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 50-397/89-38.

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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February 12, 1990  
G02-90-023

Docket No. 50-397

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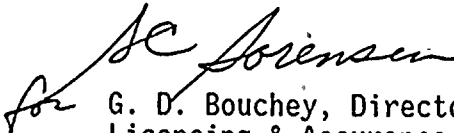
Gentlemen:

Subject: NUCLEAR PLANT NO. 2, OPERATING LICENSE NO. NPF-21  
NRC INSPECTION REPORT 89-38  
RESPONSE TO NOTICE OF VIOLATION

The Washington Public Power Supply System hereby replies to the Notice of Violation contained in your letter dated January 12, 1990. Our reply, pursuant to the provisions of Section 2.201, Title 10, Code of Federal Regulations, consists of this letter and Appendix A (attached).

In Appendix A, each violation is addressed with an explanation of our position regarding validity, corrective action and date of full compliance.

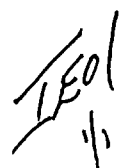
Very truly yours,

  
G. D. Bouchey, Director  
Licensing & Assurance

JDA/bk  
Attachments

cc: JB Martin - NRC RV  
NS Reynolds - BCP&R  
RB Samworth - NRC  
DL Williams - BPA/399  
NRC Site Inspector - 901A

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PDR ADOCK 05000397  
Q PDC



## APPENDIX A

During an NRC inspection conducted on November 27 - December 19, 1989, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, the violations are listed below:

- A. Technical Specifications Section 6.8.1 states, in part: "Written procedures shall be established, implemented and maintained covering the activities referenced below:
  - a. The applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978."

Section 9 of Appendix A to Regulatory Guide 1.33, Revision 2, February 1978, states, in part: "Maintenance that can affect the performance of safety-related equipment should be properly preplanned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances."

Table E of Plant Procedures Manual (PPM) 10.2.42, Limitorque Operator Removal and Installation, Revisions 2 and 3, states, in part: "The torque values given in Table E are for bolting the Limitorque operator to the valve body flange." For 5/8-inch and 7/8-inch UNC ASTM A574 socket head screws, the torques stated in Table E are 145 FT-LBS and 405 FT-LBS, respectively.

Contrary to the above.

1. On June 14, 1988, 7/8-inch UNC socket head screws for the Limitorque operator to valve body flange for RHR-V-24B, a safety-related valve, were torqued to 185 FT-LBS.
2. On October 31, 1989, 7/8-inch UNC socket head screws for the Limitorque operator to valve body flange for RHR-V-24A and RHR-V-24B, two safety-related valves, were torqued to 160 FT-LBS.
3. On November 1, 1989, 7/8-inch UNC socket head screws for the Limitorque operator to valve body flange for RHR-V-24A, a safety-related valve, were torqued to 255 FT-LBS.
4. On November 1, 1989, 5/8-inch UNC socket head screws for the Limitorque operator to valve body flange for RHR-V-27A, a safety-related valve, were torqued to 30 FT-LBS.

This is a Severity Level IV violation (Supplement I).

### Validity of Violation

The Supply System acknowledges the validity of this violation. The reason for the violation was a less than adequate torque selection process.

### Corrective Steps Taken/Results Achieved

1. A Plant Quality Assurance Surveillance was performed to evaluate the process of determining torque values. It was concluded from the report that:
  - a. Training on the inter-relationship between fastener attributes and applied torque is needed for work package preparers, Quality Control inspectors and craft personnel.
  - b. The torque selection process needs clarification and review.
2. In the interim, as part of future work package preparation, work package preparers are now expected to provide actual torque values including from where they are derived, or provide specific directions as to where to derive a torque value. As part of their review of work packages, Plant Quality Control personnel are also checking work packages to ensure that adequate torque guidance is provided, consistent with the expectations previously described.

### Corrective Action to be Taken

1. An evaluation of the overall torquing program is currently being performed to determine the best methodology for providing guidance on torquing, including torque derivation, and ensuring that this methodology is specified in the work package. At the completion of this evaluation, changes to the process will be made accordingly.
2. The Maintenance Training Module on torquing is currently being expanded to include bolting and fastener basics, EPRI Good Practices, and laboratory exercises. As part of the laboratory exercises, personnel will be required to perform torquing and stretch measurements, calculate torque values using extensions, perform torque using a "hytorc" hydraulic wrench, and verify torque using an ultrasonic bolt tester. This training will be provided to Maintenance, and selected Plant Technical and Support Services personnel.
3. An additional Plant Quality Assurance Surveillance is currently being performed on a select sample of fasteners in the plant to ensure that correct torque values had been utilized.

### Date of Full Compliance

1. The overall evaluation of the torquing program will be completed by April 15, 1990. Changes to the process will be implemented accordingly.
2. Training will be developed and initiated by March 30, 1990.
3. The Plant Quality Assurance Surveillance will be completed by March 15, 1990.

- B. 10 CFR 50, Appendix B, Criterion XVI, Corrective Action, states, in part: "Measures shall be established to assure that conditions adverse to quality...are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action taken to preclude repetition."

Sections 16.2.1 and 16.2.2 of the WPPSS Operational Quality Assurance Program Description (QAPD) Manual state, in part: "Conditions adverse to quality shall be evaluated and the need for corrective actions determined.... For conditions significantly adverse to quality, the corrective action...shall provide for the following:

- a. Determination of the cause of the condition.
- b. Corrective action so as to preclude repetition of the condition.
- c. Verification of the implementation of the corrective action."

Contrary to the above, the licensee received NRC and industry notifications in 1983 and 1984 regarding loosening of threaded fasteners on motor operated valves; motor mount capscrews were found loose or missing from valves RHR-V-24A and/or RHR-V-24B on June 14, 1983; June 7, 1988; and October 31, 1989; and effective actions were not taken to correct and preclude recurrence of these significant conditions adverse to quality.

This is a Severity Level IV violation (Supplement I).

#### Validity of Violation

The Supply System acknowledges the validity of this violation. The reason for the violation was an inadequate preventive maintenance practice for checking fastener tightness on vibration-sensitive valves, given industry experience. The decision was made to inspect such fasteners; however, the method of inspection was inadequate and no acceptance criteria was established to ensure that the fasteners would not back out during normal operation.

#### Corrective Steps Taken/Results Achieved

1. Significant improvements have since been made to the Plant Problem Report Process. When the most recent (October 31, 1989) example was brought to our attention, a Problem Evaluation Request (PER) was written. A PER is a single sheet form which can be initiated by anyone knowledgeable of an existing or potential Plant problem which requires resolution. All PERs are reviewed by the Management Review Committee (MRC). The purpose of the MRC is to provide initial assessment, assignment of priority and allocation of resources for each PER.

In this particular case, the PER was elevated to a Material Deficiency Report (MDR). An MDR is a document used to disposition all non-reportable, non-safety significant Plant problems which directly relate to material, equipment or components (both installed and non-installed). In addition, all MDRs require that a root cause analysis be performed.

2. Efforts are currently in process to review Scheduled Maintenance System (SMS) task cards to verify adequacy, and improve the task description or provide additional instructions where necessary.
3. An engineering review was performed to determine which safety-related Motor Operated Valves (MOVs) would be subject to loose fasteners due to vibration. As a result of that review, an inspection plan was developed to check actual fastener torque values for those valves at a specific frequency depending on valve operating conditions. Torque verification is now being performed monthly for several valves. In addition, direction was given that all valves found with loose fasteners should be evaluated and appropriate measures (e.g., lockwire, increased torque, torque paint, etc.) should be taken to prevent recurrence. In those cases where loose fasteners are discovered, direction was also given for personnel to initiate a PER.
4. A Generation Engineering evaluation was performed of the proper torque to be used on fasteners on Residual Heat Removal (RHR) valves RHR-V-24A and RHR-V-24B, as well as determining the best positive capture method that could be used for preventing fasteners from vibrating loose. As a result of the evaluation, Generation Engineering issued a design change which provided a specified torque for each of four sets of fasteners on the valves, and which also required positive captivating devices consisting of lockwire, jam nuts or bent tabs.

#### Corrective Action to be Taken

Generation Engineering is currently in the process of preparing design changes for the 23 additional valves which have been identified as being subject to loose fasteners due to vibration. These design changes will specify the required torque for each of the four sets of fasteners, as applicable, on each valve and will require positive captivating devices.

#### Date of Full Compliance

1. The design change for valves RHR-V-24A and RHR-V-24B will be implemented prior to the upcoming maintenance and refueling outage, currently scheduled for April 15, 1990.
2. Generation Engineering will issue the design changes for the remaining 23 valves by March 30, 1990. Implementation of these design changes will commence during the maintenance and refueling outage.
3. Torque verification activities previously discussed will continue until after the design changes are implemented to assure that they have adequately resolved the problem.