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 FACIL: 50-275 Diablo Canyon Nuclear Power Plant, Unit 1, Pacific Gas 05000275
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 DENISON, E.T. Robert L. Cloud Associates, Inc.
 RECIP.NAME RECIPIENT AFFILIATION
 DENTON, H.R. Office of Nuclear Reactor Regulation, Director
 MARTIN, J.B. Region 5, Office of Director
 MANEATIS, G.H. Pacific Gas & Electric Co.

SUBJECT: Forwards Rev 1 to Open Item Rept 1128, Rev 0 to Repts 1136 & 1137 Semi monthly Rept for Jul 1983 & transmittal page describing station battery racks, large bore piping & HVAC duct & supports.

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NOTES: J Hanchett 1cy PDR Documents.

05000275

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ROBERT L. CLOUD ASSOCIATES, INC.

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P105-4

July 8, 1983

Mr. G.H. Maneatis, Executive Vice President
Facilities and Electric Resources Development
Pacific Gas and Electric Company
77 Beale Street
San Francisco, CA 94106

Mr. H.R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

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

Docket No. 50-275
Diablo Canyon Unit 1
License No. DPR-76

Gentlemen:

Enclosed please find Open Item Reports 1128 Revision 1 and 1133, 1134, 1135, 1136 and 1137 Revision 0, issued by Robert L. Cloud Associates during the prior reporting period. In addition, a transmittal page describing substantive information transmitted from the IDVP to DCP has been attached in accordance with DCNPP-IDVP-PP-007 Revision 3, section 7.3.6.

As required by DCNPP-IDVP-PP-005, Revision 2, responsible individuals assigned by this organization to the IDVP have completed an acceptance statement regarding potential or apparent conflicts of interest.

Yours truly,

Edward Denison

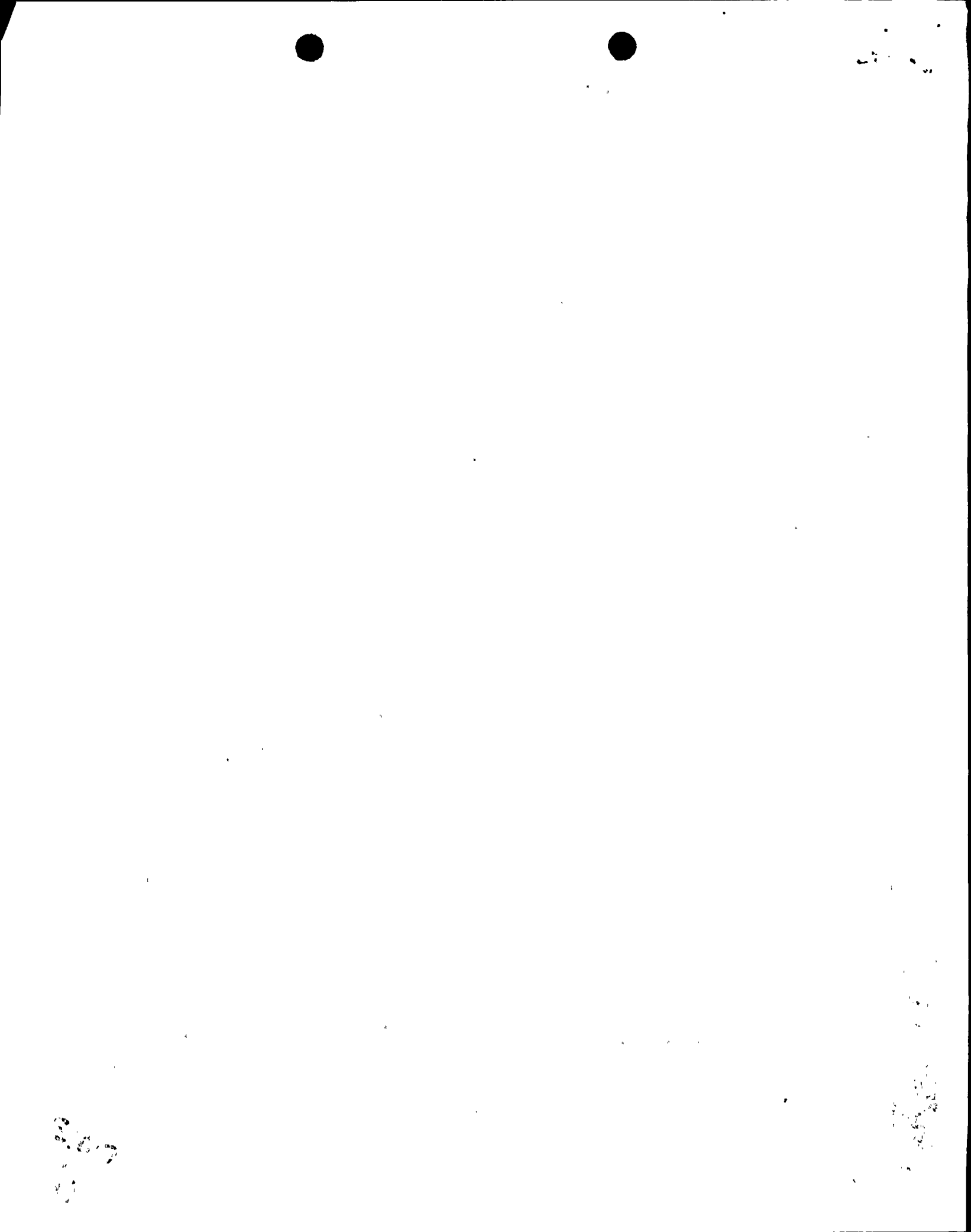
Edward T. Denison

cc: R. Fray
R. Reedy
F. Sestak
W. Cooper
H. Schierling
M. Strumwasser
J. Reynolds/J. Phillips
D. Fleischaker
B. Norton
A. Hubbard
J. Roesset
M. Axelrad
A. Gehr

Enclosure

8307130258 830708
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R

0013
1/1



OPEN ITEM REPORT

File No. 1128File Revision No. 1

1. Date reported to PG&E and TES 6/20/83
2. Scheduled for RLCA (Originator) Semimonthly Report No. July 1983
3. Responsive to PG&E Technical Program: Task _____ (if applicable)
4. Prepared as a result of:
 - a. QA Audit and Review Report of _____
 - b. Field Inspection Deficiency
 - c. Independent Calculation Deficiency
 - d. Seismic Input Deficiency
 - e. Design Methodology Deficiency
 - f. Other Deficiency
5. Structure(s), system(s) or component(s) involved:

Station Battery Racks (Corrective Action Program)

6. Description of Concern:

- a. The design analysis for the station battery racks (EQPM Calc. D-E-3.4-1 Rev. 0) assumes that the A-307 structural bolts are 1/2 inch in diameter.

RLCA field verified these structural bolts to be 3/8 inch in diameter rather than 1/2 inch.
- b. The design analysis does not consider the resolved shear force (1907 lbs) for the 3/8 inch bolt analysis.

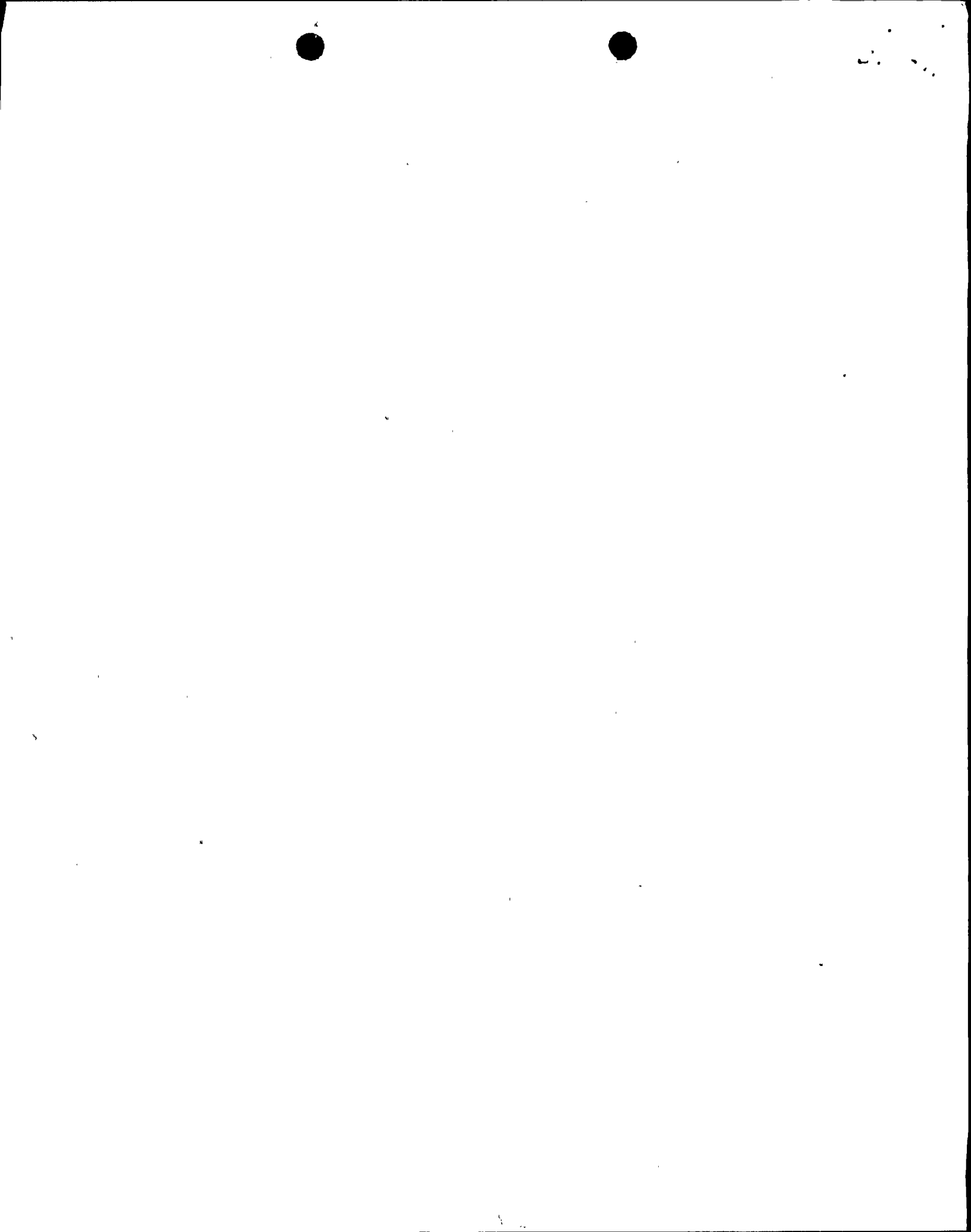
7. Significance of Concern:

The bolt shear stress exceeds the allowable if the correct bolt size and shear force is used in the calculation.

8. Recommendation:

Open Item for PGandE action.

9. Signature: Edward Demiser 6/20/83 (Originator/Organization)



OPEN ITEM REPORT

File No. 1133

File Revision No. 0

1. Date reported to PG&E and TES 6/13/83
2. Scheduled for RLCA (Originator) Semimonthly Report No. July 1983
3. Responsive to PG&E Technical Program: Task _____ (if applicable)
4. Prepared as a result of:
 - a. QA Audit and Review Report of _____
 - b. Field Inspection Deficiency
 - c. Independent Calculation Deficiency
 - d. Seismic Input Deficiency
 - e. Design Methodology Deficiency
 - f. Other Deficiency
5. Structure(s), system(s) or component(s) involved:
Large Bore Piping - Analysis 8-117 Rev. 2 (1/17/83) (Corrective Action Program)

6. Description of Concern:

Valve 9003A in design analysis 8-117 Rev. 2 was modelled with 2/3 of the total valve weight at the overall valve center of gravity. Section 4.5.6.2 of the Diablo Canyon Project Procedure P-11 Rev. 3 (1/3/83) requires the total valve weight to be modelled at the overall valve center of gravity.

7. Significance of Concern:

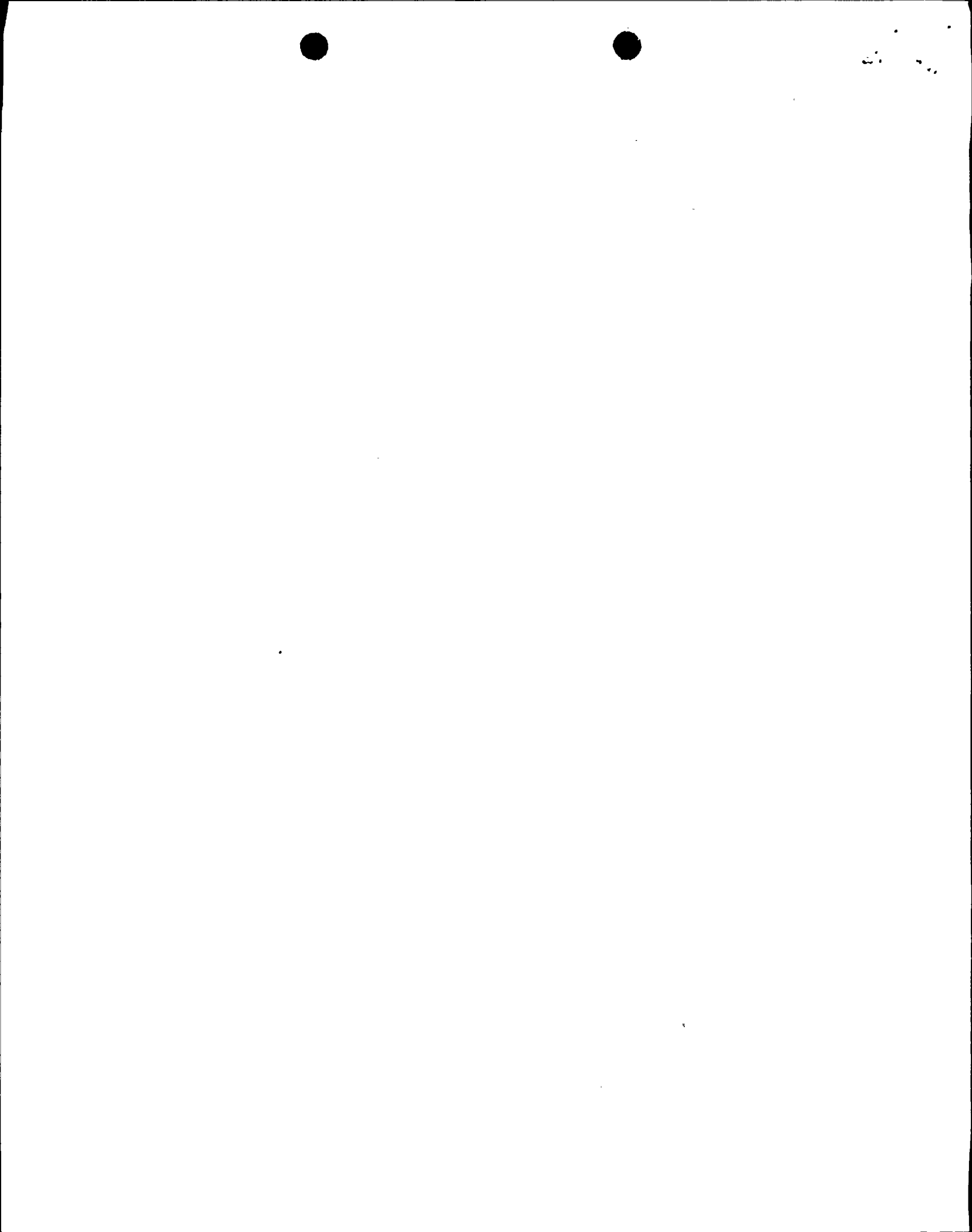
Valve modelling was identified during the initial piping sample as a generic concern. The DCP corrective action program was formulated to include review of valve modelling in large bore piping analyses. Revision 2 of this analysis incorrectly models this valve.

The technical significance of this individual item appears to be minimal based upon the DCP correction of the valve modeling in Revision 3 of the analysis (P105-4-432-577).

8. Recommendation:

RLCA will examine the corrected analysis Revision 3 to confirm stress impact and continue the review of valve modelling.

9. Signature: Edward Devison 6/13/83 (Originator/Organization)



1. Date reported to PG&E and TES 6/15/83
2. Scheduled for RLCA (Originator) Semimonthly Report No. July 1983
3. Responsive to PG&E Technical Program: Task _____ (if applicable)
4. Prepared as a result of:
 - a. QA Audit and Review Report of _____
 - b. Field Inspection Deficiency
 - c. Independent Calculation Deficiency
 - d. Seismic Input Deficiency
 - e. Design Methodology Deficiency
 - f. Other Deficiency
5. Structure(s), system(s) or component(s) involved:

HVAC Duct and Duct Supports (Corrective Action Program)

6. Description of Concern:

RLCA has reviewed three design analyses that used the ICES STRUDL-II Computer Code to determine first mode frequency of the duct system by the Rayleigh-Ritz Method (HV-81 Rev. 1, HV-87 Rev. 1, HV-96 Rev. 1). All three analyses applied a single direction loading. In two of the three analyses, this loading resulted in model frequencies not corresponding to the first mode (HV-81, HV-96).

7. Significance of Concern:

A one-directional loading used with the Rayleigh-Ritz method may not accurately establish the first mode frequency.

This item is a possible generic concern.

8. Recommendation:

RLCA will examine the significance of these two specific items and continue to review the application of the Rayleigh-Ritz method in the HVAC Duct and Duct Support analyses.

9. Signature: Edward Demiso 6/15/83 (Originator/Organization)



1. Date reported to PG&E and TES 5/16/83
2. Scheduled for RLCA (Originator) Semimonthly Report No. July 1983
3. Responsive to PG&E Technical Program: Task _____ (if applicable)
4. Prepared as a result of:
 - a. QA Audit and Review Report of _____
 - b. Field Inspection Deficiency
 - c. Independent Calculation Deficiency
 - d. Seismic Input Deficiency
 - e. Design Methodology Deficiency
 - f. Other Deficiency
5. Structure(s), system(s) or component(s) involved:

Large Bore Piping - Analysis 2-120 Revision 0
(Corrective Action Program)

6. Description of Concern:

Valves LCV-113 and 115 in design analysis 2-120 Rev. 0 were modelled with a valve body weight of 69 lbs and operator weight of 119 lbs. RLCA review showed the body and operator weights to be approximately 125 lbs and 130 lbs respectively.

7. Significance of Concern:

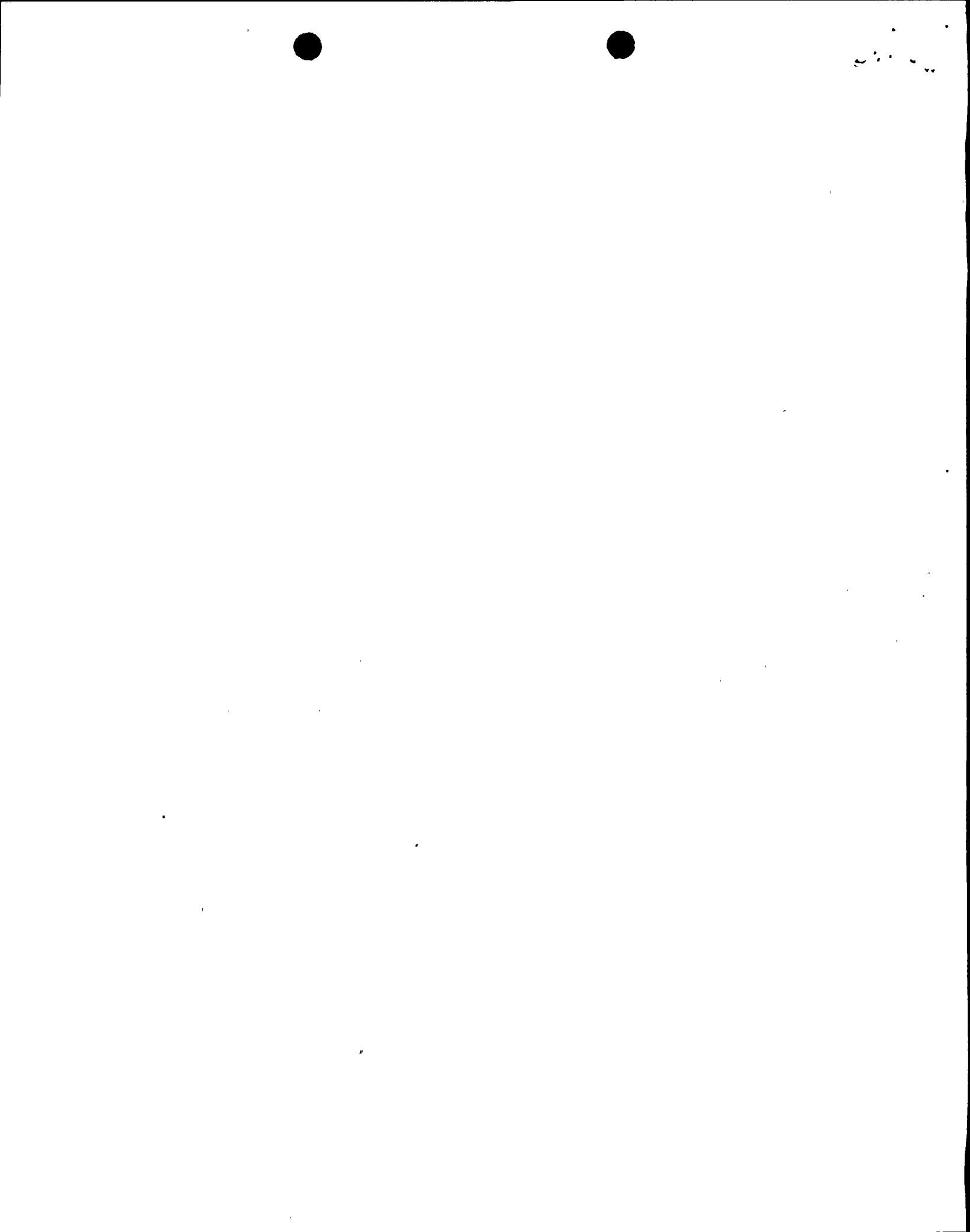
Valve modelling was identified during the initial piping sample as a generic concern. The DCP corrective action program included review of valve modelling in large bore piping analyses.

This design analysis is being rerun with correct valve weights.

8. Recommendation:

RLCA with examine the revised analysis to assess significance and continue the review of valve modelling.

9. Signature: Edward Denison 6/16/83 (Originator/Organization)



1. Date reported to PG&E and TES 6/16/83
2. Scheduled for RLCA (Originator) Semimonthly Report No. June
3. Responsive to PG&E Technical Program: Task _____ (if applicable)
4. Prepared as a result of:
 - a. QA Audit and Review Report of _____
 - b. Field Inspection Deficiency
 - c. Independent Calculation Deficiency
 - d. Seismic Input Deficiency
 - e. Design Methodology Deficiency
 - f. Other Deficiency
5. Structure(s), system(s) or component(s) involved:

Component Cooling Water Surge Tank (Corrective Action Program)
(Analysis SQE-4.4, Revision 0)

6. Description of Concern:

1. Bolt shear stress allowables were calculated using $f_{vb} = \frac{0.62S_u}{2}$.

The ASME B&PV Code; Section III Appendix XVII-2461.2 specifies:

$f_{vb} = \frac{0.62S_u}{3}$. The allowable calculated in the analysis is

larger than the allowable defined by the code.

2. Tank internal pressure was excluded from the evaluation of the tank shell stress at the nozzles.

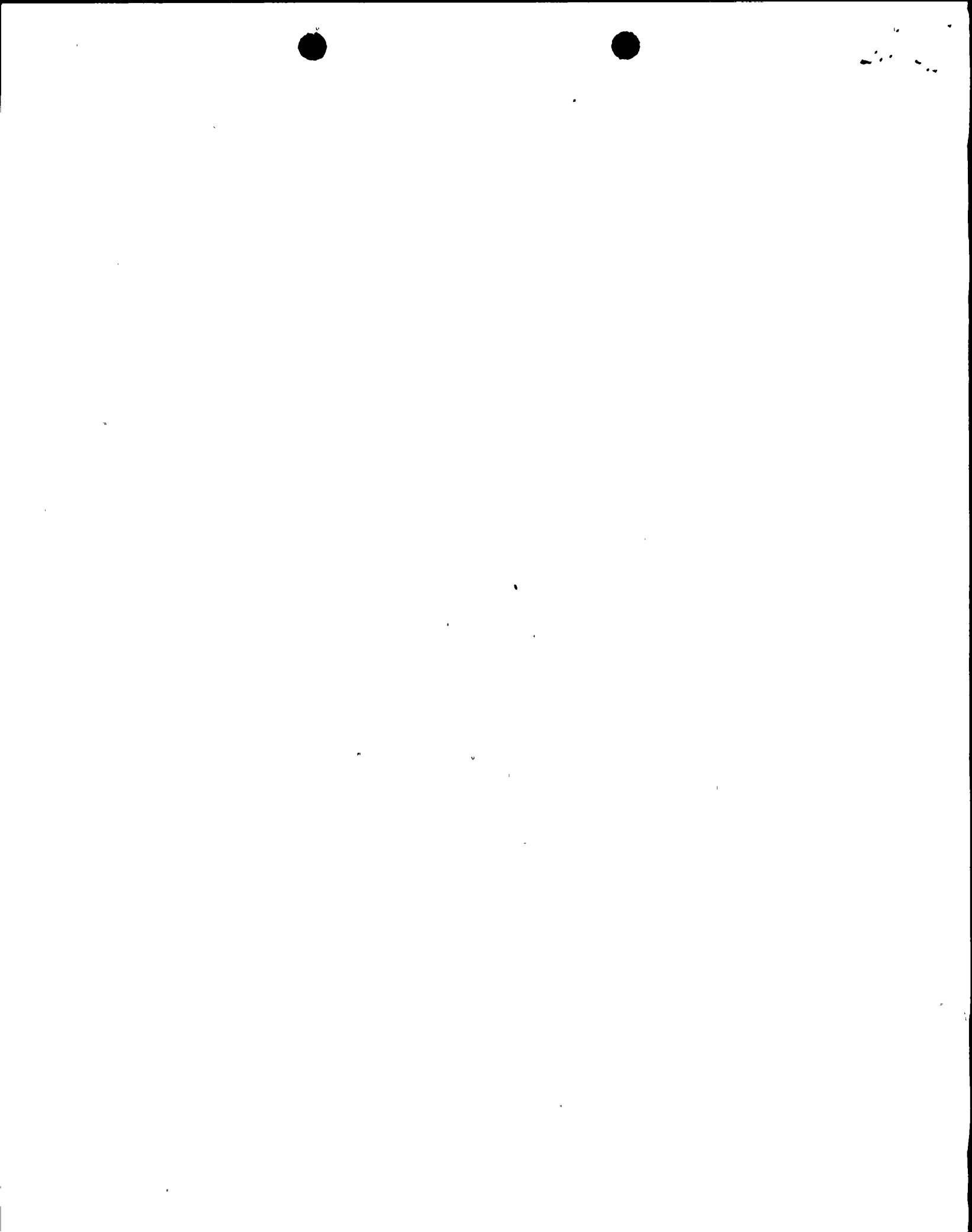
7. Significance of Concern:

1. Bolt stresses remain within allowable criteria when the correctly calculated shear stress allowable is used.
2. Tank shell stresses at the nozzle would exceed allowable criteria in a formal sense if internal pressure is considered. However, the analysis conservatively considers shell secondary stresses in the faulted condition evaluation. The IDVP faulted condition evaluation showed stresses within allowables.

8. Recommendation:

Open item for PGandE action.

9. Signature: Edward Denison 6/16/83 (Originator/Organization)



OPEN ITEM REPORT

File No. 1137

File Revision No. 0

1. Date reported to PG&E and TES 6/21/83
2. Scheduled for RLCA (Originator) Semimonthly Report No. July 1983
3. Responsive to PG&E Technical Program: Task _____ (if applicable)
4. Prepared as a result of:
 - a. QA Audit and Review Report of _____
 - b. Field Inspection Deficiency
 - c. Independent Calculation Deficiency
 - d. Seismic Input Deficiency
 - e. Design Methodology Deficiency
 - f. Other Deficiency
5. Structure(s), system(s) or component(s) involved:
Large Bore Piping - Analysis 4-101 Rev. 1 (Corrective Action Program)

6. Description of Concern:

Valve FCV-365 in design analysis 4-101 Rev. 1 was modelled with a weight of 405 lbs. RLCA review showed the weight to be approximately 502 lbs.

7. Significance of Concern:

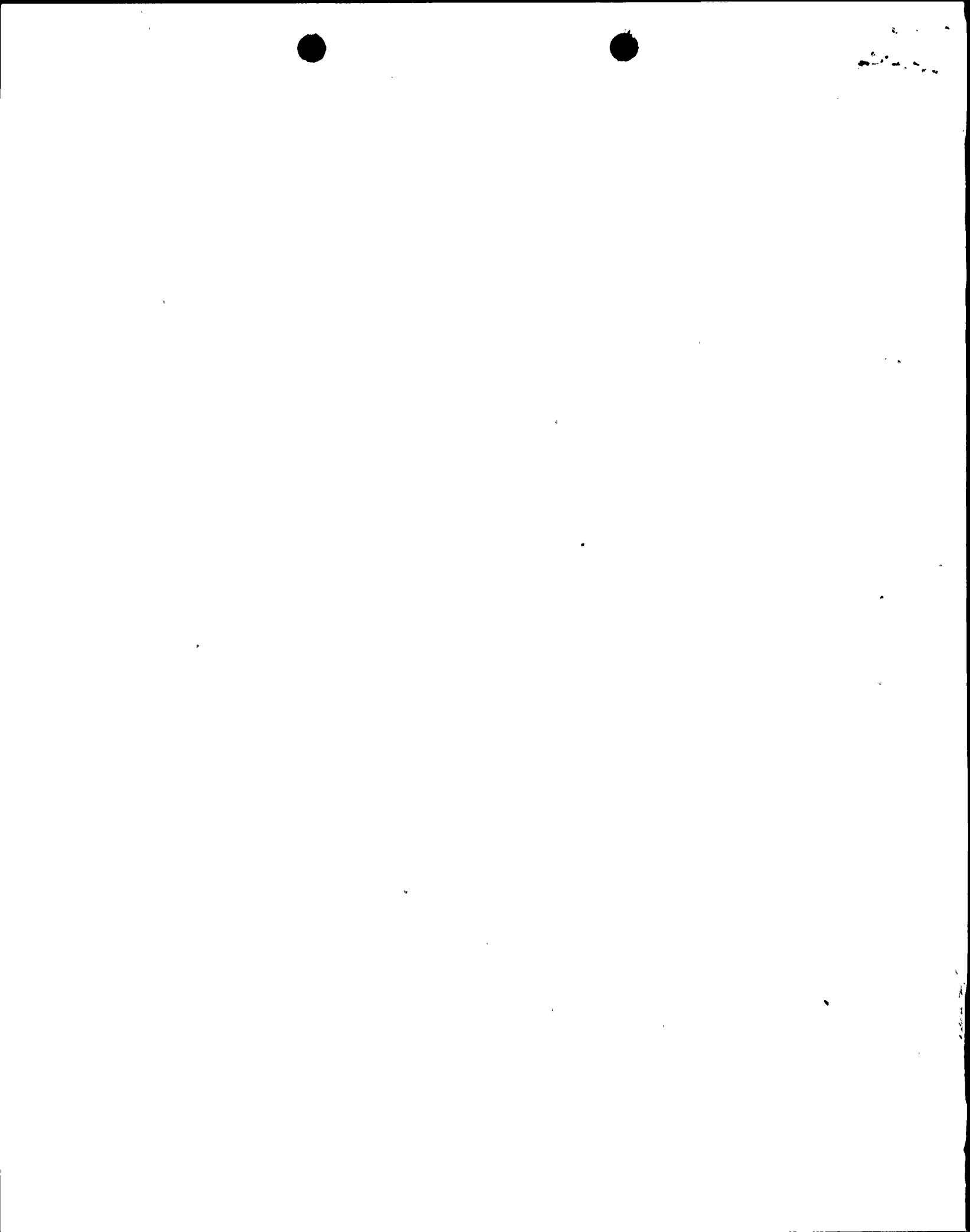
Valve modelling was identified during the initial piping sample as a generic concern. The DCP Corrective Action Program included review of valve modelling in large bore piping analysis.

The above item combines with EOIs 1133 and 1135 as a generic concern with valve modelling in the Corrective Action Program.

8. Recommendation:

Open Item for PGandE Action.

9. Signature: Edward Denison 6/21/83 (Originator/Organization)





ROBERT L. CLOUD -
AND ASSOCIATES, INC.
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BERKELEY CA 94710
(415) 841-9296

LETTER OF TRANSMITTAL

TO Pacific Gas & Electric Co. (DCP)
45 Fremont Street (23rd A-17)
San Francisco, CA 94105

DATE 6/24/83
SUBJECT EOI 1136

ATTN Mr. Roy Fray

PROJECT IDVP

PROJECT NUMBER P105-4

Transmitted herewith is/are the following:

CCW Surge Tank - Tank Shell Primary Stress Evaluation At
Nozzle Junction.

cc: R. Wray

Note: This transmittal cover will be attached to the
July 1983 Semimonthly Report.

Via: Hand Delivery X

Mail _____

Federal Express _____

Robert L. Cloud Associates, Inc.

By E. Donison

