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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 81 TO FACILITY OPERATING LICENSE NO. NPF-21

WASHINGTON PUBLIC POWER SUPPLY SYSTEM

NUCLEAR PROJECT NO. 2

DOCKET NO. 50-397

1.0 INTRODUCTION

In correspondence dated November 29, 1989 and March 21, 1990, Washington Public Power Supply System (the licensee) requested an amendment to the Technical Specifications (TS) for Washington Nuclear Plant No. 2 (WNP-2). The licensee's March 21, 1990 letter only provided information regarding the purpose of the amendment to be inserted in the basis section and did not alter the staff's initial no significant hazards determination. The proposed amendment provides an alternative to the weekly channel functional test of the Source Range Monitor/Intermediate Range Monitor (SRM/IRM) NOT-FULL-IN Control Rod (CR) Block when the following conditions exist:

1) The plant is in MODE 5 (REFUELING) operations,
2) The SRM/IRM cables are rolled up and tied out of the way in preparation for under core work,
3) A channel functional test of the NOT-FULL-IN CR Block has been performed in the previous 92 days.

The licensee's proposed alternative to the weekly channel functional test is 1) to verify visually at least once each 24 hours that all SRM/IRM detectors are fully inserted into the reactor core, and 2) to administratively control the detectors in the full in position. Administrative control is achieved by removing the fuses from the circuits connecting the SRM/IRM drive mechanisms to their power supplies to prevent SRM/IRM detector movement during this period.

2.0 EVALUATION

The SRMs and IRMs indicate neutron flux and reactor period for reactor power operations extending from shutdown conditions to the lower portion of the reactor power range. When fully inserted, the SRMs and IRMs are positioned at the axial centerline of the core, and thereby monitor the high-flux region of the reactor core. If the SRM/IRM detectors are not located at the axial centerline of the core during MODE 5 operations, control rod withdrawal would not be safe and is therefore prohibited by a SRM/IRM Detector NOT-FULL-IN signal.

To insure a CR cannot be withdrawn when the SRMs and IRMs are not fully inserted into the reactor core, the WNP-2 TS requires the licensee to test

the SRM/IRM Detector NOT-FULL-IN CR Block feature by withdrawing the SRMs and IRMs while monitoring actuation of the CR Block signal. This test must be performed every seven days while the reactor is in MODE 5 (REFUELING) operations.

During under core maintenance operations, the licensee rolls up the SRM and IRM detector cables and ties the rolled cables out of the way to prevent cable damage. The licensee states that the SRM/IRM instrument cables must be unrolled and laid out to allow unrestricted SRM/IRM detector assembly movement while conducting the SRM/IRM Detector NOT-FULL-IN CR Block channel functional test. Upon completing the tests, the cables are again rolled up and tied out of the way. This process of rolling and unrolling the cables requires approximately 8 man hours/week. Consequently, during the period when the SRM/IRM detector cables are rolled up and tied out of the way, performing the SRM/IRM Detector NOT-FULL-IN CR Block channel functional test will expose maintenance personnel to extreme work conditions and increase the exposure of maintenance personnel to radiation by 8 man hours per week.

Additionally, the licensee asserts that rolling and unrolling the SRM/IRM cables flexes the cables, causing wear points and, in turn, breaks in the cable/connector protector tube. Repairs of damaged cables in the under core region (SRM, IRM, CR, etc) during the licensee's previous outage required approximately 300 man hours labor and incurred approximately 3 man rem exposure. Exemption from the SRM/IRM Detector NOT-FULL-IN CR Block channel functional test would reduce the number of man hours spent in extreme work conditions to repair damaged cables in the under core region. The staff concurs with this conclusion.

The licensee states that visually verifying the SRM/IRM assemblies are fully inserted, and administratively prohibiting SRM/IRM movement (by removing the fuses from the SRM/IRM drive mechanism connections to the power supplies) ensure that the SRMs and IRMs will not be withdrawn from the axial midplane of the core. Consequently, the channel functional test for SRM/IRM Detector NOT-FULL-IN CR Block feature is not required because the purpose of the channel functional test is to insure CRs will not be moved if a SRM or IRM is withdrawn from the axial midplane of the core. The staff finds acceptable the licensee's conclusion that verifying SRM/IRM position and preventing movement of the SRMs and IRMs ensure that the SRM/IRM Detector NOT-FULL-IN CR Block feature is not required during this period of maintenance operations.

In summary the staff finds the proposed amendment to the technical specifications acceptable based on the licensee's proposed administrative controls and surveillances as enumerated below:

1) The licensee will perform a visual verification of the position of the SRM/IRM detector assemblies at least once each 24 hours while the SRM/IRM cables are rolled up to insure that all SRM/IRM assemblies are fully inserted into the reactor core.

2) While the SRM/IRM cables are rolled up and tied out of the way for under core maintenance operations, the licensee will administratively control the position of the detectors by removing the fuses connecting the power supplies to the SRM/IRM drive mechanisms such that the SRM/IRM detector assemblies cannot be withdrawn from their fully inserted position in the reactor core.

3) The licensee will perform a channel functional test of the SRM/IRM Detector NOT-FULL-IN CR Block function at the normal test frequency (seven days for MODE 5 operations) when the SRM/IRM cables are not rolled up for under core maintenance operations.

4) The licensee will perform a channel functional test of the SRM/IRM NOT-FULL-IN CR Block if the test has not been performed in the previous 92 days.

3.0 ENVIRONMENTAL CONSIDERATION

This amendment involves a change in the surveillance 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 CONTACT WITH STATE OFFICIAL

The Commission made a proposed determination that the amendment involves no significant hazards consideration (55 FR 4287, February 7, 1990) and consulted with the State of Washington. No public comments were received, and by letter dated March 20, 1990 the State of Washington advised that they have no 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.

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Dated: April 20, 1990