U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos. 50-275/84-16 and 50-323/84-06

Docket Nos. 50-275 and 50-323

License No. DPR-76

Construction Permit No. CPPR-69

Licensee: Pacific Gas and Electric Company
77 Beale Street
Room 1435
San Francisco, California 94106

Facility Name: Diablo Canyon Units 1 and 2

Inspection at: Diablo Canyon Site, San Luis Obispo County, California

Inspection conducted: April 2-4, 1984

Inspectors: W. J. Wagner 5/30/84
W. J. Wagner, Reactor Inspector Date Signed

Approved by: D. F. Kirsch 5/30/84
D. F. Kirsch, Chief Date Signed
Reactor Projects Branch

Summary:

Inspection during the period of April 2-4, 1984 (NRC Inspection Report Nos. 50-275/84-16 and 50-323/84-06)

Areas Inspected: A special, unannounced inspection by a regional-based inspector to examine audit records of Pullman Power welding activities, performed during the period of August 1971 through December 1973.

The inspection involved 20 inspection-hours by one NRC inspector.

Results: No items of noncompliance or deviations were identified.

DETAILS

1. Individuals Contacted

   a. Pacific Gas and Electric Company (PG&E)

      D. A. Rockwell, Project Field Engineer
      J. Arnold, Resident Mechanical Engineer

   b. Pullman Power Products (Pullman)

      J. Guyler, Internal Auditor

2. Purpose

   The purpose of the inspection was to determine the extent to which Pullman and PG&E had implemented an adequate audit program during the startup phase of Pullman work at Diablo Canyon.

3. Inspection Approach

   The inspectors approach was to locate and review the documentation of Pullman self-audits and PG&E audits conducted between August 1971 and December 1973. The inspector then reviewed these audits to determine whether:

   a. the appropriate criteria of Appendix B were being audited,

   b. the audits conducted were of reasonable competence and quality, and

   c. followup action in response to audit findings was reasonable and appropriate.

4. Inspection Results

   The inspector reviewed reports of audits conducted by PG&E and Pullman for evidence that Pullman welding activities were being audited during the period of August 1971 through December 1973. Pullman audits include internal (site organization) and corporate organization audits. The following audits were conducted of Pullman's welding activities:

   a. Pullman Self Audits

Audit Date(s)	Welding Areas Audited
Dec. 8, 1970	Corporate Management Audit - Review of QA Manual
Sept. 10, 1971	Weld Filler Material Control (WFMC), Welder Qualifications

March 28, 1972	Field Process Sheets (Travelers), Field Weld Records (RT, MT, Heat Chart, Weld Rod Requisition), WFMC
July 18, 1972	Field Process Sheets, Examination (visual) of completed welds, in-process (production) field welding
Sept. 29, 1972	Corporate Management Audit - QA Engineering and Administration, purchasing, receiving, material marking, in-process and final welding, material traceability, handling, storage, special processes, liquid penetrant/magnetic particle/ radiography NDE, welding controls, cleaning, heat treatment, records.
Dec. 15, 1972	WFMC
Jan. 9-10, 1973	WFMC
March 5, 1973	Process Sheets, WFMC In-Process welding
March 26, 1973	Corporate Management Audit - WFMC, Ferrite Control, Fit-Up, In-Process welding, Process Sheets, Welding Equipment
May 1, 1973	Welder Stamp Depression
May 21, 1973	Followup of January 1973 Audit
Sept. 6, 1973	Welding Equipment Calibration
Sept. 18, 1973	Visual Inspection of Completed Hanger Welds, Welder Qualifications (weld gages, rod control bend test)
Sept. 19, 1973	Welder Performance Qualification and Testing Procedures
Sept. 28, 1973	Compliance to Welding Procedure Specifications, WFMC (Rod Slips)
October 5, 1973	Followup of Audit of Welder Qualification and Test Procedures performed September 1973
October 16, 1973	Followup of Audit on Kellogg Welder Audit of September 28, 1973
Nov. 7, 1973	Corporate Management Audit - design and document control, procurement control, fabrication process control, qualification of personnel and procedures, calibration of measuring and test equipment, nonconformance

reporting and corrective action, QA records, audits

b. PG&E QC Audits

Audit No.	Audit Date(s)	Welding Areas Audited
MA 71-16	Aug. 12, 1971	WFMC
MA 71-20	Sept. 15, 1971	WFMC, Welder Qualifications
MA 71-24	Oct. 20, 1971	Process Sheets, WFMC, Ferrite Control
MA 71-28	Dec. 30, 1971 Jan. 4, 1972	WFMC, Nondestructive Examination (NDE)
MA 72-2	Jan. 20, 1972	WFMC (Filler Metal Traceability), Welder's Symbols
MA 72-6	Feb. 25 & 28, 1972	Postweld Heat Treatment (PWHT)
MA 72-8	May 1, 1972	Radiographs (RT) of Class I Weldments, WFMC
MA 72-12	May 30, 1972	WFMC (Weld Rod Accountability), RT of Class I Weldments
MA 72-16	June 27, 1972	WFMC (Storage), In-Process Welding
MA 72-18	Aug. 31 - Sept. 1, 1972	(Field) Process Sheets, WFMC (Rod Control Ovens)
MA 72-23	Nov. 1, 2, 3 & 6, 1972	Rod Oven Control, Portable Rod Oven Control (WFMC)
MA 72-27	March 27-28, 1972	WFMC (Compliance to 4 hour weld rod issuance)
MA 73-5	Jan. 26, 29-31, 1973	WFMC (Follow-up to MA 72-27), Fit-Up and Alignment
MA 73-10	March 22-23 & April 2-3, 1973	QC Inspector's Qualifications to Inspect Welds
MA 73-11	April 9 & 12, 1973	WFMC
MA 73-12	May 1, 7, 8, 10, 1973	Follow-up on Ferrite Checks on Stainless Steel Welds
MA 73-21	Dec. 11, 1973	Ferrite Control, PWHT, Welding Qualifications

c. PG&E Corporate QA Audits

Audit No.	Audit Date(s)	Welding Area Audited
71-15	Aug. 23 - Sept. 4, 1971	WFMC (Receiving Storage, Field Use)
72-3	Feb. 4, 1972	Piping Installation to Process Sheets
72-13	June 8-13, 1972	Process Sheets, Welding Procedure Compliance, In-Process Welding, Welder Qualifications, WFMC, Welding Equipment (Amps), Calibration of Equipment (Rod Ovens) Welding Material Certifications
73-15	Nov. 29 & Dec. 19, 1973	Pipe Hangers & Rupture Restraints - In-Process Welding, Welder Qualifications, Welding Procedure Compliance

The inspector read through and surveyed the above audits to develop a sense of the audit competency and quality. The audits were performed by Pullman and PG&E to determine compliance with the Pullman Quality Assurance Program. The inspector noted that applicable procedures of the QA program related to welding activities were audited: KFP-8 "Process Planning and Control", KFP-12 "Control of Filler Metal", KFP-13 "Postweld Heat Treatment", and KFP-15 "Welding Qualifications". Further, the above audits demonstrated that Field Process Sheets (travelers) were audited for compliance to KFP-8 (for each field weld the process sheet lists operations such as fit-up, weld completion, NDE, and designated holdpoints for QC and the Authorized Nuclear Inspector's inspection and approval).

In addition, the inspector surveyed the findings and corrective actions generated as a result of the audits to assess the appropriateness of the identified corrective actions. The corrective actions taken, and follow-up audits to assure the corrective measures were effective, appeared satisfactory.

5. Conclusion

Based upon a review of PG&E and Pullman audits it appears that audits of Pullman welding activities were thorough and conducted in accordance with the Pullman QA program during the period of August 1971 through December 1973.

Based upon the above reviews the inspector concludes that:

a. the Pullman audit program met the intent of Safety Guide 28 (June 1972) and ANSI N45.2-1971, in effect during that time period, and, therefore, the intent of Appendix B,

b. the audits appeared to be of reasonable competence and quality, and

c. based upon a sampling of corrective actions it appears that findings were followed up and resolved in a responsible fashion.