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AUTH.NAME AUTHOR AFFILIATION
PARRISH,J.V. Washington Public Power Supply System
RECIP.NAME RECIPIENT AFFILIATION
FAULKENBERRY,B. Region 5 (Post 820201)

SUBJECT: Requests discretionary enforcement re compliance to required actions of TS 3.3.2,Table 3.6.3-1,affecting isolation valve Groups 2,5,7,8 & 9 as identified in TS Table 3.6.3-1.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

*P.O. Box 968 • 3000 George Washington Way • Richland, Washington 99352-0968 • (509) 372-5000*

November 17, 1993
G02-93-271

Docket No. 50-397

Mr. B. H. Faulkenberry
Regional Administrator
U.S. Nuclear Regulatory Commission
Region V
1450 Maria Lane
Walnut Creek, CA 94596-5368



Dear Mr. Faulkenberry:

Subject: **WNP-2, OPERATING LICENSE NPF-21**
**REQUEST FOR DISCRETIONARY ENFORCEMENT FOR TECHNICAL SPECIFICATION 3/4.3.2, ISOLATION ACTUATION INSTRUMENTATION**

References:
1. Letter GO2-91-159, dated August 29, 1991, JW Baker (SS) to NRC, "Licensee Event Report No 91-013-02"
2. Letter GO2-93-202, dated August 6, 1993, JV Parrish (SS) to NRC, "Licensee Event Report No 93-010-04"

The purpose of this letter is to request discretionary enforcement regarding compliance to the required actions of Technical Specification 3.3.2, Table 3.3.2-3, affecting Isolation Valve Groups 2, 5, 7, 8 and 9 as identified in Technical Specification Table 3.6.3-1.

This condition was identified as a result of an ongoing Technical Specification Surveillance Improvement Project (TSSIP) as discussed further in this request and in References 1) and 2).

**REQUEST FOR DISCRETIONARY ENFORCEMENT FOR TECHNICAL SPECIFICATION 3/4.3.2, ISOLATION ACTUATION INSTRUMENTATION**

Technical Specification to be Violated and Need for Prompt Action

A 96 hour Discretionary Enforcement period for Action Statements applicable to valve groups 2, 5, 7, 8 and 9 is being requested to allow for continued plant operation with the ISOLATION SYSTEM RESPONSE TIME surveillance requirements of Technical Specification Table 3.3.2-3 not having been performed. With this surveillance requirement not satisfied, Technical Specification 4.0.3 was entered for all the affected valve groups at 13:44 PST on November 16, 1993. Without discretionary enforcement, the plant will be required to enter, among other Actions, ACTION STATEMENT 20 of Table 3.3.2-1 at 13:44 PST on November 17, 1993 and be in at least HOT SHUTDOWN within 12 hours and in COLD SHUTDOWN within the next 24 hours.

As discussed below, response time testing for valve group 1 has been successfully completed within the 24 hours specified by specification 4.0.3. The response time testing for groups 2, 5, 6, 7, 8 and 9 requires additional time beyond the 4.0.3 allowance. Because of the consequences associated with the Action Statement requirements for valve groups 2, 5, 7, 8, and 9, it is considered prudent to continue plant operation while completing the response time testing rather than performing a shutdown which exposes the plant to an unnecessary plant transient. Specifically, entry into the associated Action Statements for valve groups 2 and 5 would require plant shutdown. Entry into the Action Statement for valve group 7 would require isolation of the Reactor Water Cleanup (RWCU) system. This action would lead to undesirable reactor water chemistry and could potentially result in reactor shutdown. Entry into the Action Statement for valve groups 8 and 9 would require isolation of RCIC. This is considered to be a non-conservative action as RCIC provides a significant contribution towards decreased core damage frequency in Probabilistic Risk Assessments (PRAs). As discussed below, the Supply System has determined that operation under discretionary enforcement for 96 hours does not represent a significant hazard and is a prudent action when considering the implications of a plant shutdown.

With regard to valve group 6 the Supply System intends to complete response time testing and restore the valve group to OPERABLE prior to expiration of the associated Action Statement. In the event any of the testing for valve groups 2, 5, 7, 8, and 9 is not complete at the conclusion of the discretionary enforcement period, the applicable action statement will be entered.

REQUEST FOR DISCRETIONARY ENFORCEMENT FOR TECHNICAL SPECIFICATION 3/4.3.2, ISOLATION ACTUATION INSTRUMENTATION

In summary, this enforcement discretion is requested to extend for 96 hours from 13:44 PST November 17, 1993 to allow for the completion of the response time testing for groups 2, 5, 7, 8 and 9 in an expeditious but deliberate manner.

Description of Condition

On November 16, 1993, a condition of noncompliance with the WNP-2 Technical Specifications was identified as part of the TSSIP. The TSSIP is an ongoing project that was recommended by a Supply System Quality Action Team formed as a corrective action of LER 91-013-02 (Reference 1). The TSSIP revises and broadens the scope of the Surveillance Procedure Verification Program completed in May 1991. Additional details of this program and previous findings are provided in LER 93-010-04 (Reference 2).

During the performance of the TSSIP review for compliance with the requirements associated with Technical Specification Surveillance 4.3.2.3 and Table 4.3.2.1-1, it was noted that response time testing procedures did not measure the entire response time from sensor actuation to final device actuation for the Isolation Actuation Instrumentation logic. Specifically, the interval not measured is the time from relay coil deenergization to associated contact operation in each Logic System Function Test (LSFT) train. This affects containment isolation valve groups 1, 2, 5, 6, 7, 8 and 9. The existing response time testing procedures measure the system response time from the sensed parameter to the coil drop off voltage and the time between a hand actuated contact and the final actuated device (valve). The testing does not measure the interval from coil deenergization to coil contact operation.

Compensatory Measures

The affected relays are General Electric HFA and HMA and Agastat relays located in cabinets in the Main Control Room (a mild environment) where they are under control of the Shift Manager. This limits access to the cabinets thereby making the relays less susceptible to inadvertent damage or unobserved degradation.

There is no identified mechanism for significant degradation of the relay dropout times. In addition, these relays have demonstrated reliable performance during functional testing. This effectively demonstrates the relays actuate. Since no mechanism has been identified for degrading dropout times, it can be concluded that the "actuated" relay will perform its function consistent with existing data. Qualification data for Agastat relays indicate expected dropout times of less than 94 milliseconds. This data has been subsequently confirmed by response time testing at WNP-2. Dropout times for HMA and HFA relays have been observed to be around 50 milliseconds (Reference Mil. NO. 82-12, 1982). Comparing these expected values to the remaining time available for the required actuation response times provides reasonable assurance the Technical Specification response times will be met.

REQUEST FOR DISCRETIONARY ENFORCEMENT FOR TECHNICAL SPECIFICATION 3/4.3.2, ISOLATION ACTUATION INSTRUMENTATION

The Supply System has performed an industry event review of HFA, HMA and Agastat relays. A search of the WNP-2 OER files, Nuclear Plant Reliability Data System (NPRDS) database and INPO Operating Experience was performed. A single failure has been identified in the NPRDS database which potentially impacts Agastat dropout times. However, considering the total industry operating hours of experience with these relays, a single failure is considered an insignificant risk in comparison to the risk of a relay failure during the 96 hour extension requested to test the affected relays. In addition, WNP-2 has contacted the utility that reported this failure and is attempting to understand the failure mechanism. No further information indicating problems with the dropout times of the subject relays was discovered. Further, a review of Supply System maintenance history did not identify any concerns with the HFA, HMA and Agastat relays that would impact their response time.

Testing for valve group 1 has been successfully completed during the 24 hour allowance granted by Specification 4.0.3. This testing confirmed the overall response time to be within the required the Technical Specification value. This test also provides additional confirmation of adequate relay actuation time.

Based upon the above, further compensatory measures are not required.

Safety Basis for the Request

The Supply System has evaluated these relay designs and their applications at WNP-2 and has concluded that the relays will perform their intended safety function within specified time requirements. Therefore, a plant shutdown or RWCU and/or RCIC isolation for response time testing would not provide significant additional assurance that the relays would actuate within specified time requirements.

The need to perform response time testing is discussed in the plant Technical Specification Bases, which state:

> "Except for the MSIVs, the safety analysis does not address individual sensor response times or the response times of the logic systems to which the sensors are connected.... It follows that checking the valve speeds and the 13-second time for emergency power establishment will establish the response time for the isolation functions. However, to enhance overall system reliability and to monitor instrument channel response time trends, the isolation actuation instrumentation response time shall be measured and recorded as a part of the ISOLATION SYSTEM RESPONSE TIME."

As stated, above a method for performing response time testing for the MSIVs has been identified and been successfully completed within the allowance of Specification 4.0.3. This testing confirmed that the overall response time is conservative when compared to the Technical Specification value.

Existing plant procedures and industry experience that provide assurance that these relays will perform their required function include the following:

LOGIC SYSTEM FUNCTIONAL TEST (LSFT)

This test is performed each annual refueling outage. The LSFT provides testing of the entire instrumentation and relay logic. The LSFTs provide periodic assurance that each of the relays will deenergize and contacts properly close as required to perform their safety function through the actuated components.

RESPONSE TIME TESTING OF SIMILAR RELAYS

As stated above, a method of response time testing the interval for the MSIVs has been identified and successfully completed. The testing has provided results confirming that the overall response time is within required limits. It is probable that similar relays in other isolation logic strings within the plant will provide consistent results.

Qualification data for Agastat relays indicates that they perform consistently and within the time frames necessary to meet specified time requirements. Data for HFA/HMA relays from the General Electric Mil. No. 82-12 standard also indicate response times necessary to meet specified time requirements.

CHANNEL FUNCTIONAL TEST (CFT)

This test verifies the correct function of the logic channel to these relays. A quarterly CFT verifies correct function of a logic channel by actuating half trip annunciators. The CFT does not test individual relays.

The affected relays, which have no time-delay feature, are electro-mechanical plunger-type (Agastat) or plate-type (HFA and HMA) with no dash pot or other dampening of the armature. Degradation of this type relay is typically evidenced by failure to function, rather than degraded response times. In addition, a review of industry data, discussions with the manufacturer, and WNP-2's own experience confirms the failure to function as the expected failure mode for these relays. Failure to function would be recognized in both the LSFT or CFT and an industry wide problem would be identified in industry experience reviews of the relays. No such problems have been identified for these relays.

REQUEST FOR DISCRETIONARY ENFORCEMENT FOR TECHNICAL SPECIFICATION 3/4.3.2, ISOLATION ACTUATION INSTRUMENTATION

Justification for the Period of Applicability

The duration of this request is justified based on the time necessary to complete response time testing for valve groups 2, 5, 7, 8, and 9. An evaluation of this testing has determined that the components to be tested are accessible and that the risk associated with performing the tests is commensurate with normal surveillance testing. Therefore, it has been determined that completion of the testing in a timely manner is prudent. However, the discretionary enforcement is necessary to complete this testing in a deliberate manner consistent with plant safety.

Safety Significance

The Supply System has evaluated this request for discretionary enforcement to defer consideration of response time testing for Groups 2, 5, 7, 8 and 9 as part of system OPERABILITY for 96 hours. The Supply System has determined that the granting of this request will not represent a significant hazards consideration because it will not:

1) Involve a significant increase in the probability or consequences of an accident previously evaluated. The relays are accident mitigating features and are not considered in the initiating sequences for any accidents previously evaluated. Hence the probability of evaluated accidents will not be increased upon approval of this request. The LSFTs performed to date have demonstrated functionality of the relays. Design and industry experience lead to the conclusion that the overall system response time will be within the Technical Specification requirements. There is no observed failure mode that would cause deterioration of these relays and result in an inability to perform within design requirements. Thus, the relays and logic strings when tested are expected to yield satisfactory response time testing results. Therefore, approval of the request will not result in a significant increase in the probability or consequences of an accident.

2) Create the possibility of a new or different kind of accident from any accident previously evaluated. No new modes of operation of any equipment, system configuration or initial conditions result from, or are necessary to compensate for, the lack of complete response time testing of the relays. Granting of the request will not affect initial conditions or introduce new system configurations and thus, will not create the possibility of a new or different kind of accident.

3) Involve a significant reduction in a margin of safety. As discussed above, the LSFTs performed to date have demonstrated functionality of the relays. Design and industry experience lead to the conclusion that the response time of the circuits will be within the expected overall system response limit. There is no observed failure mode that has caused deterioration of the relays and raised a concern that the relays will not function in accordance with design. Additionally, measurement of the interval for the Group 1

isolation valves has provided additional confirmation that the relays perform within the required timeframe. With no identified mechanism for degradation and design specifications supporting appropriate interval time response, there is reasonable confidence that the relays will perform within the required limits and the design basis for primary and secondary containment isolation will be maintained. Hence, there is no significant increase in a radiological release from primary or secondary containment and the margin of safety created by primary and secondary isolation due to adequate time response of the isolation system control circuitry is not significantly decreased.

Because the logic strings are considered to be capable of performing their safety function within the response times listed in the Technical Specifications, granting of this request does not represent a significant hazards consideration.

Environmental Considerations

As discussed above, the Supply System concludes that this request does not involve a significant hazards consideration, nor is there a potential for a significant change in the types or significant increase in the amount of any effluents that may be released offsite, nor does the request 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 this change is not required.

Plant Operating Committee Approval

This request was approved by the WNP-2 Plant Operating Committee on November 17, 1993.

Upon any notification of termination of the exercise of enforcement discretion, the Supply System will take the action required by the Technical Specification. Also, in the event any of the testing for valve groups 2, 5, 7, 8, and 9 is not complete at the conclusion of the discretionary enforcement period, the applicable action statement will be entered.

Sincerely,

G. V. Parrish (Mail Drop 1023)
Assistant Managing Director, Operations

PLP/pp
cc: Document Control Desk
NS Reynolds - Winston & Strawn
JW Clifford - NRC
DL Williams - BPA/399
NRC Site Inspector - 901A