



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

JAN 25 1985

MEMORANDUM FOR: James P. Knight, Acting Director
 Division of Engineering

FROM: Robert J. Bosnak, Chief
 Mechanical Engineering Branch
 Division of Engineering

SUBJECT: DIABLO CANYON UNIT 2 AUDIT AT PGE/BECHTEL OFFICES
 SAN FRANCISCO, CA, JANUARY 14-18, 1985

The NRC Diablo Canyon 2 Review Group (DC 2 RG) personnel and consultants shown on Attachment #1 visited the PGE/Bechtel offices on January 14-18, 1985 to continue the audit of the Diablo Canyon Unit 2 pipe and pipe support design commenced during the weeks of October 22-26, 1984 (refer to memo dated 10/29/84), November 26-30, 1984 (refer to memo dated 12/4/84).

Certain members of the DC2 RG as noted on Attachment #1 visited the Diablo Canyon Unit 2 site on January 17, 1985 to: a) close out those items still open from the November 13-16, 1984 Piping and Support Configuration Team (PSCT) site audit, and b) to compare additional selected piping and support as-built configurations with the completed Phase III drawings from the San Francisco office.

In an exit meeting held with members of the PG&E/Bechtel Diablo Canyon Project, (Attachment # 2 lists attendees) PG&E was given a list of 9 "completion-type" items requiring their immediate attention and response to permit the timely completion of our SER. This list is included in Attachment # 3. Following a discussion of the above 9 items, I advised PG&E that the Review Group has concluded its detailed audit of approximately 30 selected piping problems and 70 supports. Our review was distributed among the 3 PG&E analysis groups approximately as follows:

	Piping Problems	Supports
Bechtel San Francisco (BSFO)	15	32
Bechtel Gaithersburg (BEPO)	11	16
Westinghouse	3	21
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Totals	29	69

Note: (At the start of this week's audit, PG&E reported the Phase III completion level at approximately 90%).

The DC 2 RG believes that the satisfactory completion of the above piping and support analyses represents a level of detailed review sufficient for the Review Group to reach a conclusion on Unit # 2. Our review revealed some

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James P. Knight

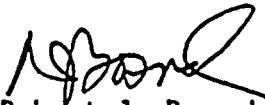
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calculational discrepancies (dimensional, modelling, SIFs) however, they were of the type that might be expected to be found on any typical project and were not of the type that would impact satisfying the licensing criteria.

The Review Group has also concluded that PG&E's Internal Review Program (IRP) and Allegation Review Program (ARP) are adequate to do what they were established for, i.e., track the host of items from Unit #1 affecting Unit #2, and tracking the allegations made on both units.

In closing the meeting, we commented on the spirit of cooperation and frank discussion the Review Group members experienced, without exception, in the design offices and at the site.

SER writing assignments for DC2 RG appear in Attachment #4. Final products due to B. Saffel, ASAP, or following review of PG&E submission required by Attachment # 3.


Robert J. Bosnak, Chief
Mechanical Engineering Branch
Division of Engineering

Attachments

1. Review Group (Mechanical)
2. Meeting Attendees
3. List of 9 Completion Items
4. SER Assignments

cc: D. Eisenhut, NRR
H. Thompson, DL
T. Novak, DL
G. Knighton, DL
✓ H. Schierling, DL
M. Hartzman, DE
G. Lear, DE
P. Kuo, DE
L. Manoly, R I
E. Sullivan, DE
E. Rodabaugh, ECRA
B. Saffell, BCL
T. Burr, INEL
K. Morton, INEL
M. Russell, INEL
G. Miller, INEL
H. Fleck, ETEC
H. Brammer, ETEC
J. Prevost, ETEC
P. Bezler, BNL
W. Johnston, DE
J. Crews, R V



Diablo Canyon 2 Review Group (Mechanical)
Meeting, January 14-18, 1985
San Francisco and San Luis Obispo, CA

IRP/ARP (IRPT)

R. Bosnak NRC*
M. Hartzman NRC
K. Manoly NRC
K. Morton INEL
B. Saffell BCL

Bechtel San Francisco, (BSFOT)

B. Saffell BCL*
K. Morton INEL 1/
M. Russell INEL 1/
J. Brammer ETEC

Bechtel EPD Gaithersburg (BEPDT) W (WT)

K. Manoly NRC*
T. Burr INEL 1/
G. Miller INEL 1/

M. Hartzman, NRC*
H. Fleck ETEC
J. Prevost ETEC
P. Bezler BNL

Piping and Support Configuration (PSCT)

E. Rodabaugh ECR*
H. Fleck ETEC
J. Brammer ETEC 1/
P. Bezler BNL

*Team Leader

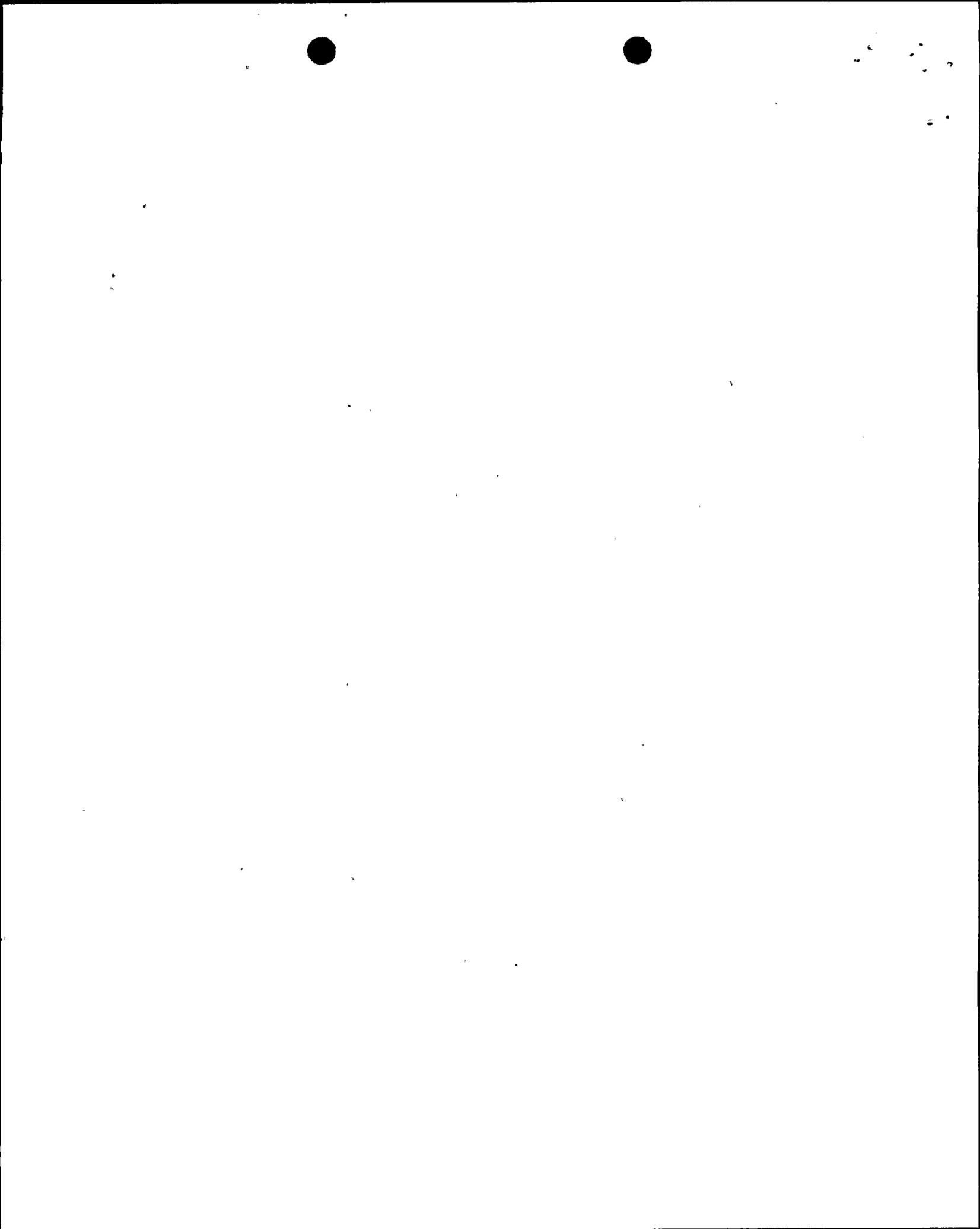
1/ Attended site meeting on January 17, 1985



Attachment #2

Roster of Participants in the Audit and Inspection
of Diablo Canyon Unit 2
1/14 - 18/85

<u>Name</u>	<u>Company</u>	<u>Organization</u>
B. F. Saffell	Battelle	NRC Consultant
M. J. Russell	EG&G Idaho	NRC Consultant
D. K. Morton	EG&G Idaho	NRC consultant
G. K. Miller	EG&G Idaho	NRC Consultant
J. M. Brammer	ETEC	NRC Consultatn
K. A. Manoly	NRC	DE, Region I
R. J. Bosnak	NRC	MEB, NRR
T. Burr	EG&G Idaho	NRC Consultant
G. Grim	Bechtel, EPD	STRESS
P. B. Hornbeck	Bechtel	QA
G. K. Wang	Bechtel, GPD	Project Engineer
Raj Parekii	Bechtel, SFHO	Plant Design
S. A. Palm	Westinghouse	Structural Analysis
D. M. Sartoris	Westinghouse	Structural Analysis
W. S. Lapay	Westinghouse	Structural Mechanic
S. Halupa	Westinghouse	Structural Analysis
G. Antaki	Westinghouse	Piping Systems Engineer
G. V. Cranston	Bechtel-DCP	DCP/PE
D. W. Ogden	PG&E Lic.	DCP
S. Bokhari	EPD	PD
G. Kotwansi	EPD	PD
R. L. Kelmenson	PG&E Lic.	DCP
P. Bezler	NRC/BNL	BNL
H. Fleck	Rockwell Int. (NRC)	
J. R. Prevost	Rockwell Int. (NRC)	
P. G. Antiocho	PG&E	DCP
T. F. Quan	Bechtel	DCP
R. J. Bosnak	NRC	IVRR/MEB
E. C. Rodabaugh	NRC/Consultant	None
T. P. Lee	Bechtel	DCP
M. Hartzman	NRC	NRC/MEB
P. Dalal	Bechtel SFHO	Stress Staff, Plant Design
R. Sorensen	Bechtel SFHO	Stress Staff Plant Design
R. Dhawan	Bechtel SFHO	Stress, Plant Design
C. J. Zeknik	Bechtel SFHO	Proj. Qual. Engineer
M. Z. Khlafallah	Bechtel SFHO	PD Staff
C. Chern	Bechtel SFHO	PD Staff
Howard Friend	Bechtel SFHO	DCP
Larry E. Shipley	Bechtel SFHO	PD Staff
Dick Anderson	Bechtel SFHO	DCP
Nag Growvish	Bechtel SFHO	DCP Licensing
B. S. Lew	TCP	DCP Licensing
F. Scapellato	<u>W</u>	DCP Licensing



Attachment #3

Completion Items Due From PG&E to DC2 RG
(Mechanical) for Completion of SER

1. Confirmation by PG&E via spot checks and sample calculations that all Code pressure design and area replacement requirements have been complied with. Branch connections were emphasized.
2. Final submission by PG&E on the status of Unit # 2 meeting the Unit # 1 Seven License Conditions, 2.C.(11).
3. Allegations - Additional information and clarification required by PG&E
 - a) Seven allegations (1642 through 1648) identified in NRC letter 12/20/84 to PG&E. PG&E letter 1/11/85 requires revisions as discussed during audit meeting. Major rewrite needed for allegation 1642.
 - b) Anonymous allegation (not in tracking system) NRC letter 1/17/85 to PG&E. Submission required to clearly cover both welds and members.
 - c) Allegations 1430, 1431 and 1432 - Submission by PG&E required. (JI letter of 7/16/84)
4. While not directly concerned with the subject of the audit, the need to make the submission required by the Regulations 10 CFR 50.55a(g), on inservice testing of pumps and valves for Unit # 2 was stressed. A copy of the NRC review summation for Unit #1 was presented to PG&E together with a listing of Unit #1 pressure isolation valves apparently omitted from the Unit # 1 IST program (refer to MEB memo of 11/13/84). PG&E was advised to review their Unit #2 program to incorporate all PIVs.
5. Submission for Unit #2 on the subjects of jet impingement and whip restraints (IRP 2-7002 and 2-6002, respectively). We received a copy of an internal memorandum dated 1/17/85 indicating that Unit #2 was treated similarly to Unit #1. For high energy jet evaluation, i.e., PG&E used 275 psi and 200°F rather than 275 psi or 200°F. A reevaluation was conducted and it was reported that no physical modifications were required. Formal submission by PG&E is necessary.



6. In its letter of 12/28/84 DCL 84-390 PG&E presented its TP TD-8402 for visual inspection of mechanical snubbers. The submission neglected to supply requirements for the snubber "as-installed," including the connections to the supporting structure and the supported component. Additionally, the team wished to know whether the work has been completed. Both items discussed above should be reported on by PG&E.
7. From its review of PIPSAN, the DC2 RG W team became aware of a situation in which a U-bolt used on an angle member under certain conditions can result in unacceptably high stresses in the U-bolt. This may occur with U-bolt gaps of less than 1/16". PG&E is to present their analysis of the type of support in question and how they assure satisfactory performance. The number of supports of this type is also part of the pertinent information desired.
8. Where channel members are used, either singly or in pairs, PG&E to confirm that the minimum stiffener spacing requirements of the AISC Standard and Subsection NF of the ASME Code have been complied with.
9. PG&E is to provide assurance that baseplates with a single row of bolts have been properly modelled and require no structural modification.

