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 FACIL: 50-397 WPPSS Nuclear Project, Unit 2, Washington Public Power 05000397  
 AUTH. NAME: Bouchey, G.D. AUTHOR AFFILIATION: Washington Public Power Supply System  
 RECIP. NAME: Faulkenberry, B. RECIPIENT AFFILIATION: Region 5, Ofc of the Director  
 SUBJECT: Provides justification for continued use of five installed items identified in Insp Rept 50-397/89-21.

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## WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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

July 10, 1989  
G02-89-118

Docket No. 50-397

Mr. B. H. Faulkenberry  
Deputy Regional Administrator  
U.S. Nuclear Regulatory Commission  
Region V  
1450 Maria Lane, Suite 210  
Walnut Creek, CA 94396

Dear Mr. Faulkenberry:

Subject: NUCLEAR PLANT NO. 2  
LICENSE NO. NPF-21  
NRC INSPECTION REPORT 89-21


Reference: Letter, B. H. Faulkenberry (NRC)  
to D. W. Mazur, dated July 3, 1989

This response provides justification and basis, as requested by the referenced letter, for the continued service of five (5) installed items identified in the referenced inspection report. The reevaluation of these items has demonstrated that the process used by the WNP-2 staff was adequate to assure that "equal to or better" replacement equipment was installed.

The Supply System has found instances where the documentation and the basis of the original evaluation could be improved, however no violation of NRC regulations has occurred.

The details of the Supply System's reevaluation are contained in Attachment 1 to this letter. This submittal constitutes an interim report addressing the five (5) installed items only. The Supply System has concluded that the five (5) items are acceptable as installed. Final results and assessment of the additional commercial grade items identified in the referenced inspection report will be provided by August 15, 1989, as requested.

Very truly yours,

  
G. D. Bouchey, Director  
Licensing & Assurance

SHP/bk  
Attachment

8907170280 890710  
PDR ADOCK 05000397  
Q PDC

cc: JB Martin - NRC RV  
NS Reynolds - BCP&R  
RB Samworth - NRC  
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## ATTACHMENT 1

ITEM NO. 1: POTTER & BRUMFIELD RELAYSReferences

Matcode - 68604361

Item Description - Relay, control, 8PDT contacts rated at 0.8 amps, 125 VDC resistive, 125 VDC coil, Potter & Brumfield Part No. MDR138-8.

Purchase Order 093024 dated 3/4/88, item No. 2

Installed by MWR AV1684 on 5/17/88

Specific EPN for installation - DG-RLY-DG1/K15

NRC Concern

"Evaluation 668 dedicated Potter-Brumfield MDR type control circuit relays for use in the safety related portions of the emergency diesel generator (EDG) control circuitry, based primarily on the relays being advertised as meeting military specifications which exceed the postulated seismic loading at WNP-2, for shock and vibration. One such relay was installed in the "Loss of Power" section of the EDG control circuit by Maintenance Work Request (MWR) AV1684, dated May 17, 1988. No special testing, such as seismic testing of the relay, was performed. The EDG received a routine post-maintenance test after the work was complete."

Evaluation

These relays, Potter and Brumfield Model No. MDR 138-8, are seismically qualified for this application. The documentation and basis for their qualification is found in Wyle Laboratories Test Report No. 43735-1, Rev. 4, dated 9/20/78 as contained in Supply System Qualification Information Documentation (QID) No. 050105. These relays are like-for-like replacements for the original installed relays.

Potter and Brumfield has maintained a quality program meeting the requirements of Military Standard Q-9858A. A review of this standard in conjunction with Audit Report A-Y-88-20 obtained from Wisconsin Electric Company demonstrates that Potter and Brumfield has provided WNP-2 with a high quality product suitable for this application.

Further evidence of the quality of this item is demonstrated by it being manufactured to meet MIL-R-19523 which includes the requirements of MIL-STD-167 for vibration and MIL-S-901 for shock. Receipt inspection records provide assurance Potter and Brumfield Model No. MDR-138-8 relays were received.

Conclusion

The Supply System concludes that the Potter and Brumfield Model No. MDR-138-8 is acceptable as installed.

Follow-up Actions

None

ITEM NO. 2: ANCHOR DARLING VALVE PARTSReferences

Matcodes - Item 2-1 stem, yoke - 54204430  
Item 2-2 wedge, upper - 54204444  
Item 2-3 wedge, lower - 54204451  
Item 2-4 wedge pin - 54204465

Item Descriptions -

Item 2-1 - stem, yoke ASTM A-564 Gr 630 HT 1150 F, with collar (P/N 19-2-01) for 12" 900 lb. Anchor Darling double disc gate valve. Part No. 94-13401-19-2, Dwg. No. 94-13401, item 19-2.

Item 2-2 - wedge, upper yoke ASTM A-216 Gr WCB with Stellite for 12" 900 lb. Anchor Darling double disc gate valve. Part No. 94-13401-14-5, Dwg. No. 94-13401, item 14-5.

Item 2-3 - wedge, lower ASTM A-216 Gr WCB with Stellite for 12" 900 lb. Anchor Darling double disc gate valve. Part No. 94-13401-15, Dwg. No. 94-13401, item 15.

Item 2-4 - pin, wedge ASTM A-108 Gr 1018 (AISI 1018) for 12" 900 lb. Anchor Darling double disc gate valve. Part No. 94-13401-82-14, Dwg. No. 94-13401, item 82-14.

Purchase Order 93145

Installed by MWR AT3142 on 4/11/88.

Specific EPN for installation - HPCS-V-4.

NRC Concern

"Evaluation 1179 dedicated commercial grade Anchor Darling valve parts for use in repairing valve HPCS-V-4. This valve is a normally closed safety related valve in the high pressure core spray system, which must open under accident conditions. In dedicating the valve parts, the evaluation required no special testing or inspections to verify critical characteristics such as tensile strength or hardness. The parts, which included a yoke stem, wedges, and a wedge pin, were installed in the valve by MWR AT3142 dated April 11, 1988."

Evaluation

The Supply System has contacted Anchor Darling and is obtaining certification that these valve parts were manufactured and supplied under Anchor Darling's Quality Assurance Program which meets 10CFR50 Appendix B requirements.

The Supply System has QA audit reports which validate the adequacy of the Anchor Darling QA program.

Conclusion

The Supply System concludes the parts are acceptable as installed.

Follow-up Actions

- o Obtain the requested Certification.

ITEM NO. 3: FUSESReferences

Matcodes - various, none specified

Item description - fuses, 600 volt and under

Purchase Order - various, none specified

Installation - No specifics identified. The installation of these fuses is controlled by PPM 1.3.47 Fuse Replacement Control

Specific EPN - none referenced

NRC Concern

"The licensee has implemented Standard Procurement and Use Policies which constitute generic evaluations for certain types of items. Policy No. 6 addresses the procurement of fuses (600 volts and under). This Use Policy allows the procurement of a selected listing of fuses, as commercial grade, based on the licensee's judgement that standard manufacturing quality control is sufficient, fuses are not complex or unique, quality history supports this judgement, and functional compliance can be demonstrated by inspection and installation tests. The inspectors questioned whether routine installation tests verify fuse quality and function in that control system voltages can vary over a range of approximately 105 to 135 volts in the 125 VDC system for instance, therefore a single test may not verify that a fuse would not open early at a voltage different than the test voltage. Additionally, many equipment control circuits include several different electrical current paths, depending on the manner in which the equipment change in state is initiated. Routine post maintenance testing would not normally check a fuse for all possible electrical current conditions."

Evaluation

Fuses are installed by Supply System Procedure No. 1.3.47, "Fuse Replacement Control". Under this procedure the plant design basis is maintained by assuring that the proper fuse manufacturer and type are installed in accordance with governing design documents. The original fuse design included allowances for manufacturing tolerances. All fuses procured by this policy are Bussmann or Gould Shawmut.

Fuses are not available as Quality Class 1 from Bussmann or Gould Shawmut. Both Bussmann and Gould manufacture UL listed fuses. Commitment by Bussmann and Gould to UL standard is a significant quality attribute, as it involves certification by an independent laboratory that the products meet the published industry standard. Observance of the requirements of the UL Standards by a manufacturer is a condition of continued listing of the manufacturers product.

UL Standards specify requirements for construction, dimensions and performance. Performance testing is completed on samples of each type of material (or design). Tests include:

- 1) Capacity test - fuses must carry 110% of rating indefinitely.
- 2) Temperature test - fuse temperature must not exceed specified temperature limits when subjected to 110% rated current.



- 3) Clearing time current test - fuses must clear (open) within specified time limits when subjected to a combination of current values. Test values are 135%, 150%, 200% and 500% based on fuse type.
- 4) Other design verification tests (i.e. interrupting ability, maximum energy, maximum threshold ratio, let-through current and clearing  $I^2t$ ).

The Supply System performs receipt inspection for physical damage, post installation testing and tracks installed fuse performance problems through Procedure 1.3.47 on a quarterly basis. The program verifies the fuse type and integrity as well as identifying recurring failures or other design problems.

#### Conclusion

The Supply System concludes that the installed Gould Shawmut and Bussmann (600 V and less) fuses are acceptable as installed.

#### Follow-up Action

None





ITEM NO. 4: PRESSURE SWITCHReferences

Matcode - 68405701

Item Description - Switch, pressure, range 10 - 250 psi, differential 23 - 25 psi, maximum allowable pressure 300 psi, double pole double throw contacts rated 10 amps at 600 VAC, with form W-1 (NEMA 4 watertight enclosure). Square D Part No. 9012 ACH-29.

Purchase Order 089583 dated 7/30/87

Installed by MWR AT0854 on 7/20/87

Specific EPN for installation - DSA-C-1B2, DSA-PS-1B, 2B, 3B, 4B

Procurement Evaluation No. 198

NRC Concern

"On July 20, 1987, the licensee installed a pressure switch, P/N 9012ACH-29 per Maintenance Work Request No. AT0854. This item was purchased commercial grade from Stoneway Electric on PO No. 89583 with no special testing or inspections performed for dedication. This pressure switch is part of the control circuitry for the air compressor that maintains starting air pressure necessary for operation of the emergency diesel generators."

Evaluation

The Square D pressure switch, part No. 9012ACH-29 installed in the diesel air start system has been determined to be qualified for this application. The documentation and basis for this qualification is contained in QID 256015. The Supply System has contacted Square D to assure that no material or design changes have occurred and that it is a like-for-like replacement.

Square D Company has maintained a quality program which is adequate to ensure the pressure switch is acceptable for this application. Documentation for this conclusion is contained in an audit performed by Southern Companies Services and determined to be acceptable by WNP-2.

Conclusion

The Supply System concludes that the Square D pressure switch Part No. 9012ACH-29 is acceptable as installed.

Follow-up Actions

- o Obtain certification from Square D



ITEM NO. 5: METAL O-RINGSReferences

Matcode - Item 5-1 56413693, Item 5-2 56413700

Item description -

Item 5-1 - O-ring, metallic, 2.262" OD (as measured prior to plating) 0.125" free height 0.010" wall thickness, Inconel X-750 w/0.001" minimum silver plate, American Engineering P/N 2262-125X010 - AMS5582Ag.

Item 5-2 - O-ring, metallic, 1.656" OD (as measured prior to plating) 0.125" free height 0.010" wall thickness, Inconel X-750 1656-125X010 - AMS5582Ag.

Purchase Order 090163 dated 10/05/87

Specific EPN for installation - RHR-RV-1B

Procurement evaluation - PMR 83-0056, FCR 83-0056-0-04 Bill of Materials

NRC Concern

"During the 1988 outage the licensee installed metallic O-rings in the discharge flange assembly of RHR relief valve RHR-RV-1B. The O-rings were purchased commercial grade from American Seal and Engineering Company on PO No. 090163 with a CMTR from Superior Tube Company on the Inconel "X" 750 alloy tubing. The licensee accepted the Certified Materials Test Report (CMTR) from the supplier (who was not on the Evaluated Supplier List (ESL)) without verifying the validity of the CMTR or evaluating the effectiveness of the certification system through source surveillance or audits."

Evaluation

WNP-2 did not require CMTRs for the supplied material, but CMTRs were supplied by the vendor anyway. In this application the specific materials of construction are not critical. The size and sealing effectiveness are the only concerns. An incorrect size would either preclude installation or result in failure of the required post-installation leak test. This joint was tested after installation to assure pressure integrity per 10CFR50 Appendix J.

These O-rings are required to be replaced and retested, as a minimum, on a five year basis .

Conclusion

The Supply System has concluded that the O-rings are acceptable as installed.

Follow-up Action

None

