U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos.	50-275/86-26, 50-323/86-25
Docket Nos.	50-275, 50-323
License Nos.	DPR-80, DPR-82
Licensee:	Pacific Gas and Electric Company 77 Beale Street, Room 1451 San Francisco, California 94106
Facility Name:	Diablo Canyon Units 1 and 2
Inspection at:	Diablo Canyon Site, San Luis Obispo County, CA
Inspection Conducted:	September 15-19, 1986

Inspections: ________________ for 10/17/86
J. F. Burdoin, Reactor Inspection — Date Signed

Approved by: ________________ 10/17/86
M. M. Mendonca, Chief, Reactor Project Section I — Date Signed

Summary:

Inspection during period of September 15-19, 1986 (Report Nos. 50-275/86-26 and 50-323/86-25

Areas Inspected: An announced inspection by one regional inspector of the program for inservice inspection, of the Surveillance Procedures and Records for the Station Batteries Performance and Service Tests, of followup of an allegation, of followup on open item of pitting of feedwater piping; and independent inspection of different vital areas and equipment in the plant. Also inspected (to support NRR) was the accessibility of certain welds on the bottom and closure heads of the reactor vessel. Inspection Procedure numbers 30703, 61700, 71707, 73051, and 92701 were used as guidance for the inspection.

Results: No items of noncompliance or deviations were identified.

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DETAILS

1. Individuals Contacted

Pacific Gas and Electric Company (PG&E)

*R. C. Thornberry, Plant Manager
*T. L. Grebel, Regulatory Compliance Supervisor
*D. A. Vosburg, Engineering Manager
*D. A. Taggart, Director, Quality Support QA
*L. F. Womack, Operations Manager
T. A. Nelson, Licensing Representative
S. G. Banton, Surveillance Test Supervisor
*O. K. Franks, ISI/NDE Supervisor
J. E. Hill, ISI/NDE Lead Specialist
D. A. Gonzalez, NDE Specialist
D. R. Bell, QC Supervisor, General Construction
M. E. Leppke, Project Engineer, General Construction
Various other engineering and QC personnel

*Denotes attendees at exit management meeting on September 19, 1986.

In addition, NRC Resident Inspectors attended the exit management meeting.

2. Area Inspection

An independent inspection was conducted in the Turbine and Auxiliary Buildings. The equipment spaces inspected included:

a. Two Emergency Diesel Generator Rooms, Unit 2.

b. Three 4160 Volt Switchgear Rooms, Unit 2.

c. Six Battery Rooms, Units 1 and 2.

d. Six 480 Volt Vital Bus Rooms, Units 1 and 2.

e. Two Cable Spreading Rooms, Units 1 and 2.

f. Two Hot Shutdown Panel Areas, Units 1 and 2.

g. Turbine Building, Elevations 85' and 140', Unit 2.

h. Two 480 Volt Load Center Areas, Units 1 and 2.

i. Combined Two-Unit Control Room, Units 1 and 2.

It was observed during the independent inspection that a battery performance test was in progress on battery 1-2 and outage maintenance work was being performed in Unit 1 480 volt load center area. Housekeeping and equipment status appeared to be acceptable.

[illegible]

[illegible]

[illegible] Construction

[illegible] persons

[illegible]

Inspection

[illegible] included:

[illegible] Unit 1.

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No violations or deviations were identified.

3. Inservice Inspection Program

The inspection objective was to determine whether the licensee's Inservice Inspection (ISI) Program is complete and in conformance with regulatory requirements and the licensee's commitments. To this end, the inspector examined the licensee's ISI Program for Unit 1. Supplemental Safety Evaluation Reports (SSE(s)) numbers 13 and 31 have identified Section XI of the ASME Boiler and Pressure Vessel Code, 1977 Edition, including Summer 1978 Addenda and have approved relief from certain code requirements.

The revised edition (Revision 3) of the licensee's ISI Program for Unit 1 was forward to the NRR staff for their review and acceptance under Diablo Canyon Letter (DCL) 86-101, dated April 14, 1986. Revision 4 which included minor changes over Revision 3 of the ISI Program was forwarded to the NRR staff under DCL-86-238 dated August 12, 1986. Both Revisions 3 and 4 have been reviewed and approved by the Plant Safety Review Committee (PSRC). A telecon with NRR's Engineering Branch (PWR-A) confirmed they are presently in the process of reviewing the licensee's ISI Program Revisions 3 and 4.

The NRC inspector conferred with the authorized nuclear inservice inspector (Hartford Steam Boiler Insurance Company, located onsite) and was assured that he is presently reviewing Revision 4 of the licensee's ISI Program for Unit 1.

The following procedures and documentation were examined to assure that they adequately cover all areas specified in the licensee's commitment for ISI requirements:

- ISI A-850, Revision 3, "Description, Purpose, Objectives and Organization of the Inservice Inspection/Nondestructive Examination Group."
- ISI C-855, Revision 3, "Inspection of Nondestructive Examination (NDE) Activities."
- ISI C-856, Revision 2, "Dispositioning of Recorded NDE Examination Data."
- AP B-852, Revision 2, "Qualification and Certification of Plant Staff NDE Examiners."
- AP C-756, "ASME Section XI Repair/Replacement Program Implementation."
- AP E-1S1, Revision 8, "Requirements for Retention and Extended Storage of Operation Phase Activity Records."
- AP #-4S7, Revision 2, "ISI and IST Program Plan Control.

- Quality Support Surveillance Report QS-85-0027, ISI Program Plan 1st Ten-Year Inspection Interval.
- Quality Support Surveillance Report QS-86-0076, ISI/IST Program Plan Control.
- Audit No. 86174T, Audit of ISI Training.

The above procedures and documents were reviewed and approved by authorized licensee personnel.

The licensees ISI program was reviewed to assure that methods exist and were effectively implemented for:

a. Identifying all of the licensee's commitments and regulatory requirements pertinent to ISI examination and monitoring.

b. Preparing plans and schedules, and coordinating them with regulatory authorities.

c. Assuring staff and training to ensure acceptable ISI work.

d. Administrative procedures are in place outlining authority and responsibilities of persons/organization involved with the evaluation and acceptance of ISI results.

e. Specifying personnel qualification requirements consistent with the ASME Code, plant Technical Specifications (TS), and other applicable documents.

f. Identifying the ASME Code and plant TS requirements for submittal of written reports of ISI results, repairs, and replacements.

g. Providing guidance regarding the identification of requests for relief from ASME Code requirements.

h. Reviewing the administrative and maintenance procedures to verify that the requirements of Article IWA-4000 of the ASME Code, and NRC supplementary requirements, are included or referenced.

i. Reviewing the administrative and maintenance procedures to verify that requirements of Article IWA-7000 of the ASME Code, and NRC supplementary requirements, are included or referenced.

j. Ascertaining that provisions for the maintenance and retention of records, including inspection, examination, test reports, repair and replacement, QA, and NDE records have been established in the ISI program.

k. Reviewing the Quality Assurance Program for audit and surveillances of ISI activities, procedures for monitoring contractors, and review to determine that plans and procedures meet Regulatory Standards.

It is concluded from review of the above procedures and documents that the licensee's ISI Program appears to be acceptable.

No violations or deviations were identified.

4. Surveillance of Station Batteries

The history records of surveillances for the six vital 125 volt station Batteries (three for each unit) were examined to determine whether or not battery performance and service tests, Surveillance Test Procedure(s) (STP) M-12A and M-12C, had been performed at the required frequency. The vital station batteries for both units were replaced during the summer of 1982.

The following identifies when the battery performance test (STP M-12A) was accomplished following installation:

Battery Identification	Date of Performance Test
1-1	July 1982
1-2	September 1982
1-3	June 1982
2-1	October 1982
2-2	September 1982
2-3	August 1982

The inspector reviewed Surveillance Test Procedures, STP M-12A and STP M-12C, and also examined the test results for surveillance tests M-12A and M-12C performed on batteries 2-1, 2-2, and 2-3 in September 1985. A battery performance test (STP M-12A) was performed on battery 1-2 on September 17, 1986, as identified in Section 2 above. The licensee is committed to complete performance/service test on batteries 1-1 and 1-3 during the present Unit 1 outage prior to the completion of writing this report. It was learned that the licensee completed the performance test for battery 1-3 on Saturday September 20, 1986. This was reported in inspection report 50-275/86-23.

It is concluded that surveillance performance and service tests have been performed at the proper frequency, that the performance procedures are acceptable and that the test results met acceptance criteria.

No violations or deviations were identified.

5. Followup on Previous Identified Inspection Item

(Open) Item 50-275/85-28-01 Main Steam Line and Feedwater Line Pitting

This issue, addressed in inspection report 85-28, is a followup of the licensee's commitment to inspect for potential pitting of the main steam and feedwater piping during the first refueling outage for Unit 1.

The NRC inspectors examined the Construction Work Package G-93 #M727 for the physical inspection of the feedwater piping under impingement sleeve FW 2-1, and inspected in the field that portion of the feedwater piping

in question following the removal of the sleeve. The work package described the work to be performed, identified the acceptance criteria for the QC inspections, and included a QC inspection record sheet which listed the inspection hold points.

The same licensee inspectors who inspected this piping (FW 2-1) prior to commercial operation also performed the inspection at this refueling outage. The inspection is incomplete at this time.

This item remains open.

No violations or deviations were identified.

6. Support for NRR - Accessibility of Welds for Nondestructive Examination Unit 1

The Materials Engineering Section of NRR's Engineering Branch (PWR-A) requested field verification of accessibility of certain welds (fourteen) on the bottom and closure heads of the reactor vessel. The licensee had requested relief from performing nondestructive examination (NDE) under their ISI Program.

Request NDE-002 identified in the licensee's letter, DCL-86-251 dated August 22, 1986 requested relief from NDE of the following welds because the inaccessibility of the welds:

	Circumferential Welds	Meridional Welds
Closure Head	#6-446B	#1-446A through #1-446F
Bottom Head	#4-443	#1-443A through #1-446F

The closure head was inspected in the field following its removal from the vessel for refueling. It was determined that the circumferential weld (#6-446B) was inaccessible because of the cooling duct support ring and the control rod drive head penetrations. It appears to the inspector that it would be next to impossible to install an NDE shoe (wedge) in this area to perform NDE on this weld. It was found in the case of the six meridional weld's lengths (#1-446A-F) on the closure head, approximately 52% of these welds were accessible for nondestructive examination. The upper portions (approximately 48%) were in accessible for NDE for the same reason sited above for circumferential weld #6-446B.

Access to the lower portion of the reactor vessel to make a inspection of the lower head was restricted because of the radiation background level. A review of the drawings DC 663201-38/E232-451-5 and E232-443-4 showed the obstructions which prevents the shoe (wedge) from being properly located to perform NDE on the circumferential weld #4-443. The same obstruction, the in-core instrumentation vessel penetration tubes, also restricts NDE of the meridional welds to approximately 60% of the weld lengths. In discussion with the licensee's ISI NDE specialists, it was brought to the NRC inspector's attention that during the preservice NDE inspection of the bottom head meridional welds (those portions, approximately 52%), all the accessible base metal between the meridional

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The [illegible] inspection [illegible] the [illegible] yield ([illegible]) was [illegible] because [illegible] [illegible] should [illegible] hypo [illegible] [illegible] on the [illegible] [illegible] instructions [illegible] [illegible] was [illegible] respectively [illegible]

[illegible] and [illegible] [illegible] the process [illegible] [illegible] sections. [illegible]

welds was also examined with NDE equipment to detect any abnormalities there.

It is concluded that the licensee's request for relief from performing NDE on the above identified welds on bottom and closure head because of inaccessibility for the NDE shoe (wedge) appears to be justified.

No violations or deviations were identified.

7. Exit Meeting

The inspector conducted an exit meeting on September 19, 1986, with the Plant Manager and other members of the plant staff. During this meeting, the inspector summarized the scope of the inspection activities and reviewed the inspection findings as described in this report. The licensee acknowledged the concerns identified in the report.