



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 104 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 February 21, 1991, Washington Public Power Supply System submitted a request for changes to the Technical Specifications (TS) for Nuclear Project No. 2. The proposed changes would extend the surveillance test intervals (STIs) and allowable out-of-service time (AOT) for certain emergency core cooling system (ECCS) and reactor core isolation cooling (RCIC) system actuation instrumentation. The proposed change is based on GE Topical Report NEDC-30936, Part 1 and Part 2 (Refs. 1 and 2). The staff has accepted these GE Topical Reports on a generic basis (Refs. 3 and 4), but each licensee was required to show specific applicability of this report to their plant. Also, each licensee was required to confirm that any increase in instrument drift due to the extended STIs is properly accounted for in the setpoint calculation methodology.

2.0 EVALUATION

The licensee's submittal requested relaxation in the AOTs and STIs for both the ECCS and RCIC systems. The GE Topical Report covers the analysis for only the ECCS instrumentation and does not include the RCIC system instrumentation. The staff's SER of the Topical Report allows the changes to the ECCS instrumentation. At the time of submittal, a GE Topical Report associated with the RCIC system actuation instrumentation (Ref. 5) had not yet been approved by the staff. The licensee subsequently submitted a request for a change to the Technical Specifications related to the RCIC system actuation instrumentation (Ref. 6). This request is currently being evaluated.

With respect to the ECCS instrumentation, the licensee has stated that they have reviewed the setpoint drift characteristics and confirmed that the setpoint will remain within existing allowances for the requested STI extension. The licensee has documented this analysis and it is available for future staff review. This satisfies one of the conditions set in the staff's SER of the GE Topical Report.

The licensee has also submitted a plant specific analysis for ECCS (Ref. 7) which identifies the differences in ECCS design, support systems, and

instrumentation between the plant specific configuration and the configuration used in the generic analysis. These differences were classified by the licensee into three categories:

- (a) differences which have no negative impact on the reliability of the ECCS and hence no analysis is required to resolve these differences;
- (b) differences which could be resolved with engineering judgment and hence only a simple study is required; and
- (c) differences which require additional analysis to evaluate the effect on ECCS reliability.

Based on this analysis, the licensee has identified only one item in category (b) where there is a difference. Where the generic model requires 3 of 8 automatic depressurization system (ADS) valves to open to achieve success, WNP-2 requires 3 of 7 ADS valves to open. Since the probability of failure in either case is very low (less than  $7E-15$  per demand), this difference has a negligible impact relative to the results obtained for the generic model.

The plant specific analysis also identified two items in category (c) where differences occurred. These items are:

- (1) the generic model has the low pressure coolant injection (LPCI) and low pressure core spray (LPCS) injection valve permissive signal from reactor pressure vessel (RPV) pressure using a "one out of two taken twice" logic, whereas WNP-2 uses one RPV pressure signal per valve for this permissive signal; and
- (2) the generic model has no ADS inhibit switch, whereas WNP-2 has an ADS inhibit switch.

The licensee has performed the analysis based on the GE Topical Report. According to this analysis the failure frequency increases by a small amount, but remains within the topical report's guidelines of acceptability as approved by the staff.

### 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 surveillance requirements. 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 (56 FR 37592). 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 staff finds acceptable the licensee's request of February 21, 1991, to amend the license for the proposed TS changes relative to ECCS actuation instrumentation. However, based on the information provided to support this submittal and the fact that the GE Topical Report associated with the RCIC system actuation instrumentation had not yet been evaluated by the staff at the time of this submittal, the request for extending the STIs and AOT for the RCIC system can not be approved. A request for making a similar change to the TS for the RCIC system is currently being evaluated as a result of another submittal (Ref. 6) by the licensee.

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.

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Date: May 15, 1992

## REFERENCES

1. GE Topical Report NEDC-30936P-A, "Technical Specification Improvement Methodology (With Documentation for BWR ECCS Actuation Instrumentation) Part 1," dated December 1988 (draft submittal November 1985)
2. GE Topical Report NEDC-30936P-A, "Technical Specification Improvement Methodology (With Documentation for BWR ECCS Actuation Instrumentation) Part 2," dated December 1988 (draft submittal July 1987)
3. Letter from Thadani, A. C., NRC to Grace, D. N., BWR Owners' Group, "General Electric Company (GE) Topical Report NEDC-30936, 'BWR Owners' Group Technical Specification Improvement Methodology (With Demonstration for BWR ECCS Actuation Instrumentation) Part 1'," dated December 9, 1988.
4. Letter from Rossi, C. E., NRC to Grace, D. N., BWR Owners' Group, "General Electric Company (GE) Topical Report NEDC-30936, 'BWR Owners' Group Technical Specification Improvement Methodology (With Demonstration for BWR ECCS Actuation Instrumentation) Part 2'," dated December 9, 1988.
5. GE Topical Report GENE-770-06-2, "Addendum to Bases for Changes to Surveillance Test Intervals and Allowed Out-of-Service Times for Selected Instrumentation Technical Specifications," dated February 1991
6. Letter to NRC from Sorenson, G. C., WPPSS (G02-91-188), dated October 15, 1991. "Nuclear Plant No. 2, Operating License NPF-21 Request for Amendment to TS 3/4.3.5 and Tables 3.3.5-1 & 4.3.5.1-1 RCIC Actuation Instrumentation and Surveillance Requirements."
7. Letter to BWR Owner's Group Technical Specification Improvement Committee Members for Cleveland Electric Illuminating Company and Washington Public Power Supply System from Rash, L. (GE), OG7-277-12, dated April 20, 1987. "Plant-Specific Technical Specification Improvement (TSI) Analysis for the Emergency Core Cooling System (ECCS)," (attachment 2, proprietary).