Washington Public Power Supply System

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November 23, 1983
G02-83-1093

Mr. J. B. Martin
Regional Administrator
Region V
1450 Maria Lane, Suite 210
Walnut Creek, California 94596

Subject: NUCLEAR PROJECT NO. 2
10CFR50.55(e) REPORTABLE CONDITION #274
EXCESSIVE GAPPING BETWEEN PIPE SUPPORT BASEPLATES

References: 1. Telecon QA2-83-185 dated August 2, 1983, L.C. Floyd to B. Dodds.

2. Letter G02-83-778, dated August 26, 1983, C.S. Carlisle to J.B. Martin.

In accordance with the provisions of 10CFR50.55(e), your office was informed by the references of the above subject condition. The attachment provides the Project's final response on Condition #274.

If there are any questions concerning this matter, please contact Roger Johnson, WNP-2 Project QA Manager, (509) 377-2501, extension 2712.

G. C. Sorensen
Manager, Regulatory Programs

JGT/kd

Attachment: As stated

cc: W.S. Chin, BPA
N.D. Lewis, EFSEC
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Document Control Desk, NRC

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM
NUCLEAR PROJECT NO. 2
DOCKET NO. 50-397
LICENSE NO. CPPR-93

10CFR50.55(e) CONDITION #274
EXCESSIVE GAPPING BETWEEN BASEPLATES AND CONCRETE SURFACE

FINAL REPORT

Description of Deficiency

Several pipe supports which utilize baseplates for attachment to concrete surfaces were discovered to be deficient in that excessive gap (greater than 3/32") between the baseplate and concrete was observed. The condition was determined to be contrary to the technical requirements of Contract Specification 215 although the supports had been previously final inspected and accepted by Bechtel Quality Control.

Safety Significance

The design of pipe supports is based upon specified conditions for adequate bearing between the hanger baseplate and the supporting surface. Additional loads are introduced into the baseplate and anchor bolts when the tolerances between the mating surfaces exceed the specified conditions. A case by case evaluation is required to determine if the excessive gap would impair the capacity of the individual hanger. The condition is considered a reportable deficiency due to the reinspection required to identify where the discrepancies exist and the rework or reevaluation which will be required to establish the acceptability of the installation.

Cause of the Deficiency

The deficiency was caused by the failure of Bechtel Field Engineering (F/E) and Quality Control (QC) personnel to implement the requirement in some cases, as specified in approved procedures. In addition, some pipe supports installed and QC accepted by the previous contractor (WBG) also exhibited this deficient condition.

Corrective Action

This deficiency was detected by a Bechtel Power Corporation internal audit as QA Finding (QAF) No. 3 of Audit 5.3.2, entitled "Pipe Support In-Process Control." Corrective action taken as a result of this audit included a 100% reinspection of accessible Quality Class 1 pipe support baseplates and subsequent rework where required. A "go-no go" gage was used to perform these reinspections and entire support base plates were accepted or rejected, even though in many cases, rejection was based upon only partially missing or incomplete grout. The corrective action taken was verified by Bechtel QA and the QAF was subsequently closed.

In conjunction with the reinspection program described above, Engineering direction was requested and provided regarding the following issues:

a) Maximum Allowable Baseplate Gap - The maximum allowable gap was increased from 3/32" to 1/8" (Ref: PED-215-H-X908).

Corrective Action (Continued)

b) Inspection of Torqued Baseplates - The requirement to check the baseplate gap with the anchor bolts torqued to no more than 10% of final required torque was relaxed for this reinspection program (Ref: NCR-21961).

c) Inaccessible Installations - Ninety (90) Quality Class 1 hanger base plates were deemed inaccessible and were accepted based on statistical data resulting from the Quality Class 1 hanger reinspections (Ref: NCR-21961, Rev. 2).

d) Quality Class II/Seismic Category I (QCII/I) Installations - Inspection of QCII/I hanger baseplates was deemed unnecessary based upon the statistical data resulting from the QC 1 hanger resinpections. These supports were originally installed and inspected as QC I installations and it was concluded that reinspection results would be similar to those discovered during the QC 1 reinspections (Ref: RFI-C0500-M-3258).

As a result, 59 of 2299 baseplates reinspected were determined unacceptable and require rework to correct deficient baseplate gap. Remaining construction work is in progress and will be completed on QC 1 installations by Fuel Load.

Action to Prevent Recurrence

Upon completion of the pipe support reinspections and Engineering evaluation, it was determined that less than 3% of the installed supports require rework. Although the reinspection criteria differs slightly from the original installation criteria, the results indicate that a large majority of the personnel responsible for installing and inspecting pipe hanger baseplates were, and are, cognizant of the Engineering criteria. A quality program breakdown does not appear evident. Supplemental training and instruction for QC and FE personnel regarding this issue has been completed and constitutes the required action to prevent recurrence.