

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

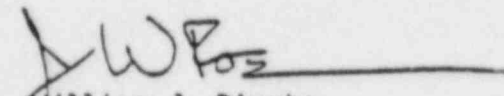
JUN 12 1984

MEMORANDUM FOR: Carlton Kammerer, Director, Office of
Congressional Affairs

FROM: William J. Dircks, Executive Director for Operations

SUBJECT: JUNE 14, 1984, UDALL HEARINGS ON DIABLO CANYON

Attached are responses to Henry Myers questions dated April 10, 1984. These responses are for inclusion in the Chairman's briefing book forwarded to you on June 7, 1984 and for forwarding separately to Dr. Myers.


William J. Dircks
Executive Director
for Operations

Attachment:
As stated

BACKGROUND:

DR. MYER'S QUESTIONS (DATED 4/10/84) WERE FIRST RECEIVED ON APRIL 11, 1984, SHORTLY BEFORE THE COMMISSION MEETING REGARDING DIABLO CANYON UNIT 1 LOW POWER TESTING. A LICENSING BOARD NOTIFICATION WAS MADE ON APRIL 12, 1984. MOST OF THE TOPICS REFERENCED BY THE QUESTIONS WERE DISCUSSED IN THE COMMISSION MEETING ON APRIL 13, 1984. DURING THAT MEETING THE TOPICS WERE ADDRESSED BOTH BY THE STAFF AND THE LICENSEE. IN ADDITION, THE LICENSEE HAD PREVIOUSLY SUBMITTED MATERIAL TO THE ATOMIC SAFETY AND LICENSING BOARD (IN 1983) WHICH RELATES TO THESE TOPICS.

NRC STAFF EXAMINATION OF THE NSC AUDIT, AND RELATED ACTIONS, WAS PERFORMED PRIMARILY TO PROVIDE THE NEW NRC REGIONAL ADMINISTRATOR INSIGHT INTO THE MANAGEMENT AND QUALITY PRACTICES EMPLOYED IN THE EARLY CONSTRUCTION OF DIABLO CANYON. EXAMINATION OF THE NSC AUDIT PROVIDED THE VEHICLE. THE STAFF FOLLOWED THE PATH REPORTED BY THE NSC AUDIT, APPROPRIATELY EXPANDING UPON AREAS OF QUESTION, TO DETERMINE THE VALIDITY OF THE NSC FINDINGS. THE NRC STAFF DID NOT PERFORM A COMPLETE RECONSTRUCTION OF ALL PULLMAN POWER CONSTRUCTION ACTIVITIES AT THE SITE OVER THE YEARS. BASED UPON THE STAFF'S FINDINGS RELATING TO THE NSC AUDIT, A RECONSTRUCTION OF THIS TYPE IS NOT WARRANTED, AND IS NOT CONSIDERED TO BE AN APPROPRIATE EXPENDITURE OF NRC STAFF RESOURCES. CERTAIN ASPECTS OF THE QUESTIONS LISTED BELOW CANNOT BE SPECIFICALLY ANSWERED SINCE TOTAL RECONSTRUCTION OF ALL ASPECTS WAS NOT PERFORMED, AND, AS STATED, IT DOES NOT APPEAR THAT FURTHER EFFORTS IN THIS AREA ARE MERITED.

QUESTION 1:

THE NSC AUDIT OF PULLMAN APPEARS TO HAVE BEEN UNDERTAKEN IN RESPONSE TO CONCERNS EXPRESSED BY PG&E AS TO WHETHER THE DIABLO REACTORS HAD BEEN CONSTRUCTED IN A MANNER THAT COMPLIED WITH THE COMMISSION'S REGULATIONS. PG&E AUDIT 80422 (P. 2) STATES: "SEVERAL APPARENTLY GENERIC DEFICIENCIES IN WORK PERFORMED BY PULLMAN WERE PREVIOUSLY IDENTIFIED BY THE GENERAL CONSTRUCTION DEPARTMENT."

WHAT "GENERIC DEFICIENCIES" HAD BEEN IDENTIFIED BY THE GENERAL CONSTRUCTION DEPARTMENT?

HAD THESE "GENERIC DEFICIENCIES" BEEN REPORTED TO THE AEC/NRC?

ANSWER 1:

AS DISCUSSED IN THE APRIL 13, 1984, COMMISSION MEETING TRANSCRIPT, THE LICENSEE PERFORMED ITS AUDIT (NO. 80422) TO SAMPLE THE ADEQUACY OF HARDWARE AND OBTAIN AN ASSESSMENT OF PULLMAN ACTIVITIES DUE TO THE (APPARENTLY) IMPENDING LICENSING OF THE PLANT. THE BEST THAT THE STAFF WAS ABLE TO RECONSTRUCT REGARDING THE "GENERIC DEFICIENCIES" (REFERED TO IN AUDIT 80422) RELATE PRIMARILY TO TWO SPECIFIC PROBLEMS AND A MORE GENERALIZED PROBLEM WITH REWORK. THE STAFF HAD BEEN INFORMED OF THESE PROBLEMS.

THE FIRST SPECIFIC PROBLEM RELATED TO DEFICIENCIES IN ANCHOR BOLT INSTALLATIONS WAS DETECTED IN EARLY 1977. EXTENSIVE RESEARCH, TESTING, AND REWORK WAS ASSOCIATED WITH THIS ISSUE TO IMPROVE CONTROLS FOR INSTALLING AND

INSPECTING ANCHOR BOLTS. THE NSC STAFF WAS INFORMED OF THIS PROBLEM. IN FACT, MUCH OF THE WORK DONE IN THIS AREA WAS UTILIZED BY THE STAFF IN MAKING ASSESSMENTS OF ANCHOR BOLT ADEQUACY AT OTHER FACILITIES, IN THAT, THESE PROBLEMS WERE FOUND TO BE SOMEWHAT GENERIC IN THE INDUSTRY. THESE FINDINGS PROVIDED A BASIS FOR THE ISSUANCE OF IE BULLETIN 79-02. THE SECOND SPECIFIC PROBLEM RELATED TO UNDERSIZED SOCKET WELDS ON SCHEDULE 160 PIPING. DEFICIENCIES IN THIS AREA LED TO THE REINSPECTION OF ALL SCHEDULE 160 SOCKET WELDS AND THE ADDITION OF WELDMENT TO THOSE WHICH WERE FOUND TO BE UNDERSIZED.

IN 1977, THE LICENSEE ALSO NOTED THAT THE VOLUME OF REWORK BY THE PULLMAN CONTRACTOR WAS INCREASED OVER PREVIOUS PERIODS. THIS INCLUDED NOT ONLY ANCHOR BOLTS, AND SOCKET WELDS, BUT ALSO REWORK RELATED TO RADIOGRAPHS.

QUESTION 2:

THE SCOPE STATEMENT OF THE NSC AUDIT ENCOMPASSED "WORKMANSHIP OF THE FIELD-FABRICATED AND INSTALLED ITEMS." THE JUNE 16, 1978 LETTER FROM MR. WISCHOW TO MR. BAIN, TO WHICH THE PG&E REVIEW OF THE NSC AUDIT AND PULLMAN RESPONSE THERETO WERE ATTACHED, STATED THAT THE NSC AUDIT "DID NOT ADDRESS ITSELF TO THE VERIFICATION OF THE ADEQUACY OF THE INSTALLED HARDWARE. THE NSC AUDIT WAS SUPERFICIAL WITH RESPECT TO THE HARDWARE...."

DID NSC FULFILL ITS COMMITMENT TO VERIFY THE ADEQUACY OF INSTALLED HARDWARE? IF NOT, WHAT WAS THE REASON FOR ITS NOT HAVING DONE SO? WHAT WAS DONE TO SATISFY PG&E'S ORIGINAL CONCERN THAT THERE BE AN AUDIT TO VERIFY THE ADEQUACY OF INSTALLED HARDWARE?

ANSWER 2:

BASED ON OUR REVIEW OF THE SCOPE OF WORK ASSIGNED TO NSC, IT CLEARLY LOOKS AS IF NSC SHOULD HAVE FOCUSED ON INSTALLED HARDWARE. AS EVIDENCED BY THE NSC REPORT THE VAST MAJORITY OF THE NSC EFFORT FOCUSED ON THE "PAPER-TRAIL" ASSOCIATED WITH THE WORK, AND NOT THE WORK ITSELF. AS MENTIONED PREVIOUSLY, THE STAFF DID NOT PERFORM A COMPLETE RECONSTRUCTION OF ALL NSC ACTIONS. THE STAFF DOES NOT KNOW THE PRECISE REASONS NSC DID NOT DIRECT THEIR AUDIT TOWARD HARDWARE. RECONSTRUCTION WOULD BE LARGELY SPECULATIVE. NEVERTHELESS, THE LICENSEE FELT THAT A DIRECT HARDWARE AUDIT SHOULD BE PERFORMED. THE LICENSEE FIRST REQUESTED THAT PULLMAN PERFORM SUCH AN AUDIT AS A PART OF THE FOLLOWUP TO THE NSC AUDIT. THIS FOLLOWUP HARDWARE AUDIT WAS PERFORMED BY A SINGLE INDIVIDUAL. LICENSEE OVERVIEW OF THIS ACTIVITY CONCLUDED THAT THIS AUDIT WAS DEFICIENT. ACCORDINGLY, THE LICENSEE DIRECTED THAT PULLMAN PERFORM A MORE EXTENSIVE, IN-DEPTH AUDIT OF HARDWARE. THIS AUDIT (NO. 71-77-3-78) WAS SATISFACTORILY PERFORMED IN JULY 1978, AND IDENTIFIED 43 ITEMS WHICH WERE APPROPRIATELY ADDRESSED AND RESOLVED TO THE LICENSEE'S SATISFACTION.

QUESTIONS 3:

PG&E UNDERTOOK AUDIT 80422 TO VERIFY THE ADEQUACY OF PULLMAN'S QA PROGRAM; TO REVIEW THE VALIDITY OF THE NSC FINDINGS AND TO DETERMINE THE ACCURACY AND APPROPRIATENESS OF PULLMAN'S RESPONSE; AND TO OBSERVE THE AS-INSTALLED CONDITION OF COMPONENTS AND PULLMAN'S ADHERENCE TO APPLICABLE SPECIFICATIONS, DESIGN DRAWINGS, AND QUALITY STANDARDS.

AUDIT 80422 EVALUATED A PULLMAN CORPORATE AUDIT CONDUCTED IN FEBRUARY 1978. AUDIT 80422 FOUND DISCREPANCIES IN ITEMS THAT HAD BEEN INSPECTED BY PULLMAN AUDITORS WHO NOTED NO DISCREPANCIES. AUDIT 80422 CONCLUDED THAT "IN LIGHT OF THE NUMBER OF DISCREPANCIES NOTED, IT IS APPARENT THAT THE PULLMAN AUDIT DID NOT EFFECTIVELY EVALUATE THE QUALITY OF THEIR WORK."

WHAT ADDITIONAL AUDITS WERE CONDUCTED IN LIGHT OF THE FINDING THAT PULLMAN'S "AUDIT DID NOT EFFECTIVELY EVALUATE THE QUALITY OF THEIR WORK?" IN LIGHT OF THIS FINDING WHAT HARDWARE INSPECTIONS WERE CONDUCTED TO DETERMINE THE ADEQUACY OF PULLMAN'S WORK? HOW MANY DISCREPANCIES WERE NOTED AS THE RESULT OF ADDITIONAL AUDITS AND INSPECTIONS CONDUCTED IN THE WAKE OF AUDIT 80422? WHAT WAS DONE TO DETERMINE WHY THE DEFICIENT CONDITIONS NOTED IN M-3725 AND M-3726 HAD NOT BEEN DISCOVERED IN THE COURSE OF THE ORIGINAL INSPECTION PROCESS? WHAT WAS THE REASON THESE DEFICIENT CONDITIONS HAD NOT BEEN NOTED DURING THE COURSE OF THE ORIGINAL INSPECTION PROCESS? WHAT WAS DONE TO DETERMINE WHY THE PULLMAN CORPORATE AUDIT HAD NOT NOTED THE DISCREPANCIES NOTED BY AUDIT 80422? WHY DID THE PULLMAN CORPORATE AUDIT NOT DISCOVER THE DISCREPANCIES? WHAT WAS THE BASIS FOR THE 83-37 FINDING (STATED ON PAGE 40) THAT PULLMAN HAD PERFORMED ADEQUATE CORPORATE AUDITS? WHAT WAS THE BASIS FOR THE 83-37 FINDING (1D.) THAT PULLMAN'S INTERNAL AND CORPORATE AUDITS HAD INDICATED THAT NO FUNDAMENTAL QA PROGRAM BREAKDOWN HAD OCCURRED? - [E.G. SEE 1978-79 FINDINGS RE PIPE RUPTURE RESTRAINTS PER NCR'S DC1-78-RM-008, DC1-78-RM-009, DC1-79-RM-003, ETC.]

ANSWER 3:

AS STATED IN RESPONSE TO QUESTION 2, ABOVE, THE LICENSEE PROPERLY DETERMINED THAT PULLMAN'S INITIAL AUDIT WAS DEFICIENT. THIS WAS A SECOND FALSE START (THE FIRST BEING NSC'S FAILURE TO FOCUS ON THE HARDWARE). THE UTILITY THEN TOOK ACTION WITH PULLMAN TO GET A THOROUGH HARDWARE AUDIT. THIS PULLMAN AUDIT (NO. 71-77-3-78) ACCOMPLISHED THE LICENSEE'S GOAL. PULLMAN IDENTIFIED 43 ITEMS IN THEIR AUDIT.

THE KINDS OF DEFICIENCIES FOUND BY THE LICENSEE (IN M-3725 AND M-3726) AND THE PULLMAN AUDIT WERE MOSTLY MINOR IN NATURE AND NOT ATYPICAL OF WHAT IS FOUND ELSEWHERE. IT IS NOT POSSIBLE TO ACCURATELY STATE AT THIS LATE DATE, WHY THE FIRST LINE QC INSPECTORS DID NOT DETECT THESE ANOMALIES. COMMENT ON WHY THE PULLMAN INITIAL AUDIT WAS INADEQUATE WOULD BE LARGELY SPECULATIVE. THE AUDIT WAS CONDUCTED BY A SINGLE AUDITOR. WHAT IS IMPORTANT IS THAT PG&E RECOGNIZED THE PROBLEM, TOOK FORCEFUL ACTION WITH PULLMAN MANAGEMENT, AND A MEANINGFUL HARDWARE AUDIT WAS OBTAINED.

AS INDICATED, THE FINDINGS FROM THE LICENSEE AND PULLMAN AUDITS WERE NOT OF THE SIGNIFICANCE THAT WOULD INDICATE A FUNDAMENTAL QUALITY ASSURANCE PROGRAM BREAKDOWN. AND, AS STATED IN STAFF REPORT 83-37, THE COMBINATION OF PULLMAN CORPORATE AND INTERNAL AUDITS PROVIDED ADEQUATE AUDIT- COVERAGE TO MEET THE REQUIREMENTS OF 10 CFR 50, APPENDIX B.

QUESTION 4:

TO WHAT EXTENT DID RECOMMENDATIONS LISTED ON PAGE 11 - 12 OF AUDIT 80422 CORRESPOND TO DEFICIENCIES NOTED IN THE NSC AUDIT?

ANSWER 4:

WHILE THERE IS SOME COMMONALITY IN GENERAL SUBJECT MATTER (E.G., THE GENERAL TOPICS OF INSPECTORS' CERTIFICATION AND REFERENCE TO PROCEDURE KFPS-7) THE LICENSEE'S RECOMMENDATIONS ON PAGES 11 AND 12 OF AUDIT 80422 DO NOT HAVE A ONE FOR ONE CORRELATION TO THE NSC FINDINGS. THE NSC AUDIT RELATED PRIMARILY TO PAPER WORK WHILE THE LICENSEE'S AUDIT INCLUDED HARDWARE INSPECTIONS.

QUESTIONS 5:

A MAY 29, 1979 MEMORANDUM FROM K. FREED TO E. GERWIN ADDRESSES PIPE RUPTURE RESTRAINT PROBLEMS. WHY HAD WELDER DEFICIENCIES NOT BEEN DETECTED AND CORRECTED AT AN EARLIER DATE BY PULLMAN'S QC/QA PROGRAM? TO WHAT EXTENT ARE THE NOTED WELDING DEFICIENCIES SIMILAR TO THOSE SPECIFIED BY THE NSC AUDIT?

ANSWER 5:

THERE APPEARS TO BE SOME CONFUSION ABOUT THE SIGNIFICANCE OF THE MAY 29, 1979 MEMO. THE PROBLEM WHICH IT DISCUSSES WAS DETECTED MUCH EARLIER THAN THE DATE OF THE MEMO. THE LICENSEE AND PULLMAN HAD PROPERLY DOCUMENTED THE PROBLEM THROUGH THE QC/QA SYSTEM, AND HAD BEEN EVALUATING THE EXTENT OF THE PROBLEM FOR SEVERAL MONTHS. IT WAS OFFICIALLY REPORTED TO THE NRC AS A 50.55(E) DEFICIENCY ON APRIL 4, 1979. THE MAY 29, 1979 MEMO WAS AN INTERNAL PULLMAN DOCUMENT ADDRESSED TO THE PULLMAN QA MANAGER. IT REPRESENTED AN EARLY ATTEMPT BY PULLMAN TO ASSESS THE CAUSES OF THE PROBLEM. THE MEMO WAS SOMEWHAT PREMATURE IN THIS REGARD SINCE THE LICENSEE WAS CONDUCTING EXTENSIVE EVALUATIONS WHICH LASTED OVER AN EXTENDED PERIOD. THESE EVALUATIONS INCLUDED: NONDESTRUCTIVE

EXAMINATIONS; EXAMINATION OF WELD RECORDS; DESTRUCTIVE TESTING; AND FAILURE MODE DETERMINATION. A FINAL REPORT ON THIS SUBJECT WAS ISSUED TO THE NRC IN DECEMBER 1980. THIS TOPIC WAS HEAVILY INSPECTED BY THE NRC STAFF AND IS ADDRESSED IN SIX STAFF INSPECTION REPORTS.

THE ANALYSIS OF THE PROBLEMS DISCLOSED THAT THE CAUSES WERE COMPLEX AND UNIQUE TO THE TYPE OF WELDING BEING PERFORMED. THE RUPTURE RESTRAINT SITUATION WAS UNIQUE IN THAT THE COMPONENTS INVOLVE HIGH STRENGTH MATERIALS, VERY THICK WELD SECTIONS, AND HIGHLY RESTRAINED JOINT CONFIGURATIONS, NOT NORMALLY FOUND IN NUCLEAR PLANTS. THE COMPONENT FAILURES WERE FIRST DETECTED AS LAMELLAR TEARS OUTSIDE OF THE WELDS THEMSELVES. THE ORIGINAL INSPECTION PROCESS SPECIFIED FOR THESE WELDS DID NOT ANTICIPATE THIS TYPE OF FAILURE AND WAS NOT SUITABLE FOR THEIR DETECTION. THEREFORE, EVEN THOUGH THE QC INSPECTORS PERFORMED THEIR INSPECTIONS PROPERLY THEY WERE NOT ABLE TO DETECT THE FLAWS DUE TO THE INSPECTION TECHNIQUE SPECIFIED. THE PROBLEM WAS ULTIMATELY IDENTIFIED WHEN PERFORMING ROUTINE REPAIRS TO THE RESTRAINTS. A SUITABLE NONDESTRUCTIVE EXAMINATION METHOD WAS SPECIFIED AND APPLIED AS A PART OF THE CORRECTIVE ACTION PROGRAM.

THE CONDITIONS RELATED TO THE RESTRAINTS ARE QUITE DIFFERENT THAN THOSE ADDRESSED BY THE NSC AUDIT (WHICH FOCUSED ON PAPERWORK RELATED TO PIPE AND PIPE SUPPORT WELDING). REFER TO QUESTION 6 FOR ADDITIONAL DISCUSSION IN THIS AREA.

QUESTION 6:

WHAT AUDITS AND/OR REINSPECTIONS OF HANGERS WERE CONDUCTED TO DETERMINE WHETHER THE TYPES OF DEFECTS FOUND IN THE PIPE RUPTURE RESTRAINTS EXISTED WITH RESPECT TO PIPE HANGERS? WHAT IS THE BASIS FOR A DETERMINATION THAT DEFECTS FOUND IN PIPE RUPTURE RESTRAINTS DID NOT EXIST WITH RESPECT TO PIPE HANGERS?

ANSWER 6:

THE PROBLEMS ASSOCIATED WITH RUPTURE RESTRAINT FABRICATION WERE FOUND TO BE DUE PRIMARILY TO THE USE OF HIGH STRENGTH STEEL, IN HEAVY THICK SECTIONS, WITH RESTRAINED JOINT CONFIGURATIONS. THESE ARE NOT THE TYPE OF CONDITIONS ENCOUNTERED IN PIPE HANGER FABRICATION, WHICH TYPICALLY INVOLVES MILD STEEL, SMALLER MATERIAL SECTIONS, WITH LESS CONCERN WITH RESTRAINED JOINT CONFIGURATIONS. SINCE THE PROBLEMS ASSOCIATED WITH THE FABRICATION OF THE HEAVY RESTRAINTS WERE NOT APPLICABLE TO PIPE HANGERS THERE WERE NO SPECIFIC AUDITS OR REINSPECTIONS PERFORMED RELATIVE TO THIS TOPIC. HOWEVER, FOR OTHER REASONS (SUCH AS IE BULLETIN 79-14) THERE WERE REINSPECTIONS OF PIPE HANGERS.

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BRIEFING PAPER

10 CFR 2.206 Petitions re Diablo Canyon

On April 16, 1984, Office of the General Counsel forwarded to the Office of Inspector and Auditor (OIA), a Commission Memorandum and Order dated April 13, 1984, which had attached to it an April 12, 1984, 2.206 Petition from the intervenor group, Government Accountability Project (GAP). Within its Petition, GAP called upon the Commission to have OIA investigate to determine:

- (a) whether there have been misleading or material false statements by the NRC staff to the Commission during the March 19, 26, or 27 briefings, or in Supplemental Safety Evaluation Reports SSER-21 (December 1983) or SSER-22 (March 1984); and
- (b) the causes of the QA breakdown within the NRC staff responsible for Diablo Canyon.

The Petition went on to outline various facts which GAP believed were in support of these two "allegations."

In its Order, the Commission noted that it had "requested OIA to review the Petition and to take whatever actions it deems necessary."

On May 15, 1984, James Lieberman, ELD, forwarded to OIA a second GAP 2.206 Petition dated May 3, 1984, for OIA's "use as appropriate." Within that Petition, GAP repeated word for word the earlier "allegations" addressed above.

OIA is currently reviewing the GAP submissions to determine what specific information the Petitions contain in support of these "allegations." It is anticipated that Thomas Devine (signer of the two Petitions) will be interviewed to determine if he has provided all relevant information available to him regarding these matters. Further interviews/investigation will then be accomplished, as appropriate.

In addition as to the second "allegation," more specific information must be forthcoming which would indicate the possibility of specific misconduct on the part of NRC employees, in contrast to GAP's apparent expression of general disappointment with NRC actions, before OIA will be in a position to conduct an investigation as to this matter.

These impressions are preliminary only and therefore are subject to modification should new or different information come to light.

*Field work completed
in June
in July
Report*



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

OFFICE OF THE
DEPUTY
EXECUTIVE DIRECTOR
FOR OPERATIONS

6/11/84

To: N. Haller
Fm: J. Roe

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UDALL HEARING

Pre-brief - 6/12 / Hearing - 6/14

Denton, NRR
Eisenhut, NRR
Schierling, NRR
Vollmer (?), NRR
Knight, NRR
Bishop, Reg V
Shollenberger, Reg V
Cunningham, ELD
Chandler, ELD (pre-brief only)
DeYoung, IE
Schwartz or Matthews, IE
Jack Martin, Reg V (Hearing only)