NOV 26 1985

Docket No. 50-275, 50-323

Pacific Gas and Electric Company
77 Beale Street, Room 1451
San Francisco, California

Attention: Mr. J. D. Shiffer, Vice President
Nuclear Power Generation, Licensing

Gentlemen:

Subject: NRC Inspection of Diablo Canyon Units 1 and 2

This refers to the inspections conducted by Mr. J. F. Burdoin of this office during October 7-November 1, 1985, of activities authorized by NRC License Nos. DPR-80 and DPR-81, and to the discussion of our findings with Mr. R. Thornberry, and other members of your staff on November 1, 1985.

Areas examined during this inspection are described in the enclosed inspection report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspector.

No violations of NRC requirements were identified within the scope of this inspection.

In accordance with 10 CFR 2.790(a), a copy of this letter and the enclosure will be placed in the NRC Public Document Room.

Should you have any questions concerning this inspection, we will be glad to discuss them with you.

Sincerely,

/S/

D. F. Kirsch, Deputy Director
Division of Reactor Safety and Projects

Enclosure:
Inspection Report Nos. 50-275/85-35, 50-323/85-33
cc w/enclosure:
S. D. Skidmore, PG&E
R.C. Thornberry, PG&E (Diablo Canyon)
P.A. Crane, Jr., PG&E
D. Taggart, PG&E (Diablo Canyon)
R. Weinberg, PG&E (Diablo Canyon)
State of Ca Sandra Silver
bcc:RSB/Document Control Desk (RIDS)
Mr. Martin, Mr. Faulkenberry
Resident Inspector
Green, Pink, File, Document File

Burdoin	Dodds	Chaffee	Kirsch
11/22/85	11/22/85	11/22/85	11/26/85

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos. 50-275/85-35, 50-323/85-33

Docket Nos. 50-275, 50-323

License Nos. DPR-80, DPR-81

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, California

Inspection conducted: October 7-November 1, 1985

Inspector: J. F. Burdoin, Reactor Inspector — 11/22/85 Date Signed

Approved by: R. T. Dodds, Chief, Reactor Project Section 1 — 11/22/85 Date Signed

Summary:

Inspection during period of October 7-November 1, 1985 (Report Nos. 50-275/85-35 and 50-323/85-33.

Areas Inspected: Unannounced inspection by one regional inspector of open items consisting of followup inspection items, Part 21 Reports, Generic Letters and IE Notices and followup of allegations by NRC contractors. Inspection procedures numbers 92700, 92701, 92704, and 92705 were used as guidance for the inspection. The inspection involved 78 inspection hours by one inspector and approximately 120 hours by contract personnel.

Results: No items of noncompliance or deviations were identified.

a. Task: Allegation or Concern No. 572 (ATS No: RV-84-A-052)

1) Characterization

PG&E has stifled Pullman Power Power Products (PPP) inspectors reports of faulty Bosten-Bergen and American Bridge Welds, by directing them not to issue discrepancy reports.

2) Implied Significance to Design, Construction, or Operation

Faulty welds in components received from vendors, if uncorrected, could possibly result in failure of safety-related systems.

3) Assessment of Safety Significance:

Staff review of source document, GAP 2/2/84 letter, #102-104 indicates that PPP inspectors were issued memoranda to stop issuing Discrepancy Reports (DRs) on "shop" welds. The terminology "shop" is used to describe purchased components that were welded by outside vendors. The allegation cites a PG&E memo dated April 3, 1980, authorized by Marvin (SIC) Leppke as a basis for the conclusion that PG&E stifled PPP inspectors. The allegation further states that, in 1982, PG&E instructed Pullman to delete those welds from the formal walkdown program.

The NRC staff reviewed the April 3, 1980 memo issued by Mr. M. R. Leppke. The staff was unable to find any direction that PPP should stop issuing discrepancy reports on shop welds. The context of this letter indicates that an extensive program had been underway to investigate, evaluate and repair rupture restraint welds. The letter states that sufficient shop weld data had been obtained to allow the engineering department to review the data and include its conclusions in the final rupture restraint report.

4) Conclusions and Staff Positon

The allegation that PG&E stifled attempts by PPP inspectors to report and correct faulty vendor welds cannot be substantiated

5) Action Required:

None.

b. Task: Allegation or Condern No. 993 (ATS No: RV-84-A-076)

1) Characterization

(Similar to allegations 353 through 359 for field welds 197-212, concerning welding QC at Diablo Canyon.) It was alleged that several college students working as QC Inspectors

were unqualified. It was further alleged that weld procedure code 200 was "grossly inadequate".

2) Implied Signifiance to Design, Safety or Construction

Unqualified inspectors or inadequate weld procedures could possibly result in unsatisfactory construction of safety-related systems or components.

3) Assessment of Safety Significance

The source documents were reviewed. The allegers testimoney only provided generalities such as "the quality controls at Diablo Canyon leave a lot to be desired" and"it is a real horrendous mess". This document lacks the substance or details necessary to conduct a viable investigation.

Subsequent testimony identifies three individuals who were allegedly not qualified to be inspectors. The staff researched Pullman Power Products Company training and certification records for these three inspectors. Their records indicate that these inspectors held certificates of qualification that were issued upon completion of training and successfully passed written examinations for nuclear pipe welding and visual inspection.

The testimoney further alleges that another indivdual wrote welding procedures for Pullman Power Products Company and that "in no way was he qualified for this task". A search of Pullman Power Products Company records failed to identify this person as ever having been employed at Diablo Canyon. The only person with the same name employed at Diablo Canyon that was even remotely connected with welding was qualified as a visual welding inspector.

It was also alleged that the quality of work performed by the production workers at Diablo Canyon was "really poor". This allegation was made by another alleger, whose allegation was resolved on allegation no. 1543, ATS No. RV 84A114.

A May 7, 1984 letter from another alleger to the NRC expresses opinions that weld procedure code 200, Specification P12B-P1-K1-4F-SMAW-6G was "grossly inadequate', that failure analysis conclusions were incomplete, that "significant factors" were not addressed, that weld procedure code 200 "indicated a basic misunderstanding of Preheat theory" and that radiographic examination used by itself was not adequate to verify weld integrity. This allegation appears to be very similar to earlier allegations 353-359 concerning weld procedure code 200 for field welds 197-212. It was concluded previously that weld procedure code 200 and specification P12B-P1-K1-4F-SMAW-6G were written, qualified and approved in accordance with the ASME Code, Section IX, Paragraph QW 200.2,

1983 edition, and Q-10 in the 1971 edition, which is the accepted standard for use in the nuclear industry.

4) Conclusion and Staff Position:

Review of Pullman Power Products Company records indicate that inspectors were indeed trained, tested and certified before they were permitted to perform weld inspection. This conclusion is further supported by the results of allegations 995 and 378, which are also concerned with inspector training and qualification. The allegations can not be substantiated.

5) Action Required:

None.

c. Task: Allegation or Concern No. 1009 (ATS No: RV-84-A-064)

1) Characterization

An individual believes that engineers who questioned suspect assumptions were transferred to Unit 2. Cooperative engineers plus new recruits were assigned to Unit 1.

2) Implied Significance to Design, Construction and Operation

Assignment of engineers based upon attitudes could result in a insufficient level of experience in the groups assigned to one of the units. An inadequate experience level could result in failure to detect safety significant design or installation errors.

3) Assessment of Safety Significance

Review of previous, similar allegations by the same individual led to the conclusion that the allegation pertains to the split up of the Onsite Project Engineering Group (OPEG) small bore pipe support group that occurred in January 1983. This reorganization created Unit 1 and Unit 2 areas within the small bore pipe support group and divided each area in to three squads. Previously there had been no subdivisions within the group.

The reasons for this reorganization and the basis for the individual assignments to the two groups were discussed with the individuals who were, at the time, the assistant onsite project engineer and the small bore pipe support group supervisor. They both indicated that, at the time of the reorganization, a consistent increase in work load was being experienced due to the fact that both units were entering a construction phase that entailed a large amount of small bore pipe support work. The group was reorganized to provide for better management of the increased staffing levels necessary to support the required level of effort. The assignments to the

two groups were made by the group supervisor in conjunction with the Unit 1 and Unit 2 area leaders plus the squad leaders who were onsite at the time.

Discussions with the individual who was the group supervisor indicated that roughly the same experience level was required of all group members, however, there were some individuals in the group who had been employed at the Diablo Canyon Project for longer than others, thus these individuals were more familiar with project procedures and personnel. It was his intention that the reorganization result in each squad having a few individuals with Diablo Canyon Project experience.

To determine if the ultimate squad composition reflected this intent, the composition of each squad was reviewed to identify those individuals who had been with the small bore pipe support group since its inception. Each of the squads, both in the Unit 1 and Unit 2 areas, had between two and three engineers who met this criterion.

4) Conclusions and Staff Position

All of the engineers in both the Unit 1 and Unit 2 small bore pipe support areas were required to have basically the same level of industry experience. Review of the individuals assigned in each of the area indicated that the engineers with the most Diablo Canyon experience were divided roughly equally between the Unit 1 and Unit 2 areas. Therefore, no safety significance can be attributed to this allegation.

5) Action Required

None.

d. Task: Allegation or Concern No. 1399 (ATS No. RV-84-A-073)

1) Characterization

Base plates of support members on Unit 2 RHR containment sump recirculating lines to RHR Pump have partial penetration weldments.

2) Implied Significance to Design, Construction or Operation

The implied safety significance is that base plates improperly welded may not support the designed loading.

3) Assessment of Safety Significance

The staff, after investigation, identified two pipe supports which have base plates with sections added and welded as described by the allegation. These were Hangers 22-11R and 413-76R.

Hanger 22-11R & 413-76R are similar in which a 3/8" plate was located between two other base plates and welded with a square groove weld joint, requiring full penetration. The PPP as-built was generated to modify support per Stress Analysis No. G-003-04, Rev. 1 by Gathersburg Power Division (GPD). This new work consisted of gusset plates and other non-relevent modifications.

A field inspection substantiated the allegation. One hanger had the weld wrapping around the plate making it difficult to determine weld type but the other showed a partial penetration weldment. PG&E engineering staff reanalyzed the hangers leaving out the welds and found them to meet the safety factor requirements. Therefore, in these two isolated cases no structural safety significance exists.

The inspector in preparing a FIR (Field Information Request) for GPD mistakenly called out the wrong weld type. To verify that was an isolated case, all the inspectors records were reexamined. The records indicated this individual was a cognizant inspector and aware of details. The individual was at Diablo Canyon for approximately one year. In that time, he performed approximately 450 inspections of which only 22 were of a similar type penetration weld and only 7 of the 22 were structural in nature. These were reinspected and the welds were correctly called out.

4) Staff Position

The situation in which a wrong weld was called appears to be an isolated case of no structural safety significance.

5) Action Required

None.

e. Task: Allegation or Concern No. 1485 (ATS No: RV-84-A-113)

1) Characterization

Unistrut and Thunderbird clamps used to support hydrogen gas tubing do not provide adequate support.

2) Implied Significance to Design, Construction and Operation

Inadequately supported hydrogen lines would present a potential fire hazard if the lack of support resulted in line rupture under conditions that imposed abnormal loads on the tubing (e.g. turbine trip).

3) Assessment of Safety Significance

The hydrogen lines for Unit 2 were inspected and it was confirmed that Unistrut P2026 clamps have been used in some

places to support 1/2 inch pipe and Thunderbird saddle clamps have been used in some places to support instrument tubing. Discussions with PG&E engineering indicated that they have determined that accelerations on the order of 14g would be required to load the Unistrut clamps beyond their design load. This far exceeds the maximum loading that could be imposed by an credible source of dynamic loading. PG&E indicated that similar results would be expected for the Thunderbird clamp applications. Independent assessment of the loads required to exceed design strength of the clamps concluded that PG&E's value of 14 g was conservative.

4) Conclusions and Staff Position

The Thunderbird and Unistrut clamps being used to support main generator hydrogen lines will withstand significantly greater loads than they will ever be expected to experience. Therefore, this allegation has no safety significance.

5) Action Required

None.

f. Task: Allegation or Concern No. 1493 (ATS No: RV-84-A-114)

1) Characterization

Pullman used pipe welding procedures on structural steel and when the problem was identified Pullman wrote a memo which revised the ESD which legalized the existing practice.

2) Implied Significance to Design, Construction or Operation

Welds made utilizing the wrong weld procedure may not meet the designed load.

3) Assessment of Safety Significance:

The alleger stated that full penetration single bevel welds performed on structural steel utilized a 37-1/2° bevel which was feasible for pipe. When this was brought to the attention of Pullman Q.A. a memo was written to revise the weld procedure.

ASME Section IX, Welding and Brazing Qualifications, does not consider a change on weld joint angle for SMAW or GTAW as an essential variable, therefore, requalification of the weld procedure if an angle change is made is not required.

4) Staff Position:

The staff concludes that the weld joint angle change made by Pullman Q.A. was performed correctly as per the governing Code.

5) Action Required:

None.

9. EXIT MEETINGS

The inspector conducted exit meetings on October 11 (an interim meeting) and November 1 with the Plant Manager, Plant Superintendent, and other members of the plant staff. During these meetings, the inspector summarized the scope of the inspection activities and reviewed the inspection findings as described in the report. The licensee acknowledged the concerns identified in the report.