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DIETCH,R. Southern California Edison Co.
RECIP.NAME RECIPIENT AFFILIATION
DENTON,H.R. Office of Nuclear Reactor Regulation, Director
EISENHUR,D.G. Office of Nuclear Reactor Regulation, Director

SUBJECT: Forwards potential finding repts issued by GA Co.Repts reflect reviewer initial opinion & have not been verified for validity & accuracy by original design organization.

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	NRR/DSI/AEB	26	1	1	NRR/DSI/ASB	27	1	1
	NRR/DSI/CPB	10	1	1	NRR/DSI/CSB	09	1	1
	NRR/DSI/ETSB	12	1	1	NRR/DSI/ICSB	16	1	1
	NRR/DSI/PSB	19	1	1	NRR/DSI/RAB	22	1	1
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Southern California Edison Company

P. O. BOX 800

2244 WALNUT GROVE AVENUE

ROSEMEAD, CALIFORNIA 91770

ROBERT DIETCH

VICE PRESIDENT

TELEPHONE

213-572-4144

January 26, 1982

RECEIVED

JAN 27 1982

US NUCLEAR REGULATORY COMMISSION
DOCUMENT MANAGEMENT BR
TIDC

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

Attention: Mr. Darrell G. Eisenhut

Dear Mr. Denton:

Subject: Docket Nos. 50-361 and 50-362
San Onofre Nuclear Generating Station
Units 2 and 3

Enclosed are seven copies each of Potential Finding Reports issued by General Atomic Company, as follows:

Issued to Bechtel Power Corporation

PFR-0035, 0036, 0054, 0055 and 0056
PFR-0042 and 0043
PFR-0053 and F003

Issued to Combustion Engineering Company

PFR-0037, 0045, 0046, 0047, 0048, 0049, 0050 and 0051

These reports reflect the reviewer's initial opinion and have not been verified for validity and accuracy by the original design organization.

If you have any questions regarding this matter, please call me.

Very truly yours,

Robert Dietch

cc: NRC Region V
R. H. Engelken (w encl)

8201290040 820126
PDR ADOCK 05000361
A PDR

B001
S 1/0

TORREY PINES TECHNOLOGY
P.O. Box 81608
San Diego, California 92138
Telephone (714) 455-2654

Rec'd 1/25/82
5-10/P

GEORGE L. WESSMAN
Director

January 25, 1982

Mr. D. J. Fogarty
Executive Vice President
Southern California Edison
P. O. Box 800
Rosemead, California 91770

Dear Mr. Fogarty:

Attached are Potential Finding Reports 2408-PFR-0037, 0045, 0046, 0047, 0048, 0049, 0050, and 0051.

Sincerely,

George L. Wessman
Project Manager

Attachments

cc: J. Adrian
V. Hall - CE
J. Hempe - Bechtel

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

0037

POTENTIAL FINDING REPORT
SONGS 2&3 SEISMIC DESIGN VERIFICATION

PFR NO. 2408-PFR-0037

REVISION -

REPARATION BY GA INITIATOR

FFECTED ITEMS: Safety Injection Tank T-008

EQUIREMENT REFERENCE DOCUMENTS:
Containment Interior Structure Analyses, No. C-257-5-04.01 (AC-1347-9199).
Bechtel letter log BC-664, 4/29/75 (AC-1347-9492).
Design Report for Safety Injection Tank, Calculation No. S-PEC-112, Rev. 2, 6/9/76 (AC-1347-9118).

ASIC REQUIREMENT:
The values used for the moment of inertia of the concrete floor slab should be nsistent in documents 1, 2, and 3.

ESCRIPTION OF POTENTIAL FINDING: The values used by Bechtel for M.I. are given in 34 of Ref. 1 (attachment 1). The values transmitted by Bechtel to C.E. are shown Ref. 2 (attachment 2). The values used by C.E. in the dynamic analysis of the S.I. nk are given in pg. B-6 of Ref. 3 (attachment 3). There is an inconsistency in the lues used by C.E. for the moment of inertia of the concrete slab.

REPARED BY: M. Krishnan DATE: 1-18-82

EJECTION OF GA TASK LEADER COMMENTS BY: DATE:

EJECTION OF ORIGINAL DESIGN ORG. COMMENTS BY: DATE:

EVIEW BY GA TASK LEADER COMMENTS

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

☑ AGREE PF IS VALID BY [signature] DATE 1/22/82

☐ REQUEST RE-REVIEW BY DATE

☐ DISAGREE BY DATE

☐ REVIEW OF ORIGINAL DESIGN ORGS. COMMENTS BY: DATE:

2408 FR NO. -0045

REVISION --

POTENTIAL FINDING REPORT
SONGS 2&3 SEISMIC DESIGN VERIFICATION

PREPARATION BY GA INITIATOR

AFFECTED ITEMS:

Interface Review Requirement

REQUIREMENT REFERENCE DOCUMENTS:

Attachment 3 PSAR
Section III, paragraph 11

BASIC REQUIREMENT:

"Specifications and drawings prepared within the engineering department are reviewed by all engineering departments having an interface with the design area that the document covers."

DESCRIPTION OF POTENTIAL FINDING:

The Reactor Design Group design manual, RD-I, did not specifically require review of design documents by interfacing organizations.

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

PREPARED BY: [signature] DATE: 1-22-82

REJECTION OF GA TASK LEADER COMMENTS BY: _____ DATE: _____

REJECTION OF ORIGINAL DESIGN ORG. COMMENTS BY: _____ DATE: _____

REVIEW BY GA TASK LEADER COMMENTS

☒ AGREE PF IS VALID BY [signature] DATE 1/26/82

☐ REQUEST RE-REVIEW BY _____ DATE _____

☐ DISAGREE BY _____ DATE _____

☐ REVIEW OF ORIGINAL DESIGN ORGS. COMMENTS BY: _____ DATE: _____

240[illegible]FR NO. -0046

REVISION -

POTENTIAL FINDING REPORT
SONGS 2&3 SEISMIC DESIGN VERIFICATION

REPARATION BY GA INITIATOR

FFECTED ITEMS:

Design Requirement, Externally Designed Component

EQUIREMENT REFERENCE DOCUMENTS:

Attachment 3 PSAR
Section III, paragraph 13

ASIC REQUIREMENT:

"The adequacy of the design of safety related systems and components not designed by CE is assured by the performance of design reviews, the performance of independent analyses by CE design personnel, or by a suitable testing program."

DESCRIPTION OF POTENTIAL FINDING:

The Reactor Design Group design manual, RD-1, did not establish design adequacy review/verification procedure for safety related systems designed by organization(s) other than CE.

PREPARED BY: [illegible] DATE: 1/22/82

REJECTION OF GA TASK LEADER COMMENTS BY: _____ DATE: _____

REJECTION OF ORIGINAL DESIGN ORG. COMMENTS BY: _____ DATE: _____

REVIEW BY GA TASK LEADER COMMENTS

☒ AGREE PF IS VALID BY S. Breme DATE 1/22/82

☐ REQUEST RE-REVIEW BY _____ DATE _____

☐ DISAGREE BY _____ DATE _____

☐ REVIEW OF ORIGINAL DESIGN ORGS. COMMENTS BY: _____ DATE: _____

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

2408 PF NO. -0047
REVISION --

POTENTIAL FINDING REPORT
SONGS 2&3 SEISMIC DESIGN VERIFICATION

PARATION BY GA INITIATOR

FECTED ITEMS:

Organizational Design Review Requirements

QUIREMENT REFERENCE DOCUMENTS:

A) Attachment 3, PSAR, Section III, paragraph 14 & 15

B) QA Topical Report CENPD-210A Rev. 3, paragraph 17.3.2A.

SIC REQUIREMENT:

(See Attachment I)

SCRIPTION OF POTENTIAL FINDING:

The above requirements were not addressed in engineering procedures PE 001, RD-1 nor in the QADM to instruct engineers when or how to work with these reviewers.

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

EPARED BY: G.W. Gerrald DATE: 1/22/82

EJECTION OF GA TASK LEADER COMMENTS BY: _____ DATE: _____

EJECTION OF ORIGINAL DESIGN ORG. COMMENTS BY: _____ DATE: _____

EVIEW BY GA TASK LEADER COMMENTS

☒ AGREE PF IS VALID BY J. Brewer DATE 1/22/82

☐ REQUEST RE-REVIEW BY _____ DATE _____

☐ DISAGREE BY _____ DATE _____

☐ REVIEW OF ORIGINAL DESIGN ORGS. COMMENTS BY: _____ DATE: _____

ATTACHMENT I

"In addition to the review procedures described above, the design of the NSSS is subjected to scruntiny by other independent individuals and organizations. The Safety and Licensing Dept. periodically evaluates the reactor design in terms of established safety criteria and also in some cases verifies the accuracy of design characteristics. In addition to a section which performs accident analyses, the Safety and Licensing Department performs reliability and failure modes and effects analysis on systems pertaining to the engineered safety features of the plant as well as other systems where malfunctions could affect plant safety.

There is also a Nuclear Safety Committee composed of representatives of the various disciplines which periodically reviews major safety related design problems. Safety Analysis Reports compiled by Safety and Licensing are periodically subjected to review by the Nuclear Safety Committee to provide further assurance of design adequacy from a safety viewpoint. In addition; th Chief Scientist for Nuclear Power reviews the nuclear design and the safety analysis of major consequence as a representative of the highest level of management in the Nuclear Power Systems Division."

Independent Design Review — "Management review consists of a design review committee/task force formed at the request of the NPS Vice President or the Vice President of Engineering and Development or Vice President of Engineerin

THIS PRELIMINARY FINDINGS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

240[illegible]R NO. -0048

REVISION —

POTENTIAL FINDING REPORT
SONGS 2&3 SEISMIC DESIGN VERIFICATION

PREPARATION BY GA INITIATOR

AFFECTED ITEMS:

Project Office Responsibility - Purchase Orders

REQUIREMENT REFERENCE DOCUMENTS:

Attachment 3 PSAR Section IV, paragraph 3

BASIC REQUIREMENT:

"..., the project manager has the responsibility for ensuring that the procurement order has been reviewed by all engineering departments having an interface with the equipment to be procured or manufactured."

DESCRIPTION OF POTENTIAL FINDING:

None of the CE Design Manuals PE 001, RD-1, or QADM addressed Project Office/Manage responsibility in ensuring interface review of procurement order documents.

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

PREPARED BY: [signature] DATE: 1/22/82

REJECTION OF GA TASK LEADER COMMENTS BY: _____ DATE: _____

REJECTION OF ORIGINAL DESIGN ORG. COMMENTS BY: _____ DATE: _____

REVIEW BY GA TASK LEADER COMMENTS

☒ AGREE PF IS VALID BY [signature] DATE 1/22/82

☐ REQUEST RE-REVIEW BY _____ DATE _____

☐ DISAGREE BY _____ DATE _____

☐ REVIEW OF ORIGINAL DESIGN ORGS. COMMENTS BY: _____ DATE: _____

2408 R NO. -0049

REVISION --

POTENTIAL FINDING REPORT
SONGS 2&3 SEISMIC DESIGN VERIFICATION

REPARATION BY GA INITIATOR

FFECTED ITEMS:

Internal/External Design Review Considerations.

EQUIREMENT REFERENCE DOCUMENTS:

QA Topical Report CENPD-210A, Rev. 3, para. 17.3.3

ASIC REQUIREMENT: Interface Design Control - "The department/section procedures indic: uirements for review and approval by other engineering groups. The project office sub: s design documents to the customer, A/E or constructor as required designated for in: ion, review or approval. This review within, outside of the originating section, or c: e of NPS considers compatibility of materials, design interfaces, accessibility for s: vice inspection, maintenance, repair, and acceptance criteria for tests and inspecti:

DESCRIPTION OF POTENTIAL FINDING:

Checklist 5.6-6 in the QADM for reviwing specifications did not include the detail checkpoints in the basic requirement. Further, the check points in the basic requirement did not include the (19) items of ANSI N45.2.11-1974, para. 6.3.1.

PREPARED BY: [signature] DATE: 1/22/82

REJECTION OF GA TASK LEADER COMMENTS BY: _____ DATE: _____

REJECTION OF ORIGINAL DESIGN ORG. COMMENTS BY: _____ DATE: _____

REVIEW BY GA TASK LEADER COMMENTS

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

☒ AGREE PF IS VALID BY [signature] DATE 1/21/82

☐ REQUEST RE-REVIEW BY _____ DATE _____

☐ DISAGREE BY _____ DATE _____

☐ REVIEW OF ORIGINAL DESIGN ORGS. COMMENTS BY: _____ DATE: _____

2408 PFR NO. -0050

POTENTIAL FINDING REPORT
SONGS 2&3 SEISMIC DESIGN VERIFICATION

REVISION -

REPARATION BY GA INITIATOR

FFECTED ITEMS:

Design Control of Spares

EQUIREMENT REFERENCE DOCUMENTS:

Combustion Engineering Topical, CENPD-210A
Section 17.4

ASIC REQUIREMENT:

"Standard commercial or previously approved materials, parts and equipment including spare or replacement parts essential to the safety related function of structures, systems, and components, are subjected to the same selection and review controls as the original safety-related items."

ESCRIPTION OF POTENTIAL FINDING:

The CE design manual, QADM, did not address spares/replacement procurement control for safety related components.

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

REPARED BY: [illegible] DATE: 1/22/82

EJECTION OF GA TASK LEADER COMMENTS BY: _____ DATE: _____

EJECTION OF ORIGINAL DESIGN ORG. COMMENTS BY: _____ DATE: _____

EVIEW BY GA TASK LEADER COMMENTS

☒ AGREE PF IS VALID BY [illegible] DATE 1/22/82

☐ REQUEST RE-REVIEW BY _____ DATE _____

☐ DISAGREE BY _____ DATE _____

☐ REVIEW OF ORIGINAL DESIGN ORGS. COMMENTS BY: _____ DATE: _____

PFR NO. 2400-PFR-0031

POTENTIAL FINDING REPORT
SONGS 2&3 SEISMIC DESIGN VERIFICATION

REVISION -

PREPARATION BY GA INITIATOR

AFFECTED ITEMS: Seismic Category I electric motor operated valves supplied by CE.

REQUIREMENT REFERENCE DOCUMENTS:
n Onofre 2 & 3 FSAR, Appendix 3.10A, Criteria for Seismic Design of Seismic Category
uipment

BASIC REQUIREMENT: Section 3.10 A of the FSAR states that valve/operator assemblies emonstrated to have natural frequencies greater than 33 cps and for which the levations of the valve and operator are not known may be statically analyzed using a aximum acceleration of 5.0 g.

DESCRIPTION OF POTENTIAL FINDING: CE specifications 000-PE-727 and 1370-PE-705 Section .2.5 state that valve suppliers may demonstrate, by analysis or test, that valves hav miminum natural frequency greater than 33 cps and are capable of operating and emaining intact during and after exposure to a faulted condition of 3.0g static cceleration. These specifications do not define valve locations or elevations. It ppears that the CE specifications are not consistent with the FSAR requirement of nalysis for a 5.0g acceleration.

PREPARED BY: J. D. Stanley DATE: 1-21-82

REJECTION OF GA TASK LEADER COMMENTS BY: _____ DATE: _____

REJECTION OF ORIGINAL DESIGN ORG. COMMENTS BY: _____ DATE: _____

REVIEW BY GA TASK LEADER COMMENTS

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

☑ AGREE PF IS VALID BY _____ DATE 1/23/82

☐ REQUEST RE-REVIEW BY _____ DATE _____

☐ DISAGREE BY _____ DATE _____

☐ REVIEW OF ORIGINAL DESIGN ORGS. COMMENTS BY: _____ DATE: _____

TORREY PINES TECHNOLOGY
P.O. Box 81608
San Diego, California 92138
Telephone: (714) 455-2654

GEORGE L. WESSMAN
Director

January 25, 1982

Mr. D. J. Fogarty
Executive Vice President
Southern California Edison
P. O. Box 800
Rosemead, California 91770

Dear Mr. Fogarty:

Attached are Potential Finding Reports 2608-PFR-0053 and F003.

Sincerely,

George

George L. Wessman
Project Manager

cc: J. Adrian - SCE
J. Hempe - Bechtel

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

PFR NO. 2408-PFR-0053

REVISION

POTENTIAL FINDING REPORT
SONGS 2&3 SEISMIC DESIGN VERIFICATION

A. PREPARATION BY GA INITIATOR

AFFECTED ITEMS: The Seismic Category I Switch Gear

REQUIREMENT REFERENCE DOCUMENTS: Bechtel Power Corporation Spec. No. 302-2 and 10 Addendum "Quality Class II Spec for 4160v Switchgear for San Onofre Nuclear Generating Station Units 2 & 3".

BASIC REQUIREMENT: Section 4.00 Part II Parameter and Information
4.33 Scope
4.33.01 Supplementary Information
Elevation - 30 feet

DESCRIPTION OF POTENTIAL FINDING:

The Switchgear elevation is 50 feet; this is shown both in Appendix 4B of this Spec (Structural Response Curves) and in Bechtel Dwg. 35541-4 (1347-9650) which show the Control BLG Electrical Equipment Layout for the 50' Level.

PREPARED BY: A. Middleton Alan Middleton DATE: 1-20-82

REJECTION OF GA TASK LEADER COMMENTS BY: _____ DATE: _____

REJECTION OF ORIGINAL DESIGN ORG. COMMENTS BY: _____ DATE: _____

B. REVIEW BY GA TASK LEADER

COMMENTS

☑ AGREE PF IS VALID BY [signature] DATE 1/25/82

☐ REQUEST RE-REVIEW BY _____ DATE _____

☐ DISAGREE BY _____ DATE _____

☐ REVIEW OF ORIGINAL DESIGN ORGS. COMMENTS BY: _____ DATE: _____

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

PFR NO. 2408-PFR-F003

REVISION -

POTENTIAL FINDING REPORT
SONGS 2&3 SEISMIC DESIGN VERIFICATION

A. PREPARATION BY GA INITIATOR

AFFECTED ITEMS: The Seismic Category I Motor Control Centers (MCC)

REQUIREMENT REFERENCE DOCUMENTS: Bechtel Power Corporation Spec. No. ~~6023~~-302-4 and 8 Addendum. "Quality Class II & III Spec for Motor Control Centers for San Onofre Nuclear Generating Station Units 2 & 3.

BASIC REQUIREMENT: Section 4.11.3 Mounting Base: States that the MCC base will be tack welded to steel channels embedded in the concrete floor, and that the vendor shall determine the location of the welds to satisfy seismic requirements per 4.92 (i.e., Appx 4F).

DESCRIPTION OF POTENTIAL FINDING:

1. The spec is written for fabrication and test of many individual MCC units. No direction is given on seismic performance of the individual units when mounted in an array.
2. There is no specification of the flexibility of the steel rail support foundation that the vendor must simulate during MCC seismic qualification.
3. There is no requirement in the specification to send rail loads measured during seismic testing back to Bechtel, so that Bechtel can check the structural integrity of the rail design.

PREPARED BY: A. Middleton DATE: 1-23-82

REJECTION OF GA TASK LEADER COMMENTS BY: _____ DATE: _____

REJECTION OF ORIGINAL DESIGN ORG. COMMENTS BY: _____ DATE: _____

B. REVIEW BY GA TASK LEADER

COMMENTS

☑ AGREE PF IS VALID BY [signature] DATE 1/25/82

☐ REQUEST RE-REVIEW BY _____ DATE _____

☐ DISAGREE BY _____ DATE _____

☐ REVIEW OF ORIGINAL DESIGN ORGS. COMMENTS BY: _____ DATE: _____

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

TORREY PINES TECHNOLOGY
P.O. Box 81608
San Diego California 92138
Telephone (714) 455-2654

Rec'd 1/25/82
5 pp

GEORGE L. WESSMAN
Director

January 25, 1982

Mr. D. J. Fogarty
Executive Vice President
Southern California Edison
P. O. Box 800
Rosemead, California 91770

Dear Mr. Fogarty:

Attached are Potential Finding Reports 2408-PFR-0042 and 0043.

Sincerely,

George

George L. Wessman
Project Manager

cc: J. Adrian - SCE
J. Hempe - Bechtel

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

2408 PFR NO. [illegible]

REVISION _____

POTENTIAL FINDING REPORT
SONGS 2&3 SEISMIC DESIGN VERIFICATION

PREPARATION BY GA INITIATOR

AFFECTED ITEMS: Piping supports for the suction line between the refueling water tank (T-006) and the low pressure safety injection pump (P-016)

REQUIREMENT REFERENCE DOCUMENTS:

PSA Drawings:

S2-SI-003-H-002 S2-SI-031-H-003
S2-SI-004-H-013 S2-SI-002-H-020

BASIC REQUIREMENT:

The PSA Drawings should reflect the field configuration of the supports.

DESCRIPTION OF POTENTIAL FINDING:

See Attachment No. 1 to this PFR for description of Potential Findings.

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

PREPARED BY: [signature] DATE: 1/22/82

REJECTION OF GA TASK LEADER COMMENTS BY: _____ DATE: _____

REJECTION OF ORIGINAL DESIGN ORG. COMMENTS BY: _____ DATE: _____

REVIEW BY GA TASK LEADER

COMMENTS

☒ AGREE PF IS VALID BY Brian S. Asamoto DATE 1/22/82

☐ REQUEST RE-REVIEW BY _____ DATE _____

☐ DISAGREE BY _____ DATE _____

☐ REVIEW OF ORIGINAL DESIGN ORGS. COMMENTS BY: _____ DATE: _____

PFR No. -0042

ATTACHMENT I

PIPE SUPPORT DRAWING FINDINGS

S2-SI-033-H-002

On DCN 01, Item H, the distance between bolt holes shows 11". On Rev. 0, they show 10" (min). Actual distance is 10-1/4".

S2-SI-004-H-015

Location of W4 x 13 relative to anchor bolts on lower base is not as shown on drawing. Dimensions should be 9" to lower bolts and 9" to upper bolts. Actual dimensions are 10" to both rows of bolts.

S2-SI-031-H-003

Location of item G on existing W6 & W8 are not as shown on DCN #03.

S2-SI-002-H-020

Complete audit was performed on support with the following items noted:

1) Item F , base PL, is welded to vertical embedded plate. This weld is not as shown on drawing.

2) Clearance between lugs on pipe and stops on support (east side on pipe) are greater than 1/8". (0.105/0.178 measured)

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY

2406 PFR NO. 0043

REVISION -

POTENTIAL FINDING REPORT
SONGS 2&3 SEISMIC DESIGN VERIFICATION

PREPARATION BY GA INITIATOR

AFFECTED ITEMS: Suction line between refueling water tank (T-006) and low pressure safety injection pump (P-016)

REQUIREMENT REFERENCE DOCUMENTS:

1) Stress ISO 1204-004-1, Rev. I
2) Stress ISO 1204-002-1, Rev. D
3) Stress ISO 1204-002-2, Rev. A

BASIC REQUIREMENT:

Stress isometrics should reflect the field as-built configuration.

DESCRIPTION OF POTENTIAL FINDING:

The three isometrics referenced above had dimensions between restraints and fittings that were not the same as the field installation. These findings are documented in Attachment I.

PREPARED BY: [signature] DATE: 1/22/82

REJECTION OF GA TASK LEADER COMMENTS BY: _____ DATE: _____

REJECTION OF ORIGINAL DESIGN ORG. COMMENTS BY: _____ DATE: _____

REVIEW BY GA TASK LEADER

COMMENTS

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY

☒ AGREE PF IS VALID BY Brian S. Osborne DATE 1/22/82

☐ REQUEST RE-REVIEW BY _____ DATE _____

☐ DISAGREE BY _____ DATE _____

☐ REVIEW OF ORIGINAL DESIGN ORGS. COMMENTS BY: _____ DATE: _____

PFR No. -0043
ATTACHMENT I

STRESS ISO FINDINGS

I. ISO No. 1204-004-1

1) The supports on line 109-24"-C-LLO are as described below:

a) The y-z restraint at data point 52 is shown on ISO as 10'4" south of data point 56. Actual dimension is 7'6".

b) The Z-snubber at data point 47 is shown on ISO as 29'4" south of data point 56. Actual dimension is 26'3".

c) The spring hanger at data point 47 is shown on ISO as 29'4" south of data point 56. Actual dimension is 26'2".

d) Drain line 121 at data point 46 attaches to the wall and does not conform to standard detail given with Bechtel's answer to PFR-0002.

II. ISO No. 1204-002-2

1) Distance between data points 812 and 814 is shown on the ISO as 4.917'. Actual dimension is 12'4". Dimension used in analysis is 11.917'.

III. ISO No. 1204-002-1 (line 002-24"-C-LLO)

1) ISO shows a spring and a two-way restraint at data point 802 which are 4' down from elbow. The spring and the two-way restraint are not together. The spring is 3'3" down from elbow and the two-way restraint is 2' beyond the spring.

THIS POTENTIAL FINDINGS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

TORREY PINES TECHNOLOGY
P.O. Box 81608
San Diego, California 92138
Telephone: (714) 455-2654

GEORGE L. WESSMAN
Director

January 25, 1982

Mr. D. J. Fogarty
Executive Vice President
Southern California Edison
P. O. Box 800
Rosemead, California 91770

Dear Mr. Fogarty:

Attached are Potential Finding Reports 2808-PFR-0035, 0036, 0054, 0055 and 0056.

Sincerely,

George L. Wessman
Project Manager

cc: J. Adrian - SCE
J. Hempe - Bechtel

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY

PFR NO. 2408-PFR-0035

REVISION

POTENTIAL FINDING REPORT
SONGS 2&3 SEISMIC DESIGN VERIFICATION

A. PREPARATION BY GA INITIATOR

AFFECTED ITEMS: Low Pressure Safety Injection (LPSI) System from Pump P-016 (System 1204) to System 1206 in Piping Stress Analysis Package PSG-57.

REQUIREMENT REFERENCE DOCUMENTS:

BPC Calculation No. PSG-57, Computer Run Q36L19
Area Drawing -2C2 Dwg. No. 40365-9 (IDCN Dated 12/21/81)

BASIC REQUIREMENT:

A design change notice has been issued concerning a valve in the above referenced piping analysis.

DESCRIPTION OF POTENTIAL FINDING:

The referenced change notice changed the manual operated valve -2TE0351Y (as analyzed) to a motor operated valve. The weight and C.G. location change was not incorporated into the analysis.

PREPARED BY: L. Pickering DATE: 1-19-82

REJECTION BY GA TASK LEADER COMMENTS BY: _____ DATE: _____

REJECTION OF ORIGINAL DESIGN ORG. COMMENTS BY: _____ DATE: _____

B. REVIEW BY GA TASK LEADER

COMMENTS

☑ AGREE PF IS VALID BY _____ DATE 1/25/82

☐ REQUEST RE-REVIEW BY _____ DATE _____

☐ DISAGREE BY _____ DATE _____

☐ REVIEW OF ORIGINAL DESIGN ORGS. COMMENTS BY: _____ DATE: _____

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

PF NO. 2408-PFR-0036

REVISION -

POTENTIAL FINDING REPORT
SONGS 2&3 SEISMIC DESIGN VERIFICATION

A. PREPARATION BY GA INITIATOR

AFFECTED ITEMS: Low Pressure Safety Injection (LPSI) System from Pump P-016 (System 1204) to System 1206 in Piping Stress Analysis Package PSG-57.

REQUIREMENT REFERENCE DOCUMENTS:

BPC Calculation No. PSG-57 Computer Run Q36L19

BASIC REQUIREMENT:

Flow orifice weight and node location be included in the piping model.

DESCRIPTION OF POTENTIAL FINDING: The reference ISO Sketch (Sheet 38) shows location and type of flow orifice installed in Line 32. The piping model (PSG-57) does not include the weight (300 lb) of the orifice flanges and/or a node location indicating the flanges are there. The flow orifice weight was not considered in the "Seismic Load on Axial Restraint" calculation sheets either (node 96-X load direction; Sheet 24, and node 98-Y load direction; Sheet 25).

PREPARED BY: L. Pickering DATE: 1-19-82

REJECTION OF GA TASK LEADER COMMENTS BY: _____ DATE: _____

REJECTION OF ORIGINAL DESIGN ORG. COMMENTS BY: _____ DATE: _____

B. REVIEW BY GA TASK LEADER

COMMENTS

☑ AGREE PF IS VALID BY [signature] DATE 1/25/82

☐ REQUEST RE-REVIEW BY _____ DATE _____

☐ DISAGREE BY _____ DATE _____

☐ REVIEW OF ORIGINAL DESIGN ORGS. COMMENTS BY: _____ DATE: _____

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

PFR NO. 2408-PFR-0054

REVISION

POTENTIAL FINDING REPORT
SONGS 2&3 SEISMIC DESIGN VERIFICATION

A. PREPARATION BY GA INITIATOR

AFFECTED ITEMS: Low Pressure Safety Injection (LPSI) System from Pump P-016 (System 1204) to System 1206 in Piping Stress Analysis Package PSG-57.

REQUIREMENT REFERENCE DOCUMENTS:

BPC Calculation No. PSG-57, computer run Q36L19
Sheet 43- ISO Sketch Dwg No. 1204-038-1

BASIC REQUIREMENT:

Need analytical justification supporting Unit No. 3 piping configuration.

DESCRIPTION OF POTENTIAL FINDING:

ISO sketch drawing No. 1204-038-1 shows a major configurational difference between Unit No. 2 and Unit No. 3 piping arrangements. The stress report only documents the loads developed in the Unit No. 2 configuration. There is no documented justification for the Unit No. 3 configuration in PSG-75.

PREPARED BY: L. Pickering DATE: 1-22-82

REJECTION OF GA TASK LEADER COMMENTS BY: _____ DATE: _____

REJECTION OF ORIGINAL DESIGN ORG. COMMENTS BY: _____ DATE: _____

B. REVIEW BY GA TASK LEADER

COMMENTS

☑ AGREE PF IS VALID BY [signature] DATE 1/25/82

☐ REQUEST RE-REVIEW BY _____ DATE _____

☐ DISAGREE BY _____ DATE _____

☐ REVIEW OF ORIGINAL DESIGN ORGS. COMMENTS BY: _____ DATE: _____

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY

PFR NO. 2408-PFR-0055

REVISION -

POTENTIAL FINDING REPORT
SONGS 2&3 SEISMIC DESIGN VERIFICATION

A. PREPARATION BY GA INITIATOR

AFFECTED ITEMS: Low Pressure Safety Injection (LPSI) System from Pump P-016 (System 1204) to System 1206 in piping stress analysis package PSG-57.

REQUIREMENT REFERENCE DOCUMENTS:

BPC Calculation No. PSG-57, Computer Run Q36L19

BASIC REQUIREMENT:

Need justification for "non-applicable" treatment of Seismic Anchor Movement (SAM) reported in Package PSG-57.

DESCRIPTION OF POTENTIAL FINDING:

There is no documented evidence reported in PSG-57 that there is negligible movement between the piping model anchor points (nodes 5, 75, and 115) to warrant the non-applicable assumption for the SAM analysis.

PREPARED BY: L. Pickering DATE: 1-22-82

REJECTION OF GA TASK LEADER COMMENTS BY: _____ DATE: _____

REJECTION OF ORIGINAL DESIGN ORG. COMMENTS BY: _____ DATE: _____

B. REVIEW BY GA TASK LEADER

COMMENTS

☑ AGREE PF IS VALID BY _____ DATE 1/25/82

☐ REQUEST RE-REVIEW BY _____ DATE _____

☐ DISAGREE BY _____ DATE _____

☐ REVIEW OF ORIGINAL DESIGN ORGS. COMMENTS BY: _____ DATE: _____

THIS POTENTIAL FINDING IS UNDER REVIEW BY ORIGINAL DESIGN ORGANIZATION FOR VALIDITY AND ACCURACY.

PFR NO. 2408 PFR-0056

REVISION -

POTENTIAL FINDING REPORT
SONGS 2&3 SEISMIC DESIGN VERIFICATION

A. PREPARATION BY GA INITIATOR

AFFECTED ITEMS: Low Pressure Safety Injection System
Piping Stress Analysis Package PSG-117

REQUIREMENT REFERENCE DOCUMENTS:

BASIC REQUIREMENT: Consistency between Isometric Sketch and Computer Model.

DESCRIPTION OF POTENTIAL FINDING: Nodes 340, 345 and 350 of the Computer Model do not correlate with the corresponding node numbers on the Isometric Sketch. In the Input Data Scan for problem number P03484, node 340 is an intermediate point 4.17' from node 335 in the -X direction. On Isometric Sketch Dwg. No. 1204-037-1E, node 340 describes an elbow 5.67' from node 335 in the -X direction. In the Computer Model, node 345 is an elbow at the same elevation as node 335, while on the Iso node 345 is an elbow at a 5.17' higher elevation. See attached sketch with a comparison of the two models. There are several small deviations in the dimensioning.

PREPARED BY: Peter L. Koefoed DATE: 22 Jan. 1982

REJECTION OF GA TASK LEADER COMMENTS BY: _____ DATE: _____

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B. REVIEW BY GA TASK LEADER

COMMENTS

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☐ DISAGREE BY _____ DATE _____

☐ REVIEW OF ORIGINAL DESIGN ORGS. COMMENTS BY: _____ DATE: _____

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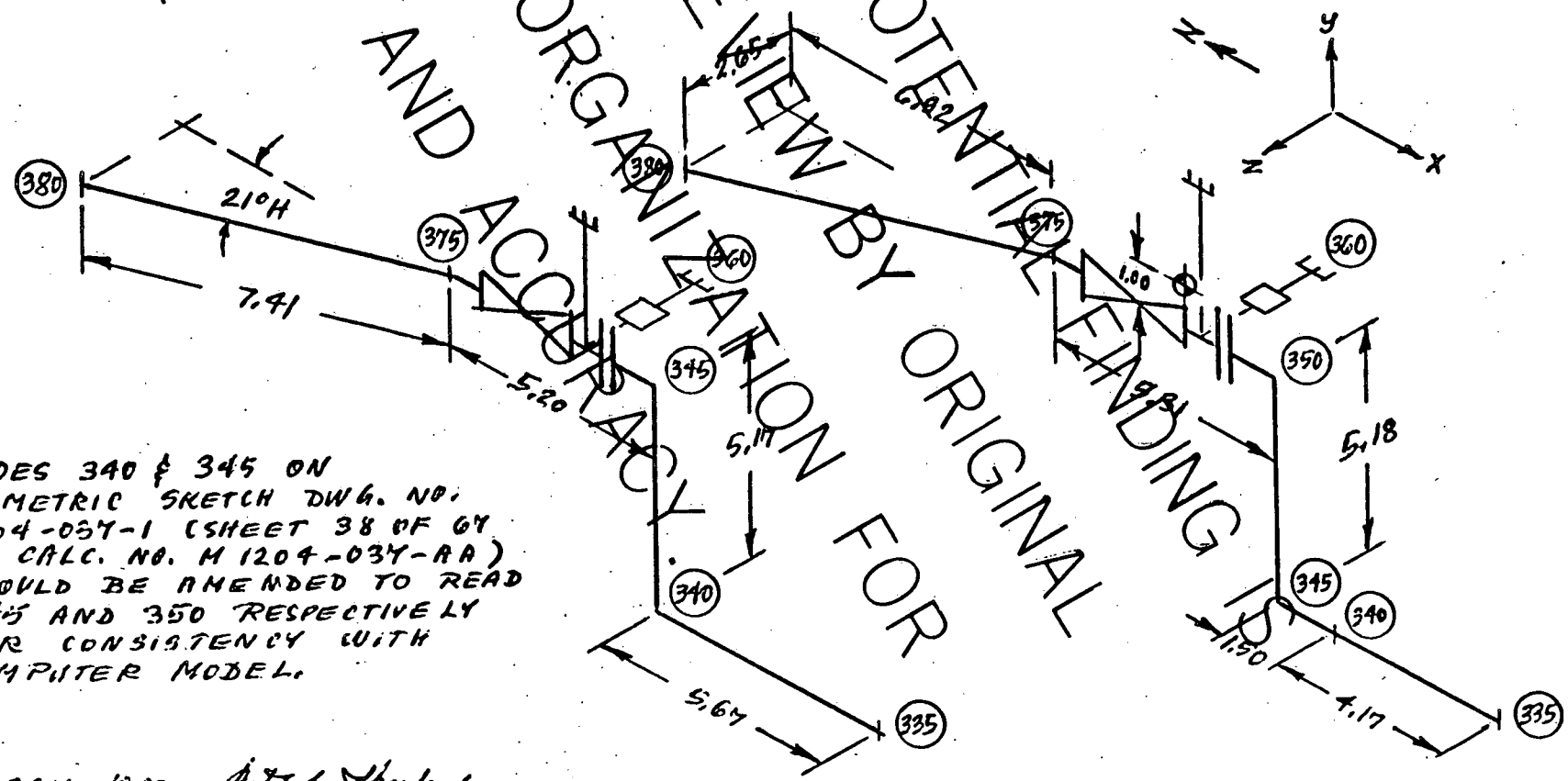
ATTACHMENT

2408 PFR-0056

PIPING MODEL COMPARISON. SCALE : ¼" ~ 1 FT

AS PER ISOMETRIC SKETCH DWG. NO. 1204-037-1E AND AREA DWGS 40424-M, 40425-M, 40429-M

AS PER COMPUTER INPUT DATA SCAN PROBLEM NUMBER P 03484, DTD. 06-26-79



NODES 340 & 345 ON ISOMETRIC SKETCH DWG. NO. 1204-037-1 (SHEET 38 OF 67 IN CALC. NO. M 1204-037-RA) SHOULD BE AMENDED TO READ 345 AND 350 RESPECTIVELY FOR CONSISTENCY WITH COMPUTER MODEL.

22 JAN. 1982 Arthur Wingfield

DESIGN UNDER REVIEW BY ORIGINAL ORGANIZATION FOR VALIDITY AND ACCURACY. THIS POTENTIAL FINDING