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ACCESSION NBR:8808030266 DOC.DATE: 88/07/29 NOTARIZED: NO DOCKET #
FACIL:50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397
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SUBJECT: Responds to NRC 880729 ltr re violations noted in Insp Rept 50-397/88-19.

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G02-88-168
July 29, 1988

Docket No. 50-397

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Wasington, D.C. 20555

Subject: **NRC INSPECTION REPORT 87-19 ITEM 29 INSTRUMENT RACK TERMINATIONS**

Reference: Additional Response to Notice of Violation C.3
1) NRC Inspection Report 87-19 Response
2) NRC Inspection Report 87-19 Followup Response

A) **ISSUE:**

At the NRC Fire Protection Inspection Exit Meeting on June 10, 1988 the question of the adequacy and accuracy of our response to Inspection Report 87-19 Notice of Violation C.3 was raised as were concerns as to the presence of a broken barrier strip and 45° to 90° bends on terminal lugs in class one instrument racks. The specific NOV response concerns were that the pull test referenced in the response was not a formal test with documented results, and the NRC questioned the Supply System "accept as is" decisions where current design requirements are not being met.

B) **RESPONSE:**

During the pre-licensing inspection ending June 22, 1983, the NRC Construction Assessment Team (CAT) selected 928 terminated wires for inspections which included instrument terminations in locally mounted terminal boxes and process instrument racks. Among other applicable requirements, these terminations were inspected for "conductors properly terminated on terminal points" with the determination that "termination activities were performed in an adequate manner." The CAT Report further stated "Although deviations from requirements were observed in QC accepted hardware, these were isolated and not considered repetitive in nature."

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The deviations referred to were documented as a result of Bechtel Construction Incorporated (BCI) inspection of all instrument racks for RG 1.75 Separation Compliance. The BCI Quality Control Inspection Record's (QCIR) documented "deviations in QC accepted hardware" were characterized as "housekeeping items and bad terminations." The Supply System on April 4, 1984 initiated a Plant Nonconformance Report (NCR) to document and disposition the deviations noted by the Bechtel QC Inspectors. All Instrument Racks identified in the QCIRs were re-inspected by Supply System engineers and technicians. All the housekeeping problems were cleaned up and all the deficiencies identified were found acceptable for operation even though there may have been some deviation from existing design requirements. During this inspection some deficiencies (not reported in QCIRs) were found and corrected. Instrument Rack 69 cited in the NOV was inspected during this effort.

The Notice of Violation Response referenced the aforementioned Supply System inspection and rework process to show that the same issues raised by the Notice of Violation had been previously addressed and to demonstrate the level of management concern and attention taken to assure the reliability of instrument wiring in the Plant.

A review of the comments made at the exit has shown two points need clarification:

First: As stated in the original NOV response Instrument Racks 67 and 68 were re-inspected by a Supply System Engineer for bad crimps. Instrument Racks 67, 68 and 69 are located in the Reactor Building, and are not controlled by procedure 10.25.46 which sets applicable criteria only for the control room. No documentation of the inspection was maintained since no problems were found.

Second: The term "pull test" was used by the engineer in describing to the author of the original response the process beyond visual examination which was utilized to determine crimp acceptability. The test referred to was a simple push or pull performed on cosmetically deficient terminations by the inspecting engineer as an augmentation to the visual exam. The test was a part of the inspection within the skill of the craft and was not required to be documented.

The broken terminal board barrier in IR-67 is a deficient condition which did not exist or was not identified during previous inspections. These types of breakage are routinely identified, evaluated and repaired or found acceptable for continued use. This individual deficiency is documented on NCR 288-330.

Terminal board ring terminals, or spade lugs bent between 45° and 90° which exist in our instrument racks were installed by the original equipment manufacturer or were installed prior to the requirement to assure bends were equal to or less than 45° from parallel to the terminal board face. Installations and modifications after February 8, 1983 replace or preclude the installation of terminations bent greater than 45° when work is performed. Existing configurations have been inspected and accepted by the processes previously described.

The Supply System believes that both the original response (Ref. 1) and the follow-up response (Ref. 2) are adequate and accurate. The inspections performed in response to the Bechtel QCIR concerns resolved the problems in accordance with Plant Procedures. The problems found during the SSFI Inspection had been previously re-inspected and determined to be acceptable for operation when the correct procedural requirements were used for the inspection. The meaning of the "Pull Test" was understood by the Supply System but it is apparent that the Inspector in light of his own experiences interpreted the term differently. When the terminal lug bend limits were put in place in February 1983 it was understood that this was a good practice and rework of previously completed work was not justified. The broken terminal board barrier is a deficient condition and is being handled in accordance with Plant Procedures.

Our current Instrument Rack termination procedure PPM 10.25.19 will be revised by March 15, 1989 and will include examples of acceptable crimp configurations. Until then, the 10.25.19 procedure will be deviated to require rework of termination lug bents greater than 45° when work is performed on those terminations.

Very truly yours,

SD Bouchey for

G. C. Sorensen, Manager
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