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SUBJECT: Application for amend to License NPF-21,changing Tech Spec 3/4.3.3 & Tables 3.3.3-1,4.3.3.1-1,3.3.5-1 & 4.3.5.1-1 re ECCS & RCIC actuation instrumentation & surveillance requirements.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

P.O. Box 968 • 3000 George Washington Way • Richland, Washington 99352

February 21, 1991
G02-91-035

Docket No. 50-397

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Gentlemen:

Subject: NUCLEAR PLANT NO. 2, OPERATING LICENSE NPF-21, REQUEST FOR AMEND. TO TS 3/4.3.3 AND TABLES 3.3.3-1, 4.3.3.1-1, 3.3.5-1 & 4.3.5.1-1 ECCS & RCIC ACTUATION INSTRUMENTATION AND SURVEILLANCE REQUIREMENTS

Reference:

1) 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)
2) Letter, C.E. Rossi (NRR) to D.N. Grace (BWROG) "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 12/9/88
3) GE Topical Report NEDC-30936P-A, "BWR Owners Group Technical Specification Improvement Methodology (With Demonstration for BWR ECCS Actuation Instrumentation) Part 1", dated December 1988 (draft submittal November 1985)
4) Letter, A.C. Thadani (NRR) to D.N. Grace (BWROG) "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
5) Letter, L. Rash (GE) to BWR Owners Group Technical Specification Improvement Committee Members for Cleveland Electric Illuminating Company and Washington Public Power Supply System, "Plant Specific Technical Specification Improvement (TSI) Analysis for the Emergency Core Cooling System (ECCS)", dated 4/20/87 (attachment 2, proprietary)

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1/1

In accordance with the Code of Federal Regulations, Title 10 Parts 50.90 and 2.101, the Supply System hereby submits a request for amendment to the WNP-2 Technical Specifications. Specifically, the Supply System is requesting that the subject sections be modified, as shown in Attachment 1, to incorporate Emergency Core Cooling System (ECCS) and Reactor Core Isolation Cooling System (RCIC) surveillance frequencies and outage times recommended in Reference 1) and found acceptable by the Staff in Reference 2). The proposed changes optimize surveillance test intervals (STIs) for improved ECCS and RCIC reliability and increase allowable outage times (AOTs). As shown in Reference 1) the increase in AOTs has negligible impact on ECCS and RCIC failure frequency yet allows more time for repair and decreases the potential for unnecessary plant shutdown. Further, the Reference 1) evaluation of the effect of other contributing factors from these changes indicates that these changes represent a net improvement in overall plant safety. Briefly the contributing factors include:

- Avoidance of inadvertent scrams
- Decreased equipment degradation due to excessive testing
- Decreased diversion of plant personnel
- Avoid inadequate allowance for repair time and the concomitant risk of working to overly restrictive deadlines.
- Avoidance of test caused failures
- Avoidance of shutdown (and the inherent risk in plant shutdowns) due to restrictive limiting conditions of operation

Additionally as noted in Reference 3) incorporation of these changes represents a net cost savings of over $40,000 per plant per year.

The Supply System as a member of the BWR Owners Group endorses the analysis submitted in References 1) and 3). Reference 3) (NEDC-30936P-A part 1) provided BWR reliability models and methodology with the demonstration case to perform plant specific evaluations of technical specification surveillance test intervals (STIs) and allowable out-of-service times (AOTs) for ECCS actuation instrumentation. The evaluation utilized reliability data, fault trees, accident sequences and computer analysis of system unavailabilities to determine changes in system unavailability due to changes in ECCS STI and AOT intervals. Since ECCS is used to inject into the core for cooling when feedwater is lost, system unavailability challenges core cooling and might lead to core damage. Core damage frequency and plant safety are then bounded in the analysis by water injection function unavailability. Hence insignificant changes in water injection unavailability due to ECCS STI and AOT interval changes would have insignificant impact on core damage frequency and plant safety. As described in Reference 3) several baseline and scoping cases were used in concert with computer codes to determine the effect of STI and AOT changes on system unavailability. Where the system unavailability change was found to be less than 1 percent the technical specification change was acceptable. This methodology was utilized in Reference 3) for the single demonstration case and found acceptable by the Staff in Reference 4).

Reference 1), however, had to include a summation of changes and resultant impact on injection availability and account for different plant configurations. The Reference 3) methodology remained the same but several modifications were made to streamline the analysis, account for the interaction of system changes, and account for different plant configurations. As a result Reference 1) justified and used an acceptance criterion of 4% change in injection unavailability or an absolute value of 1.0 X E-6 per year as acceptance criterion. Reference 1) concluded that despite the less restrictive acceptance criterion resulting from the modified methodology, the increase in unavailability was insignificant and bounded by the net increase in safety. Additionally because the RCIC and ECCS have instrumentation in common the effect of increased STI and AOT periods of the common instrumentation on RCIC availability was accounted for in the Reference 1) evaluation. This change in acceptance criterion and the Reference 1) evaluation were found acceptable by the Staff in Reference 2).

Reference 2) noted that applicants for proposed Technical Specification changes must:

> "1. Confirm the applicability of the generic analyses of NEDC-309363P (Part 2) to the plant.
>
> 2. Confirm that any increase in instrument drift due to the extended STIs is properly accounted for in the setpoint calculation methodology. (For additional information on this issue, see letter from C.E. Rossi to R.F. Janecek, dated April 27, 1988.)"

With respect to condition 1 the Supply System confirms that the generic analysis provided in Reference 1) (NEDC-30936P-A part 2) is applicable to WNP-2. Additionally Reference 5) (attached) provides a proprietary plant specific analysis supporting the application of the generic results of Reference 1) to WNP-2.

Condition 2 was clarified in the noted letter (C.E. Rossi to R.F. Janecek, dated April 27, 1988) to applicants such that:

> "To address the setpoint drift issue in the amendment proposals to extend STIs, licensees need only confirm that the setpoint drift which could be expected under the extended STIs has been studied and either (1) has been shown to remain within the existing allowance in the RPS and ESFAS instrument setpoint calculation or (2) that the allowance and setpoint have been adjusted to account for the additional expected drift. No additional information need be provided for staff review. However, records showing the actual setpoint calculation and supporting data should be retained onsite for possible future staff audit."

In response the Supply System has reviewed setpoint drift characteristics of the ECCS and RCIC instrumentation affected by this change and confirmed that the setpoints will remain within existing allowances throughout the requested surveillance test interval extensions. The analysis has been documented and is retained on file for future Staff audit.

Appropriate detailed justification for the proposed changes is provided in References 1) and 3). Reference 5) provides a plant specific analysis confirming applicability of References 1) and 3) to WNP-2. The proposed changes represent an optimization of testing targeted at reduction of ECCS and RCIC equipment problems and failures in trade for acceptably insignificant changes in system availability. As such the changes represent an enhancement of plant operations with respect to ECCS and RCIC and as summarized in Reference 1) "Summary of Results", will provide a net improvement in the overall plant safety. The Supply System concurs with this statement and provides the following in support of a no significant hazards assessment.

1) The proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated because the changes have been shown to have insignificant impact to overall ECCS and RCIC failure rates and operability. As shown by References 1) and 3) and the corresponding plant specific analyses (Reference 5), the changes do not significantly degrade the reliability of the ECCS and RCIC. Hence the probability or consequences of previously evaluated accidents are not significantly increased due to this change. To the contrary as stated in Reference 1) the changes provide a net improvement in the overall plant safety.

2) The proposed changes do not create the possibility of a new or different kind of accident from any accident previously evaluated because ECCS and RCIC function and reliability are not significantly degraded by these changes. No new modes of plant operation are introduced with these changes. No new or different kind of accident is therefore credible.

3) The proposed changes do not involve a significant reduction in a margin of safety because as shown in References 1) and 3) and attachment 2 and found acceptable by the Staff in References 2) and 4) the changes represent an overall improvement in plant safety. As such the margin of safety is enhanced by the proposed changes.

As discussed above, the Supply System considers that this change does not involve a significant hazards consideration, nor is there a potential for significant change in the types or significant increase in the amount of any effluents that may be released offsite, nor does it involve a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed change meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(C)(9) and therefore, per 10 CFR 51.22(b), an environmental assessment of the change is not required.

This Technical Specification change has been reviewed and approved by the WNP-2 Plant Operations Committee (POC) and the Supply System Corporate Nuclear Safety Review Board (CNSRB). In accordance with 10 CFR 50.91, the State of Washington has been provided a copy of this letter.

Very truly yours,

GC Sorensen

G. C. Sorensen, Manager
Regulatory Programs

PLP/bk
Attachments

cc: RG Waldo - EFSEC
JB Martin - NRC RV
NS Reynolds - Winston & Strawn
PL Eng - NRC
DL Williams - BPA/399
NRC Site Inspector - 901A

STATE OF WASHINGTON)
)
COUNTY OF BENTON)

Subject: Request for Amendment to Tech Spec 3/4.3.3 and Tables 3.3.3-1, 4.3.3.1-1, 3.3.5-1 & 4.3.5.1-1 ECCS and RCIC Actuation Instrumentation and Surveillance Requirements

I, G. C. SORENSEN, being duly sworn, subscribe to and say that I am the Manager, Regulatory Programs, for the WASHINGTON PUBLIC POWER SUPPLY SYSTEM, the applicant herein; that I have full authority to execute this oath; that I have reviewed the foregoing; and that to the best of my knowledge, information, and belief the statements made in it are true.

DATE: 21 FEB, 1991

G. C. Sorensen, Manager
Regulatory Programs

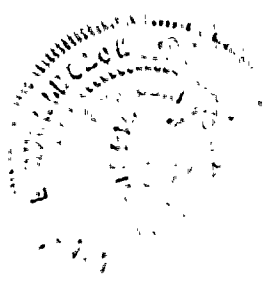
On this date personally appeared before me G. C. SORENSEN, to me known to be the individual who executed the foregoing instrument, and acknowledged that he signed the same as his free act and deed for the uses and purposes herein mentioned.

GIVEN under my hand and seal this 21st day of February 1991.

Notary Public in and for the
STATE OF WASHINGTON

Residing at Richland, WA

My Commission Expires 7/14/91



STATE OF WASHINGTON)
)
COUNTY OF BENTON)

Subject: Technical Specification Improvement Analysis for the ECCS Actuation Instrumentation for Washington Public Power Supply System Nuclear Project No. 2

I, G. C. SORENSEN, being duly sworn, subscribe to and say that I am the Manager, Regulatory Programs, for the WASHINGTON PUBLIC POWER SUPPLY SYSTEM, the applicant herein; that I have full authority to execute this oath; that I have reviewed the foregoing; and that to the best of my knowledge, information, and belief the statements made in it are true. The attached report, "Technical Specification Improvement Analysis for the Emergency Core Cooling System Actuation Instrumentation for Washington Public Power Supply System Nuclear Project No. 2," dated March 1987, is considered by the General Electric Company as proprietary information. This report is treated as proprietary information by the Supply System. It is requested that said report be withheld from public disclosure under 10 CFR 2.790.

DATE: 21 FEB, 1991

G. C. Sorensen, Manager
Regulatory Programs

On this date personally appeared before me G. C. SORENSEN, to me known to be the individual who executed the foregoing instrument, and acknowledged that he signed the same as his free act and deed for the uses and purposes herein mentioned.

GIVEN under my hand and seal this 21st day of February 1991.

Notary Public in and for the
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