PACIFIC GAS AND ELECTRIC COMPANY

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JAMES D. SHIFFER
VICE PRESIDENT
NUCLEAR POWER GENERATION

October 18, 1984

PGandE Letter No.: DCL-84-328

Mr. T. W. Bishop, Director
Division of Reactor Safety and Projects
U. S. Nuclear Regulatory Commission, Region V
1450 Maria Lane, Suite 210
Walnut Creek, CA 94596-5368

Re: Docket No. 50-275, OL-DPR-76
Docket No. 50-323
Diablo Canyon Units 1 and 2
Responses to Allegations

Dear Mr. Bishop:

Your letter dated August 28, 1984, forwarded a number of allegations for PGandE's evaluation, investigation, and response. Upon investigation, we determined that we had previously responded to the subject matter of 65 of these allegations. Enclosed are copies of these allegations together with our previous responses. PGandE believes that the evaluations and investigations conducted resolve these allegations for both Units 1 and 2.

We expect to respond to the remaining allegations by the extended deadline of October 30, 1984.

Kindly acknowledge receipt of this material on the enclosed copy of this letter and return it in the enclosed addressed envelope.

Sincerely,

for J. D. Shiffer

Enclosure

cc: G. W. Knighton
J. B. Martin
H. E. Schierling
Service List

COPY

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PG&E

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Sincerely,

W. A. Raymond

for J. D. Shiffer

Enclosure

cc: G. W. Knighton
J. B. Martin
H. E. Schierling
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ENCLOSURE

ALLEGATIONS PREVIOUSLY ADDRESSED

1. 317	18. 775	35. 881	52. 1009
2. 392	19. 777	36. 882	53. 1035
3. 393	20. 811	37. 884	54. 1036
4. 394	21. 998	38. 886	55. 1202
5. 395	22. 783	39. 909	56. 1205
6. 405	23. 784	40. 916	57. 1206
7. 406	24. 800	41. 918	58. 1207
8. 772	25. 813	42. 919	59. 1208
9. 465	26. 838	43. 928	60. 1220
10. 513	27. 839	44. 969	61. 1364
11. 570	28. 823	45. 931	62. 1285
12. 571	29. 1090	46. 932	63. 1286
13. 635	30. 840	47. 942	64. 1289
14. 665	31. 860	48. 952	65. 1344
15. 759	32. 867	49. 953	
16. 1007	33. 883	50. 987	
17. 774	34. 986	51. 989	

NRC Allegation #6317

Allegation Description:

Management did not have necessary documents from vendors to guide calculations required of vendor purchases for structural steel supports.

This subject was previously addressed in PGandE Response to Intervenors' Motion to Reopen the Record on DQA, Breismeister et al., Aff. at 74 (Item XLVI) dated March 6, 1984. The previous allegation and response are attached hereto.

XLVI. It is alleged that:

> Management did not have necessary documents from vendors and manufacturers to guide calculations on required supports for vendor purchases such as valves. The omission helps to explain why engineers based their analysis on "past experience" at other plants brought in from previous jobs. Management at Diablo Canyon did not send drawing details and support conditions to valve manufacturers and other vendors for approval. The vendor's review and approval is necessary to assure that the component is being used as intended. This omission was unique in Mr. Stokes' experience in the nuclear industry. It represents more necessary information that was missing from the seismic design review program. (Stokes, 1/25/84, Tr. 54-55.)

187. The design of valve supports and qualification of the valves for support location and forces was not performed based on "past experience" as alleged but, instead, was based upon specific approved criteria, procedures, vendor supplied data, and review and design standards.

188. Piping qualified by computer analysis includes the modeling of each remotely operated valve. These models include the location of the valve and operator center of gravity (C/G) and mass. The C/G location, mass, and allowable accelerations are provided by the vendor and are documented in Design Criteria Documents and drawings. In a very few cases, presumably the omissions alleged, the valve supplier was no longer in business and therefore could not provide the location of the valve C/G. In these cases the valve C/G was assumed to be two-thirds the distance from the valve center line to the top of the operator based upon previous experience. This instruction is contained in Piping Procedure P-11. The calculated valve acceleration provided by the

computer analysis is compared to the vendor allowable to show qualification. If support of the valve is required to meet criteria, the analysis is reperformed with the added restraint included. The analysis results provide forces on the support and valve. These forces are then converted to equivalent valve accelerations and compared to supplier allowables to demonstrate qualification.

189. Piping designed by manual methodology, as directed by Design Criteria Memorandum M-40, required supports to be installed on all remotely operated active valves. The supports were installed in pairs: one on the pipe at the valve and one on the operator. This methodology ensured that there was no differential movement between the pipe, valve, and valve operator and assured valve qualification for both stress and operability considerations.

190. Guidance for design of valve supports was provided by design standards. However, all valves restrained by valve supports were reviewed by either the supplier or an independent project engineering group to ensure that valve integrity, operability, and accessabilit, for maintenance were provided. The review was directed by written procedure and the results are documented.

NRC Allegations #0392, 0393, and 0394

Allegation #0392 Description:

Atkinson-night shift QA inspection was abolished because of high quality standards applied

Allegation #0393 Description:

Atkinson-Management warned QA night shift to ease up on application of inspection standards.

Allegation #0394 Description:

Atkinson-Management cancelled the night shift QA inspection to eliminate a production obstacle.

These subjects were previously addressed in Response Nos. III-59 and III-68 submitted in PGandE letter DCL-84-243 dated June 29, 1984. The previous allegations and responses are attached hereto.

III-59 and III-68

It is alleged that:

Atkinson did shut down the swing shift, and each of us was transferred to the day shift, soon after which an ironworker superintendant [sic] threatened me, saying that I was not going to "get away with" the same things on day shift as on swing shift, and I had better watch out. I was quite intimidated. (3/21/84 Anon. Aff., Attachment 8, at 3.)

23. Management was openly hostile to the night shifts [sic] high quality standards, and around April 1979 abolished our entire shift. There was little question about the reason for abolishing the shift. Supervisors informally told us the reason was that it was not economical to keep our shift when we wouldn't buy the work.

24. This cancelling our shift was the last incident after a period of management hostility against the night shift. Earlier management had warned us to ease up on our standards.

25. When management cancelled the night shift to eliminate a production obstacle, it also sacrificed the best qualified inspectors for the Hosgri modifications on the turbine building. Most of the inspectors on night shift went to Cal Poly during the day where they were in the midst of advanced engineering or welding programs. When the night shift was cancelled we inherently lost those inspectors, since they were scheduled for classes during the day. By contrast, the day shift inspectors left to cover everything consisted primarily of individuals whose basic qualifications were that they needed the work and passed a one-week inspection course. (3/9/84 Hedrick Aff. at 8.)

Contrary to the allegation, the GFACo night shift was disbanded in April 1979 because the GFACo work was entering the completion stage (GFACo left the site in August 1979). The amount of work remaining and simple economics dictated that a single day shift was all that was necessary to complete the work on schedule. The allegations that GFACo management advised the night shift to "ease up on its

standards" or that the "best qualified inspectors" were sacrificed when the night shift was disbanded are unsubstantiated. All inspectors, both day shift and night shift, were qualified through training/certification to perform their assigned inspection duties in a professionally acceptable manner. At no time did GFACo management instruct their inspectors to sacrifice quality for production. In fact, management always stressed quality workmanship and standards. All inspection activities on all shifts were performed to the same standards.

NRC Allegation #0395

Allegation Description:

Atkinson-Management transferred inspector in retaliation for application of high quality standards.

There have been two previous instances where allegers have stated their opinion that transfers were the result of "high quality standards." One of these instances involved the abolishment of the GFACo night shift and the other involved the reassignment of an inspector to perform a vault audit. Both of these issues have been previously addressed, the first in Response Nos. III-59 and III-68 submitted in PGandE letter DCL-84-243 dated June 29, 1984, and the second in Response No. III-69 in the same letter. The previous allegations and responses are attached hereto.

III-59 and III-68

It is alleged that:

Atkinson did shut down the swing shift, and each of us was transferred to the day shift, soon after which an ironworker superintendant [sic] threatened me, saying that I was not going to "get away with" the same things on day shift as on swing shift, and I had better watch out. I was quite intimidated. (3/21/84 Anon. Aff., Attachment 8, at 3.)

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24. This cancelling our shift was the last incident after a period of management hostility against the night shift. Earlier management had warned us to ease up on our standards.

25. When management cancelled the night shift to eliminate a production obstacle, it also sacrificed the best qualified inspectors for the Hosgri modifications on the turbine building. Most of the inspectors on night shift went to Cal Poly during the day where they were in the midst of advanced engineering or welding programs. When the night shift was cancelled we inherently lost those inspectors, since they were scheduled for classes during the day. By contrast, the day shift inspectors left to cover everything consisted primarily of individuals whose basic qualifications were that they needed the work and passed a one-week inspection course. (3/9/84 Hedrick Aff. at 8.)

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standards" or that the "best qualified inspectors" were sacrificed when the night shift was disbanded are unsubstantiated. All inspectors, both day shift and night shift, were qualified through training/certification to perform their assigned inspection duties in a professionally acceptable manner. At no time did GFACo management instruct their inspectors to sacrifice quality for production. In fact, management always stressed quality workmanship and standards. All inspection activities on all shifts were performed to the same standards.

III-69

It is alleged that:

26. Management was not satisfied merely to dissolve my shift. Around April or May I was transferred to conduct an audit in the vault as punishment for our inspection record. It was unusual that a supervisory welding inspector would be auditing documents in the vault for 30 days.

When after around a month I found too many violations and correction action became backlogged, the pattern of retaliatory transfers continued. I was sent back to the field as a weld inspector until the end of the contract. (3/9/84 Hedrick Aff. at 8-9.)

It is not uncommon for experienced inspectors to be assigned the task of auditing internal documents during periods of diminished activity elsewhere. It is assumed that an experienced inspector would be able to perform the auditing activities in a timely and efficient manner. Neither the assignment nor the period of time involved was unusual.

As a point of clarification, the "vault" alluded to by Mr. Hedrick is not an airless, closet-like "black hole" structure but, in reality, is a well-lit, interior room, with limited but ample working space for at least four individuals.

Mr. Hedrick's assignment did not result in "too many violations" and the corrective action system did not become backlogged as he states. He was sent back to the field because the auditing activities were at an appropriate breakpoint and a need had been identified in the field for additional QC inspection support.

NRC Allegations #0405, 0406, and 0772

Allegation #0405 Description:

Atkinson-Management instructed production crews to ignore and/or remove QA hold tags on welds.

Allegation #0406 Description:

Atkinson-Production crews removed QA hold tag on weld and ground it down so location of weld would not be easy to identify.

Allegation #0772 Description:

Hold tags removed without proper authorization.

NRC Allegation Paraphrase:

Hold tags installed by Atkinson inspector were removed without proper authorization.

These subjects were previously addressed in Response No. III-66 submitted in PGandE letter DCL-84-243 dated June 29, 1984. The previous allegation and response are attached hereto.

III-66

It is alleged that:

14. At management instructions production crews ignored and/or removed hold tags I had issued. In fact, production crews worked for three days on the welds in one case. In that instance even the production foreman supported my reject tag because he knew the welds could not pass ultrasonic testing (UT) examination. Even the welder wanted to hang a new plate. The techniques were so poor that lack of fusion was a near certainty. But management overrode the reject tag. (See July 28, 1978 swing memorandum, enclosed as Exhibit 4).

15. Another instance where production crews removed the hold tags is described in the March 8, 1979 swing memorandum, enclosed as Exhibit 5. Production didn't take any metal out or remove the weld as they should have. Instead, crews just ground it down so you wouldn't know that a weld was there.

16. During the summer of 1978 the hold tag log book was falsified to erase any reference to a hold tag I had handwritten. Consistent with usual practice I had issued and logged in by hand hold tag 026 one evening. The hold tag involved a violation that occurred from damage when an erection aid was removed from a gusset plate. In the process, about 1/4 inch divit had been ripped out from the base metal when the erection aid was broken off. The next day after I filed my entry in the log the secretary took that page and on a new page typed the entries up to my hold tag 026. Then she stopped and returned the typed version to the log. Eventually, someone else logged in a new hold tag 026. Mine vanished. To my knowledge the violation was not fixed. A copy of the relevant log page is enclosed as Exhibit 6. (3/9/84 Hedrick Aff. at 6.)

The general subject of how "Hold" and "Reject" tags which were used to control questionable or rejectable work has been previously discussed in responses to NRC Allegations #408, #409, and #410 which were filed with PGandE letter DCL-84-145, dated May 29, 1984. As paragraph 14 of Mr. Hedrick's allegations appears to use "Hold" tag and "Reject" tag interchangeably and the circumstances associated

with the specific welds are therefore not clear, it is impossible to respond to this allegation in detail. However, under no circumstances was a generic management directive issued to ignore any such tags issued by Mr. Hedrick.

Mr. Hedrick implies that once a "Hold" tag is issued, it may never be removed by anyone other than the inspector who originally placed the tag. This is untrue. In certain specific cases, if the welds were in progress and could be ground out and rewelded such that they would pass a UT examination, the decision to continue with the welds (rather than cutting them out and starting over) was valid. In all cases, a "Hold" tag could be removed after a determination of an appropriate course of action or the acceptability of the existing weld. Such a determination could only be made in conjunction with QA and/or Engineering. The ultimate acceptability of the welds would be indicated on an inspection form signed by a QC inspector.

Paragraph 15 of Mr. Hedrick's allegations relates to "Hold" tags associated with excessive weave and oversized welds. These concerns were addressed in response to NRC Allegation #420 (Mr. Hedrick's Paragraph 7) which discussed the generic resolution of excessive weave and oversized welds. Further, as described in response to NRC Allegation #416 (Mr. Hedrick's Paragraph 3), the identified excess welding was ground down in preparation for UT inspection in accordance with previously defined and accepted procedures.

Mr. Hedrick's allegation that "the hold tag log book was falsified" was refuted in PGandE's response to NRC Allegations #408, #409, and #410. That response indicated that "Apparently, Mr. Hedrick's 'Hold' tag was incorrectly entered in the 'Reject Tags Issued' log and subsequent correction of the log deleted this incorrect entry." There were no requirements for the listing of a "Hold" tag unless such a tag resulted in a nonconformance report (NCR). Had Mr. Hedrick's "Hold" tag met this criteria and had it been entered in the proper log, "NCR Hold Tags Issued", it would not have been deleted. The work tagged by Mr. Hedrick, as described in Exhibit 6 of his affidavit, was likely determined by the day shift QC supervisor to be work in progress and approved methods and procedures for repairing the base metal existed. Thus, the tag was removed and the required work performed.

Therefore, all of the activities of "management" addressed herein were conducted in an appropriate manner.

NRC Allegation #408, #409, and #410

It is alleged that:

17. I informed management of the missing hold tag referenced in a memorandum the next day. My memo was ignored.

18. Although I was the head welding inspector on the night shift, management denied me the authority to issue hold tags directly a few weeks after my memo on the missing hold tag. I had to leave a request for the day shift supervisor to issue the tags. I was the only inspector who could not issue hold tags which is an inspector's basic enforcement tool for immediate relief. Work may have continued and problems been exacerbated before the day shift supervisor got to my requests, even when he didn't veto them.

19. Removal of hold tags coincided with attempts to cover up the flaws that had been cited. One case involved one inch weld rod weave, when the maximum was 5/8". After my hold tag was removed the weld was covered over by performing more weld passes, called stringers. But even then, the coverup was unsuccessful. The original weld diameters were still visible in gaps between groups of stringer welds. (See Exhibit 3, at p. 1.) (Hedrick Aff. at 7.)

172. There is no basis for the allegations relating to misuse or restricted use of Hold/Reject tags. GFACo used a combination of "Hold" tags and "Reject" tags to control questionable or rejectable work. GFACo Quality Control Procedure QCP-9 "Nonconforming Items" addressed the issuance of "Hold" tags and "Reject" tags. A yellow "Hold" tag was used to identify an item which was in question. No record needed to be or was kept of "Hold" tags issued unless a nonconformance report resulted. A yellow "Hold" tag was also used to identify a verified nonconforming item for which an NCR would be prepared. Each such tag issued was sequentially numbered and listed in a log of "NCR Hold Tags Issued." The two logs

referenced (NCR Hold Tags Issued and Reject Tags Issued) were set up as a basis for tracking or determining the status of work until tags were removed or final action had been taken. No formal signature or initialling of these logs was required by QA/QC personnel in order to enter a tag description. Periodically, the logs were updated and retyped by the QA secretary. These logs were not retained as quality records since they did not constitute "objective evidence" as required by the QA program.

173. A "Reject" tag could be issued by a GFACo Quality Assurance Inspector without preparing an NCR. Each such tag issued was sequentially numbered and described in a log of "Reject Tags Issued."

174. Quality Assurance Procedure QA-14 states that missing tags would be reported to the Quality Assurance Manager and be replaced by a Quality Assurance Engineer after verification of substantiating documentation. During the initial period of work by GFACo, there were instances of missing Hold tags or of production crews ignoring Hold tags. In August of 1978, the GFACo Project Manager held a meeting with the QA Manager, the General Superintendent, the Ironworker Superintendent and Foremen to discuss the importance of tagging to control the quality of work. Termination of personnel was indicated as the only option for resolving future infractions of the tagging system. This management action was successful since only isolated problems with Hold tags occurred thereafter.

175. Work-in-progress for which repairs were to be made did not require the issuance of a "Hold" tag or a "Reject" tag to correct unacceptable work if there was an approved method or procedure for making the repairs.

176. Allegation #408 is not substantiated. Mr. Hedrick's assertion that his "memo was ignored," relating to a missing Hold tag, is in conflict with QA Procedure QA-14 cited above, which describes the procedure for verifying and replacing a missing Hold tag. In fact, the whole episode appears to stem from a series of misunderstandings by Mr. Hedrick. First, from the description of the nonconforming item in paragraph 16 and in Exhibit 6 of Mr. Hedrick's affidavit, the QC supervisor on the day shift likely determined that a Hold tag was not required since the work was in progress and approved methods and procedures for repairing the base metal existed. Secondly, as can be seen in Exhibit 6, apparently Mr. Hedrick's Hold tag was incorrectly entered in the "Reject Tags Issued" log and subsequent correction of the log deleted this incorrect entry. Since the "Hold Tag Issued" log is not available, it cannot be determined whether Mr. Hedrick's Hold tag was subsequently entered in that log or whether the day shift QC supervisor determined that it was not required for the reason described above.

177. Loss of any Hold or Reject tag in the field caused, at worst, a loss of time on the part of an inspector who had to expend the effort to replace the tag. Although a lost tag was an inconvenience, there was no

degradation of quality of the final product. The ultimate acceptability of any weld was indicated on an inspection form which would be signed by the QC inspector only if all deficiencies in the work had been corrected.

178. In Allegation #409 (refer also to Allegations #415 and #416), Mr. Hedrick was told to issue Hold or Reject tags only on work that was directly assigned to him. The allegation is misleading since it implies that this instruction, not to issue Hold tags, applied to swing shift work for which he was the responsible QC inspector. This was not the case. He was instructed not to issue Hold tags on day shift work in progress.

179. The origins of this concern were instructions given to Mr. Hedrick by a PGandE swing shift inspector, Mr. Art Carlson, to place Hold tags on work in progress by the day shift. These instructions were reversed when it became apparent that the swing shift, both GFACo and PGandE, should only inspect and place Hold tags on swing shift work and not on work properly under the cognizance of the day shift. It is clear that Mr. Hedrick <u>was</u> allowed to issue Hold tags on swing shift work as is demonstrated by Exhibit 1 to his Affidavit. His December 27, 1978, swing shift memo (Exhibit 1) was dated over four months after the alleged instructions not to issue Hold tags. Item 2 on this memo clearly demonstrates that Mr. Hedrick could and did issue Hold tags and could and did stop work until the Hold tag was resolved.

180. Further (refer to Allegation #403), Mr. Hedrick was told to coordinate possible swing shift problems with the day shift QC supervisor to provide consistency of specification and code interpretation. All GFACo swing shift QC inspectors were required to coordinate the issuance of Hold tags with the day shift QC supervisor. Mr. Hedrick was not an exception.

181. Allegation #410 is without technical merit. Excessive weave was identified generically as a nonconformance. Resolution of this nonconformance was dispositioned by NCR 268 through qualification of 1-1/2 inch weave welds. It is likely that Mr. Hedrick's Hold tag and recommendation for repair to the weld were not approved by the QC supervisor since the concern was being addressed in an NCR. NCR 268 identifies Mr. Hedrick as the individual detecting the nonconformance and states that none of the work has been accepted by QA pending the NCR disposition. Therefore, this situation demonstrates that Mr. Hedrick's concern was addressed appropriately in the QA program and that the quality of the weld was acceptable.

182. No further corrective action is required.

NRC Allegation #0465

Allegation Description:

Signatures on pipe rupture restraint weld process sheets are phoney, a blank was signed then xeroxed.

This subject was previously addressed in Response No. III-9 submitted in PGandE letter DCL-84-243 dated June 29, 1984. The previous allegation and response are attached hereto.

III-9

It is alleged that:

15) The signatures on pipe rupture restraint weld process sheets -- which insure the work was not done in an ad hoc manner -- were phoney. A blank sheet was signed and then xeroxed. This is evident from a review of multiple weld process sheets -- the signatures are too perfectly identical. I also confirmed this practice with engineers from the early years. Examples are enclosed as Exhibit 18.

16) In Report 83-37 the NRC made the following finding on page 18: "The inspector examined the 90 day welder's log and found that no void existed between 8/72 and 12/72." This was the basis for NRC findings. I don't know who is responsible, but that statement is false. The April 1978 Pullman response to the NSC audit (Exhibit 19, at p. 25.) concluded the opposite: "There is a void in the 90 day weld log from August, 1972 to December, 1972." Any excuse based on a purported reconstruction of the log cannot wash. The NRC should know, because my November 1983 report to Commissioner Gilinsky should have been reviewed by the NRC staff months before Report 83-37 was issued at the end of February 1984. In the last section of my report I challenged the reconstruction as not being reliable, due to inconsistencies and omissions that rendered impossible any confidence in the results. (3/22/84 Hudson Aff. at 8-9.)

Item 15

Standard format process sheets were prepared for specific types of rupture restraint work. The required steps to be accomplished and inspection hold points to be performed were in accordance with the approved procedures and were pre-typed and xeroxed to include the signatures of the preparer of the form and the QA individuals who approved the content of the form. These signatures indicate that the process sheet was correctly prepared, not that the inspections had been performed appropriately. The inspector signs the line "Inspection checks approved by" and dates the signature upon..

completion of his inspection. He maintains control of the process sheets and merely adds the restraint numbers and/or identification numbers (such as field weld numbers) as the need arises prior to the start of work.

The process sheets, when completed, are then turned in to QA for review and filing in the appropriate document package. Although there is nothing in the regulations or the AWS code to preclude the use of xeroxed signatures, it was subsequently decided to discontinue this practice.

Item 16

The 90-day welders log was reconstructed, identified as such in the response to the NSC audit, and was shown to the NRC during their investigation of the NSC audit. The log was reconstructed from available evidence to close or answer the "void" identified in the NSC audit.

Mr. Hudson's allegation is based on GAP submittal of March 23, 1984, Exhibit #1, a letter from Mr. Hudson to Commissioner Gilinsky. Pages 24-30 deal with this issue. Mr. Hudson discusses DR 4713, which documented paper-handling discrepancies in regard to the containment spray piping system welding. Mr. Hudson notes that the rod requisitions listed the actual welding material used (that is, SMAW E308-16, GTAW ER-308) and therefore the welding process. The

maintenance of welder qualifications is based on the weld process used (SMAW, GTAW, etc.). Mr. Hudson then jumps to the three month gap in the welder log identified by NSC. He notes that the gap and the DR 4713 welding took place at the same time. Mr. Hudson then focuses on welder "N" and questions, if the listing of weld procedures based on the rod requisitions and process sheets is incorrect, how can the reconstruction of the 90-day welder log be correct? Mr. Hudson ignores the fact that the reconstructed log for welder "N" used his carbon steel welding, not his stainless steel welding on DR 4713, to show maintenance of his qualifications.

Since the weld rod requisitions listed the actual weld rod used, which relates directly to the weld process, requisitions can be used correctly as a basis for updating welder qualifications.

It is recognized that some uncertainty may exist whenever such an effort is required. However, it is felt that sufficient evidence existed to accomplish this effort with a high degree of confidence.

NRC Allegation #0513

Allegation Description:

Failure to comply with weld procedure requirements led to "truly pathetic" welds for the pipe rupture restraints.

This subject was previously addressed in PGandE Response to Intervenors' Motion to Reopen the Record on CQA, Arnold et al., Aff. at 17 (JI 58 and 29), dated March 19, 1984. The previous allegation and response are attached hereto.

JI #58 and 29, Motion at 20-21 and 15, respectively.

It is alleged that:

> In some instances, the unreliability of nondestructive examinations is due to manipulation of the test results in order to mask deficiencies. This allegedly occurred in 1982, with respect to tests involving around 230 Unit I (sic) full penetration welds -- some in the containment -- where UT examinations revealed large numbers of rejectable conditions, including voids, slag, and lack of fusion in the roots of the welds. These deficiencies raise questions about weld bonding. Bechtel and PG&E (sic) management responded by manipulating the UT procedure in a manner that would lower the number of rejected indications. The welds were then "accept(ed) as is" on the basis of relaxed acceptance criteria. (citing 1/12/84, Anon. Aff. at 8; 1/16/84, Anon. Aff. at 2-3.)
>
> The failure to comply with weld procedure requirements led to "truly pathetic" welds for the pipe rupture restraints. In one case a backing bar for the weld was permanently held by tack welds designed to provide temporary support. The fusion was so weak that a light tap with a hammer knocked it off completely. (citing 1/16/84, Anon. Aff. at 2.)

46. These allegations combine the allegations from two anonomous affidavits dated January 12, 1984, and January 16, 1984. However, the first sentence, namely that test results were manipulated, is not supported by either of the affidavits cited as authority. One-underlying affidavit spoke only to "change of 'acceptance criteria,'" which is substantially different than "manipulation of test results." (1/12/84, Anon. Aff. at 8.)

47. In August 1982, field welds on rupture restraints in Unit 2 were observed by a PGandE inspector to have incomplete fusion to backing bars. In order to visually inspect the field welds, the backing bars were removed by chiselling and grinding. To identify and track the problem, two NCRs (DC.-82-RM-N001 and DC2-82-RM-N002) and an

investigation procedure (8833XR-001) for the full penetration welds in Unit 1 were written.

48. As originally written, the investigation procedure required the welds to be re-examined both by the UT procedure in existence at the time the weld was made and by the 1982 UT procedure. Most of the welds examined with the 1982 procedure showed indications which may or may not have required rejection under the original acceptance criteria.

49. Independent of the investigation program, an analysis of the UT procedures being utilized by the program was performed by Bechtel Materials and Quality Services, the equivalent of PGandE's DER. The analysis determined that examinations using the original procedure were not repeatable. This conclusion corresponded to a determination made by PGandE in 1979, when use of the original procedure was discontinued and all welds examined under this procedure were addressed by PGandE engineering. The analysis also determined that the procedure developed by PGandE in 1979, and still in use in 1982, was more stringent than the applicable requirements of AWS.

50. As a result, a third procedure (PGandE Procedure 3523-M), the one challenged by Mr. Hudson, was developed and utilized, which reflected the current AWS requirements. This UT procedure was not manipulated in any way. As direct proof, under the new procedure, 40% of the welds did not meet AWS acceptance criteria.

51. Characteristics and location of each individual weld included in the 40% were submitted to engineering for a deta..ed analysis to determine each weld's fitness for use under its intended design purpose.

52. The weld's fitness for intended design purpose was demonstrated by engineering analysis or the weld was replaced or repaired. As a result of this program thirteen welds of the same joint configuration were repaired..

53. Under the program, there was no manipulation of test results. Procedures utilized adopted code requirements, and individual welds were analyzed to determine fitness for intended design purpose consistent with proper engineering standards.

54. From the initial discovery of the problem through its resolution, a well thought out and well controlled program was conducted in accordance with established quality assurance requirements.

NRC Allegation #0570

OI 7

Allegation Description:

In January 1983, alleger was removed as internal auditor for not closing enough audits although others were the cause of delay.

This subject was previously addressed in PGandE Response to Intervenors' Motion to Reopen the Record on CQA, Karner et al., Aff. at 5 (JI 92), dated March 19, 1984. The previous allegation and response are attached hereto.

JI #92, Motion at 26.

It is alleged that:

In January 1983, Mr. Hudson was removed as internal auditor, on pretextual grounds that he had not closed out enough audits. Unfortunately, Mr. Karner and supervisors were sitting on some of Hudson's audits beyond the required deadline, although they were not demoted for obstructing the process. Mr. Karner also was loading Mr. Hudson down with ancillary assignments, and unscheduled audits were not counted. (citing Hudson Aff. at 24.)

6. Mr. Hudson was replaced as the Pullman Internal Auditor in January, 1983. He then worked in the Pullman QA/QC Department closing out Discrepancy Reports (DRs) and Deficient Condition Notices (DCNs). He was not removed from his position of Internal Auditor on the pretextural grounds that he had not closed out enough audits.

7. Mr. Hudson's failure to comply with ESD 263 has already been discussed and was a significant reason for his reassignment. While Mr. Hudson had also been criticized for not conducting all of the scheduled audits, it was not his responsibility to do the corrective action necessary to close out the audits. Thus, the statement by Mr. Hudson that he was removed as the Internal Auditor on pretextural grounds that he had not "closed out" enough audits is simply not true.

NRC Allegation #0571

Allegation Description:

When informed of non-compliance with 10CFR50 App. B, QA Manager stated that Pullman was not committed to Appendix B.

This subject was previously addressed in PGandE Response to Intervenors' Motion to Reopen the Record on CQA, Geske et al., Aff. at 8 and 9 (JI 93), dated March 19, 1984. The previous allegation and response are attached hereto.

JI #93, Motion at 26-27.

It is alleged that:

> The bottom line is that Pullman was not committed to 10CFR50, Appendix B. The internal auditor informed Mr. Karner that he had violated 10CFR50, Appendix B. Karner responded twice that Pullman was not committed to 10CFR50, Appendix B, and that it was "O.K." for him to violate the Code of Federal Regulations and related contract specifications. (citing Hudson Aff. at 24.)

16. The characterization of Mr. Karner's response to Mr. Hudson is inaccurate and deliberately misleading. At no time did Mr. Karner say it was acceptable to violate NRC requirements or contract specifications.

17. Pullman Power Products QA Program was implemented in accordance with PGandE Specification 8711, Section 4, "Contractors Quality Assurance Program." Specification 8711 does not specifically reference 10 CFR 50 Appendix B. Instead, it specifies the criteria to be met. These criteria address the 18 elements of 10 CFR 50, Appendix B.

18. It is to a discussion of this point which Mr. Hudson misleadingly refers in his affidavit. Mr. Karner did not indicate that it is "ok" to violate the Code of Federal Regulations, or any other quality assurance requirements.

19. Mr. Karner is fully aware of Pullman's obligation to meet quality assurance program requirements, and knows he is responsible for their implementation. The fact that Pullman's program meets the quality program requirements is evidenced by successful completion of PGandE, ASME and NRC program audits. Additionally, onsite audits are conducted by Pullman corporate audit teams to assure continued implementation of 10 CFR 50, Appendix B.

NRC Allegation #0655

Allegation Description:

Pullman QC Manager never responded to an inspector's memo about a potentially widespread problem with baseplates mounted over concrete with voids.

This subject was previously addressed in Response No. 199 submitted in PGandE letter DCL-84-167 dated May 17, 1984. The previous allegation and response are attached hereto.

GAP #199, Petition at 12.

It is alleged that:

In the summer of 1982, the same inspector raised but never received a response to a memorandum asking Mr. Karner about a potentially widespread problem with baseplates that are mounted over concrete voids. The inspector believed that the voids could affect the strength of the bearing surface for the baseplates. (citing 2/25/84 Anon. Aff. at 12 and related Exhibit 22.)

The difference between the Petition and Attachment 2 is that the allegation refers to a memorandum to Mr. Karner concerning "a potentially widespread problem with baseplates that are mounted over concrete voids," whereas Attachment 2, pp. 19-20 and Exhibit 37, identify the actual concern as a question about the installation of base plates over unistrut embedded in concrete and the reduction in bearing surface where the grout did not completely fill the unistrut. Since the original response did not discuss this concern, the original response should be deleted and the following supplemental response inserted in its place.

A review of the Pullman files has failed to discover a copy of the memo attached as Exhibit 37. In fact, neither Mr. Karner nor Mr. Werner, to whom Exhibit 37 was addressed, can recall ever seeing the memo. However, Mr. Werner does recall discussing the matter with Mr. McDermott and going into Unit 2 and inspecting the baseplate in question. Mr. Werner recalls explaining to Mr. McDermott that he did not consider the condition to be of any consequence due to the relative sizes of the baseplate and the unistrut.

From an engineering standpoint, the existence of embedded unistruts under rupture restraint baseplates generally would not be a cause for concern. In most cases, the unistruts are completely filled with grout when the baseplates are grouted, thereby eliminating any concern regarding grout voids. Even if the unistrut is not entirely filled, the small size of the unistrut, 1-5/8" wide, limits the size of the potential void. Baseplates require bearing when they are subject to direct or flexural compression. Due to the typical size of the baseplates they can easily span across a hypothetical void caused by the 1-5/8" wide unistrut with negligible effects on their stiffness. The small reduction in bearing area, typically 2 percent, caused by the existence of an unfilled embedded unistrut would be negligible.

To further illustrate this insignificance of voids in embedded unistruts, pipe support baseplate grouting, as addressed in ESD 223 section 6.3.7.2, allows gaps under the baseplate to extend over 25 percent of the baseplate surface area. While the rupture restraint construction procedures do not address the maximum acceptable voids, applying this same 25 percent criteria to rupture restraint baseplates, would demonstrate that the bearing surface of the plate more than adequately meets design requirements.

For the specific case identified in this allegation, the Unit 2 rupture restraint design has been reviewed and calculation no. 52.23.145.1 has been amended to acknowledge the existence of the embedded unistrut. As part of the review, the unistrut was assumed to be totally devoid of grout, thereby reducing the bearing surface by 2 percent. Since the baseplate design has a

factor of safety of 15, a 2% reduction in the bearing surface is of no significance thereby substantiating the original judgement made by Mr. Werner and contradicts any notion that management sought to cover-up a potential problem.

At the same time engineering was reviewing the design, Mr. Werner visually reinspected the baseplate in question and determined that the embedded unistrut is filled with grout.

Therefore, this allegation raises no technical concerns.

NRC Allegation #0665

Allegation Description:

PGandE's reform commitments have not been applied to the field through an on-site training program for the engineers.

This subject was previously addressed in Response No. 246 submitted in PGandE letter DCL-84-166 dated April 28, 1984. The previous allegation and response are attached hereto.

close due to ablist OPEG

GAP #246, Petition at 27.

It is alleged that:

Even if appropriate, PG&E's reform commitments have only existed on paper. They have not been applied to the field through an on-site training program for the engineers. (citing 2/27/84 Anon. Aff. at 6.)

134. The allegation is false in that at least four training programs were conducted during 1983 for on-site engineers and inspectors. Two weld symbols training programs based on AWS A2.4 "Symbols for Welding and Nondestructive Testing," for 350 engineering and inspection personnel were conducted during May, June, and July, 1983.

NRC Allegations #0759 and 1007

Allegation #0759 Description:

Atkinson QC was non-existent at start, it was something that just sort of developed.

Allegation #1007 Description:

Quality Control was something that sort of developed. It was not there from the start, some documents had to be bound back and re..ritten to obtain adequate inspection documents - see shear.

NRC Allegations #0759 and 1007 Paraphrase:

Atkinson quality control was nonexistent at start, it was something that just sort of developed. Documents were revised as work proceeded, as something less than adequate information was found in original documents.

These subjects were previously addressed in Response No. 418 submitted in PGandE letter DCL-84-195 dated May 29, 1984. The previous allegation and response are attached hereto.

NRC Allegation #418

It is alleged that:

5. The quality of early Atkinson inspectors was erratic: necessary information was not verified because there wasn't a perfected, systematic weld record system. The system initially was established by trial and error from the bottom up. Later, the system was perfected. But some of the early inspection records were so superficial that multiple operations or welds were covered by a single check mark. (See February 2, 1979 swing memorandum enclosed as Exhibit 3, at p. 2). (Hedrick Aff. at 3.)

193. The GFACo inspection requirements, as established by the PGandE specification and the codes referenced therein, were consistent throughout the contract. At the start of contract work in 1978, GFACo was given approval to use a Quality Assurance Program which had been previously used onsite for work under Specification 8831 (1969-1977). This program met all of the Diablo Canyon requirements in effect as of that date. The QA program was strengthened through issuance of successively more detailed and explicit Quality Control procedures. As modification work started on the first few bays of the turbine building, it became necessary to develop a more detailed inspection/documentation system so as to provide better traceability of documentation for each unique joint or plate. This change meant redocumenting the initial inspection records. After multiple forms identifying the previously completed and inspected joints had been prepared from the original single form by QC lead inspectors or by a QA engineer, the original QC

inspector was contacted for confirmation and initialing/signing of the inspection form for each numbered joint for which the inspector was responsible. Incomplete or missing information was either documented through an NCR or the work was reinspected. There was no falsification of documents. No further corrective action is required.

NRC Allegation #0774

OI?

Allegation Description:

Alleger found so many problems in a vault audit that he was given another assignment.

NRC Allegation Paraphrase:

(Atkinson) alleger found so many problems in a vault audit that he was given another work assignment, since he was generating a backlog of problems.

This subject was previously addressed in Response No. III-69 submitted in PGandE letter DCL-84-243 dated June 29, 1984. The previous allegation and response are attached hereto.

III-69

It is alleged that:

26. Management was not satisfied merely to dissolve my shift. Around April or May I was transferred to conduct an audit in the vault as punishment for our inspection record. It was unusual that a supervisory welding inspector would be auditing documents in the vault for 30 days.

When after around a month I found too many violations and correction action became backlogged, the pattern of retaliatory transfers continued. I was sent back to the field as a weld inspector until the end of the contract. (3/9/84 Hedrick Aff. at 8-9.)

It is not uncommon for experienced inspectors to be assigned the task of auditing internal documents during periods of diminished activity elsewhere. It is assumed that an experienced inspector would be able to perform the auditing activities in a timely and efficient manner. Neither the assignment nor the period of time involved was unusual.

As a point of clarification, the "vault" alluded to by Mr. Hedrick is not an airless, closet-like "black hole" structure but, in reality, is a well-lit, interior room, with limited but ample working space for at least four individuals.

Mr. Hedrick's assignment did not result in "too many violations" and the corrective action system did not become backlogged as he states. He was sent back to the field because the auditing activities were at an appropriate breakpoint and a need had been identified in the field for additional QC inspection support.

NRC Allegations #0775, 0777, 0811, and 0998

Allegation #0775 Description:

Vault audit findings (unofficial) - incomplete fuel inspection forms, check marks missing, initials missing, welder's names missing.

NRC Allegation Paraphrase:

(Atkinson) alleger vault audit findings were incomplete fuel inspection forms, check marks missing, initials missing, welder's names missing.

Allegation #0777 Description:

Only the welder who completed the weld would appear on record.

Allegation #0811 Description:

Welders who did work were not accurately documented.

NRC Allegation Paraphrase:

Atkinson welders who performed work were not accurately documented on weld inspection forms (FE-1). The weld form had one of the lines for identification of the welder or welders performing the work. Many times a welder would perform part of a weld one day shift, another welder would pick it up the next shift or day, sometimes without knowing which welder had worked the weld before. Many times it would be a last minute to fill out the FE-1 form line on who did the welding, and remember and identify (sic) all the welders who worked on the weld from shift to shift, day to day. Many times an inspector would find a weld almost done, and there would be no welder's name on the FE-1 form.

Allegation #0996 Description:

Audit of vault found unacceptable paper work incomplete fuel inspection forms, checkmarks missing, etc. - especially prevalent was the missing 10 percent sign off for welds.

NRC Allegation Paraphrase:

(Atkinson) alleger vault audit findings were incomplete fuel inspection forms, check marks missing, initials missing, welder's names missing.

These subjects were previously addressed in Response No. 399 submitted by PGandE letter DCL-84-195 dated May 29, 1984, and Response Nos. III-65 and III-69A submitted in PGandE letter DCL-84-243 dated June 29, 1984. The previous allegations and responses are attached hereto.

It is assumed that the term "Fuel inspection form," as used in the allegation, is the "Field Erection Inspection Form, FE-1."

NRC Allegation #399

It is alleged that:

30. When inspectors found evidence of ghost welding, management did not satisfactorily address the problem and it persisted. Although there are neames (sic) credited to the welds, I wouldn't vouch for their accuracy generally. (Hedrick Aff. at 9.)

153. "Ghost welding" did not occur or persist as alleged. Occasionally, an undocumented weld was identified by an inspector. In such cases, the weld was documented on an NCR.

154. All GFACo welders were qualified prior to being assigned as welders and all welds were inspected prior to acceptance. Inspection of welded joints required a combination of welder and inspector communication; i.e., the welder must advise the inspector when a "Documented Inspection Point" had been reached and the inspector must be aware and available to make the inspection. Since there was not a one-to-one relationship of welders and inspectors, a weld was undocumented only when production failed to notify Quality Control for required inspection. The GFACo inspection document identified each weld joint and was used to verify that inspection had taken place and that the weld was acceptable. In cases where documentation did not include a welder's name and the welder could not be identified, an NCR was written (e.g., NCRs 315 and 321 listed missing welders' names at four weld locations). It should be noted that AWS D1.1 does not require welders to be identified in

relation to specific welds. The GFACo QA program went beyond the code requirements and identified the welder by name as further verification that the welder was qualified. While such instances occurred, they were not frequent and the corrective actions, which included reinspection, removal of the weld, or accept-as-is, were controlled by the QA program.

155. No further corrective action is required.

III-65

It is alleged that:

6. Management had quality control documents falsified to upgrade the incomplete inspection records. Other personnel doctored the records to add information that hadn't been included by the initial inspectors, after the originators had left the job. To illustrate, separate detailed inspection records were created and substituted for one check mark that approved multipe [sic] welds in the earliest records. I was an eyewitness to this practice. (3/9/84 Hedrick Aff. at 3-4.)

The allegation that management had quality control documents falsified is, itself, false.

This issue is apparently the same one that has been addressed in the response to Allegation III-56. As is stated in that response, as modification work on the first few bays of the turbine building proceeded, it became apparent that it would be useful to provide documentation for each unique joint, connection or plate rather than collective documentation for several joints, connections or plates at a common location. Multiple forms identifying the previously completed and inspected joints were prepared by QC lead inspectors or by a QA engineer from the previously completed collective forms. The original QC inspector was contacted for confirmation and initialing/signing of the inspection form for each numbered joint for which the inspector was responsible. When the original inspector was not available or when inspection of the joints could not be verified by review of the inspection documentation, the work was either reinspected or the incomplete or missing information was documented through an NCR. There was no falsification of documents.

III-69A

It is alleged that:

29. Undocumented welds, performed by unknown welders, were a common occurrence. Even if the weld were repaired, there would only be documentation identifying the second welder who fixed it. There was no way to identify the original welder whose work was deficient. On site we jokingly referred to those undocumented welders as "ghost welders." (See February 14, 1979 memorandum, enclosed as Exhibit 8.) (3/9/84 Hedrick Aff. at 9.)

The response to NRC Allegation #399 filed with PGandE letter DCL-84-195, dated May 29, 1984, addressed the subject of undocumented welds in greater detail. "Undocumented welds, performed by unknown welders" were not a common occurrence at Diablo Canyon as is alleged. In cases where names of welders were not identified on inspection documentation (Hedrick Exhibit 8), subsequent follow-up by QC inspectors usually resulted in identification of the welders as required on GFACo Form FE-1. In cases where the name of the welder could not be determined, the welds were documented on an NCR as a basis for acceptance or rewelding.

NRC Allegations #0783 and 0784

Allegation #0783 Description:

An individual was sitting there writing "OK" on documentation.

NRC Allegation Paraphrase:

A former Atkinson inspector's inspection documents (on shear lug work) were rewritten, and another individual was sitting there signing the former inspector's initials on the re-documentation of old work. Inspection reports were being updated and expanded to current level of documentation standards.

Allegation #0784 Description:

Documentation was rewritten and signatures transferred without procedures and adequate documentation to "clean up" paper.

NRC Allegation Paraphrase:

Atkinson documentation was rewritten and signatures transferred without procedures and adequate documentation to recreate/"clean up" early documents. Usually performed by the same inspector who signed the original report, if he was still on the job site.

These subjects were previously addressed in Response Nos. III-56 and III-65 submitted in PGandE letter DCL-84-243 dated June 29, 1984. The previous allegations and responses are attached hereto.

GEAC Quality Control Procedure QCP-15, "Preparation and Review of Quality Assurance Records," established the requirements relating to QA documentation,

including review for completeness and verification that the work operation had been satisfactorily completed. Either QC lead inspectors or a QA engineer were assigned the responsibility for documenting review and verification of correction completion. When either the original inspector was not available or when inspection of work could not be verified by review of the inspection documentation, the work was either reinspected or the incomplete or missing information was documented through an NCR. There was no falsification in the "clean up" of documentation, as alleged.

No further action is required.

III-56

It is alleged that:

For example, when I was at Atkinson, I observed an inspector sitting at his desk in the office, repeatedly signing someone else's name to a whole stack of documents. It turned out that an inspector had left Atkinson, and after he left someone decided that there were a number of documents that he should have signed or initialled. So, instead of re-inspecting the work, or even trying to get the first inspector to try to reconstruct the paperwork, Atkinson chose to have another inspector forge the signature of the first inspector. Since he was doing this in the office I assume that it was done with the knowledge of management, and probably at their direction, to make the paperwork good-looking, even if inaccurate.

Also while I was at Atkinson, during the time that seismic modifications were being done to the turbine building, I discovered that someone had signed my name as having inspected some work that I knew quite well I had never inspected. At that time Atkinson had two shifts, and I discovered that it was a person on the other shift who had forged my name. I confronted him about it and he admitted that he had signed my name, and the signature was corrected. He did not, to the best of my knowledge, ever forge my signature again.

Incidents like this one point out the need for QC personnel to always be alert to the possibility of being set up, so as to take the rap for having approved bad work, a tactic that has been used to fire people at Diablo. (3/21/84 Anon. Aff., Attachment 8, at 1-2.)

The allegations relating to large scale signing of someone else's name and forging of signatures are unsubstantiated and untrue. As structural modification work started on the first few bays of the turbine building, a more detailed inspection/documentation system was developed to provide specific inspection traceability for the documentation of each unique welded or bolted field connection (Guy F. Atkinson Company (GFACo) Form FE-1). The existing (initial)

inspection documentation considered several joints or connections at a common location as a single entity. Multiple forms identifying the previously completed and inspected joints were prepared from the single previously completed inspection forms by QC lead inspectors or by a QA engineer. The original QC inspector was contacted for confirmation and initialing/signing of the inspection forms for each numbered joint for which he was responsible. This might account for the observation by the alleger that an inspector was seen repeatedly signing documents. However, such signings were with the individual's own name, not that of others. In cases where the original inspector was not available or when inspection of the joints could not be verified by review of the inspection documentation, the work was either reinspected or the incomplete or missing information was documented through an NCR.

Obviously, no one can be absolutely certain that isolated instances where individuals surreptitiously signed the name of another inspector to a form did not occur. However, such a practice was neither sanctioned nor condoned by PGandE or its contractors. Anyone identified to management as having done this would have been dealt with severely. Specific avenues for reporting of failures and defects (and forgery/falsification) were set up under the requirements of 10 CFR 21 and were made known to all employees. Neither the alleger nor anyone else brought forth any information about this alleged act of forgery, which supposedly occurred over

five years ago, to the attention of management via any one of the available avenues or in any other manner before this instant affidavit.

III-65

It is alleged that:

6. Management had quality control documents falsified to upgrade the incomplete inspection records. Other personnel doctored the records to add information that hadn't been included by the initial inspectors, after the originators had left the job. To illustrate, separate detailed inspection records were created and substituted for one check mark that approved multipe [sic] welds in the earliest records. I was an eyewitness to this practice. (3/9/84 Hedrick Aff. at 3-4.)

The allegation that management had quality control documents falsified is, itself, false.

This issue is apparently the same one that has been addressed in the response to Allegation III-56. As is stated in that response, as modification work on the first few bays of the turbine building proceeded, it became apparent that it would be useful to provide documentation for each unique joint, connection or plate rather than collective documentation for several joints, connections or plates at a common location. Multiple forms identifying the previously completed and inspected joints were prepared by QC lead inspectors or by a QA engineer from the previously completed collective forms. The original QC inspector was contacted for confirmation and initialing/signing of the inspection form for each numbered joint for which the inspector was responsible. When the original inspector was not available or when inspection of the joints could not be verified by review of the inspection documentation, the work was either reinspected or the incomplete or missing information was documented through an NCR. There was no falsification of documents.

NRC Allegation #0600

Allegation Description:

It was impossible for QC to get a welder recalled for retest.

NRC Allegation Paraphrase:

In 1978 it was impossible for QC to get a welder recalled for retest on Atkinson work site. A welder, The specifications said that the inspector could call for a retest, but in practice, it was impossible to get a retest on a welder suspected of being incapable of doing the job.

This subject was previously addressed in Response No. 397 submitted in PGandE letter DCL-84-195 dated May 25, 1984. The previous allegation and response are attached hereto.

NRC Allegation #397

It is alleged that:

28. It was almost impossible to get unqualified welders off the job. On paper I had the authority to send them back for additional training and retesting. But production would ignore my instructions and just reassign the welders to another crew. This happened on around half a dozen occasions over the 18 months that I worked for Atkinson. When Atkinson's contract ended, the same welders got on at Pullman and Foley, suggesting that those contractors' standards are as low as Atkinson's. (Hedrick Aff. at 9.)

150. PGandE has no information supporting Mr. Hedrick's allegation. To the contrary, Mr. Carlson, who was PGandE's swing shift inspector, affirmed that Mr. Hedrick never complained that a questioned welder had continued as a production welder. Mr. Hedrick had the right to question any welder's ability and to require another qualification test if the welder was to continue as a welder as described in GFACo Quality Control Procedure W-1, "Welding and Welder Qualification" (AWS D1.1, Rev. 2-77). Generally, a welder was reassigned to a nonwelding crew as an alternative to requalifying or terminating the welder.

151. Some welders later went to work for Pullman or H.P. Foley. These welders were requalified in accordance with approved contractor's welding procedures prior to performing welding.

152. No further corrective action is required.

NRC Allegations #0813, 0836, and 0839

Allegation #0813 Description:

Plant is built on underground stream bed where granite was predicted (turbine building, west side).

NRC Allegation Paraphrase:

Plant is built on underground stream bed were granite was predicted (turbine building, west side). There were three caissons in the turbine building west side tress going down 65 to 85 feet. They drilled these three four-foot diameter holes down that far. And they found that the base rock, or their bedrock, was not really the granite that it had tested out to be, was sandstone.

Allegation #0836 Description:

3 caisson holes 65 to 85 ft. deep drilled in mid-1979 drilled into sandstone vice granite that was supposed to be there.

NRC Allegation Paraphrase:

Three caisson holes 65 to 85 feet deep, drilled in mid-1979, were drilled into sandstone vice granite that was supposed to be there. The caissons in the middle of the building, and the three caisson holes 65 to 85 feet deep were drilled down into a underground stream bed that was to be solid bedrock. Aligned with that, in the performance of duties on the turbine deck and above, alleger had occasion to observe the actions of a core drilling outfit that was drilling down through the turbine pedestals. He observed the core samples coming up. The so-called granite sub-base, or sub-rock, turned out to be sandstone. There were, in fact, veins of diesel oil from leaking tanks in this rock, evidencing the fractured nature of it.

Allegation #0839 Description:

Anchoring bedrock for turbine is so fractured that there were veins of diesel oil from leaking tanks in the rock.

NRC Allegation Paraphrase:

Anchoring bedrock for turbine is so fractured that there were veins of diesel oil from tanks leaking into rocks.

These subjects were previously addressed in Response Nos. 389 (paragraph 131) and 390 submitted in PGandE letter DCL-84-195 dated May 29, 1984. The previous allegations and responses are attached hereto.

At no time during this operation was any diesel fuel oil encountered in the rock or removed from holes with the cores. There may have been some instances where an oily substance (possibly diesel fuel) was found on the core samples while they were lying in open boxes on the 140-foot elevation of the turbine building. It took several days to complete drilling of each hole. During this time, these boxes were exposed to the many workmen and drilling equipment participating in the activity. This may have resulted in the appearance of diesel fuel on the samples.

The PGandE Startup Engineers have been queried on this matter and have confirmed that no diesel fuel oil tanks at the site have demonstrated any indications of leakage.

NRC Allegation #389

It is alleged that:

41. During the spring of 1978 management improperly installed three caissons during the Hosgri modifications for the turbine building in holes that had about 12 feet of mud and water in the bottom of the 65-85 foot caisson holes. There was supposed to be granite for bedrock. The holes quickly filled up with mud and water, because they were in an underground stream bed. This led to a Mexican standoff as the job was stopped for over two weeks. In the end PG&E management decided to just install the reinforcement bar cages and fill the holes with concrete. The excuse was that the hole was too deep to clean safely. The particular caissons are located toward the center of the turbine building. (Hedrick Aff. at 12.)

130. Contrary to this allegation, all caissons were properly installed under close supervision of both GFACo and PGandE personnel. These caissons were designed as friction-type piles, not as end-bearing piles, for installation in the rock sandstone strata that exists at Diablo Canyon. PGandE was aware that there is no granite located at the site (Ref. FSAR Section 2.5). Concrete was not placed in 12 feet of water and mud in the bottom of holes as alleged; this material was removed. The depth of the caisson holes varied from approximately 40 to 60 feet, not 65 to 85 feet as alleged. Holes were drilled through backfill material until the underlying bedrock was reached. An additional 30 feet was then drilled into bedrock. The upper portion of the hole (in backfill) was usually cased. The lower portion of the hole (in bedrock) was uncased.

131. There was no ground water from "an underground steam bed" encountered at the time of initial drilling of the caisson holes. The situation described by Mr. Hedrick occurred when rain water and ground water entered the holes. After pumping the rain water out of the holes, it was observed that water continued to percolate into several holes. At this time, PGandE's Engineering Department was contacted by a PGandE inspector to determine if this water presented a design concern. The PGandE Engineering Department engaged a soil consultant, Harding-Lawson Associates, to inspect all caisson holes for acceptability. At the conclusion of Harding-Lawson's field inspection and prior to concrete placement, the option was given to either place tremie concrete (underwater concrete placement method) or pump out the ground water before concrete placement. The latter method was used. Water and/or muddy water was removed by mechanical means and dip buckets. The allegation is correct in inferring that Cal-OSHA requirements prohibited lowering of a man below the cased portion of the hole. Prior to the placement of concrete, each caisson hole was inspected visually and by sounding. These inspections found the holes to be acceptable and were documented on "Concrete Placement Cards" (as required by GFACo QC procedures). Each applicable inspection item, as noted on the Concrete Placement Card, was initialled by GFACo production and QA/QC personnel and a PGandE concrete placement inspector.

132. The two-week delay referred to as a "Mexican Standoff" in the allegation constituted the time required for Harding-Lawson to inspect the holes and develop their recommendations as well as time lost due to rainy weather.

133. No corrective action is required.

NRC Allegation #390

It is alleged that:

42. Due to its earth base of sandstone instead of granite as presumed, grouted cables designed to anchor turbine pedestals ended up pulling out. The tension cables are supposed to anchor the pedestals to bedrock, but sandstone was not a solid enough base to grip. (Hedrick Aff. at 12.)

134. Contrary to this allegation, the turbine building rests on sandstone bedrock as originally designed (Ref. FSAR Section 2.5). The turbine pedestal anchors were designed for installation in the sandstone bedrock. Prior to use of these VSL rock anchors, their suitability for use at Diablo Canyon was verified by installing and tensioning a test anchor. Conclusive evidence of the acceptability of each anchor has been achieved, as the design of these anchors requires that each anchor be tensioned to a load exceeding the calculated design load. Records documenting that every anchor was successfully preloaded to the required values are on file.

135. There were two anchors on which the cable strands broke under tensioning. They were removed and replaced with new anchors. One other anchor would not hold the specified 600 kips. These anchor deficiencies were documented on nonconformance reports which were reviewed and approved by the responsible PGandE engineer.

136. Records are available which verify that tensioning of all anchors met engineering design requirements. No corrective action is required.

NRC Allegations #0823 and 1090

Allegation #0823 Description:

QC inspectors performing inspections without being qualified Level I.

Allegation #01090 Description:

Conducted inspections without Level I or II certification.

NRC Allegations #0823 and 1090 Paraphrase:

Foley QC inspectors were performing inspections without being qualified Level I or Level II, sometimes after only being on the job one and a half weeks.

These allegations are similar to SSER 21, item 57, and were fully responded to in PGandE letter No. DCL-84-065 dated February 17, 1984. The previous concerns and responses are attached hereto.

PACIFIC GAS AND ELECTRIC COMPANY

PG&E

77 BEALE STREET • SAN FRANCISCO, CALIFORNIA 94106 • (415) 781-4211 • TWX 9:0 27[illegible] 658[illegible]

J. O. SCHUYLER
[illegible]
[illegible]

February 17, 1984

PGandE Letter No.: DCL-84-065

Mr. John B. Martin, Regional Administrator
U. S. Nuclear Regulatory Commission, Region V
1450 Maria Lane, Suite 210
Walnut Creek, CA 94596-5368

Re: Docket No. 50-275, OL-DPR-76
Diablo Canyon Unit 1
SSER 21 - Item 57
Inspector Qualification

Dear Mr. Martin:

Enclosed is PGandE's response to item 57 described in SSER 21 pertaining to the qualification and certification of H. P. Foley quality control inspectors. Information regarding qualification and certification of Pullman Power Products quality control inspectors is scheduled to be provided shortly.

Kindly acknowledge receipt of this material on the enclosed copy of this letter and return it in the enclosed addressed envelope.

Sincerely,

J. O. Schuyler

Enclosure

cc: T. W. Bishop
D. G. Eisenhut
M. E. Schierling
Service List

PGandE Letter No.: DCL-84-065

ENCLOSURE

PGandE RESPONSE TO NRC QUESTIONS REGARDING CERTIFICATION OF FOLEY INSPECTORS

Description of Concern

On January 19, 1984, representatives of NRC Region V noted that HP Foley Company (HPF) did not begin certification of inspector qualification in strict compliance to ANSI N45.2.6 until 1982. PGandE was requested to provide a description of the methods and programs used to qualify inspectors prior to 1982. This request was not directed to nondestructive testing personnel qualifications since all non-destructive testing personnel have always been qualified and certified to the standards of ASTN-TC-1A.

Background

This item was examined in detail by the NRC in March and April, 1983. The results were reported in I&E Inspection Report No. 50-275/83-13, Item 5d, page 6. No items of noncompliance were noted.

Program Description

From 1970 through April 1981, formal certification was not required for HPF quality personnel at Diablo Canyon. However, requirements for qualification and responsibilities for training of quality personnel were in effect as specified by approved and documented programs. The HPF QA manual, then QCP-6 (1974) "Indoctrination and Training" Procedure described how the HPF QC personnel, when hired, were qualified and assigned inspection duties based on the QA Manager's review of their education and experience. Based on this initial review, inspectors were then trained to the applicable procedures

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and other inspection requirements. Additionally, newly-hired inspectors were assigned to experienced inspectors who provided them with the necessary on-the-job training. Documentation of this on-the-job training was not required but training records were kept. An inspector in training was not allowed to document work acceptance until he had received sufficient training and had shown by performance that he was ready to perform his assigned duties.

These requirements and their implementation were routinely reviewed by PGandE QA audits and PGandE General Construction inspections.

In May 1981, the QCP-6 procedure was revised to require certification of inspector qualification. The essential requirements were as follows:

1. Inspectors were evaluated and certified for specific type of inspection by the QA Manager.
2. Personnel certification was based upon an individual's education, training, and experience.
3. Personnel certifications were documented and maintained in the HPF QA Department.

The qualification requirements for training, experience and education continued to meet the intent of ANSI N45.2.6. The ANSI requirement to establish inspector levels was not implemented. Each inspector's background and training was documented by discipline (such as civil, mechanical, or

electrical) but the qualification levels (such as I, II, or III) were not established. (Level I is a trainee, Level II, an experienced inspector, and Level III, a supervisor.) Individuals which would have met only Level I requirements were not allowed to perform acceptance inspections since inspectors in training were not allowed to accept work.

In August 1982, the requirement for Foley to comply with ANSI N45.2.6 (1978) was established by the PGandE Quality Assurance Audit 20801, documented in Open Item Report (OIR 117-82), and the subsequent Minor Variation Report, (MVR E-2394). This audit was conducted in accordance with NRC Generic Letter 81-01. PGandE responded to Generic Letter 81-01 with a formal commitment to meet ANSI N45.2.6. HPF complied with this requirement by issuance and implementation of QCP-6A, Rev. 0, on December 7, 1982.

Summary

From the beginning of construction until 1981, the number of HPF inspectors on site varied from three to ten. Since the numbers of inspectors were small, the performance of inspectors was easily monitored by the HPF QA management. This overview provided assurance that inspections were satisfactorily performed although the program did not meet all ANSI N45.6 requirements. HPF has always had approved procedures and training programs in place to assure appropriate inspections. Even though the earlier HPF program did not meet the

requirements of ANSI N45.2.6, the level of training and documentation of inspector qualification met the licensing commitments of PG&E and was consistent with the intent of industry standards and requirements. Improvements have been made over time as has been done elsewhere in the industry, and today the program for Quality Control inspector qualification and certification is in complete compliance with ANSI N45.2.6.

NRC Allegation #0840

Allegation Description:

The bedrock that the plant is anchored to is not solid. There were many instances of anchoring cables pulling out of the rock and losing their tension.

NRC Allegation Paraphrase:

The bedrock that the plant is anchored to is not solid, when they tensioned the cables to pull the turbine pedestals down there were many instances of the cables pulling out of the rock and losing their tension. They had to go back and redrill and regrout those.

This subject was previously addressed in Response No. 390 submitted in PGandE letter DCL-84-195 dated May 29, 1984. The previous allegation and response are attached hereto. Contrary to this allegation, there were no anchoring cables that pulled out of the rock or lost their tension. There were three documented cable nonconformances (two anchors on which cable strands broke and were replaced and one anchor which would not hold the specified 600 kips of tension). As previously stated, records are available which verify that tensioning of all anchors met engineering design requirements.

NRC Allegation #390

It is alleged that:

42. Due to its earth base of sandstone instead of granite as presumed, grouted cables designed to anchor turbine pedestals ended up pulling out. The tension cables are supposed to anchor the pedestals to bedrock, but sandstone was not a solid enough base to grip. (Hedrick Aff. at 12.)

134. Contrary to this allegation, the turbine building rests on sandstone bedrock as originally designed (Ref. FSAR Section 2.5). The turbine pedestal anchors were designed for installation in the sandstone bedrock. Prior to use of these VSL rock anchors, their suitability for use at Diablo Canyon was verified by installing and tensioning a test anchor. Conclusive evidence of the acceptability of each anchor has been achieved, as the design of these anchors requires that each anchor be tensioned to a load exceeding the calculated design load. Records documenting that every anchor was successfully preloaded to the required values are on file.

135. There were two anchors on which the cable strands broke under tensioning. They were removed and replaced with new anchors. One other anchor would not hold the specified 600 kips. These anchor deficiencies were documented on nonconformance reports which were reviewed and approved by the responsible PGandE engineer.

136. Records are available which verify that tensioning of all anchors met engineering design requirements. No corrective action is required.

NRC Allegation #0660

Allegation Description:

In PPP self-study book #2 10 CFR 50 Appendix B criteria was incorrectly paraphrased.

This subject was previously addressed in Response No. V-27 submitted in PGandE letter DCL-84-243 dated June 29, 1984. The previous allegation and response are attached hereto.

It is improper to draw a conclusion, as the alleger does, that the full meaning is lost any time something is paraphrased. The fact that 10 CFR 50, Appendix b was paraphrased in the self-study book is of little consequence; the paraphrasing did not change the substance of the document and the book was for study purposes only. Neither the Pullman erection and fabrication program nor their QA program is based upon the self-study book.

V-27

It is alleged that:

Another document I reviewed was PPP EMPLOYEE SELF-STUDY BOOK #2, relating to Pullman's version of 10CFR50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants." The Pullman version differs substantially from the legal version with respect to organizational structure for the QA program. The official version reads as follows:

I. ORGANIZATION

The applicant[1] shall be responsible for the establishment and execution of the quality assurance program. The applicant may delegate to others, such as contractors, agents, or consultants, the work of establishing and executing the quality assurance program, or any part thereof, but shall retain responsibilitity [sic] therefor. The authority and duties of persons and organizations performing structures, systems, and components shall be clearly established and delineated in writing. These activities include both the performing functions of attaining quality objectives and the quality assurance functions. The quality assurance functions are those of (a) assuring that an appropriate quality assurance program is established and effectively executed and (b) verifying, such as by checking, auditing, and inspection, that activities affecting the safety-related functions have been correctly performed. The persons and organizations performing quality assurance functions shall have sufficient authority and organizational freedom to identify quality problems; to initiate, recommend, or provide solutions. Such persons and organizations performing quality assurance functions shall report to a management level such that this required authority and organizational freedom, including sufficient independence from cost and schedule when opposed to safety considerations, are provided. Because of the many variables involved, such as the number of personnel, the type of activity being performed, and the location or locations where activities are performed, the organizational structure for executing the quality assurance program may take various forms provided that the persons and organizations assigned the quality assurance functions have this required authority and organizational freedom. Irrespective of the organizational structure, the individual(s)

assigned the responsibility for assuring effective execution of any portion of the quality assurance program at any location where activities subject to this appendix are being performed shall have direct access to such levels of management as may be necessary to perform this function.

(Footnote 1.) While the term "applicant" is used in these criteria, the requirements are, of course, applicable after such a person has received a license to construct and operate a nuclear powerplant [sic] or a fuel reprocessing plant. These criteria will also be used for guidance in evaluating the adequacy of quality assurance programs in use by holders of construction permits and operating licenses.

(NOTE: Those parts of 10CFR50, App.B, I. ORGANIZATION that are omitted or paraphrased in Pullman's version are underlined.)

The Pullman version is as follows:

The applicant shall be responsible for the establishment and execution of the quality assurance program. The applicant may delegate to other organizations the work of establishing and executing the quality assurance program or any part thereof, but shall retain responsibility therefore. The authority and the duties of persons and organizations performing quality assurance functions shall be clearly established and delineated in writting (sic). Such persons and organizations shall have sufficient authority and organizational freedom to identify quality problems; to initiate, recommend, or provide solutions; and to verify implementation of solutions. In general, assurance of quality requires management measures which provide that the individual or group assigned the responsibility for checking, auditing, inspecting, or otherwise verifying that an activity has been correctly performed is independent of the individual or group directly responsible for performing the specific activity.

(NOTE: Pullman's paraphrases are underlined in the above quote.

The rest of appendix B is typed verbatim except for the omission of the words "fuel reprocessing plant" where they occur. My "official version"is (sic) ((35 FR 10499, June 27, 1970, as amended at 36 FR 18301, Sept 17, 1971; 40 FR 32100 Jan. 20, 1975.))

Had Pullman complied with the legal version of 10 CFR 50, App. B, the proper respect for safety related work could have been maintained throughout the company. However, the Pullman version pervaded the attitudes of the supervisors involved. Their attitudes served to restrict inspectors like myself from broadening our knowledge of the requirements and attempting to document and seek out resolution to safety-related problems. Pullman's arrogance in rewriting the law on Quality Assurance disturbs me. The lack of authority and independent freedom of the actual inspectors to cut through red tape and follow a problem to a conclusion can be traced back to the omissions and paraphrases of the legal Code. Pullman's omissions effectively placed the inspectors in a position of accepting only work shown to them rather than striving to prevent recurrence of problems in workmanship and design.

I was unaware of Pullman's omissions and thought they had given us a real copy of 10CFR50 App.B to study. In fact, in my first Affidavit I identified a requirement to maintain a separate QA/AC department as a requirement of 10CFR50 App.B even though this requirement is casually addresses [sic] in the Pullman relaxed version. It is clearely [sic] defined in the legal version. I am deeply concerned with Pullman's relaxed version because of the attitude of management to relax requirements even further in practice.

Based on my knowledge of what Pullman classifies as a QA program, I have serious doubts as to the ability of their version to "stand alone" under the real requirements of 10CFR50, App. B. This is not responsible behavior. (4/18/84 Anon. Aff., Exhibit 2, at 6-9.)

The "Pullman version" accurately addresses all of the aspects of the full, unabridged version of 10 CFR 50, Appendix B. Although in hindsight it might have been appropriate to note that Pullman had paraphrased the Appendix, when the "legal version" is compared to "Pullman's version," there is no significant departure from the intent of the actual Appendix B. It should first be noted that the Pullman "version" of Appendix B in Self Study Book #2 is not a Pullman document that "stands alone", but is a part of a general

description of Pullman's quality assurance involvement. This study book is not part of an approved procedure, specification, or the QA Manual and should be viewed in that light. The book was not and is not a mandatory reading requirement for certification of any QA/QC personnel and is no longer being used as a controlled self-study guide or as part of the current reading list utilized for training. No work is conducted or performed in accordance with this book.

Insofar as Pullman's training of QA/QC Inspectors is concerned, the applicable aspects of Appendix B are those which deal with the quality assurance functions. The "Pullman version" in the self-study manual was written in that light. Appendix B states that, "quality assurance functions are those of (a) assuring that an appropriate quality assurance program is established and effectively executed and (b) verifying, such as by checking, auditing and inspection, that activities affecting the safety-related functions have been properly performed.". The QA/QC personnel do not perform safety-related functions; they only verify that activities affecting these functions have been properly performed. The "Pullman version" emphasizes establishment of the quality assurance functions only. Hence the paraphrasing approach was used. Where personnel involved in quality assurance functions are concerned, the context of Appendix B has not been altered or diminished, as is alleged.

As mentioned in Appendix B (both "versions"), "sufficient authority and organizational freedom" shall exist "to identify quality problems; to initiate, recommend, or provide solutions; and to verify implementation of solutions." This can be either on an individual or organizational level. Both "versions" go on to say that reporting shall be to a management level that is independent of the individual or group that has caused the quality problem. Appendix B also allows the flexibility to create an organization that will address quality problems in any manner appropriate as long as independence from the cause is maintained. The quality assurance organization can choose to "seek out resolution to safety-related problems" through avenues other than the originator of the quality problem report. In other words, the individual who identifies a quality problem does not have to follow completely through to resolution any problem that he or she has identified as long as the quality assurance organization has established a method of addressing such problems. Pullman's organization allows its inspectors to continue on with QC functions in support of construction efforts so that the inspectors don't get tied down in research and follow-up efforts. Support quality assurance personnel are employed to handle research, back-up documentation, resolution, implementation and verification of correction of quality problems.

The statements by the alleger that proper respect for safety-related work was not maintained throughout the company and that the "Pullman

version pervaded the attitudes of the supervisors involved" and that "their attitudes served to restrict inspectors like myself" are unsubstantiated statements of opinion and cannot be acknowledged or answered as no specific incidents or examples are cited. The statement that inspectors lacked authority and independent freedom "to cut through the red tape and follow a problem to a conclusion" could be "traced back to the omissions and paraphrases of the legal code" is inaccurate because, as has already been explained above, the inspector does not personally have to follow a problem through to a conclusion if the quality assurance organization has created a way to do so, which is the case with Pullman. There is no requirement in the Appendix B that an individual who identifies a problem must be the same individual who follows the problem through to resolution.

Pullman provides a system of review and disposition/resolution by individuals at management levels for problems in workmanship. These individuals communicate corrective measures to the fabrication/erection portion of Pullman to improve the quality of workmanship and, at the same time, enforce implementation of the corrective measures. Design is not Pullman's responsiblity, but PGandE's. Any design problems discovered by inspectors are documented and addressed to PGandE for evaluation.

NRC Allegations #0867, 0663, and 0966

Allegation #0867 Description:

Unauthorized mods to fillet welds [that] encrouched [sic] on bolt or washer land areas.

Allegation #0663 Description:

QA program breakdown in the design change area in that design drawings did not reflect unauth mods to fillet welds because engineering issued no as-builts after mod was completed.

Allegation #0966 Description:

Unauthorized mods to fillet welds that encroached on bolt or washer land areas.

Contrary to the allegation, the grinding on the welds in question was not an unauthorized mod. As pointed out in Response No. V-40, previously submitted in PGandE letter DCL-84-243 dated June 29, 1984, and attached hereto, the grinding was to remove excess weld to allow adjacent bolts to be properly installed. All grinding was permissible and done according to drawing requirements. No further action is required.

V-40

It is alleged that:

9. Pullman Power Products did not develop nor implement a program to control design changes.

a) Design Drawings did not reflect unauthorized modifications to fillet welds because no As-Built Drawing was generated by Engineering when they were notified of such modifications. (4/26/84 Lockert Aff., at 6-7.)

This allegation has been previously addressed in PGandE's response, dated March 19, 1984, to Joint Intervenors' Motion to Reopen on CQA, Breismeister, et al., Aff. at 38-39. The fillet welds in question are actually fillet caps over full penetration welds. They were in excess of the weld size required by design.

Mr. Lockert asserts that unauthorized grinding occurred on these American Bridge shop welds on a rupture restraint. The grinding was performed in order to allow adjacent bolts to be properly installed.

American Bridge drawings usually include specific instructions regarding the grinding of welds to allow bolt installation. All grinding is in accordance with these drawings. If grinding is required, the operation is controlled by a process sheet. In those cases where the drawing does not address grinding, a design question (DQ) is forwarded to PGandE for evaluation of whether grinding can be allowed.

In general, any oversize weld may be ground to the acceptable size to improve cosmetic contour, or to permit bolts, nuts and other mating parts to fit, without changing the applicable drawing.

JI #57, Motion at 20.

It is alleged that:

In other cases welds have been repaired without revising the relevant drawings to note the differences. For example, on October 10, 1983 Mr. Lockert observed fillet welds being ground back and was informed that the drawings were not being revised. Although the work in question occurred in Unit II, the program was equally uncontrolled for Unit I. (citing Lockert Aff. at A8.)

117. The allegation has no supporting evidence, such as the specific weld identification, so a direct response is impossible. It is, however, possible to describe how such grinding is controlled.

118. Mr. Lockert asserts that grinding occurred on an American Bridge shop weld on a rupture restraint. The grinding was performed in order to allow adjacent bolts to be properly torqued.

119. American Bridge drawings include specific instructions regarding the grinding of welds to allow bolt torqueing. All grinding is in accordance with these drawings. If grinding is required the operation is controlled by a process sheet. In those cases where the drawing does not address grinding, a Design Question is forwarded to PGandE for evaluation of whether grinding can be allowed.

120. In general any oversize weld may be ground to size to improve cosmetic contour, or to permit bolts, nuts and other mating parts to fit, without changing drawing.

NRC Allegation #0661

Allegation Description:

bolting program for rupture restraints as practiced by PPP not in accordance with contract spec 8833XR for structural steel erection (i.e., not following AISC manual, 7th edition).

This subject was previously addressed in Response Nos. V-33 and V-34 submitted in PGandE letter DCL-84-243 dated June 29, 1984. The previous allegations and responses are attached hereto.

V-33

It is alleged that:

I have reason to believe that the Bolting Program for Rupture Restraints in Units 1 and 2, conducted during late July to December of 1983, by the Pullman Power Product [sic] Corporation has failed to meet licensing requirements. I use the word "licensing" because the "Corrective Action" part of the Final Safety Analysis Report (FSAR) has not functioned as reported per 17.1.16 paragraph of the FSAR, "The Quality Assurance Program requires that conditions jeopardizing quality be promptly referred to responsible parties and that appropriate steps be taken to correct such situations." (4/26/84 Lockert Aff. at 1.)

The bolting program for rupture restraints in Units 1 and 2 meets all licensing requirements and ESD 243. This program also meets the AISC criteria for bolted connections as explained in response to Allegation V-34 below.

V-34

It is alleged that:

A discussion of the Bolting Program for Rupture Restraints as practiced by Pullman is best discussed through Pullman D.R. 4342, PG&E Nonconformance Report DC2-80-RM-002, and my own inspection experience dated late-July to mid-December of 1983. PG&E required that Pullman adhere to Contract Specification 8833XR for structural steel erection (contract includes Pullman's Rupture Restraint Program). 8833XR specifically states that structural steel erection be conducted to the AISC Steel Construction Manual, Seventh Edition.

AISC's specifications for structural joints using ASTM A-325 and A-490 High Strength Bolts has provided values for minimum fastener tension in Table 3, page 5-195. Basically, this Table requires that all A-325 and A-490 H.S. bolts be tightened to 70% of their tensile strength measured in tension. When turn-of-nut tightening is used the additional requirements of Table 4, page 5-196, are specified. Note that the turn-of-nut rotation is dependent on:

1) Disposition of outer faces of bolted parts.

2) Bolt length.

Additionally, thread pitch should be mentioned because it is a factor in the determination of the required turn-of-nut rotation to achieve the specified tensile bolt preload.

Pullman's ESD 243-1983 Torque Instructions per Charts A, A1, B and Field Process Sheets prepared by Pullman Field Engineers, simply, do not take into account the pre-requisites of the AISC Manual. (4/26/84 Lockert Aff. at 1-2.)

ESD 243 is in compliance with the AISC manual for all connections that are torqued to the 70% value. The AISC requirements are based on this value. Connections that were torqued to a value less than 70% (i.e., 25% to 50%) as specified by ESD 243, were evaluated and specified by Engineering. Thus, these connections meet the

applicable design requirements. The torque and bolt reuse requirements of AISC do not apply to connections that are torqued to these values because the bolt is considered unused for "reuse criteria" until it has been tensioned by torque or turn of the method to 70 percent of its ultimate tensile strength.

NRC Allegation #0662

Allegation Description:

Rupture restraint bolting defects were not reported per 10 CFR 21.21.

This subject was previously addressed in Response No. H-45 submitted in PGandE letter DCL-84-256 dated July 6, 1984, and Response No. V-37 submitted in PGandE letter DCL-84-243 dated June 29, 1984. The previous allegations and responses are attached hereto.

H-45

It is alleged that:

The corrective action required by PG&E was that "Pullman shall perform a documented inspection of all bolted and welded connections and applicable documentation, required by the Specification, as set forth in approved contractors ESD's, in order to:

1. Identify connections which do not conform to specification requirements and
2. identify connections which do have require [sic] documentation."

Identified deficient conditions would be resolved per the NCR's. It should be noted that PG&E did not report these NCR's to The Nuclear Regulatory Commission as a 10CFR Part 21 Reportable item. (6/5/84 Hudson Aff. at 40.)

The referenced NCRs were evaluated for reportability under 10 CFR 50.55(e) and were determined not to be reportable. Subsequently, however, the entire rupture restraint welding program was reviewed and reported to the NRC under 10 CFR 50.55(e). During the closeout of the 10 CFR 50.55(e) report, the NRC reviewed the rupture restraint welding program.

V-37

It is alleged that:

Second, I would like to point out that Mr. Torstrom refers to the non-conforming conditions as Deficient Conditions; I do not feel deficient is the correct word. A departure from the requirements of 8833XR (a Procurement Document) is a "Deviation" defined by 10CFR21.3(e).

The deviations occured [sic] in work that had already been accepted by Pullman's Quality Assurance people as meeting the Design Drawings and 8833XR Specifications. Already being QA/QC accepted, the Rupture Restraints with deviations included were being offered to PG&E as an acceptable installation by Pullman. The deviations can now be spoken of as "Defects" per the 10CFR21.3(d) definition. It should be pointed out that the defects were not reported per 10CFR21.21. (4/26/84 Lockert Aff. at 3-4.)

The reinspection and repair of rupture restraints is an issue which was fully documented and reported to the NRC several years ago. This program was evaluated and reported to the NRC in accordance with 10 CFR 50.55(e), which is the applicable federal regulation for reporting a construction deficiency.

NRC Allegation #0884

Allegation Description:

Field engineer issued improper washer criteria w/o notifying PPP or PGandE QA. When QA/QC manager was informed that ESD 243 had improper criteria, no NCR or ESD update was made.

This subject was previously addressed in Response Nos. V-39, 41, 42, and 44 (item 8b) submitted in PGandE letter DCL-84-243 dated June 29, 1984, and in Response No. 1296 submitted in PGandE letter DCL-84-186 dated May 17, 1984. The previous allegations and responses are attached hereto.

V-39, 41, 42, and 44

It is alleged that:

(In addition to the above mentioned hardware problems, Pullman's ESD 243 of late 1983 had procedure problems written into the Rupture Restraint Program:)

6. The tables provided for the description of acceptable Washers had not been updated per the requirements of AISC, Sec 5, Page 191, para. 2(a).

7. Acceptance criteria for High Strength bolts was [sic] not defined in ESD 243. Filed [sic] Inspectors did not know, nor were they legally able to reject bolts that were defective per ASTM A-490, ASTM A-325, and ANSI B18.2 requirements.

8. Bolt Torque Tables in ESD 243 were still out of compliance with AISC Manual requirements as late as December '83. Discussions with Pullman Field Engineers Dale Warren and Larry Werner indicated that although the tables had been recently updated, they still do not meet AISC Manual requirements. (4/26/84 Lockert Aff. at 5-6.)

b) Field Engineer Dale Warren issued the proper Washer Criteria for myself without notification or acceptance by Pullman or PG&E QA Departments. QA/QC Manager Harold Karner, when notified of out of date Washer Criteria in ESD 243, did not issue a Non-Conformance Report nor update the present ESD 243. (4/26/84 Lockert Aff. at 7.)

c) Pullman did not have the proper Torque Tables in effect three years after the writing of NCR DC2-80-RM-002. (4/26/84 Lockert Aff. at 7.)

11. Defects in bolts were not reported per a NCR. I was unable to report the defects I had found in A-490 bolts because I was not allowed to consult the procurement documents needed to properly generate such a report. Pullman Supervisor, Russ Nolle specifically prevented me from referencing these documents by saying that I was out of my area. (See Oct. 17 indicent (sic) of Lockert Letter addressed to Mark Padovan, USNRC dated 1/2/84.) (4/26/84 Lockert Aff. at 7.)

None of these allegations are new and all have been responded to previously. The allegation about the use of washers was previously answered in reply to NRC SSER 22, allegation #129G (DCL-84-186, May 17, 1984). That answer said, in part, that:

> "This allegation has been addressed in PGandE response dated March 19, 1984, to Joint Intervenors' Motion to Reopen on CQA, Geske, et al. Aff. at 22-23. As stated in the response, the Pullman ESD was more conservative than the current industry standard. Because ESD 243 was more than adequate, there was no pressing need to advise all other inspectors of a pending revision. ESD 243 is in the process of being revised..."

Although when initially submitted, it was intended to conform the revised ESD to the present ASTM A 436 industry standard, subsequent discussions have indicated that full-scale adoption of this standard cannot be achieved. However, the revised ESD will explain the acceptable washer criteria in sufficient detail to ensure that all installations are accomplished in an acceptable manner.

The issue of acceptance criteria for high strength bolts has been previously addressed in response to NRC allegation #242 (DCL-84-195, May 29, 1984).

129-6. It is alleged that:

-. Oct 12

1. Failure to update to current criteria as required in procurement document 8833-XR, violation of 10 CFR 50, appendix B, criteria VI.

Upon rejection of out of tolerance washers to criteria set forth in ESD 243 pertaining to hardened steel washers, Dale Warren, the unit two RR engineer found that the information presented in the ESD was out of date. I relayed the information to Harold Karner, the QA Manager, who then failed to notify other inspectors that the ESD was out of date and that new criteria was in effect. As of December 15 ESD 243 had still not been revised and the other inspectors still did not know the new criteria. (citing Padovan letter at 5.)

This allegation has been totally addressed in PGandE response dated March 19, 1984, to Joint Intervenors' Motion to Reopen on CQA, Geske, et al. Aff. at 22-23. As stated in the response, the Pullman ESD was more conservative than the current industry standard. Because ESD 243 was more than adequate, there was no pressing need to advise all other inspectors of a pending revision. ESD 243 is in the process of being revised, and the revision, which will be issued on or about May 25, 1984, will, inter alia, conform ESD 243 to the present ASTM A436 industry standard.

JI #119, Motion at 35.

It is alleged that:

QA Management did not take prompt action to inform inspectors of changes in acceptance criteria. The result is that an unknown number of inspections were conducted to the wrong standard. An example involves hardened steel washers. On November 8, 1983 Mr. Lockert learned that the criteria had been changed and promptly notified QA manager, Karner. The result? As of December 15, 1983 the relevant engineering specification had not been changed, and the other inspectors had not been notified of the new criteria. (citing Lockert Aff. at A9.)

48. The allegation is that Mr. Karner failed to notify the QC inspectors of a change in acceptance criteria after he had known about it for a month. The allegation is untrue, and, even if it were, the situation described is of no significance.

49. When Mr. Lockert inspected rupture restraint 5-3RR on November 8, 1983, he discovered the washers in place were a larger size than permitted by ESD 243, Revision 6/9/81, Chart "D"; consequently, he stopped work. Mr. Lockert then went to the Pullman Engineering Group and to Pullman engineer, Dale Warren. Mr. Warren talked with, and wrote a memo to, the responsible PGandE General Construction Engineer for clarification.

50. The PGandE Engineer, Ken Morgan, determined that the source document, ESD 243, Chart "D", used by Mr. Lockert during the inspection, referenced the American Institute of Steel Construction (AISC) Manual. Further study showed that the original criteria upon which ESD 243, Chart "D", was based had been deleted from the AISC Manual and replaced by a reference to an ASTM material specification. This recently modified specification, ASTM A436, allows washers with a larger diameter hole. Consequently, requirements of ESD 243 were more stringent (i.e., more conservative than the industry standard). Based on this review by Mr. Lockert and those he contacted, the installed washers were obviously found to be acceptable, and the work was allowed to proceed on November 9, 1983, one day after Mr. Lockert's concern was raised.

51. In the allegation, Mr. Lockert said that he relayed this information to Mr. Karner, who then failed to notify other inspectors that the ESD was out of date and the new criteria were in effect. A review of the files has not located a written memo or other documentation of such a notification to Mr. Karner, and Mr. Karner has no knowledge or memory of any such notification. In any event, the item is of minor significance since the changed criteria are less conservative than those in the ESD, and, in accordance with QA procedures, the change is not of the type to have required immediate action. The change is being made in the pending revision of ESD 243 however.

NRC Allegation #0866

Allegation Description:

PPP did not train inspectors on AISC bolting criteria.

This subject was previously addressed in Response No. V-43 submitted in PGandE letter DCL-84-243 dated June 29, 1984. The previous allegation and response are attached hereto.

V-43

It is alleged that:

10. Pullman did not train nor indoctrinate inspectors to the requirements of the AISC Manual for Bolting. (Accidental reinspection of work accepted in late '82 or early '83 revealed hole sizes outside the tolerances of the AISC Manual.) (4/26/84 Lockert Aff. at 7.)

Mr. Lockert refuses to accept the fact that the PGandE-approved procedures, such as ESD 243 for rupture restraints, contain the criteria to which the inspectors are required to inspect and there is no need to review the AISC code, as he states.

On-the-job training as well as testing on the requirements of ESD 243 are given to inspectors working on rupture restraints. ESD 243 includes the bolting requirements for rupture restraints. This procedure is available in the field for the inspectors' use should any question arise. The inspectors, including Mr. Lockert, inspect the holes to the criteria of ESD 243 and the design drawing. If the holes exceed these tolerances, then the condition is identified to PGandE for disposition.

Lead men, engineers, supervisors, and PGandE personnel are also available to answer questions and provide interpretation of the requirements. Mr. Lockert, during his time on the job, availed himself of all these avenues.

NRC Allegation #0909

Allegation Description:

Told not to reject hangers for welds that were supposedly made to code 7/8 but were not covered by code 7/8.

NRC Allegation Paraphrase:

Employees were instructed not to reject hangers for specific reasons. One specifically stated in the allegation that he was to not reject hangers which had welds that were supposedly made to code 7/8, but were not covered in that procedure.

This subject was previously addressed in PGandE Response to Intervenors' Motion to Reopen the Record on CQA, Breismeister et al., Aff., at 9-10 (JI 10), at 13-14 (JI 16), and at 34-36 (JI 48 and 49), dated March 19, 1984. The previous allegations and responses are attached hereto.

JI #10, Motion at 11-12.

It is alleged that:

Pullman's former internal auditor learned that ASME-based procedure Code 7/8 has been used improperly to weld tube steel on pipe supports, which involves a different type of metal than the material covered by ASME procedures. In fact, tube steel is so unique that the AWS Code has a special section for it. (citing Hudson Aff. at 4-5.)

24. All piping, including valves, fittings and supports are required to meet the ANSI B31.1 or B31.7 Codes, by FSAR licensing commitments. These ANSI Codes specify ASME IX as the applicable welding code and not the AWS Code. Therefore, WPS 7/8 is a proper welding procedure for welding pipe supports since it is qualified in accordance with ASME IX requirements.

25. ASME Section IX does not restrict the qualification of weld procedures to a product form such as plate, pipe, or tubes. Instead of specifying product form, qualification is based upon composition, weldability, and mechanical properties of the materials to be welded. Mr. Hudson is apparently concerned that the A500 tube steel used for pipe supports is not explicitly listed in ASME Section IX.

26. An engineering comparison of A36 steel (which is explicitly defined in Section IX as a P-1 material) and the A500 tube steel reveals that the material characteristics are equivalent from the standpoint of composition, weldability, and mechanical properties. Additionally, ASME Code Case N-71-9 stated in 1980 that A500 is an acceptable material that may be welded with a P-1 WPS such as 7/8 and used in welded construction of ASME Section III Class 1, 2, 3 and MC component supports. The A36 specification references A500 for tubular products.

27. Consequently, the welding of A500 tube steel with WPS 7/8 is acceptable within the requirements and implementation of ASME Section IX.

28. The allegation is erroneous in citing special requirements of the AWS Code. Those special requirements apply to special structures such as offshore oil platforms and do not apply to the use of A500 tube steel at Diablo Canyon. Contrary to the allegation, A500 is not a "different type of metal" and may be used in an ordinary building. Special welding requirements are not needed because A500 is a plain carbon steel with excellent welding characteristics.

JI #16, Motion at 12-13.

It is alleged that:

Code 7/8 has been used to weld at least eight pipe support joint configurations, including flare bevel groove welds, and double groove welds, not covered by 7/8. Each configuration represents a unique essential welding variable and legally must have its own approved weld procedure specification detailing the joint configuration. (citing 1/16/84, Anon. Aff. at 3-4 [sic, actually citing Hudson Aff. at 5] and Lockert Aff. at A10-11.)

36. Contrary to the allegation, Mr. Lockert's concerns relate to the application of WPS 7/8 to rupture restraint welding, not to pipe support welding. This issue is discussed in response to JI # 19, 21, and 25 below.

37. The allegation of the Motion is not supported by the facts and is, in fact, correctly contradicted by one of its own affidavits. Mr. Hudson's allegation is based upon a false premise: that joint configuration is an essential variable for pipe support welding. In fact, Mr. Lockert correctly notes that joint configuration is not an essential variable for ASME pipe support welding (see Lockert Aff. at A10).

38. For pipe support welding, WPS 7/8 is qualified per ASME Section IX for all the joint details listed by Mr. Hudson. Even though the joint details are not listed in the WPS, adequate control was exercised to assure that the WPS was not used beyond its qualifications. In all cases, acceptable pipe support welds were completed which met code and specification requirements. Each joint configuration is not an essential variable and there need not be a WPS for each configuration.

JI #48 and 49, Motion at 18-19.

It is alleged that:

> Process sheets that guide quality control coverage did not consistently call for inspections of fitup for flare bevel groove welds. Since this was one of the joint configurations not covered by the 7/8 procedure in the first place, the loophole leaves the quality of the ensuing weld doubly unreliable. This uncontrolled work has been occurring as part of the current design modification construction work. (citing Hudson Aff. at 5-6.)
>
> PG&E informally exempted flare bevel welds from QC fitup inspections, without proper engineering review and approval. The loophole violated engineering specification ESD 264, which requires inspections of groove welds and full penetration welds. (citing Hudson Aff. at 5-6.)

103. Mr. Hudson is apparently concerned that the lack of fitup inspection may have been detrimental to the quality of flare bevel groove welds.

104. Flare bevel groove welds are partial penetration welds and occur when rectangular tubes with rounded corners are placed next to another piece of steel. The root of the weld, where the two pieces contact each other, is not required to be welded. The two pieces of steel may actually touch each other or there may be a gap when the pieces are fitup prior to welding.

105. The fitup does not affect the required weld. If there is a gap, the weld will be larger and stronger than needed. Fitup inspection of flare joints would, therefore, simply be a waste of time.

106. Flare joints are prequalified for structural applications and may be used without performing qualification tests. This allegation has no effect on structural integrity or safety.

107. Mr. Hudson's allegation regarding a violation of ESD 264 is completely false. As explained above, fitup inspection for flare joints would be a waste of time. ESD-264 and ESD-223 require fitup inspection of flare bevel joints only in one situation. In those individual situations, fitup inspections have been done. In all other cases, ESD-264 and ESD-223 do not require any fitup inspection for flare bevel joints.

108. The "informal exemptions" from PGandE that Mr. Hudson notes, are memoranda clarifying PGandE's intent for flare bevel fitup inspection, and are intended to assure that the ESD-264 is properly implementing engineering requirements.

109. In summary, PGandE and Pullman did not act improperly, and lack of fitup inspection for flare bevel joints was appropriate.

NRC Allegation #0916

Allegation Description:

Foley QA/QC department was subjected to production pressure.

NRC Allegation Paraphrase:

Foley QA/QC department was subjected to production pressure. Use of red tags was frowned upon because of production delays they caused.

This subject was previously addressed in Response No. 375 submitted in PGandE letter DCL-84-155 dated May 29, 1984. The previous allegation and response are attached hereto.

NRC Allegation #375

It is alleged that:

The lack of a reliable Quality Control program can be further illustrated by my supervisions practice of "frowning" upon the use of red tags (QC hold tags), because (sic) the production schedule. (3/20/84 Anon. Aff., Attachment 11, at 5.)

94. The allegation lacks sufficient information to respond to a specific incident. However, there was a period of time when the use of red tags was being abused by the QC inspectors. Inspectors were utilizing the red tag while work was in process on conditions that were correctable prior to the time the work was completed and ready for inspection. Inspectors were instructed not to issue red tags on work in process unless a true nonconformance existed.

95. In general, when an inspector identifies a discrepant condition or has a question with respect to the interpretation of inspection criteria, he can issue either a Nonconformance Report (NCR), an Inspection Report (IR), or note the discrepancy on the inspection checklist. By definition, a nonconformance is a deficiency in a characteristic that deviates from the design, specifications, or procedures and renders the quality of the item or document to be unacceptable or indeterminate. On the other hand, an IR is issued where a discrepant condition exists but it does not meet the definition of a nonconformance. The determination of whether or not to issue an IR or an NCR is often left to the judgment of the inspector. If the inspector determines that an NCR must be written, he is required by procedure to hang a red tag on the work. In

other cases, a red tag may be used by an inspector when he feels it is necessary to control the work such as when further construction might interfere with proper correction of an identified discrepancy. A red tag represents the most drastic response the individual QC inspector has available to identify a condition and should only be used if the condition fits the definition of nonconformance, or if it is needed to control the work. In other cases, there are adequate methods and controls to identify and resolve conditions that need additional attention but do not require work stoppage. At no time have QC inspectors been advised not to use the red tag procedure where the situation requires a red tag. However, inspectors were advised not to hang red tags when the condition did not warrant the use of a red tag.

96. The allegation has no technical or quality significance and no corrective action is required.

NRC Allegation #0918

Allegation Description:

Cuts were made in between spot welds holding unistruts together. No NCR's generated.

NRC Allegation Paraphrase:

No NCR's were generated when cuts were made in between spot welds holding unistrut together. Two U-shaped pieces back to back are spot welded together, four inches on center, there is the potential for cutting a piece four inches or shorter where the only thing holding the pieces together is the galvanized dip. It was determined that the problem had been found approximately two years ago. No NCR's were generated.

This general subject matter was previously addressed in Response No. 377 submitted in PGandE letter DCL-84-195 dated May 29, 1984. The previous allegation and response are attached hereto.

It is true that "no NCR's were generated when cuts were made in between spot welds holding unistrut together." In the response attached hereto, it is shown that a nonconforming condition did not exist since the minimum length of double strut called for by design was ten inches, plus or minus one inch. Obviously, a nonconformance cannot exist when there is no "potential for cutting a piece four inches or shorter" in light of the minimum design length.

NRC Allegation #377

It is alleged that:

Another instance of the inadequacy of the program became apparent when I discovered that an electrical raceway support in the cable spreading room (which contains Class I electrical power supplies) was supported by a piece of double unistrut (a double U-shaped type of steel support element,) that had been improperly cut and installed. The problem in the installation centered on the fact that the piece of unistrut had been cut in-between the tack welds (spaced 4 inches apart throughout the length of standard unistrut) such that the only thing supporting the weight of the raceway was the galvanized dip. I researched through the files and found that this problem had been identified previously about two years before. I felt that I should bring this to the attention of my supervisors. Their reaction was to not worry about it, and that they were aware of it. To my knowledge the condition was never remedied prior to my leaving the site. This is a significant problem because this type of unistrut installation could exist throughout the plant. (3/20/84 Anon. Aff., Attachment 11, at 5-6.)

102. In 1979 Foley and PGandE discovered that stitch welded double strut could be cut in such a manner that a condition could occur whereby the cut piece would not have any weld material present. The problem was investigated by PGandE and Foley to determine if such an occurrence could affect the Class I electrical raceway support where the double strut was used.

103. Samples of the double strut were obtained from each of the main material storage areas inside and outside the plant. Each sample was measured to determine the average distance between the stitch welds. Each side of the double strut was welded at a distance between 9 to 11 inches joining the back-to-back Unistrut channeks with stitch fillet welds. The welds

on the opposite sides were staggered such that the maximum distance between weld points from one side to the other was 4 to 4-1/2 inches.

104. The electrical raceway support design drawing #050030 was reviewed and it was established that the minimum length of double strut called for by the design was 10 $\pm$ 1 inches. Although it was physically possible to cut the double strut in such a way as to have a 4-inch piece without a stitch weld, the design is such that no double strut of that size is specified.

105. Since the installation of all double strut was inspected to the design drawing and found acceptable, PGandE and Foley agreed that no design deviation existed and no corrective action was necessary.

NRC Allegation #0919

Allegation Description:

Missing heat log numbers and lack of material traceability via heat numbers e.g., ht no indicates one inch metal whereas metal actually three-quarters.

not addressed

NRC Allegation Paraphrase:

There was no heat number log or documentation of heat numbers until recently. The heat number log that was finally supplied had numerous gaps on the numbering system. Because of this, material traceability was lost. When the inspectors would cross reference the heat numbers, different materials for the same heat number would be specified.

This allegation is similar to NRC Allegations #365 and 379. A detailed response to these allegations is contained in PGandE's letter DCL-84-195 dated May 29, 1984, a copy of which is attached hereto.

NRC Allegations #365 and #379

Both allegations relate to the same subject but are found in different attachments. The responses to each have been combined below.

It is alleged that:

> Another practice that greatly disturbed me was lack of material traceability. Before a piece of metal was cut from the steel plate in the Turbine Building Fab shop, the original heat number from the steel plate should have been stamped onto the piece cut from it. This is important. Without this correct number on the material, the QC inspectors could not determine whether or not the steel had the metallurgical properties for the application on which it was used. Just one aspect of the significance is that welding by an improperly chosen process could result in degrading the strength of the steel.
>
> In practice, however, traceability was lost after the material was received. The heat numbers were not consistently transferred. As a result, there were heat numbers on the material without supporting documentation to verify accuracy. In the field traceability was further lost, due to modifications on flatbar structural steel. Traceability was lost for the steel in the process. In the fuel handling building, heat numbers were even swapped. This occurred for knee braces on columns providing seismic support to hold up the walls. In fact, in that case the traceability records are backwards. The south side heat numbers apply to their counterparts on the north wall. Even though I and others identified this problem, no satisfactory solution was ever arrived at. Mr. Tennyson's efforts appeared half-hearted in that the "up to date" heat log we were supplied with had no control measures assigned to it. It would have been a simple task for anyone to alter this log. (3/21/84 Anon. Aff., Attachment 12, at 4-5.)
>
> During my second period of employment I was encountered (sic) with a problem that specifically existed in the Fuel Handling Building although I'm sure it was widespread throughout the plant. This problem hinged upon the lack of an up-to-date "heat number" log. This log is required to certify the structural properties of the steel being utilized as hangers, knee braces, beams, etc. was comparable, as a minimum, to the properties specified in the Engineering specifications. This is significant

because lack of this log could have lead (sic) to using improper material, which when welded according to the specifications called for on the drawing, could affect the structural integrity of the weldments. I approached my supervisors on this problem several times. Their response was that they would handle the problem and not to worry. Their efforts seemed haphazard, as what was finally issued was an incomplete, and not an updated "heat log." This log was deficient in that there were heat numbers missing, log entries were incomplete and the log could not readily be confirmed to be a document that was under tight control. In my opinion, anyone could have made inproper (sic) entries in this log and issued it to the field. There was no controlability or accountability on the log we used. (3/20/84 Anon. Aff., Attachment 11, at 6-7.)

63. Contrary to the allegations, the traceability of material, when required, has not been lost. All required supporting documentation is provided for all material prior to the material being released to production. Also, contrary to the allegations, the heat number traceability is not important to the metallurgical properties or selection of the welding process. The structural steels used at Diablo Canyon are not degraded by welding.

64. All material purchased and received has a heat identification number and purchase order identification number from the supplier when required. Identification markings are applied to material received by either painting on each item (i.e., structural steel) or when the material is bundled and strapped, by attaching an identification tag with the applicable heat number and purchase order number on it to the bundle.

65. QC conducts an inspection at the time the material is received to ensure that the material has the required marking or tags, the number on the material or tag is correct, and the material complies with the Purchase Order (PO). The inspector documents the information on a Receiving Inspection Report to provide objective evidence that the material meets predetermined requirements such as specifications, codes, procedures, and standards.

66. After initial QC acceptance, the heat number or heat code is stamped or etched on the material by the responsible craft. Prior to final acceptance and release to construction, QC verifies that the correct heat number or heat code has been applied to each piece of material as required by the P.O. documents. It is only after this inspection process is completed that the material is released to the field.

67. Quality Control keeps a log of all material received which identifies the class of material, description, heat number or code and identifies the Purchase Order under which the material was received. When production personnel withdraw material, they are required to transfer the material identification from the parent stock to the withdrawn stock. QC, as part of its inspection activities, checks the material identification information on the finished work against the appropriate log. The Structural Steel Heat Number Log or the Etched Fitting Code Number Log are the documents used to maintain identification to the

Purchase Order. If any discrepancies are identified, QC documents the condition on the appropriate documents. PGandE Quality Assurance (QA) has audited this activity and has not found any indication of attempts to falsify material traceability. For example, PGandE Audit No. 83549A identified two pieces of material for which Foley could not produce the documentation during the audit. Audit findings were written. Foley researched the items, found the documentation, and the audit findings were closed.

68. All structural material purchased by Foley to be used in the Fuel Handling Building was specifically ordered for the Fuel Handling Building and was stamped "F.H.B." prior to release by QC Receiving. Therefore, the material installed has met all the required specifications as well as all the required quality requirements.

69. Contrary to the allegation, the heat log is not used to certify the structural properties of steel being used. The actual certification of material occurs through the process of procurement and receipt inspection discussed above. Since the heat log does not perform the function ascribed to it by the alleger, there is no basis for concern that improper materials could have been used because of defects in the heat log.

70. The alleger further claims that the heat logs used by the inspectors were inaccurate and incomplete. The controlled heat log is maintained by the QC receiving group that is responsible for keeping it current and up-to-date. All other copies of the log are for "Information Only" and are used as references by QC inspectors. These information-only copies are not controlled and could be incomplete. However, if the inspector attempted to rely on an incomplete heat log to perform an inspection, he would be unable to identify the material on the incomplete log and would be required to reject the material in the field because it would not be in the incomplete log.

71. Finally, the alleger contends that heat numbers on steel used in the fuel building were marked backwards with the numbers of the north side of the building being used on the south side and vice versa. Contrary to the allegation, the heat numbers on the material are not backwards. There is no requirement that material with a certain heat number be installed in a certain location. The design specifies only material type and size in a certain location, not the heat number.

72. The allegation has no technical or quality significance and no corrective action is required.

NRC Allegations #0928 and 0969

Allegation #0928 Description:

Pullman inspector had specific instructions not to address old rupture-restraint work that had been performed by a vendor-only inspect Pullman work/welds.

NRC Allegation Paraphrase:

Pullman inspector was told to inspect only Pullman work. The alleger observed vendor welds that would be unacceptable under any code. His supervisor said that was not within his scope because it was the work of another company and the alleger's inspections should only be for Pullman's work.

Allegation #0969 Description:

PGandE doesn't want Pullman to report defective shop welds.

NRC Allegation Paraphrase:

PGandE issued a memo not to inspect shop welds. At one occasion an employee found a bad shop weld adjacent to a field weld by using MT examination. The engineer referred to the memo and instructed the inspector to accept the weld.

Also in the case of Bostrom-Bergen, there was friction with the craft because they were required to follow procedures when welding next to a shop weld that was in their mind defective.

These subjects were previously addressed in PGandE Response to Intervenors' Motion to Reopen the Record on CQA, Breismeister et al., Aff. at 39-43 (JI 102, 103, and 104), dated March 19, 1984. The previous allegations and responses are attached hereto.

JI #102, 103, and 104, Motion at 29-30.

It is alleged that:

> PG&E has stifled attempts by Pullman inspectors to report and correct faulty vendor welds. In July 1979 Pullman inspectors began to find significant numbers of cracked vendor welds from Boston Bergen and American Bridge. Until 1980 the inspectors wrote 19 Discrepancy Reports on the welds. In an April 3, 1980 memorandum, however, Mr. Marvin (sic) Leppke of PG&E directed Pullman to stop issuing Discrepancy Reports on these "shop" welds. (citing Hudson Aff. at 28.) As of November 8, 1983, the restrictions extended to Unit II pipe rupture restraint welds as well, for work that would be "absolutely unacceptable under any code." (citing Lockert Aff. at A12.)
>
> The QA violations on the welds were not technicalities; the hardware was obviously defective. As one QC inspector noted, "These 'shop welds' are often very poorly done, in a fashion where no inspector could possibly accept the work if done on site. In particular, some of the earlier work supplied by Bostrom/Bergen Co. [sic] and by American Bridge is truly abdominable. Some of the welds are so ragged that they will tear your clothing if you get too close." (citing 1/16/84, Anon. Aff. at 7.)
>
> In 1982 PG&E repeated the improper restriction on QA for the same shop welds, by instructing Pullman to delete those welds from the formal walkdown program that represents a final visual check on quality. (citing 1/16/84, Anon. Aff. at 7.)

121. This series of allegations and the supporting affidavits neglect to place these circumstances in perspective and in fact do not accurately reflect instructions given by PGandE to the contractor. The identification of shop weld indications occurred during an extensive program developed and implemented to investigate, evaluate, and repair rupture restraint weldments. This program was started because cracked field welds were found by Pullman and PGandE personnel in Unit 1 rupture restraints during late 1978. The program was based upon magnetic

particle and ultrasonic examinations of enough welds on installed restraints to obtain an adequate sampling for thorough engineering analysis, evaluation, and corrective action. As a result of these studies, engineering identified all shop welds which required examination. All of these welds were magnetic particle or ultrasonically examined and any defective weldments were repaired. This included both Units 1 and 2. This program is documented in PGandE NCR DC1-79-RM-010. PGandE reported the deficiency to the NRC per 10 CFR 50.55(e) verbally on April 4, 1979, and by letter dated May 3, 1979, and reported the resolution in a final report for Unit 1 dated December 9, 1980.

122. Allegation JI #102 and the Hudson affidavit on page 28 neglects to point out that this major repair program was underway and the identified shop welds were part of this program. Thus, the allegation and affidavit is out of context and the basis and subject of the Mr. M.E. Leppke memorandum dated April 3, 1980, has been avoided (see Exhibit 7, attached). This appears to be a deliberate omission since the allegation and affidavit also misquotes the memorandum, further clouding the issue. The PGandE memorandum states that sufficient data on shop welds had been received and that the Engineering Department would review the data and include its conclusions in the final rupture restraint report. It also states that Pullman need not report further test results on shop welds. The allegation and affidavit falsely indicates that Mr. Leppke directed Pullman to stop issuing Discrepancy Reports on shop welds.

123. Allegation JI #102 further indicates that as of November 8, 1983, the restrictions extended to Unit 2 pipe rupture restraint welds as well, for work that would be "absolutely unacceptable under any code." There is no evidence that this direction had been given by PGandE. Examination of the Lockert affidavit, page A12, which was cited, indicates that Mr. Lockert discussed his concerns about shop weld conditions in a rupture restraint directly underneath the Unit 2 pressurizer. Mr. Lockert alleges that Mr. Nolle said nothing could be done about the conditions because the welds belong to another contractor and were already accepted. Mr. Nolle did not make such a statement. In fact, he discussed how Mr. Lockert could identify these problems by initiating a Discrepancy Report (see Exhibit B, attached). There is no evidence which substantiates Mr. Lockert's allegation.

124. The allegation identified as JI #103 cites the affidavit included as Attachment 5, page 7, and is actually Attachment 4, page 7. The quotes in the allegation come from the affidavit and were used to illustrate the alleged PGandE attitude toward the quality of structural welds supplied by vendors. There is no identification of the alleged bad welds in the affidavit. Our inspection records including (1) those generated during the extensive rupture restraint repair program, (2) as-built walkdown efforts, (3) final walkdown records, (4) Deficient Condition Notices, (5) Discrepancy Reports, and (6) the recent Bostrom Bergen reinspection reports do not identify any condition remaining in the plant that could be described as the descriptions found in the affidavit. Aside from some cosmetically unattractive welds, there is no

substance to this issue. The Motions' language is colorful and inflammatory, but not a basis upon which engineering or licensing decisions should be made.

125. The affidavit further states that the 1982 PGandE memorandum said that since the plant was "over-designed," welds that looked defective were not a problem, and had in fact already been accepted, and so Pullman inspectors should ignore them. This is a total fabrication and distortion of the facts as can be seen by a review of the 1982 letter by Mr. Etzler. As a matter of fact, the letter directs that any problems noted during the final walkdown were to be documented and included with the final walkdown package.

126. Allegation JI #104 and its cited affidavit are a total distortion of the facts as can be seen by examination of the 1982 letter (see Exhibit 9, attached.) PGandE did not delete shop welds from the final walkdown package, but in fact directed that identified problems be documented and included with the package.

NRC Allegation #0931

Allegation Description:

Intimidation - Pullman QC supervisor said inspector request to perform a check of gas flow rate closer to work was in his opinion excessive and he was not going to force it on craft.

NRC Allegation Paraphrase:

As stated in characterization.

This subject was previously addressed in Response No. JIR-31 submitted in PGandE letter DCL-84-239 dated June 26, 1984. The previous allegation and response are attached hereto.

JIR-31

It is alleged that:

4.1 As a welding inspector at Diablo Canyon I was required to check the welders' adherence to the procedures. One such procedure using the GTAW process requires an argon shielding gas flow over the weld of 20 cubic feet per hour (CFH). A welder was getting ready to start the process when I noticed the flow meter that he had with him was not attached at or near his torch. I requested that the flow meter be attached so that the inspector could verify compliance to the procedure. The welder refused the inspector's request, and when a QC supervisor was requested to help the inspector, the QC supervisor failed to support the inspector's request.

4.2 Breismeistr at 98 and 99 makes two false statements in response to the incident. At 98 "At no time did Pullman QC management establish a policy of deferring to construction (production personnel) when they [sic] voiced an objection." At 99"...the contract does not require checks of argon gas flow. The contract requires regulators, but not flow meters."

4.3 This incident is enlightening in that it shows the ignorance of not only the QC supervisor but the QC manager, welding engineers of both contractor and licensee, and the top Bechtel manager of Research and Engineering. I find this distressing because all the above mentioned individuals have heavy responsibilities toward insuring the plant is constructed to the commitmentss of code, contract, FSAR, and Federal Regulations.

4.4 The Welding Procedure Qualification [sic] (WPS) is the document that field engineers, welders and QC inspectors usually have to give them direction in the field. The WPS for the weld in question required a 20 CFH minimum flow rate of argon gas. My job as an inspector should have been to verify compliance to the WPS.

4.5 The welder refused to mount the flow meter at or near the torch. The welder wanted the inspector to run up two elevations to the 140' deck and check an unspecified gas bottle in an unspecified location. The gas bottle could have been one of many bottles on the 140 deck because there were many welders in containment.

4.6 The flow rate at the bottle did not necessarily mean the flow at the torch would be the same due to possible

junctions, cracks, crimps, and holes in the long hose. The flow rate of the gas at the bottle is meaningless. The flow rate should properly be measured at or near the torch. This was explained to the welder and the QC Supervisor at the time of confrontation. The QC Supervisor denied my request to mount a second, readily available, flow meter at the torch and in doing so prevented me from implementing the QA program.

4.7 Mr. Breismeister states the contract does not require checks of argon gas flow. Mr. Breismeister is wrong. Contract 8833XR requires that all Rupture Restraint welding be performed to the AWS code. The AWS code requires that all welding be performed within the stated parameters of the WPS. The AWS code further requires the inspector to verify that welding does conform to the WPS. The contract requires the inspector to check not only the shielding gas flow but the voltage, current, travel speed and any other process parameters that effect the quality of the deposited weld metal. (6/7/84 Lockert Aff. at 9-10.)

This allegation can be summarized as follows:

1. An inspection was required which Mr. Lockert would not complete.

2. The inspection was required by code and the contract.

3. Pullman QC management would not back inspectors to make sure their requirements were implemented when construction was inconvenienced.

4. Bechtel and Project Welding Engineering do not know contract and code requirements.

All of these allegations are false:

1. The inspection discussed by Mr. Lockert was a weld in process inspection required by Pullman internal specifications ESD 215 and 219. There are no requirements in PGandE Specification B833XR or AWS D1.1 for checking gas flow during gas tungsten arc welding (GTAW).

2. The required inspection could have been easily completed by Mr. Lockert had he chosen to do so. At most, he would only have had to follow the gas line back to the bottle and then verify the gas flow at the flow meter. Mr. Lockert evidently felt he was above making this effort and requested that the welding equipment set up be changed by the welder for Mr. Lockert's convenience. When the welder refused, Mr. Lockert's supervisor was called in to determine the requirements and resolve the issue. As stated previously in PGandE's response to the JI CQA Motion (Breismeister et al. Aff. at 33 and Karner et al. Aff. at 18), the supervisor correctly determined that the ESD requirements could be met by inspection of the gas flow at the gas bottle. Mr. Lockert refused to accept this at the time and another inspector was brought in. This new inspector completed the required inspection. The weld was accepted. Mr. Lockert's statement that hose connections, kinks, or leaks in the long hose make it impossible to measure flow at the gas bottle is also incorrect. His tracing the gas line back to the gas bottle would have found any such gross problems. Further, inspection of the gas line would only have

been required if problems had been noted at the welding torch. Typical first line inspection of GTAW includes noticing the sound of gas emanating from the gas nozzle and feeling the gas velocity impinging on the hand or cheek. Additionally, the adequacy of the gas flow at the torch can be evaluated by the appearance of the tungsten electrode and the weld surface during welding. All of these normal and routine inspection activities, in addition to the check of the flow meter, would ensure the proper gas flow at the weld, and would ensure that requirements were met.

The above explanation clearly shows that Breismeister et al. did, in fact, know the requirements of the contract, the applicable codes, and the Pullman specifications that Mr. Lockert was supposed to be implementing. It is also clear that Pullman management was not deferring to construction but was attempting to have its employee (Mr. Lockert) complete his inspection in accordance with standard inspection procedure requirements. While Mr. Lockert did not complete this work, other inspectors were capable of following the applicable instructions in completing the inspection. Thus, no code or contract requirements were violated and the Pullman specification requirements were met when Mr. Lockert's replacement preformed the inspections.

Mr. Lockert is entitled to his opinion regarding the "ignorance" of the Licensee's affiants. He is incorrect, however, regarding the "top Bechtel manager of Research and Engineering" being involved in

the affidavits. The personnel involved in the affidavits were identified along with their titles and resumes. The "top Bechtel manager . . ." was not one of them. This is yet another example of Mr. Lockert's misconstruction of the facts leading to unfounded accusations.

JI #45, Motion at 18.

It is alleged that:

QC management told inspectors not to perform inspections when construction objected. An example occurred on September 1, 1983, when a welder refused Mr. Lockert permission to check for compliance with contract requirements for the flow of argon gas. QC management directed Mr. Lockert to perform his inspection elsewhere. (citing Lockert Aff. at A5-6.)

98. At no time did Pullman QC Management establish a policy of deferring to construction (production personnel) when they voiced an objection. During the incident referred to in the Attachment to Mr. Lockert's affidavit at A5-6, Mr. Lockert asked for a flow meter at or close to the welder. In fact, the required flow meter was located at the gas bottles which in turn were located on a different elevation. The location of the flow meter complied with the applicable procedure. Although he was advised of this condition Mr. Lockert apparently did not accept this situation but was overruled by his QC supervisor, Mr. Merle Edgerton.

99. The JI Motion is in error because the contract does not require checks of argon gas flow. The contract requires regulators, but not flow meters.

NRC Allegation #0932

Allegation Description:

Pullman welding machines did not meet PGandE contract spec. 8711, Section 1, Para. 7.10.1: no hi frequency for arc-starting or rheostat for current-control capabilities (gas tungsten arc weld machine).

NRC Allegation Paraphrase:

PGandE contract spec. 8711, Section 1, Paragraph 7.10.1 states that all gas tungsten arc welding machines are required to have high frequency for arc-starting capabilities, and a current control rheostat. This is not present on the welding machines. The FSAR states that all contract specifications will be fulfilled. Since the contract spec was not met, the FSAR was not followed, which in the alleger's mind is a Part 21 reportable occurrence.

This subject was previously addressed in Response No. JIR-32 submitted in PGandE letter DCL-84-239 dated June 26, 1984. The previous allegation and response are attached hereto.

JIR-32

It is alleged that:

5. WELDING EQUIPMENT STANDARDS

5.1 In January of 1984, I reported to the USNRC the use of deficient GTAW welding machines by Pullman Power Products Corporation. [sic] at Diablo Canyon Nuclear Power Plant. The licensee has responded to the charge by stating (Breismeister at 82) "... Pullman has never violated the contract, since PG&E supplies the welding equipment as allowed by contract 8711....."

5.2 Breismeister failed to supply applicable documentation of the stated paragraphs of contract specification 8711 showing how the contractor was relieved of its responsibility to use adequate, dated, welding equipment as described in paragraph 7.10.1. Since the Breismeister affidavit choose not to present the facts, one can only speculate why the utility choose [sic] to withhold the information.

5.3 The Breismeister affidavit references paragraph 3.21 and I related statements found in paragraph 7.10.1, both from section 1 of contract specification 8711. Paragraph 7.10.1 stated all GTAW welding shall be performed with a power supply equipped with:

1.) High frequency for all initiation.
2.) Rheostat for stepless control of current.

(6/7/84 Lockert Aff. at 11.)

The original PGandE response (see Breismeister et al. Aff. at 26-30) to the original JI CQA Motion was correct. The 8711 specification permits PGandE to provide the welding equipment, which PGandE does provide. This relieves the contractor of the responsibility to provide welding equipment. When it is beneficial to have high frequency arc initiation capability, or stepless current control, this equipment is provided as was stated in the original CQA

response. The original allegation and this followup allegation are more examples of Mr. Lockert omitting significant factual details, and making representations out of context.

There was no perceived need to present specification 8711, paragraph 3.21, which permits PGandE to provide the welding equipment. However, that paragraph is as follows:

> Company reserves the right to award separately any item in the Proposal Form and the right to award any furnishing, fabricating, and delivery quotation items hereunder separately without the erection. Company also reserves the right to furnish valves, pipe hangers, weld inspection service, welding gas, and arc welding equipment at its option.

It is alleged that:

> 5.4 I was forced to bring the matter to the NRC's attention because both Pullman and PG&E could not resolve the issue within their respective QA organizations. After my discovery of the contract requirements in September of 1983, I wrote a memo to Pullman's QA/QC Manager, Harold Karner. Mr. Karner was unwilling to put his response on paper but did tell me verbally "If PG&E doesn't enforce the contract Pullman doesn't intend to." (6/7/84 Lockert Aff.at 11.)

This was addressed extensively in the original PGandE response (Breismeister et al. Aff. at 28-29) to the JI CQA Motion and in the response to SSER 22. It should be clear to everyone that this was not and is not a quality issue. The contract terms and conditions permitted the equipment as used. Mr. Lockert is complaining about commercial issues which do not affect QA. The equipment which Mr. Lockert thinks is necessary, and about which he has wildly speculated

as affecting quality, is in fact unnecessary. When considered to be beneficial the subject equipment is selected for use. The welders were qualified on the less sophisticated equipment which was generally used for production. The production welds made with the less sophisticated welding equipment were subject to a variety of examinations and tests and have been accepted. The examinations have included radiography of thousands of welds. The pipe welds are also pressure tested at multiples of the design pressure. This simply is not a quality issue, it has no merit.

It is alleged that:

5.5 Mr. Karner, not surprisingly, has apparently had a lapse of memory regarding our conversation and now denies ever making such a statement (Brmr at 86.) Further, Mr. Karner now states that he contacted PG&E's QA Engineer Russ Taylor soon after I contacted Mr. Karner. This appears to be a false statement because I contacted Mr. Taylor with my concerns after being referred to him by another PG&E employee, Dave Stupi. From Mr. Taylor's reaction, it was apparent that as late as Oct. 25, 1983, he had not been contacted by Karner about the subject because he requested several days to become familiar with the subject.

5.6 Subsequently, Mr. Russ Taylor agreed that the contract stated all GTAW welding machines required the additional controls already mentioned. I asked what did PG&E intend to do about it since Pullman didn't seem to care. Russ Taylor stated that the contract would be changed.

5.7 This series of discussions does not show proper handling of the matter as alleged by Breismeister (at 87), but rather a pass the buck attitude resulting in a change of the contract instead of an upgrade of the welding equipment to the specification requirements. Breismeister stated at 87 "It is also clear that Mr. Lockert had gone far from normal channels in pursuing this baseless issue...." The actions I took on the matter dealt with people that went up the ladder of responsibility. The

contractor QA Manager had aptly expressed himself and it was clear to me that he had no corrective action in mind. Next, I went to the licensee's welding engineering representatives who were unwilling or unable to correct a contract violation. Final resolution of the matter resulted in a verbal promise to change the contract six years too late. This hardly shows a functioning QA system. Breismeister's answer that paragraph 3.21 relieves PG&E of its contractual commitments was now shown to be true. (6/7/84 Lockert Aff. at 12-13.)

The original PGandE responses (Breismeister et al. Aff. at 26-30) to the original JI's CQA Motion and the SSER 22 answers on these points were correct.

Contrary to this allegation, the 8711 contract was not changed regarding welding equipment in reponse to Mr. Lockert's concerns. There was no buck passing and there was no need to upgrade the welding equipment.

In the allegation Mr. Lockert states he went up the ladder of responsibility. His own statements do not support this. As was originally pointed out in the CQA response, after talking with the Pullman onsite QA/QC manager, Mr. Lockert jumped over to the PGandE operations group which had no construction or QA responsibility. Then he jumped over to PGandE QE. Mr. Lockert never pursued the issue upward, he simply jumped around sideways, as in "lateral arabesque."

Mr. Lockert's penultimate sentence contains one last unsupported misleading allegation, "Breismeister's answer that paragraph 3.21 relieves PGandE of its contractual commitments was not shown to be true." This implies that the answer was false. The original CQA answer was and is true. PGandE met its contractual commitment regarding the supply of welding equipment. Mr. Lockert has presented no contrary data. The applicable text of the specification is quoted at p. 2 of this response.

JI #37, 38, and 39, Motion at 16-17.

It is alleged that:

As of October 1983 Pullman did not regularly calibrate its welding machines and failed to issue equipment that would control the amperage for welds. (citing Lockert Aff. at A7.) This mechanical gap further contributes to uncontrolled welding.

Since 1977 Pullman has used GTAW welding machines that violate contract specifications, due to the absence of electrical current controls and an on-off switch. The commitments in Diablo Canyon's Final Safety Analysis Report depend upon the use of reliable welding machines. (citing Lockert Aff. at 1, A5-6.)

The effect of improper equipment was that welds consistently were contaminated with tungsten. The faulty equipment also contributed to holes in the center of the weld pools. (citing Lockert Aff. at 1, A6.)

79. There are no requirements, codes or otherwise, relating to periodic calibration of welding machines. However, Pullman does include in its Welder Audit Program a requirement for measurement of the actual welding amperage using calibrated tong testers. This program was implemented on a three month frequency for each welder, and indicates excellent compliance by the welders to the requirements of the WPS.

80. The motion does not accurately reflect Mr Lockert's concern as expressed in his affidavit. Instead of "on-off switches," Mr. Lockert alleges that high frequency arc starting is not currently used for Pullman welding.

81. It is true that high frequency arc starting is not used for most Pullman welding at Diablo Canyon. However, specific GTAW joints as specified by PGandE, are completed using weld equipment that allows high frequency arc starting. The majority of welds are completed without the high frequency arc starting since the scratch starting method is more than adequate to achieve a sound joint. There are no code or licensing requirements specifying the type of welding equipment. Each GTAW welder is required to prove that he has ability to make sound production welds by successfully completing welder qualification tests using the scratch starting method.

82. In addition, Mr. Lockert is correct in stating that the contract requires the availability of gas tungsten arc welding equipment with high frequency arc starting. When beneficial, this equipment is supplied. Contrary to the allegation, Pullman had never violated the contract, since PGandE supplies the welding equipment as allowed by Contract Specification 8711, Section 1, Paragraph 3.21. This action by PGandE superseded any contractural obligations which Pullman might otherwise have. Mr. Lockert has simply cited the contract out of context.

83. Mr. Lockert's allegation that use of the scratch start produced defective welds (welds contaminated with tungsten from the electrode) is

not true. Contrary to the allegation, scratch starting is not the primary cause of tungsten inclusions. The principal cause is poor welding technique, such as dipping the tungsten in the weld pool. Tungsten inclusions are readily observable in radiographic examination. A recent review by the NRC of 100 weld radiographs showed no rejectable tungsten inclusions. All of these welds were completed with the scratch start method.

84. The allegation that welding equipment without stepless current controls was used is correct for most welds at Diablo Canyon. Again, welding equipment with stepless control is available and is used at Diablo Canyon when beneficial. However, welds do not require this type control and therefore, most welds are completed with other equipment. Also, contrary to the allegation, the welds produced without stepless controls would not be defective for this reason. This is confirmed at the beginning with the welder qualification test and through nondestructive testing of the completed weld. PGandE also provided this welding equipment. Welds completed using this non-stepless welding equipment therefore meet all contract and code requirements.

JI #40, Motion at 17.

It is alleged that:

> Pullman QA manager Harold Kar er (sic) refused to honor the contract specification on grounds that PG&E was not enforcing it, even after Mr. Lockert explained the severe effect on the quality of the welds. Mr. Karner also failed to answer Mr. Lockert's September 20, 1983 memorandum on the problem, as of December 15, 1983 when Mr. Lockert was dismissed. (citing Lockert Aff. at 1, A6.)

85. As explained above, this allegation has neither technical merit nor contractual merit as PGandE provides the welding machines. Contrary to the allegation that Pullman took no action on Mr. Lockert's stated concern about the lack of high frequency start capability on Pullman's GTAW machines, Mr. Karner had telephone conversations with PGandE's Russ Taylor of the QA Department soon after Mr. Lockert's concerns were brought to his attention.

86. There is no procedural requirement that Mr. Karner reply to informal memos such as the one submitted by Mr. Lockert on September 20, 1983. Mr. Lockert alleges that Mr. Karner dismissed Mr. Lockert's concern about the unacceptability of the Pullman GTAW machines with the statement, "if PGandE doesn't enforce the contract Pullman does not intend to". Mr. Karner has no recollection of making this statement and, in fact, such a statement makes little sense because PGandE, itself, supplies the welding machines used by Pullman.

JI #41, Motion at 17.

> It is alleged that:
>
> When Mr. Lockert notified PG&E's Nuclear Plant Operations welding engineer that the deficient GTAW machines might be the reason for some 200 welds that failed X-rays, the engineer directed Mr. Lockert not to discuss the matter with him further. (citing Lockert Aff. at A12.) This incident suggests that the violations were intentional within the PG&E organization as well.

87. There appears to be some lack of correlation between the above allegation and the actual information contained in Mr. Lockert's affidavit at p. A12. Mr. Lockert states that he had "heard of" 200

welds that had failed to meet radiographic standards and that he contacted a PGandE NPO Welding Engineer, Mr. Dave Stupi, to discuss the issue. However, this matter is not within the scope of Mr. Stupi's responsibilities, which include operations matters, not those related to constructions activities. Mr. Lockert admits that Mr. Stupi asked for some time to research the issue and that, after doing his research, Mr. Stupi reported his findings to Mr. Lockert (see Exhibit 2, attached). Those findings were that this was a QA issue. Mr. Stupi then referred Mr. Lockert to another PGandE engineer, Mr. Russ Taylor of PGandE QA. This referral was appropriate because the subject matter at this time appeared to concern QA documentation rather than welding. The drafter of the allegation has conveniently ignored this fact. The entire incident reflects the proper handling by PGandE and Pullman of a situation such as this, rather than an effort to cover up a violation as alleged. It is also clear that Mr. Lockert had gone far from normal and appropriate channels in pursuing this baseless issue with plant operations personnel.

88. As discussed in response to JI #37 to 40, Mr. Lockert's concern has absolutely no foundation from a technical substance viewpoint, from a contractural viewpoint or from a quality viewpoint.

NRC Allegation #0942

Allegation Description:

Atkinson hired unqualified welding inspectors.

NRC Allegation Paraphrase:

Most welding inspectors did not have adequate schooling or training to be inspectors. Some only had experience as weld rod clerks. Most of them were in school going for their degrees. They were all certified Level II.

GFACo QC inspectors were certified to perform inspections only after they had met all of the requirements established in the GFACo QA program. Quality Control procedure QCP-13, "Personnel Training," described the methods and requirements for the qualification of personnel who inspected the quality of work. Certification of inspectors was based on indoctrination, training, and examination (when required by the procedure). Each "structural steel welding and erection inspector" was tested for comprehension of assigned material (Project specification, NDE test, AWS code, AISC code, and applicable GFACo quality control procedures). Test results were documented and filed with the project and PGandE was notified of each inspector's assigned project inspection responsibilities.

NRC Allegation #0952

Allegation Description:

A QC inspector routinely conducted NDE without adequate weld prep.

NRC Allegation Paraphrase:

No specifics given.

Based on the allegation as presented and the subject matter of the surrounding allegations in the same source document, it is assumed that the alleger's concern is that welds were not adequately prepared, i.e., free of paint, slag, etc., prior to NDE examination.

This subject was previously addressed in Response No. 168 submitted in PGandE letter DCL-84-166 dated April 30, 1984. The previous allegation and responses are attached hereto.

GAP #188, Petition at 9.

It is alleged that:

In 1982 Mr. Karner fired an inspector (citing 2/25/84 Anon. Aff. at 5.) who had protested that certain welds were not adequately prepared for magnetic particle testing. To illustrate the problem, despite claims on the paperwork, paint covering the welds was not fully removed. (citing 2/25/84 Anon. Aff. at 13-14, and related Exhibits 23 and 24.) When the inspector noted that the deficiency would hinder his ability to inspect properly he was confronted by his own leadman, the other inspectors' leadman, a QC supervisor, and Karner himself. Within two weeks Mr. Karner fired the inspector (citing 2/25/84 Anon. Aff. at 14.)

48. Contrary to the allegation, no inspector has ever been fired for protesting that welds were inadequately prepared for MT testing.

49. The specific welds in question cannot be positively identified due to the lack of information provided. Any inspector, upon finding welds and adjacent base material inadequately cleaned or prepared for examination, simply needs to identify the condition to the craft personnel to get the problem resolved.

50. PGandE is aware of one incident which required Mr. Karner's involvement and which may have been the one referred to in the allegation. The incident in question did not involve paint on the welds themselves, but did involve paint on the base metal adjacent to the welds. The incident was resolved by instructing the inspector to identify the condition, together with the requirements of the procedure, to all parties.

including craft personnel and visual inspectors. The areas in question were then to be cleaned, if necessary, so inspections could be conducted. This was accomplished and all inspections were satisfactorily completed.

51. The inspector in question, Mr. J. L. McDermott, was indeed terminated on August 26, 1982, not for any quality problems he may have identified, but for habitual erratic job attendance and tardiness, as is documented in his personnel file.

NRC Allegation #0953

Allegation Description:

PGandE accepted welds improperly inspected using AC-DC magnetic particle test even 3 that failed inspection.

NRC Allegation Paraphrase:

In a series of memos it is implied that 80 welds are to be accepted by reviewing results in the AC mode, although three had failed.

This subject was previously addressed in Response Nos. 163 and 164 submitted in PGandE letter DCL-84-166 dated April 30, 1984 and supplemented in DCL-84-187 dated May 17, 1984. The previous allegations and responses are attached hereto.

GAP #183 and 184, Petition at 7.

It is alleged that:

In 1981 PG&E neutralized a corrective action program by accepting welds that failed an MT (magnetic particle) test, based on results from previously-discredited tests that had accepted the same welds. The current selector switch on a testing machine had erroneously been installed backwards, to run at alternating current (AC) rather than on direct current (DC). AC, unlike DC, cannot detect subsurface cracks. Pullman and PG&E both require the use of DC for this reason. After 80 welds had been approved with the machine in an AC mode, the problem was discovered. When a sample of eight erroneously approved welds were retested, three failed because of subsurface flaws. Nonetheless, PG&E directed Pullman to accept these three welds, based on the earlier inadequate approvals with AC. (citing 2/25/84 Anon. Aff. at 9-10 and related Exhibits 15-19.) One such weld had "linear indications", suggesting possible cracks, as long as 3 inches. (citing 2/25/84 Anon. Aff. at 9-10 and related Exhibits 17 and 19.)

In the same case, PG&E directed Pullman to accept welds that had never been properly tested. Rather than retesting the remainder of the 80 welds that had been erroneously accepted using an improper testing method, PG&E directed Pullman to accept all of them without retesting, based on the AC tests. The reason PG&E gave for this was the cryptic statement that "the ability of DC to detect subsurface defects is limited in our configurations." (citing 2/25/84 Anon. Aff. at 9-10 and related Exhibit 18.) As described above, PG&E offered this excuse in spite of the fact that a retest with DC had failed more than a third of the sample, a result that PG&E's Torstron called "inconclusive" (citing 2/25/84 Anon. Aff. at 10 and related Exhibit 18.)

110. The allegations are correct only insofar as they relate to the erroneous installation of the current selector switch on a testing machine. The remainder of the allegations are misleading because each assumes that the DC mode testing was required for the purpose of subsurface examination. This assumption is incorrect. Rupture restraints were

examined for potential subsurface defects pursuant to Contract Specification 8833XR by volumetric ultrasonic (UT) examination. The magnetic particle testing (MT) examination "DC mode" was never intended to be used for the purpose of volumetric examination, but was intended solely for surface examination. Since both AC and DC are adequate for surface examination, acceptance of the AC test results is of absolutely no significance with respect to subsurface indications.

111. The allegation is also misleading in that it attributes significant subsurface capability to the DC mode of MT. The fact is that the subsurface capability of DC mode MT is minimal and not relied on for subsurface examination.

112. The alleged subsurface "linear indications" are commonly attributable to non-relevant concerns, such as residual magnetism from welding or surface contour. There is nothing to confirm that the AC-powered examination was inadequate or that subsurface defects did in fact exist. Color photographs of the most severe indications indicate that spurious non-relevant conditions such as surface contour caused greater retention of magnetic powders with DC-powered examination. These full penetration welds were subject to UT examination for subsurface defects and accepted. The UT examination confirmed that the magnetic powders retained during DC mode MT were spurious indications. Both AC- and/or DC-powered magnetic particle examinations are acceptable to the Codes of construction.

113. The incorrect installation of the selector switch was reported on Pullman DR 4350 and 4352 and dispositioned according to accepted QA procedures.

GAP #183 and 184, Petition at 7.

It is alleged that:

> In 1981 PG&E neutralized a corrective action program by accepting welds that failed an MT (magnetic particle) test, based on results from previously-discredited tests that had accepted the same welds. The current selector switch on a testing machine had erroneously been installed backwards, to run at alternating current (AC) rather than on direct current (DC). AC, unlike DC, cannot detect subsurface cracks. Pullman and PG&E both require the use of DC for this reason. After 80 welds had been approved with the machine in an AC mode, the problem was discovered. When a sample of eight erroneously approved welds were retested, three failed because of subsurface flaws. Nonetheless, PG&E directed Pullman to accept these three welds, based on the earlier inadequate approvals with AC. (citing 2/25/84 Anon. Aff. at 9-10 and related Exhibits 15-19.) One such weld had "linear indications", suggesting possible cracks, as long as 3 inches." (citing 2/25/84 Anon. Aff. at 9-10 and related Exhibits 17 and 19.)
>
> In the same case, PG&E directed Pullman to accept welds that had never been properly tested. Rather than retesting the remainder of the 80 welds that had been erroneously accepted using an improper testing method, PG&E directed Pullman to accept all of them without retesting, based on the AC tests. The reason PG&E gave for this was the cryptic statement that "the ability of DC to detect subsurface defects is limited in our configurations." (citing 2/25/84 Anon. Aff. at 9-10 and related Exhibit 18.) As described above, PG&E offered this excuse in spite of the fact that a retest with DC had failed more than a third of the sample, a result that PG&E's Torstrom called "inconclusive" (citing 2/25/84 Anon. Aff. at 10 and related Exhibit 18.)

The difference between the Petition and Attachment 2 is the reference to the memo from Mr. McDermott to Mr. Spanner, dated August 26, 1981, requesting an explanation of the Disposition of Pullman D.R.'s 4350 and 4352 and the

inclusion of the memo as Exhibit 29 to Attachment 2. The affiant then states, "Although I worked at Pullman another year, I never got a reply," creating the impression that the matter was ignored.

Contrary to Attachment 2, a review of Pullman files has produced a copy of Exhibit 29 with a timely reply from Mr. Spanner of PGandE's Department of Engineering Research to Mr. McDermott explaining the last sentence of the telecon in question (see Attachment 2, Exhibit 27). Whether Mr. McDermott received a copy of the reply is unknown.

NRC Allegation #0967

Allegation Description:

PGandE has not followed through on NCR requiring Pullman to perform a complete reverification of welded and bolted connections.

NRC Allegation Paraphrase:

Also the inspector was not notified of the requirements of the NCR.

This Allegation was previously addressed in Response No. JIR-30, subpart 3.3, submitted in PGandE letter DCL-84-239 dated June 26, 1984. The previous allegation and response are attached hereto.

As to the paraphase, there is no requirement for the inspector to be notified of the corrective action taken as the result of an NCR if, as assumed, this is what is meant by "requirements" of an NCR. However, if the inspector wanted to see the disposition of the NCR, there was no policy which prohibited his access to the NCR files.

JIR-30

It is alleged that:

3.3 Contrary to the resolution of Nonconformance report DC2-80-RM-002 Pullman did not do a documented inspection of all bolted and welded connections and applicable documentation. I personally observed oversize bolt holes, Nonconforming welds, and out of tolerance washers on Rupture Restraints as late as December of 1983. (6/7/84 Lockert Aff. at 7.)

The subject nonconformance report (NCR) applies to Unit 2 only. The corresponding NCR for Unit 1 was properly dispositioned and closed. The resolution set forth for NCR #DC2-80-RM-002 has been and is presently being implemented. Pullman has been and is presently performing documented inspections of bolted and welded connections for engineering evaluation of nonconforming connections. NCR #DC2-80-RM-002 applies to Unit 2 and has not been closed and will remain open until completion of all required activities set forth in the resolution.

The corresponding Unit 1 nonconformance report, NCR #DC1-79-RM-003, was resolved and closed per the stated resolution. As-builts, generated by Pullman, were reviewed by Engineering and modifications implemented as necessary. The steps taken for NCR closure are fully documented.

NRC Allegation #0989

Allegation Description:

Production personnel defining the quality of work in field (which is not allowed).

This allegation has been identified as a duplicate of NRC Allegation #0470.

Refer to the response to that allegation.

NRC Allegation #1009

NRC SI / OI

Allegation Description:

People who wanted to do the job right were segregated from those who didn't care, and the two groups were then given different tasks.

NRC Allegation Paraphrase:

As stated regarding design review engineers.

This subject was previously addressed in PGandE Response to Intervenors' Motion to Reopen on DQA, Breismeister, et al., Aff. at 15-16 (VI) and 67 (LVII), and Tresler et al., Aff. at paragraphs 10 and 11, dated March 6, 1984. The previous allegations and responses are attached hereto.

VI. It is alleged that:

Engineers who questioned suspect assumptions were transferred to Unit 2. Cooperative engineers plus new recruits were assigned to Unit 1. (Stokes, 11/17/83, p. 9)

37. Contrary to statements in the affidavit, no attempt was made to determine personnel assignments on the basis of objections or questions raised regarding Unit 1 activities.

38. When the OPEG small bore piping group was established in the fall of 1982, all efforts were directed to Unit 1 activities. At the time, there was no specifically defined scope of work or schedule for Unit 2 activities. Consequently, the entire OPEG small bore piping group was assigned to Unit 1. By early 1983, the Unit 2 scope and schedule were defined and it became necessary to increase OPEG manpower to support Unit 2 work in addition to the ongoing Unit 1 effort. Accordingly, additional trailer space and engineers were obtained for that purpose. The decision to establish physically separate teams for the two efforts was based on the desire to assure proper management of the two activities. The separate teams within OPEG facilitated independent scheduling, production control and output tracking, control of manhour expenditures against separate project budgets, coordination with the two separate and independent Unit 1 and 2 project teams in San Francisco, and prevented intermixing of calculations, calculation files, support drawings, and other potential administrative problems.

39. The basic consideration in establishing the makeup of the two teams was to provide each with an essentially equivalent mix of new assignees, engineers with more project experience and appropriate supervisory personnel, such that each project effort could be supported equally. Security clearance for access to the plant was not a consideration in these assignments since the relaxation of plant security procedures effective in March 1983, allowed all pipe support engineers equal plant access to Units 1 and 2.

LVII. It is alleged that:

> Similar to the experience of Mr. Stokes and others in the pipe support group, engineers in the stress trailer were transferred after challenging suspect changes -- such as eliminating eccentricities -- in the models for the seismic design review calculations. The reluctant engineers were replaced by personnel who cooperated with questionable manipulation of models. In fact, there were considerably more personnel shifts in the stress group than the pipe support group. (Stokes, 1/25/84, Tr. 151)

223. As with the pipe support group, the stress group experienced reassignment of some personnel to the Unit 2 small bore effort in the Spring, 1983. However, this did not involve physical transfer of personnel since almost all stress group personnel could be located in the one trailer which they already occupied. Contrary to statements in the allegation, no attempt was made to transfer personnel in the piping stress group on the basis of objections raised regarding analysis modeling techniques. It is true that, as with pipe support analyses, a difficult or troublesome stress calculation might be reassigned to a different engineer to take advantage of greater experience or familiarity with acceptable alternate calculation techniques. We reject the implication that reassigning calculations for this purpose is inappropriate.

NRC Allegations #1220 and 1364

Allegation #1220 Description:

Pullman has verbally instructed inspectors not to write discrepancy reports. These instructions are confirmed by memo.

NRC Allegation Paraphrase:

Over the last few months Pullman verbally has instructed inspectors not to write Discrepancy Reports (DR's). These instructions have been confirmed by a memorandum. This allows PGandE to remain officially ignorant of quality problems during the last few months before commercial operation. That is when it is most significant for PGandE to keep informed so that it can keep the NRC informed. ESD 240 states "All discrepancy reports will be generated by field QA/QC inspectors or engineers." Field inspectors are instructed to write DCN's only, and Pullman QA will determine if a DR is necessary. This instruction is per memoranda and not incorporated into any approved procedure, in violation of another approved procedure for incorporating memoranda into approved procedures.

Allegation #1364 Description:

QC inspectors instructed by management not to document decrepant conditions in formal reports.

This subject was previously addressed in Response No. III-15 submitted in PGandE letter DCL-84-243 dated June 29, 1984. The previous allegation and response are attached hereto.

As is stated in that response, inspectors were never told not to document discrepant conditions in formal reports. They were, however, requested that where it could not be determined whether the condition was actually deficient,

they should describe the discovered condition in a memorandum to management and request guidance as to how to handle the matter before preparing a formal report.

III-15

It is alleged that:

On March 13, 1984, there was a meeting between the Pullman leadmen and Pullman supervision, after which the leadmen told the Quality Control (QC) inspectors that starting immediately, for both Units 1 and 2, QC inspectors were not to write any Discrepancy Reports (DR's, which go to PG&E to be dispositioned) and were only allowed to write Deficient Condition Notices (DCN's), a Pullman in-house form.

They said that even if it should be a DR, to only write it on a DCN form, that Pullman's Quality Assurance (QA) department would review them to see if there were any conditions that required a DR, and that if so the QA department would write them up.

When inspectors asked questions about this, the QC supervisors told them that this new procedure was ordered by Bill Kimmel, the head of the QA department, and that Kimmel would issue a memo shortly.

Kimmel is the QA supervisor, and QA has no direct authority over the day-to-day actions of QC personnel. In addition to this, I am concerned that this new procedure violates 10 CFR Part 21, 10 CFR 50.55(e), and 10 CFR Part 50 Appendix B. (3/22/84 Clewett Aff. at 3.)

The entire issue of DCNs and DRs was previously addressed in PGandE's Answer in Opposition to Joint Intervenors' Motion to Reopen on CQA, Karner and Etzler Aff. at 36-39. That response stated in part that:

> Details of Pullman Power Products procedures for reporting deficient conditions are contained in procedures ESD 268 (Field Procedure for Deficient Condition Notices (DCN), and ESD 240 (Field Procedure for Nonconformance Reporting called a Discrepancy Report (DR)). These procedures have been in effect since 1973 for ESD 240 and 1978 for ESD 268.
>
> These procedures were prepared, reviewed, and approved by both Pullman QA/QC management and PGandE to be in compliance with the Pullman QA Manual section for nonconformance reporting (KFP-10) and PGandE's

Specification 8711. These procedures give the specific details for preparation of a DCN and a DR. The DCN, as identified in ESD 268, is a method for field personnel to identify what they believe to be problems that violate procedures and which cannot be corrected during the normal course of construction. In accordance with the approved procedure, ESD 268, PG&E is not required to review the DCN.

The DCN, by procedure, does require Pullman Engineering concurrence. If a DCN is prepared by engineering, it also requires Pullman QA/QC concurrence. This assures that both Pullman disciplines are aware of the condition, have the opportunity to assure that all items are accurately depicted, and that all necessary information is included in the DCN. The review by a Pullman QA/QC leadman, which is not required by procedure, was implemented to further assure that information is accurate, that all necessary information was included, and to let upper levels of responsibility know of problems that are occurring. This review is not intended to delay submittal of these reports, but is done to prevent further recurrence, to immediately provide additional training and instructions to the responsible parties, and to assure that these reports are not rejected for lack of information at the next level of review. With proper justification, a DCN can be voided at any level of review including that of the QA/QC manager. If the DCN is voided prior to reaching the Pullman QA/QC manager, it is done so only with the concurrence and agreement of the originator or his first line supervisor.

If the DCN is voided at any stage of the process, the original DCN or a copy thereof is returned to the originator. Additional instructions have been implemented to assure that these documents are handled properly and voided copies are kept on file. The DCN can be dispositioned in various ways, one of which is identifying the problem on a DR.

The "new" procedure mentioned by Mr. Kimmel was merely a restatement of the procedure which had long been in effect. This memo was issued to all QA/QC and Engineering personnel by Mr. Karner and Mr. Cornish on March 14, 1984. The actions involved herein violated no regulatory requirements.

NRC Allegations #1285, 1286, and 1289

Allegation #1285 Description:

Management diluted the QC program to keep pace with the deteriorating quality of construction.

Allegation #1286 Description:

Management split up the QC inspection teams to shorten the review time resulting in a decrease in the quality of reviews.

Allegation #1289 Description:

QC - 1 was reduced by 80% to solve the backlog.

These allegations apparently relate to the reorganization of the pre-inspect program in early 1984. As indicated in earlier responses to allegations, this reorganization did not downgrade the quality inspection but merely reassigned the time and responsibilities for such inspection to more effectively utilize personnel.

This general subject was previously addressed in Response Nos. 174 and 295 submitted in PGandE letter DCL-84-166 dated April 30, 1984. The previous allegations and responses are attached hereto.

GAP #174 and #295, Petition at 5 and 40, respectively.

It is alleged that:

A February 21, 1984 PG&E memorandum institutionalized the above violation by stripping Pullman QC inspectors of the organizational freedom to apply corrective action for weld symbol deficiencies on previously accepted work. That authority was reserved for PG&E construction department preinspection field engineers. (citing 2/26/84 Anon. Aff. at 11.) Error ATTACH 3

Until February 15, 1984, PG&E preinspection field engineers did not have the organizational freedom to look at any work already accepted, regardless of deficiencies. To illustrate, they were instructed not to look at any existing welds already accepted by Pullman. One current engineer explained what they had to ignore: "The paperwork was so sloppy, however, that I could not tell when a weld had been accepted, or under what revision of the installation procedure, or under what acceptance criteria." (citing 2/27/84 Anon. Aff. at 6.)

1. The above two allegations relate to a February 15, 1984 memorandum (there was no February 21 memorandum) signed by D. A. Rockwell, which reallocated responsibilities relating to, among other things, the examination of previously accepted work in conjunction with the implementation of design changes. Procedures covering the reinspection of such work were in place at all times.

2. When a pipe support design modification is received, a pre-inspection is performed to determine the constructibility of the change. Prior to February 15, 1984, each pre-inspection activity was performed by a pre-inspection field engineer and a QC inspector. The primary assignment of the pre-inspection field engineer was to check the constructibility of the design modification, i.e., could it be installed

as shown and where shown, and to recommend solutions if construction problems existed. He could also note the differences between the drawing and the existing installation. To perform the constructibility review, the pre-inspection field engineer was issued only the latest revision of the hanger drawing. The pre-inspection engineer was not responsible for conducting final quality control inspections of previously accepted work, and pre-inspection was not used as a substitute for the required QC inspections.

3. Prior to rework or modification, the QC inspector was assigned to inspect all existing welds on the supports to be modified against the revised design drawing and to identify any discrepancies between the existing welds and/or symbols and ESD-223 acceptance criteria.

4. After all work was completed and the new as-built drawings prepared, the QC inspector inspected the newly modified support to ensure that it complied with acceptance criteria and the new as-built drawing. After acceptance by QC, the as-built drawing was transmitted to PGandE Project Engineering for final review and acceptance of the as-built design.

5. The pre-inspection program and associated responsibilities were revised by the February 15, 1984 memorandum to more efficiently utilize available manpower without adversely impacting plant quality. The revised program eliminated QC participation in the pre-inspection process and clarified all pre-inspection responsibilities of the

pre-inspection field engineer, including the "red-lining" of existing welds and/or symbols which may not have been accurately depicted on the revised design drawing.

6. The QC inspection, including review of all new work, all rework, and all items "red-lined" by the pre-inspection field engineer, now takes place in a single step after the completion of the modification. All of the necessary design and quality functions continue to be performed, including transmittal of as-built drawings to Project Engineering for review and acceptance.

7. Documentation and traceability of inspection records for supports that have had modifications are the responsibility of Pullman's QA/QC Department. The pre-inspection field engineer is neither required nor expected to track through these documents during the normal course of his work, nor is there any reason for him to do so. That a specific engineer could not follow the necessary paperwork in an area for which he did not have responsibility is of little consequence as long as the documentation is acceptable and understandable to those who do have the responsibility. A history for any given hanger is maintained in either the Pullman QA vault or the PGandE QC vault.

NRC Allegation #1344

Allegation Description:

Pipe rupture restraints program was audited against wrong contract specification.

This subject was previously addressed in Response No. H-3 submitted in PGandE letter DCL-84-256 dated July 6, 1984. The previous allegation and response are attached hereto.

H-3

It is alleged that:

It should be noted that PG&E did not audit Restraints against the correct Contract Specification, Spec. 8833XR but against Spec. 8711 which covered Pipe Supports and not Pipe Rupture Restraints. The same mistake was made in the Kellogg audit of 10-24-73. Why PG&E did not include Spec. 8833XR which had placed Rupture Restraints under specific QA requirements is unknown. This would be a reoccurring problem in the early years of construction. (6/5/84 Hudson Aff. at 4.)

The subject matter of this allegation was previously addressed in PGandE letter, dated March 29, 1984, DCL-84-195 in response to NRC allegation numbers 470, 471, 472, 473, and 474:

The deficiencies in Pullman's QA program which are noted in this allegation [NRC #470] were reported in the PGandE audit in 1973. Subsequently, Pullman revised its QA program to include pipe supports and rupture restraints, and the revised program was submitted to PGandE's Corporate QA Manager for approval. The program was approved on December 11, 1973. The reinspection was completed and closed out by PGandE on January 15, 1974.

All pipe supports and rupture restraints that were installed under the original ESD 223 were reinspected and were replaced or repaired, if necessary, or accepted. Each was properly documented in accordance with the new program.

This allegation raises nothing new, and since the condition was corrected, no further corrective action is necessary.

The 1973 PGandE QA audit of the M. W. Kellogg Quality Assurance Program, which is actually referred to in this allegation, identified that pipe support and rupture restraint work was not covered under the main program. This work was being conducted under what was considered by the auditor as an "alternate QA program" under the provisions of ESD 223. The auditor evaluated ESD 223 as a QA program and identified eight programmatic deficiencies. In resolving this audit, Kellogg developed the Pipe Suport Quality Assurance Manual for pipe support and rupture

restraint work. This manual was approved by PGandE on December 11, 1973. A review of the NSC audit reveals that there were no programmatic findings in these eight areas except for two items in the area of document control. The area of document control identified was that there was no procedure for control of ESDs or Special Quality Assurance Procedures. Contrary to the allegation [NRC #471], as a result of the various audits over time, M. W. Kellogg did "learn its lesson" and improved its QA program on pipe supports and rupture restraints.

No further action is required.

The January 10, 1977, memorandum referred to in the allegation [NRC #472] simply acknowledges the previously mentioned fact about deficiencies in the Pullman QA program four years before in 1973. The memorandum, however, also lists the steps that were "taken" to ensure that the requirements of the new ESD 223 were met. The memorandum concludes, "It is my opinion that this program will insure [sic] the present installations are, as a whole, meeting the requirements of ESD 223." Rather than show the continuous deficiencies, the memorandum demonstrates compliance.

No further corrective action is required.

Contrary to Allegation #473, Pullman did audit the Diablo Canyon project to the requirements of 10 CFR 50 or ASME. In order to qualify for NA and NPT stamps from ASME, Pullman was required to commit to and did audit its projects according to the requirements of ASME. Consistent with such requirements, Pullman established its QA Manual and QA procedures which required audits to procedures which satisfied ASME. Management audits of the Diablo Canyon Project were conducted by Pullman on a regular basis beginning in 1972 (Attachment 16) in addition to internal audits. Those audits were conducted to ensure compliance with Specification 8711 and 8833XR. While neither specification specifically references 10 CFR 50, each specifies the criteria to be met by Pullman's QA program. These criteria, in their substance, address the 18 elements of 10 CFR 50, Appendix B. The 1973 PGandE audit specifically found, "M. W. Kellogg's [Pullman's] QA Manual complies with Section 4 [Quality Requirements] of the Specification." The quality requirements for Specification 8711 and 8833XR are identical.

J. R. Manning's memorandum followed the NSC audit of Pullman in 1977 and can be seen as an exhortation that the

prospective corporate audit of the project be in the form of 10 CFR 50 or ASME to guarantee that the Pullman QA program satisfies third party review by NRC or ASME. The NRC Staff in its review of the Pullman corporate audit program determined that, while the elements of the QA program were general, there was "a history of Quality Assurance Program Audits based on checklists following 10 CFR 50 Appendix B criteria" (NRC Inspection Report No. 50-275/83-37 at 7-8).

Contrary to the allegation, it was a PGandE audit, not a Pullman audit, which addressed both piping and rupture restraints. As discussed above, the QA requirements for Specifications 8833 and 8711 are the same.

Contrary to the implication of Allegation #474, the Pullman Diablo Canyon QA program was audited both in hardware and software areas prior to 1978. Subsequent to a 1978 PGandE audit of a Pullman audit (PGandE Audit No. 80422), extensive additional effort was expended just in the hardware area of the Pullman program because of PGandE findings. This additional audit effort is what is referred to by Mr. Manning in his memorandum. PGandE found no reason to require an additional audit effort in the program portion of the Pullman QA program.

Pullman's QA program has been audited since the contract began to the substantitive requirements of 10 CFR 50 and ASME. Deficiencies found by the audits by Pullman or PGandE have been corrected, and no further action is required.

NRC Allegations #1035 and 1036

Allegation #1035 Description:

Group leaders checked a box on a cover sheet that was already signed making it appear that the person preparing the work xed the box.

Allegation #1036 Description:

Boxes were checked on the covers of the pipe hanger designs that they did not affect the SSAR when in fact they did affect the FSAR.

NRC Allegation Paraphrase:

Regarding design review packages. The box corresponds to a statement that the FSAR was affected. The "no" box was the box in question.

This subject was previously addressed in PGandE Response to Intervenors' Motion to Reopen the Record on DQA, Breismeister, et al., Aff. at 77-78 (XLIX) dated March 6, 1984. The previous allegation and response are attached hereto.

XLIX. It is alleged that:

> Early in the seismic design review, management instructed engineers to check a blank on the form that the calculation results would not affect the Final Safety Analysis Report ("FSAR"), despite the engineers' protests that they did not know what was in the FSAR. Eventually, blank forms were just xeroxed with the "X" filled in and distributed to the engineers for their calculations. The only way the engineer could ensure accuracy was by whitingout what was already there. (Stokes, 1/25/84, Tr. 96-97).

197. The calculation cover sheet referenced in the allegation is the standard cover sheet required by Engineering Manual Procedure No. 3.3, Design Calculations. The sheet contains the requirement to check if the calculation affects the FSAR.

198. The Diablo Canyon piping procedures, themselves, ensure that the design and analysis methodology and criteria comply with all licensing requirements including those contained in the FSAR. Therefore, implementation of these procedures by pipe support designers assures that the requirements of the FSAR are met. This process provided the basis for supervisors' instruction to subordinates to check the "SAR change required 'No' box". Pipe support design engineers activities are directed by these written criteria and procedures, so that engineers, including Mr. Stokes, need not be familiar with the FSAR.

NRC Allegation #1202

Allegation Description:

PGandE made a false statement when they stated that QA program remains in effect "for all welds", when a 12/28/83 procedure change tells inspectors not to write-up reports on existing welds.

NRC Allegation Paraphrase:

PGandE said the quality assurance program remains in effect "for all welds." That is a false statement. The authority to oversee these problems was removed from QA/QC and given to field engineers not trained for these assignments in the field.

This subject was previously addressed in Response Nos. 160, 161, and 162 submitted in PGandE letter DCL-84-166 dated April 30, 1984. The previous allegations and responses are attached hereto.

GAP #180, 181, and 182, Petition at 6-7.

It is alleged that:

On December 28, 1983, Pullman modified installation procedure ESD-223 -- which also provides the acceptance criteria for QC inspectors -- by adding the following provision: "D. For existing installations, welding which was performed but was not required as part of the design is acceptable . . ." (citing ESD-223, "Installation and Inspection of Pipe Supports, "at I, V and 46.) This practice can create unaccounted residual stress on the corresponding pipe support. (citing 2/27/84 Anon. Aff. at 4.)

On December 28, 1983, Pullman also amended ESD-223 with the following provision: "E. For existing installations, welding which was not performed but was required as part of the design is acceptable." (citing ESD-223 at I, V, and 46.) This waiver suggests that faulty welds also would be acceptble (sic), since they could be sacrificed entirely. In other words, anything that does (or does not) exist is acceptable. This procedure revision suggests that quality assurance standards are not just deteriorating; they have collapsed. ESD-223 governs safety-related pipe hangers throughout the plant.

Both amendments were made with the full knowledge of PG&E, pursuant to a December 9, 1983 meeting between Pullman and PG&E. (citing ESD-223 at 11.) The excuse offered for accepting these deviations from design was that through "as-built" drawings, further engineering analysis could determine whether the original design requirements were necessary. (citing ESD-223 at 46.) The excuse cannot wash. Valid QC inspection criteria are one mandatory step among many required for a minimum quality assurance program. They should not be sacrificed because of another independently-required safeguard. Second, the as-built reviews themselves are of questionable reliability. (citing GAP 3/1/84 Petition at 19, Item 216.)

8. These three allegations arise out of a misunderstanding of a December 1983 revision to Pullman procedure ESD-223. The revision resulted from a series of minor variations in welds that had been discovered during pre-inspection of existing pipe supports prior to their release for modifications which were required by the Corrective Action Program.

Undersized fillet welds, incomplete fillet welds, and minor weld defects were observed on existing pipe supports. PGandE Engineering reviewed the effect of such variations on the safety of existing supports and, consistent with design and licensing requirements, provided disposition for the existing welds referenced in the Minor Variation Reports.

9. Contrary to the implication of the allegations, the quality review of existing welds was not sacrificed by the procedural change but remained a requirement of the program. In its approval of the proposed procedure, PGandE specifically required that:

> "1. Undersize, oversize, or incomplete fillet welds shall be as-built, provided that weld quality meets the requirements of ESD-223, paragraph 6.8.2.4 B, C, and D." (Emphasis added).

Paragraph 6.8.2.4 B requires that:

> "B. The final surface of all welds shall be substantially free of sharp surface irregularities, excess surface slag, slag inclusions, and shall have a good workmanship appearance. Excessive surface irregularities may be removed by chipping or grinding provided the weld size specified on the support is maintained."

10. Contrary to GAP #181, the quality assurance program remains in effect for all welds. As discussed in the response to GAP #174 and 295, the February 15, 1984 revision to the pre-inspection program does not eliminate weld quality inspection, but merely shifts the time of inspection of existing welds from pre-inspection to after installation of the modification. At such time, all new and existing welds that

have been "red-lined" by the pre-inspection engineer or reworked are subject to quality control inspection for acceptability according to the same criteria.

11. In GAP #180 and 181, reference to the as-built process as part of the existing weld review program has been conveniently omitted by the alleger. Where welding which was not required by the existing design drawing has been performed on existing supports, or where required welding was not performed, the field engineer identifies the items for rework or indicates such discrepancies on the as-built drawings to ensure that each pre-existing discrepancy will be individually evaluated and accepted. After completion of the construction, QC confirms the accuracy of the as-built drawing by inspecting the completed support against the drawing.

12. All as-built drawings are transmitted to Project Engineering for review. Engineering reviews the as-builts and verifies compatibility with existing calculations or performs new calculations, as required. If compliance to design criteria is not demonstrated by calculation, appropriate corrective action, including the issuance of a modified support design or rewelding, is taken. Therefore, the design/construction process continues to ensure that the as-built configuration is accurately depicted on drawings, qualified by calculation, and acceptable. This entire process is controlled by procedure and documented.

13. With regard to residual stress in pipe supports, as alleged in GAP #180, such stresses that may be caused by overwelding are not a significant factor. Residual stresses are generally local and self-relieving, and exist in all welded construction and in many steel-based materials. The piping supports are constructed, primarily, of light and medium thickness plain carbon steel, such as ASTM A-36, steel plates and shapes. The supports are generally not highly restrained. ASTM A-36 is a ductile material with excellent weldability characteristics and is not subject to failure from residual welding stresses as much as are high-strength steels when subject to high restraint. The design codes take residual stresses into consideration in the specifications of load combinations and allowable stresses.

GAP #174 and #295, Petition at 5 and 40, respectively.

It is alleged that:

A February 21, 1984 PG&E memorandum institutionalized the above violation by stripping Pullman QC inspectors of the organizational freedom to apply corrective action for weld symbol deficiencies on previously accepted work. That authority was reserved for PG&E construction department preinspection field engineers. (citing 2/26/84 Anon. Aff. at 11.) Error ATTACH 3

Until February 15, 1984, PG&E preinspection field engineers did not have the organizational freedom to look at any work already accepted, regardless of deficiencies. To illustrate, they were instructed not to look at any existing welds already accepted by Pullman. One current engineer explained what they had to ignore: "The paperwork was so sloppy, however, that I could not tell when a weld had been accepted, or under what revision of the installation procedure, or under what acceptance criteria." (citing 2/27/84 Anon. Aff. at 6.)

1. The above two allegations relate to a February 15, 1984 memorandum (there was no February 21 memorandum) signed by D. A. Rockwell, which reallocated responsibilities relating to, among other things, the examination of previously accepted work in conjunction with the implementation of design changes. Procedures covering the reinspection of such work were in place at all times.

2. When a pipe support design modification is received, a pre-inspection is performed to determine the constructibility of the change. Prior to February 15, 1984, each pre-inspection activity was performed by a pre-inspection field engineer and a QC inspector. The primary assignment of the pre-inspection field engineer was to check the constructibility of the design modification, i.e., could it be installed

as shown and where shown, and to recommend solutions if construction problems existed. He could also note the differences between the drawing and the existing installation. To perform the constructibility review, the pre-inspection field engineer was issued only the latest revision of the hanger drawing. The pre-inspection engineer was not responsible for conducting final quality control inspections of previously accepted work, and pre-inspection was not used as a substitute for the required QC inspections.

3. Prior to rework or modification, the QC inspector was assigned to inspect all existing welds on the supports to be modified against the revised design drawing and to identify any discrepancies between the existing welds and/or symbols and ESD-223 acceptance criteria.

4. After all work was completed and the new as-built drawings prepared, the QC inspector inspected the newly modified support to ensure that it complied with acceptance criteria and the new as-built drawing. After acceptance by QC, the as-built drawing was transmitted to PGandE Project Engineering for final review and acceptance of the as-built design.

5. The pre-inspection program and associated responsibilities were revised by the February 15, 1984 memorandum to more efficiently utilize available manpower without adversely impacting plant quality. The revised program eliminated QC participation in the pre-inspection process and clarified all pre-inspection responsibilities of the

pre-inspection field engineer, including the "red-lining" of existing welds and/or symbols which may not have been accurately depicted on the revised design drawing.

6. The QC inspection, including review of all new work, all rework, and all items "red-lined" by the pre-inspection field engineer, now takes place in a single step after the completion of the modification. All of the necessary design and quality functions continue to be performed, including transmittal of as-built drawings to Project Engineering for review and acceptance.

7. Documentation and traceability of inspection records for supports that have had modifications are the responsibility of Pullman's QA/QC Department. The pre-inspection field engineer is neither required nor expected to track through these documents during the normal course of his work, nor is there any reason for him to do so. That a specific engineer could not follow the necessary paperwork in an area for which he did not have responsibility is of little consequence as long as the documentation is acceptable and understandable to those who do have the responsibility. A history for any given hanger is maintained in either the Pullman QA vault or the PGandE QC vault.

NRC Allegation #1205

Allegation Description:

Pullman QA management partially voided discrepancy reports by rewriting it [sic]. The report should be answered on the record, not censored.

NRC Allegation Paraphrase:

In response to GAP allegation #200, PGandE said that the allegation arose from a "lack of understanding" about the QA manager's responsibilities for DR's. In my opinion, it is not the QA management's option to partially void a DR by rewriting it. It should be answered on the record, not censored.

This subject was previously addressed in Response No. 200 submitted in PGandE letter DCL-84-166 dated April 30, 1984. The previous allegation and response are attached hereto.

The alleger's opinion is not substantiated by the facts. It is the Pullman QA Manager's responsibility to void portions of the DR if he determines that they are not appropriate. No censorship occurred.

GAP #200, Petition at 12.

It is alleged that:

Mr. Karner completely rewrote a Discrepancy Report that a QC inspector submitted on studs made from unqualified materials that were welded on the containment liner and elsewhere. Mr. Karner censored the DR to remove all references to two of the three unqualified materials Pullman had used -- A-108 and A-307 material. In effect, two-thirds of the proposed DR improperly was verbally dispositioned. (citing 2/25/84 Anon. Aff. at 7.)

27. The allegation appears to arise out of the alleger's lack of understanding of Mr. Karner's procedural responsibilities as QA/QC Manager.

28. Under Pullman's ESD-240, "Field Procedure For Non-Conformance Reporting," the QA/QC Manager is responsible for the review and approval of all Discrepancy Reports (DRs) prior to submittal to PGandE. This review ensures that the alleged discrepant items do actually represent departures from procedures, specifications, or applicable codes and that the recommended disposition of the discrepant items complies with the requirements of Pullman's Quality Assurance Program. The DR is considered "proposed" until Mr. Karner has completed his review.

29. The proposed DR referenced in the allegation declared, inter alia, that the use of ASTM A-108 and A-307 Grade B materials as welding studs was a nonconformance because they allegedly were not P-1 materials as defined in ASME Section IX.

30. During his review of the proposed DR, Mr. Karner determined that A-108 and A-307 Grade B bolts, though not specifically listed in Section IX, do qualify as P-1 materials and that no deviation from approved procedures had occurred in welding them. ASTM A-108 is defined as a P-1 material in ASME code case N71-10. A-307 Grade B, as used at Diablo Canyon, also qualifies as a P-1 material. (See PGandE response, dated March 19, 1984, to Joint Intervenors' Motion to Reopen on CQA, Breismeister, et al., Aff. at 12-13.) The inspector who had prepared the proposed DR was informed of Mr. Karner's findings, and a corrected version of the DR was submitted to PGandE as DR 5739.

31. The implication of this allegation is that Mr. Karner has no right to edit DRs prepared by his subordinates. The facts are that Mr. Karner, under approved QA procedures, has the right, responsibility, and obligation to ensure the accuracy of such reports. Mr. Karner discharged this responsibility appropriately.

JI #14 and 15, Motion at 12.

It is alleged that:

Pullman also overextended Code 7/8 by welding common hardware bolts, instead of the threaded studs that theoretically were welded to the containment liner. Construction crews turned the bolts into rough threaded studs by cutting the heads off and chiseling the end until it was pointed. (citing 1/16/84, Anon. Aff. at 3-4.)

Since they came from common hardware bolts of A 307 material, the homemade studs neither have controlled chemical contents such as carbon limitations, nor material traceability. As a result, it is uncertain whether the welds will hold for such suspect material. (citing 1/16/84, Anon. Aff. at 3-4 and 1/12/84, Anon. Aff. at A8.)

39. The allegation has no technical merit. The five metals (A441, A572 Gr. 42 and 50, A500 Gr. B, and A588) are permitted and prequalified in the AWS D1.1 Code. AWS D1.1 is the controlling code for rupture restraint welding. Additionally, the allegation is incorrect because these five metals are not significantly different from ASME P-1 materials.

40. Mr. Hudson's Unscheduled Audit #35 identified these five materials as not specifically listed in WPS 7/8. The corrective action for this audit finding was to revise ESD 243 and AWS 1-1 so that all five materials were addressed.

41. Mr. Hudson has brought forward an old problem, which was previously identified and corrected pursuant to a properly functioning QA program.

NRC Allegations #1206, 1207, and 1208

Allegation #1206 Description:

A Pullman memo dated May 31, 1984 confirms that welding of A307 bolts is unacceptable, therefore, all welded studs installed in the last 14 years must be replaced.

NRC Allegation Paraphrase:

In answer #30, PGandE responded that "A307, Grade B, as used at Diablo" is acceptable as a P-1 material. That is false, as confirmed when a May 31, 1984 Pullman memorandum concluded, "A307 bolts with the heads removed are NOT acceptable" (emphasis in original). (It is enclosed as Exhibit 2.) Those bolts were the point of allegation.

Allegation #1207 Description:

Pullman management tried to prevent distribution of the May 31, 1984 memo.

NRC Allegation Paraphrase:

The May 31, 1984 memorandum confirmed the accuracy of allegation. But it has not been applied to any existing work in Unit I or Unit II. The explicit point of the memorandum was to stop future violations. It was issued "to prevent recurrence of this discrepancy." Nothing was said about correcting existing work. It is not enough to install these bolts properly for the last few months of a 14 year job. Those converted bolts are on the containment liner of both units and in other safety-related systems. The use is widespread in safety-related systems. All must be replaced.

In fact, management tried to prevent distribution of the memorandum. There was a limited distribution list, and all who received it were supposed to sign and date the event. One of those on the list distributed it "to all QC insp." (Id.)

Allegation #1206 Description:

The May 31, 1984 memo discredits the NRC staff conclusion tnat A307 bolts at Diablo Canyon is acceptable.

NRC Allegation Paraphrase:

The May 21, 1984 memorandum also discredits NRC staff conclusions that A307 at Diablo Canyon "is" acceptable. NRC inspector Gonzalo Hernandez told me or February 6, 1984 that the use of A307 was all right.

The allegation that the May 31, 1984 memo confirmed that A307 bolts were unacceptable has been addressed and refuted in a letter and affidavit submitted to the ASLAB on July 5, 1984. A copy of that letter is attached hereto.

Contrary to the allegation, A307 bolts remain acceptable as used at Diablo Canyon.

PACIFIC G S AND ELECTRIC COMPANY

COPY

Attachment to
NRC Allegation 1206, 1207 and 1208
Reference: Response to Footnote 21, ASALB-775 Decision
Dated: June 28, 1984
Page 1 of 3

July 5, 1984

Thomas S. Moore, Esq., Chairman
Dr. John H. Buck
Dr. W. Reed Johnson
Atomic Safety and Licensing Appeal Board
U. S. Nuclear Regulatory Commission
4350 East-West Highway
East-West Tower, 5th Floor
Bethesda, MD 20814

Re: Docket No. 50-275, OL-DPR-76
Docket No. 50-323
Diablo Canyon Units 1 and 2
Response to Footnote 21 of Memorandum and Order
Dated June 28, 1984 (ALAB-775)

Gentlemen:

In response to footnote 21 of the decision of the Appeal Board dated June 28, 1984 (ALAB-775), the Affidavit of H. W. Karner is enclosed. As can be seen from the Affidavit, the prior responses of applicant to allegations concerning the use of #307 material remain true and correct.

Kindly acknowledge receipt of this material on the enclosed copy of this letter and return it in the enclosed addressed envelope.

Very truly yours,

ORIGINAL SIGNED BY
Dan G. Lubbock

Enclosure

cc: Service List

bcc: Diablo Distribution

1774d/0016K

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of PACIFIC GAS AND ELECTRIC COMPANY (Diablo Canyon Nuclear Power Plant, Units 1 and 2)	Docket Nos. 50-275 50-323

AFFIDAVIT OF H. W. KARNER

STATE OF CALIFORNIA)
) ss.
CITY AND COUNTY OF SAN FRANCISCO)

The above, being duly sworn, deposes and says:

My name is Harold W. Karner. I am employed by Pullman Power Products as Manager, Quality Assurance/Quality Control, at Diablo Canyon Power Plant. On May 31, 1984, I issued an interoffice memorandum to all Pullman QA/QC inspectors onsite which stated, inter alia, that "A-307 bolts with the heads removed are NOT acceptable." My intention when issuing the memo was not to imply that the prior use of A-307 bolts as studs was technically unacceptable, but merely to procedurally stop a practice which had evoked enough controversy that its continuation was not deemed desirable. The memo was written to specifically address DR-5892, which referenced A-490 and A-193-B7 studs, and to provide additional controls on the type of carbon steel stud material which can be welded without extra case-by-case authorization.

The May 31, 1984 memo does not in any way alter the position taken in PGandE's Response to Joint Intervenors' Motion to Reopen the Record on the Issue of Construction Quality Assurance, Attachment C, pages 12-13. A-307 Grade B bolts/studs are weldable and have been properly welded and meet all specification and code requirements for weldability, chemical composition, strength, and traceability.

There was no technical reason why I included the statement regarding the use of A-307 Grade B bolts as studs. I only meant that from that date forward, Pullman welders could no longer make A-307 Grade B studs from A-307 Grade B bolts without prior QA/QC approval.

I have read the preceding two pages and the information outlined therein is true and accurate to the best of my knowledge.

Dated: July 5, 1984

H. W. Karner

Subscribed and sworn to
before me this 5th day
of July, 1984

C. T. NEAL MADISON
NOTARY PUBLIC - CALIFORNIA
CITY AND COUNTY OF
SAN FRANCISCO
My Commission Expires Dec. 27, 1985

C.T. Neal-Madison

Cynthia Neal-Madison
Notary Public in and for the
City and County of San Francsico
State of California
My commission expires
December 27, 1985

SEAL