U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-255/84-13(DRS)

Docket No. 50-255 License No. DPR-20

Licensee: Consumers Power Company
212 West Michigan Avenue
Jackson, MI 49201

Facility Name: Palisades Nuclear Generating Plant

Inspection At: Covert, MI

Inspection Conducted: July 11-12, 1984

Inspectors: K. R. Naidu — July 24, 1984 (Date)

Z. Falevits — July 24, 1984 (Date)

Approved By: C. C. Williams, Chief
Plant Systems Section — July 24, 1984 (Date)

Inspection Summary

Inspection on July 11 and 12, 1984 (Report No. 50-255/84-13(DRS))
Areas Inspected: Corrective action taken on licensee event report relative to the cables damaged due to excessively high temperature. The inspection involved a total of 24 inspection hours by two NRC inspectors.
Results: No items of noncompliance were identified.

DETAILS

1. Persons Contacted

Consumers Power Company

R. W. Montross, Plant Manager
R. Margol, QA Administrator
P. F. Bruce, Supervising Engineer
C. H. Gilmor, Technical Superintendent
S. Oakley, System Engineer
*D. W. Rogers, Technical Engineer
D. G. Malone, Licensing Engineer
R. McCabb, QA Superintendent

All of the above personnel except the one denoted by * attended the exit meeting.

2. Functional or Program Areas Inspected

Review of Licensee Event Report

a. The inspectors reviewed the corrective action taken by the licensee relative to the cables damaged due to excessively high temperature in cable tray CP-250 located inside the containment at approximate elevation 582'.

b. On July 3, 1984 the licensee observed that containment sump level switch LS-0360 (non-Q) malfunctioned. Investigation into the malfunction indicated loss of continuity between the penetration and the level switch installed inside the containment. Licensee personnel commenced a walkdown of the cable and observed that a section of cable tray CP-250, which was wrapped with a one-hour rated fire barrier (OHRFB), had an excessively high temperature. The cable tray is installed at approximately elevation 582' in the vicinity of containment air cooler V2. Plant personnel disassembled the OHRFB and observed that insulation of several cables was damaged due to excessively high temperature. The OHRFB was installed in 1979. The cable tray contained 73 cables of which 47 exhibited charred insulation. Plant personnel generated Specification Change (SC) 84-122 to repair the damaged cables. Maintenance Order M84FPS0086 dated July 3, 1984 was initiated to remove the OHRFB and implement SC84-122. The corrective action taken consisted of removing the damaged portion of the cables (4 feet long) and installing new sections of cable and splicing the ends of the cables. Sufficient quantities of single conductor sizes #12 and #14 cables were available from stock. These cables had been purchased from ANACONDA Cable Company with quality requirements including compliance to IEEE 383-1974. The inspector reviewed the procurement documents and the certificates of compliance and determined them adequate.

c. The licensee purchased #2 Everene insulated cross linked polythene cable to replace damaged cable feeding the pressurizer heaters. This cable was manufactured by Triangle-PWC, Inc. The documentation on these cables was not available and the site personnel approved a conditional release to install this type of cable pending an engineering analysis. The licensee staff performed an engineering analysis and concluded that the cable could be used-as-is based on the fact that the cable manufacturer described (in the sale brochure that the cable jacket was cross-linked polythene and can operate at 90°c without deterioration. The licensee concluded that cross-linked polythene type jacket can successfully withstand $2x10^8$ Rad without deterioration. The licensee did not have a certificate of a conformance from Triangle-PWC to indicate that the cable successfully met IEEE-383 and IEEE-323 requirements. NRR/Power Systems Branch and Region III management participated in a conference call with the inspectors at the site on July 12, 1984. The concensus of the conference call participants was that the replacement cable should as a minimum meet the requirements of the original cable installed at Palisades. Based on the licensee's engineering analysis, the cable met the requirements of the original cable installed.

d. Environmentally qualified Raychem splices were used to splice the cables. Records indicate that electrical craftsmen were trained in the use of Raychem splicing prior to the repair. The inspectors reviewed other documents related to the implementation of SC84-122 and determined that applicable procedures were followed.

e. The matter discussed above will be considered an open item pending determination of the cause for the excessively high temperature of the cables in the cable tray CP-250 and the corrective action taken to preclude this condition. (50-255/84-13-01). NOTE: The licensee had not issued an LER regarding this event prior to the documentation of this report.

3. Exit Interview

The inspectors met with licensee personnel listed in paragraph 1 (Persons Contacted) at the conclusion of the inspection and summarized the scope and findings of the inspection. The inspectors informed the licensee that the corrective action taken to repair the cables was apparently adequate. However, since the cause for the excessively high temperature was not determined, measures have to be established to determine the cause and to monitor the temperature inside the OHRFB to preclude repetition. The inspectors relayed Region III management's intention to issue a Confirmatory Action Letter (CAL) outlining an acceptable corrective action program. On July 13, 1984, a CAL (Attachment I to this report) was issued to the licensee.