to accomplish manual transfer of the RCIC suction valve to the suppression pool by leaving the power cables connected to the valve operator and leaving the breaker open. This condition would be required until the potential single failure condition could be rectified. The licensee estimated that completion of the design change would take until mid-April, and installation completed in early May. This would leave the plant in noncompliance with TS 3.7.3. for as long as 8 weeks. In addition, correcting this condition would have required RCIC to be out of service completely for an extended period of time with the plant at power.

In a March 26, 1992 letter, the licensee requested a temporary waiver of compliance for TS 3.7.3. until the spring 1993 refueling outage, or May 17, 1993, whichever came first. The NRC staff determined that it was inappropriate to allow noncompliance with the TS for this extended period of time. In an April 2, 1993 letter, the NRC staff exercised discretion not to enforce compliance with TS 3.7.3. until the licensee requested, and the staff completed its review of, a change to the TS to address the nonconforming condition.

In an April 1, 1993 letter, the licensee requested an emergency change to the TS to state that the ability of automatically taking RCIC suction from the suppression pool is not a requirement for RCIC operability until May 17, 1993, or the beginning of the spring 1993 refueling outage when RCIC operability is no longer required, whichever occurs first.

The current alignment of RCIC, with the suction valve to the suppression pool closed and the electrical power supply breaker open, electrically isolates the suction valve except for a short portion of cable between the electrical supply breaker and the valve motor operator. Under these conditions, only a hot short in this cable, causing the RCIC suction valve to open, that occurred during a period following an initiating event that causes RCIC start and subsequent automatic transfer of suction supply, with a sequential loss of the Division 1 D.C. power supply, would result in containment bypass. The staff considers the likelihood of this sequence of events to be small, providing reasonable assurance that no single failure will open this valve and the cooling water supply isolation valve to the RCIC lube oil cooler and barometric condenser under conditions that will result in containment bypass.

The alignment proposed by the licensee would provide for automatic initiation of RCIC with water supplied by the CST. The CST has a minimum level requirement in the TS that will allow RCIC to inject water for approximately four hours, which will allow use of RCIC to stabilize the plant in a hot shutdown condition following a plant shutdown. This will allow use of RCIC for its EOP-related functions. If additional cooling is required, the four hours provides sufficient time to restore power to the motor operator and realignment of the RCIC suction valve to the suppression pool. The high pressure core spray (HPCS), or the safety relief valves (SRVs) used in conjunction with residual heat removal (RHR) in the shutdown or alternate shutdown cooling modes, provide alternate means of assuring core cooling. The latter method uses systems with all components seismically qualified. The licensee also committed to not entering the LCO for HPCS to perform preventative maintenance or other activity that could be deferred until the refueling outage.

Based on the above considerations, the NRC staff finds the temporary change to the TS that allows continued operation, with the automatic transfer of RCIC suction to the suppression pool deactivated, to be acceptable.

3.0 STATEMENT OF EMERGENCY CIRCUMSTANCES

The potential containment bypass flow path resulting from a postulated single failure was identified by the licensee as a result of an ongoing Supply System program to review component safety classifications. The postulated conditions would have required plant shutdown within 14 days, which provided insufficient time to design and implement system modifications to remove the single failure vulnerability. Repair of the condition would require completely removing RCIC from service for an extended period of time, which is an undesirable condition with the plant operating at power. Therefore, this condition could not have been anticipated in a more timely manner, and could not be corrected without plant shutdown, or conducting repairs at power with significantly increased

risk with the RCIC system out of service. The licensee requested a temporary waiver of compliance from the Region. The NRC staff determined that the time period, from April 2, 1993 until no later than May 17, 1993, was an inappropriate length of time to operate in nonconformance with TS. NRR subsequently exercised discretion not to enforce compliance with the action statement of TS 3.7.3., pending submission and review of an appropriate change to the TS. The licensee requested the TS change on an emergency basis on April 1, 1993. Accordingly, pursuant to 10 CFR 50.91(a)(5), the Commission has determined that there are emergency circumstances warranting prompt approval by the Commission.

4.0 FINAL DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATION

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 that facility in accordance with the amendment would not:

(1) Involve a significant increase in the probability or consequences of any 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.

This amendment has been evaluated against the standards in 10 CFR 50.92. It does not involve a significant hazards consideration because the changes would not:

1. Involve a significant increase in the probability or consequences of any accident previously evaluated. RCIC is a nonsafety related system, designed for attaining and maintaining hot shutdown conditions following a plant shutdown. The amendment does not affect the normal standby or automatic start configuration of the RCIC system. The amendment does not, therefore, affect the probability of any accident previously evaluated. Since RCIC is a nonsafety system that is not credited in any accident analysis, the amendment does not affect the consequences of any accident previously evaluated.

2. Create the possibility of a new or different kind of accident from any accident previously evaluated. The amendment does not affect the normal standby condition or the automatic start configuration of the RCIC system. The amendment, therefore, does not affect the initial conditions, and does not introduce new system configurations, from any accident previously evaluated.

3. Involve a significant reduction in a margin of safety. RCIC is a nonsafety related system, and as such no credit is taken in

accident analyses for operation of the system, and there are no margins of safety associated with RCIC system operation. The amendment, therefore, does not affect a margin of safety.

5.0 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.

6.0 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. 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 made a final no significant hazards consideration finding regarding this amendment. 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.

7.0 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: J. W. Clifford

Date: April 9, 1993