U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report No. 50-397/88-39

Docket No. 50-397

License No. NPF-21

Licensee: Washington Public Power Supply System
P. O. Box 968
Richland, Washington 99352

Facility Name: Washington Nuclear Project No. 2 (WNP-2)

Inspection at: WNP-2, Benton County, Washington

Inspection Conducted: October 6-7, 1988

Inspectors: Robert J Pate for — 11/25/88
A. D. Johnson, Enforcement Officer — Date Signed

Robert J Pate — 11/25/88
R. J. Pate, Chief, Reactor Safety Branch — Date Signed

Approved by: Robert J Pate — 11/25/88
R. J. Pate, Chief, Reactor Safety Branch — Date Signed

Summary:

Inspection During the Period of October 6 to November 7, 1988 (Report No. 50-397/88-39)

Areas Inspected: An unannounced inspection by two inspectors to follow-up on two unresolved items in the area of environmental qualification of electrical equipment. Inspection procedures 92701 and 30703 were used as guidance for the inspection.

Results: One potential enforcement item regarding Rosemont transmitters was resolved. No violations of NRC requirements were identified. The other potential enforcement item concerning Limitorque valve operators was also resolved. The T-drains found absent from the eight valve operators in the containment and the shipping caps found in place on five grease relief valves along with two other valve without installed grease relief valves are an apparent violation of 10 CFR 50.49.

DETAILS

1. PERSONS CONTACTED

J. E. Rhoads, Manager, Equipment Engineering
K. R. Wise, Supervisor, Electrical Equipment Engineering
R. J. Barbee, Supervisor, Technical Staff
L. T. Harold, Manager, Generation Engineering
G. C. Sorensen, Manager, Regulatory Programs
C. R. Noyes, Acting Manager, Engineering System Support
W. S. Davison, Compliance Engineer
B. Boyum, Equipment Engineer
D. Armstrong, Supervisor, Equipment
D. L. Williams, B.P.A., Nuclear Engineer

The above personnel also attended the exit interview.

2. ELECTRICAL EQUIPMENT ENVIRONMENTAL QUALIFICATION

During April 1986, NRC inspectors identified potential enforcement items related to the environmental qualifications of certain Rosemount transmitters and Limitorque valve operators. The results of that inspection are contained in Inspection Report No. 50-397/86-12. The items along with the additional information obtained during this inspection are discussed below.

a. (Closed) 50-397/86-12-1 - Rosemount Transmitters

The Rosemount transmitters in service at WNP-2 were environmentally qualified in the loss of coolant accident (LOCA) environment with the spare entry port sealed with a steel plug. None of the transmitters at WNP-2 are located in the primary containment and therefore would never be subject to a severe LOCA environment.

As a result of the NRC equipment qualification inspection in April 1986, (Report No. 50-397/86-12) the licensee identified three Rosemount transmitters that may not have been qualified on November 30, 1985. During the NRC inspection in April 1986, the licensee found stainless steel plugs missing from a spare conduit entry in two transmitters (CIA-PT-21A and MS-PT-51B). At the time, during the first refueling outage, and prior to the licensee's inspection and findings, the transmitters had silicone foam injected into the transmitter hubs. This process was performed to protect the transmitter against moisture from entering the transmitter from other potential leakage paths. The injection of the silicone was via the spare entry port and necessitated removal of the steel plugs. Additionally, two technicians who worked on transmitter CMS-LT-1 stated that on April 29 they had installed the steel plug because the port was found open and a QC inspector who witnessed the work stated that when he first saw the transmitter, it had a red shipping cap in place.

In response to NRC's observation in February 1983, that a transmitter had a plastic plug instead of a metal plug in the spare entry port, the licensee stated that the matter would be investigated and corrective action would be taken as required. No record was available to specifically show what corrective action was taken. A review of available records and discussions with licensee representatives provided the following information.

1. The licensee representative who accompanied the NRC inspectors in 1983 stated that the transmitter observed with the plastic plug installed in the spare port was in the northwest area of the reactor building, but he was unable to recall the floor level. Subsequently, a check of the location of the above mentioned transmitters revealed that none of the three were in the northwest area of the reactor building.

2. A photograph taken on May 31, 1985, showed a steel plug in the spare port of transmitter MS-PT-51B.

3. A photograph taken on September 14, 1984 showed a red plastic plug in the spare port of transmitter CMS-LT-1. This is the transmitter that the QC inspector stated that a red shipping plug was in the port in April 1986. The licensee informed NRC at the time of licensing in 1983 that this transmitter was not qualified. Subsequently, in May 1985, the licensee qualified the transmitter after obtaining the necessary radiation exposure limits applicable to the transmitter.

4. No record was found for PT-21-A to establish whether or not the open port found in April 1986 was a result of failure to reinstall after injecting silicone material in the device during the refueling outage or was missing since installation of the transmitter.

Based on the foregoing information, it appears that corrective action was taken subsequent to NRC inspectors observation in February 1983 to assure that the spare port was properly plugged; however, for unknown reasons, the shipping plug in transmitter CMS-LT-1 was not replaced with a steel one when qualified in May 1985. The licensee appeared to have taken steps to assure that Rosemount transmitters (about 90) were environmentally qualified prior to initial licensing in December 1983.

The time to qualify these transmitters was deferred by license condition 16 until the completion of the first refueling outage in June 1986. Based on this information, it was concluded that no violation of NRC requirements had occurred. This item is closed.

The licensee's position concerning this matter is set forth in the licensee's letter dated October 13, 1988 attached.

b. (Open) 50-397/86-12-2 - Limitorque Valve Operators

The inspectors reviewed the Limitorque documentation to establish the operators environmental qualifications and the manuals for installation, operation and maintenance of the operators. This review was performed to determine if the information supplied by the vendor was readily available to the licensee prior to November 30, 1985. None of the vendor documents discussed, described, or even mentioned shipping caps on the grease relief valves. The installation tips in the vendor manual does however, state, "Do replace molded plastic conduit tap protectors (installed for shipping and storage only) with pipe plugs when installation wiring is completed." Although the manuals for installation, operation and maintenance of the operators did not mention T-drains, document B0005A, a supplement test report completed in 1980, directed that T-drains be installed on the actuators used in containment as indicated on the tag on the actuator. Reportedly, during the 1986 refueling outage the licensee found that the required T-drains had not been installed properly in the 8 limitorque operators installed in the reactor containment vessel. In addition a licensee representative reported that 5 of the valves had shipping caps on the grease relief valves, two valves were not fitted with grease relief valves and one valve was found acceptable.

The vendor manual and the qualification documents showed that the equipment was qualified with Beacon 325 - light grey - grease in the geared limit switch housing and that Mobil 28 is a suitable substitute. The vendor instructions set forth many other standard grease that may be used at various temperature conditions and states that "the frequency of lubrication inspections should be based upon historical data on the installed equipment. Every operator application has its own effect on lubricants and each facility should pattern its inspections around its particular needs." The manual recommended frequencies until operating experience indicates otherwise.

However the missing T-drains, the failure to remove the shipping caps from the grease relief valves and the missing relief valves constitute an apparent violation of 10 CFR 50.49. (88-39-01)

The licensee's position concerning this matter is contained in the licenee's letter dated October 13, 1988, attached.

3. Exit Meeting

The inspectors conducted and exit meeting on October 7, 1988, with those persons listed in paragraph 1. During this meeting, the inspector summarized the scope of the inspection activities and reviewed the inspection findings as described in this report.