

ENCLOSURE 3

CV-12

PIPING FUNCTIONALITY

EVALUATION

B401110279 B40106
PDR ADOCK 05000206
P PDR

1.0 DESCRIPTION OF PROBLEM

A) Scope of Piping

SEE PAGES 2 & 3 FOR SCHEMATIC OF PIPING

The scope of piping covered by this calculation includes the following lines:

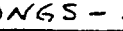
- ✓ Line no. 2052-2" from 2000-4" to CV-334
- ✓ Line no. 2056-2" from 2052-2" to 337-2"-C42
- ✓ Line no. 2000-4" from LCV-1100 C to PUMPS {6-8A
6-8B}
- ✓ Line no. 2016-3" from 2000-4" to ANCHOR (CV-11)
- ✓ Line no. 2044-2" from 2000-4" to 2"-150-407
- ✓ Line no. 2062-2" from 2000-4" to CV-406B
- ✓ Line no. 4015-4"/6" from 2000-4" to 728-8"
- ✓ Line no. 2028-2" from 2000-4" to TEST PUMP 6-42
- ✓ Line no. 2010-2" from 2028-2" to RV-259
- ✓ Line no. 2029-3/4" from RV-259 to 2030-3/4" (CV-13)
- ✓ Line no. 2030-3/4" from TEST PUMP 6-42 to 2005-4" (CV-13)
- ✓ Line no. 728-8" from RE-CIRCULATION
HEAT EXCHANGER to BRANCH 4015-6"
- Line no. _____ from _____ to _____
- Line no. _____ from _____ to _____
- Line no. _____ from _____ to _____
- Line no. _____ from _____ to _____

B) Loading

The subject piping is to be qualified for the combined gravity, pressure and SSE inertia, faulted condition loading. Qualification is based on meeting the functionality criteria as detailed in Impell report number 04-0310-0063, Revision 0.

					SONGS-1	
					Safe Shutdown Piping Functionality Assessment	
					JOB NO 0310-022-1352	
					CALC NO	
0	ELC	12-12-83	RJS	12/13/83		
REV	BY	DATE	CHECKED	DATE	CV-12	PAGE 1 OF 3



SONGS - 1	
SAFE SHUTDOWN PIPING FUNCTIONALITY ASSESSMENT	
	JOB NO 0310-022-1352
	CALC NO CV-12
	PAGE 3 OF 3

Result Summary - D) Support Status

(i) List of Supports Considered Active in the Subject Calculation

These include all the original "as-built" supports which are completed as well as incomplete, and the already installed new supports.

Data Point

REV 0 / Q.P.I.P.E

Support I.D. Number

(CV-12)

Current Status

Remark

68 / S1	SI-08-2000-H-012	IM	
87 / S2	H-306	CN	
102 / S3	H-014	CN	
103 / S4	H-316	IM	
106 / S5	H-013	IM	
110 / S6	H-017	IM	
112 / S7	H-015	CN	
114 / S8	H-007	CN	
48A / S10	H-304	CX	
45 / S11	H-008	CN	
188 / S12	SI-08-2016-H-302	QR	CD
155 / S13	SI-08-2062-H-003	CR	
183 / ANG	H-004	CM	
86A / ANG	H-008	IX	
206 / S18	SI-08-6015-H-315	IX	NEW SUP. REAR EXISTING SUPPORT, MODIFICATION RORD
213 / S19	H-314	CN	
221 / ANG	H-008	CM	
222 / S20	H-012	CN	
245 / S21	H-006	CX	
230 / S22	H-013	CN	
264 / S23	H-007	CX	
266 / S24	H-009	IR	
267 / S25(Y)	H-304	CX	
274 / S27	H-310	CN	
275 / S28	H-311	CN	

				SONGS-1			
				Safe Shutdown Piping Functionality Assessment			
0		ELC	12-11-23	edis nuclear		JOB NO 0310-022-1352	PAGE 1
REV	BY	DATE	CHECKED	DATE	An Impell Corporation Company	CALC NO CV-12	OF 5

Result Summary - D) Support Status

(i) List of Supports Considered Active in the Subject Calculation

These include all the original "as-built" supports which are completed as well as incomplete, and the already installed new supports.

Data Point REV 0 / Q PIPE	Support I.D. Number (CV-12)	Current Status	Remark
288/529	SI-08-6015-H-005	CX	
404/530	SI-08-2028-H-301	CX	
417/532	H-002	IR	
601/537	SI-08-2052-H-004	IM	
606/538	H-006	IX	EXISTING SUP.
625/541	H-008	IR	
630/542	H-001	IM	
640/544	H-010	IM	
662/545	H-012	CN	
675/AN13	H-002	CN	
692/546	H-011	CN	
708/548	SI-08-2056-H-015	IR IR	
712/549	H-003	IX	NEW SUPP. REQ'D
716/550	H-001	IM	
721/551	H-002	IM	
724/552	H-006	IX	NEW SUPP. REQ'D
730/554	H-511	IX	EXISTING SUP.
736/555	H-510	IX	EXISTING SUP.
742/557	H-512	IX	EXISTING SUP.
757/560	H-214	CX	
787/561	H-021	CX	
790/AN15	H-002	IX	NEW SUPP. REQ'D
825/562	SI-08-2044-H-008	CN	
855/565	H-009	CN	
860/566	H-003	CN	

AN13
NM 2

SONGS-1					Safe Shutdown Piping Functionality Assessment	
0	ELC	12-10-83	RJS	12-17-83	edison nuclear	JOB NO 0310-022-1352
REV	BY	DATE	CHECKED	DATE	An Impell Corporation Company	CALC NO
						CV-12
						PAGE 5

Result Summary - D) Support Status

(i) List of Supports Considered Active in the Subject Calculation

These include all the original "as-built" supports which are completed as well as incomplete, and the already installed new supports.

Data Point

REV. 0 / OPIPE

Support I.D. Number

Current Status

Remark

(CV-12)

875/ AN16

SI-09-2044-H-044 ✓

IM ✓

(MW-01)

350/ 54

NOT AVAILABLE

NOT AVAILABLE

EXISTING SUPP.

30/ 55

55/ 56

65/ 57

75/ 58

90/ 59

FR

				SONGS-1			
				Safe Shutdown Piping Functionality Assessment			
0	ELC	12-13-83	RJS	12-13-83	eds nuclear		PAGE 3 OF 5
REV	BY	DATE	CHECKED	DATE	An Impell Corporation Company		
					JOB NO 0310-022-1352		
					CALC NO		
					CV-12		

(ii) List of Inactive Supports

These are the incomplete new supports that are not required to meet the piping functionality criteria as demonstrated in the subject calculation.

These supports need not be installed:

Data Point REV. 0 / OPIPE	Support I.D. Number (CV-12)	Current Status	Remarks
118/S9	SI-08-2000-H-001	IX	NEW SUPP. NOT REQ'D
157/S14	SI-08-2062-H-302	IX	
168/S15	H-007	IX	
184/S16	H-006	IX	
186/S17	H-305	CN	
273/S26	SI-08-6015-H-303	IX	NEW SUPP. NOT REQ'D
408/S31	SI-08-2028-H-003	IX	
451/S33	SI-08-2029-H-302	IX	
461/S34	H-301	IX	
482/S35	SI-08-2030-H-302	IX	
488/S36	H-301	IX	
610/S39	SI-08-2052-H-313	IM	NEW SUPP. NOT REQ'D
615/S40	SI-08-2052-H-305	IX	NEW SUPP. NOT REQ'D
635/S43	H-003	IX	
703/S47	SI-08-2056-H-013	IX	
727/S53	H-008	IX	
740/S56	H-009	IX	
752/S58	H-007	IX	
754/S59	H-005	IX	
818/S62	SI-08-2044-H-007	IX	NEW SUPP. NOT REQ'D
831/S64	H-005	IX	
267/S25(SNUB)	SI-08-6015-H-316	IX	NEW SUPP. NOT REQ'D

SONGS-1				
Safe Shutdown Piping Functionality Assessment				
JOB NO 0310-022-1352		PAGE 1		
CALC NO		OF 5		
CV-12				
REV	BY	DATE	CHECKED	DATE
1	ELC	12-12-83	RJS	12-13-83

(ii) List of Inactive Supports

These are the incomplete new supports that are not required to meet the piping functionality criteria as demonstrated in the subject calculation.

These supports need not be installed:

Data Point
REV. 0 / @ PIPE

Support I.D. Number
(NW-01)

Current Status

Remarks

316 / S1

SI-08-6015-H-019

IX

NEW SUPP. NOT REQ'D

318 / S2

H-020

IX

340 / S3

H-021

IX

SONGS-1

Safe Shutdown Piping Functionality Assessment

0 ELC 12-0-83 RJS 12-13-83
REV BY DATE CHECKED DATE

JOB NO 0310-022-1352
CALC NO

CV-12

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OF
5

5.0 CONCLUSION/RECOMMENDATION

The subject piping system as described in this report in its "as-installed" support configuration (see mathematical model in Section 3.0) does not meet

- ✓ the piping functionality stress criteria
- the active valve acceleration limits
- the equipment nozzle allowables

for loading as described in Section 1B.

- ✓ Some Rev. 0 new/modified support(s) will be needed to limit the stress/valve accelerations/nozzle load to within the allowables.

Subsequent to the careful review of the overall behavior of the piping system under faulted loading, Impell believes by

- performing more refine computer analysis of the "as-installed" configuration
- ✓ installing the following incomplected support(s),

the system can be demonstrated to meet the functionality criteria.

Support I.D. Number 51-08-2062-H-008 ✓

51-08-2056-H-003 ✓

51-08-2056-H-006 ✓

51-08-2056-H-002 ✓

					SONGS-1	
					Safe Shutdown Piping Functionality Assessment	
					JOB NO 0310-022-1352	
					CALC NO	
0	ELC	12-12-83	RJS	12-13-83	PAGE 1	
REV	BY	DATE	CHECKED	DATE	OF 1	
					CV-12	

6.0 REFERENCES

1. SCE Isometric Number * (See Appendix A)
(of this problem file)
2. Bechtel Calculation Number CU-12 / HW-01
3. W Calculation Number
4. P&ID Number 568769 REV. 15
568767 REV. 21
5. Impell Report #04-0310-0063, Revision 0
6. ANSI B31.1, 1980 Edition, Winter 1980 Addenda.
7. Appendix I of ASME B&PV Code, Section IV, 1980 Edition, Winter 1980 Addenda.
8. Impell Project Instruction No. 50-01 "SCE SONGS-1 Application of Functionality Criteria to Safe Shutdown Piping", Rev. 0
9. QUICKPIPE OUTPUTS: CU-12 DATE: 83/12/04 TIME: 14:48:24
HW-01 DATE: 83/12/09 TIME: 16:05:01

* ISOS: 334629 ✓
334637 ✓
334575 ✓
334793 ✓
334792 ✓
334632 ✓
334633 ✓
228777 ✓

					SONGS-1	
					Safe Shutdown Piping Functionality Assessment	
					JOB NO 0310-022-1352	PAGE
					CALC NO	1
0	ELC	12-13-83	RJS	12-13-83		OF
REV	BY	DATE	CHECKED	DATE	CU-12	1

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C) Active Valve Acceleration Summary	
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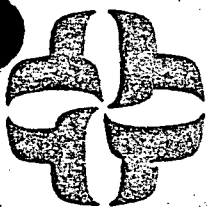
Total Page No. 221

* COMPUTER OUTPUTS:

PART	OUTPUT ID	MAX STRESS	NOZZLE	VALVE ACCEL
CV-12	83/12/04 14:48:24	p. 127	pp. 151-164	pp. 55-56
MW-01	83/12/07 16:05:01	p. 29	p. 35	N.A.

					SONGS-1	
					Safe Shutdown Piping Functionality Assessment	
0	ELL	12-12-83	12/15/83	JOB NO 0310-022-1352		PAGE 1
REV	BY	DATE	CHECKED	DATE	CALC NO	OF 1
					CV-12	

CALCULATION/PROBLEM COVER SHEET



Calculation/Problem No: CV-12 / MW-01
 Title: Safe Shutdown Piping Functionality Assessment
 Client: SCE Project: SONGS-1
 Job No: 0310-022-1352

Design Input/References:

Contained within.

Assumptions:

- All IP, IR and IM type of supports are considered active in the calculation.
- Other assumptions relative to the hand calculation are detailed within the calculation.

Method:

- Hand calculations or QUICKPIPE analysis to check acceptance using the functionality criteria.
- Bechtel/W "as-built" and Revision 0 analysis results will be used where applicable.

Remarks:

REV. NO.	REVISION	APPROVED	DATE
0	FUNCTIONALITY CRITERIA	<i>[Signature]</i>	20/12/87

3.0 DISCUSSION OF ANALYSIS

THE SAFE SHUTDOWN PIPING WITHIN THE SCOPE OF BECHTEL ANALYSES CV-12 AND MW-01 WERE ANALYZED BY QUICKPIPE VERSION 2B. THE RESULTS INDICATED THAT ONLY 4 OF THE 27 INCOMPLETE NEW SUPPORTS WERE REQUIRED TO MEET THE FUNCTIONALITY CRITERIA. THIS REPRESENTS AN 85% REDUCTION IN NEW SUPPORTS REQUIRED WHEN COMPARED WITH BECHTEL REV.0 ANALYSIS. A DAMPING FACTOR OF 5% WAS USED FOR PART CV-12 OF ANALYSIS. RESULTS WERE THEN SCALED TO REFLECT 4% DAMPING. FOR PART MW-01 4% DAMPING WAS USED IN ANALYSIS.

0	ELL	12-12-83	RJD	12-13-83	IMPELL CORPORATION	JOB NO 0310-022-1352 CALC NO 0V-12	PAGE 1 OF 1
REV	BY	DATE	CHECKED	DATE			

APPENDIX A:

SCE "As-Installed" Stress Isometrics

					SONGS-1	
					Safe Shutdown Piping Functionality Assessment	
					JOB NO 0310-022-1352	PAGE A1
					CALC NO	OF
0	RCH	11/6/83	N/A		CV-13	
REV	BY	DATE	CHECKED	DATE		

APPENDIX A:

SCE "As-Installed" Stress Isometrics

					SONGS-1			
					Safe Shutdown Piping Functionality Assessment			
					JOB NO 0310-022-1352		PAGE 1	
					CALC NO		OF 13	
REV	BY	DATE	CHECKED	DATE	CV-12			

IMPELL CORPORATION
QUICKTYPE VERS 20. 11/ 5/83: CYCLES 17 - NOS.

PAGE 1
87/10/ 4. 24.48.24.

ERN CALIFORN EDISON. SAN JOSE UNIT 1
SCHEDULED PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12

REV. 1

SUPVITTED:

1-DEC-83

11:39:49

CVFC

DESIGN
VERIFICATION

CLIENT SOUTHERN CALIFORNIA

JCE NO. 2310-022-1252

CALC./PROG. NO. QV-12

PREPARED BY:

DATE:

CHECKED BY:

DATE: 12-9-83

August J. Camp
Thomas S. Smith

PAGE 2
 EF/12/ 4. 14.49.24.

SUBMITTED: 3-DEC-83 10:35:49 DYPG

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*****
*
*   THE GEOMETRY FOR THE FOLLOWING CARD IMAGE FILE WAS CONSTRUCTED USING
*
*
*   PIPEDRAW  VERS.  1B   12/12/83
*
*
*   (USER VERIFICATION IS REQUIRED)
*
*****

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* PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:39:49 DYP0

FOR 11 1 OALC. 10: CV-12

SOUTHERN CALIFORNIA EDISON, SAN GIORGE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 19:39:49 DYPG

COLUMN
1 2 3 4 5 6 7 8
123456789 123456789 123456789 123456789 123456789 123456789 123456789 123456789

C
C (D) CONTROL POINTS
C
C -----

1	CLS2	CLASS 2 PIPING FUN NO.1						
1 10	RFP	OFF	0.000	-1.458	0.000	1 22		
AN1	TNP	TAN				1 10 1 32		
1 22	TIF	DIR	0.375	8.917	0.000			
1 23	TNP	TAN				1 10 1 32		
1 32		BZX	0.376	225.000		1 22		
V1		BZX	0.333	225.000		1 32		
V2		BZX	1.000	225.000		V1		
B1	BRP	BZX	1.451	225.000		V2		
S1		BZX	0.333	225.015		B1		
	RFP	OFF	0.000	1.000	0.000	S1		
	TNP	TAN						
1112	TIF	BZX	0.500	225.000		S1		
1113	TNP	TAN						
1122		OFF	0.000	0.000	-1.512	1112		
B2	BRP	OFF	0.000	0.000	-1.344	1122		
1133		OFF	0.000	0.000	-1.344	B2		
1142		OFF	0.000	0.000	-1.621	1133		
B3	BRP	OFF	0.000	0.000	-1.344	1142		
1153		OFF	0.000	0.000	-1.344	B3		
V3		OFF	0.000	0.000	-1.483	1153		
V4		OFF	0.000	0.000	-1.000	V3		
S2		OFF	0.000	0.000	-1.333	V4		
1192	TNP	TAN						
1202	TIF	OFF	0.000	0.000	-1.513	S2		
1203	TNP	TAN						
1212	TNP	TAN						
1222	TIF	OFF	0.000	3.146	0.000	1212		
1223	TNP	TAN						
B4	BRP	OFF	0.000	0.000	-1.750	1222		
1252	TNP	TAN						
1262	TIF	OFF	0.000	0.000	-3.233	B4		
1263	TNP	TAN						
1272	TNP	TAN						
1282	TIF	OFF	0.000	1.000	0.000	1262		
283	TNP	TAN						

SAN JOSE CALIFORNIA EDISON. SAN GABRIEL UNIT 1
SAFETY SHUTDOWN. PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 09:39:49 DYPG

COLUMN
1 2 3 4 5 6 7 8
123456789012345678901234567890123456789012345678901234567890

S3		OFF	3.700	0.000	0.000	1282	
S4		OFF	7.500	0.000	0.000	S3	
1312	TNP	TAN					
1322	TIF	OFF	4.083	0.000	0.000	S4	
1323	TNP	TAN					
S5		OFF	0.000	-0.505	0.000	1322	
1342	TNP	TAN					
1352	TIF	OFF	0.000	-0.505	0.000	S5	
1353	TNP	TAN					
B5	BRP	OFF	0.000	0.000	2.750	1352	
S6		OFF	0.000	0.000	0.698	B5	
S7		OFF	0.000	0.000	4.798	S6	
S8		OFF	0.000	0.000	1.042	S7	
1412	TNP	TAN					
1422	TIF	OFF	0.000	0.000	0.417	S8	
1432	TNP	TAN					
1432	TNP	TAN					
1442	TIF	BZY	2.254	315.000		1422	
1443	TNP	TAN					
S9		OFF	0.000	-1.000	0.000	1442	
B6	BRP	OFF	0.000	-1.229	0.000	S9	
1482	TNP	TAN					
1492	TIF	OFF	0.000	-0.917	0.000	B6	
V5	TNP	TAN					
V6		BZY	1.500	315.000		1492	
1512		BZY	0.333	315.000		V6	
1522	TNP	TAN				1512	115J
1532	TIF	BZY	0.375	315.000		1512	
1542	TNP	TAN				1512	115J
AN2		OFF		-0.376		1532	
*115J	RRP	OFF	0.000	-1.458	0.000	1532	
2	CLS2	CLASS 2 PIPING PUM NO.2					
AN5		DIF	6.553	10.460	-11.726		
S17		OFF	2.000	0.000	0.000	AN5	
2 22	TNP	TAN					
2 32	TIF	OFF	1.083	0.000	0.000	S17	
2 33	TNP	TAN					
S16		OFF		-1.381	0.000	2 32	
2 52		OFF		-3.402	0.000	S16	
10	BRP	OFF		-0.198	0.000	2 52	

ERN CALIFORNIA EDISON. SAN GABRIEL UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:39:45 DYPO

COLUMN
1 2 3 4 5 6 7 8
123456789 123456789 123456789 123456789 123456789 123456789 123456789 123456789

2 63		OFF	0.198	- .198	1.000	B10	
2 72	TNP	TAN				2 63	2 92
2 82	TIP	OFF	0.198	- .198	1.000	2 63	
2 83	TNP	TAN				2 63	2 92
2 92		OFF	-0.516	.000	0.500	2 82	
AN6		OFF	1.000	-1.667	0.500	2 92	
* 2 60	RFP	OFF	0.000	-0.583	0.500	AN6	
3	CLS2	CLASS 2 PIPING RUN NO.3					
3 10	RFP	OFF	0.198	1.000	0.500	AN6	
AN6		DIP	-8.419	6.508	-3.743		
3 22		OFF	-0.417	0.500	1.000	AN6	
B15	BRF	OFF	-0.198	1.000	0.500	3 22	
3 33		OFF	-0.198	1.000	0.500	B15	
* 3 42		OFF	-0.276	1.000	0.500	3 33	
CLS2	CLASS 2 PIPING RUN NO.4						
AN11	RFP	OFF	-0.198	1.000	0.500	AN11	
AN11		DIR	-6.134	6.508	-3.743		
4 22		OFF	0.307	0.500	0.500	AN11	
B17	BRF	OFF	0.198	1.000	0.500	4 22	
4 33		OFF	0.198	1.000	0.500	B17	
4 42	TNP	TAN					
4 52	TIP	OFF	0.266	1.000	0.500	4 33	
4 53	TNP	TAN					
V27		OFF	0.198	2.185	0.500	4 52	
V28		OFF	0.198	1.297	0.500	V27	
S35		OFF	0.500	1.352	0.500	V28	
4 92	TNP	TAN					
4102	TIP	OFF	0.198	2.751	0.500	S35	
4113	TNP	TAN					
S36		OFF	0.198	0.500	-2.625	4102	
4122	TNP	TAN					
4132	TIP	OFF	0.198	0.500	-5.375	S36	
4133	TNP	TAN					
4142	TNP	TAN					
4152	TIP	RZY	0.5 7	144.155		4132	
4153	TNP	TAN					
AN12		OFF	0.198	0.651	0.500	4152	
* 4 60	RFP	OFF	0.198	0.193	0.500	AN12	
CLS2	CLASS 2 PIPING RUN NO.5						
10	RFP	OFF	0.198	0.500	0.500	AN12	

HERN CALIFORNIA EDISON, SAN CROCE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12

REV. #

SUBMITTED:

3-DEC-83

18:38:49

DYPO

COLUMN
1 2 3 4 5 6 7 8
123456789012345678901234567890123456789012345678901234567890

AN15		DIP	7.937	7.213	-11.442	
5 22		OFF	7.292	7.100	7.800	AN15
B23	BRF	OFF	0.248	7.100	7.800	5 22
5 33		OFF	1.218	7.100	7.800	B23
*S61		OFF	1.625	7.800	7.800	5 33
6	CLS2	CLASS 2 PIPING FUN NO.6				
B23	BRF	DUP				
6 14		OFF	1.100	1.100	-1.218	B23
V38		OFF	7.100	7.100	-7.817	6 14
V37		OFF	0.417	7.800	-1.758	V38
6 42	TNP	TAN				
6 52	TIP	OFF	7.100	7.800	-1.218	V37
6 53	TNP	TAN				
6 72	TNP	TAN				
6 73	TIP	OFF	7.100	1.625	7.800	6 52
6 73	TNP	TAN				
V36		OFF	1.218	7.800	7.100	6 72
V35		OFF	1.751	7.800	1.000	V36
V34		OFF	7.800	7.800	7.800	V35
V33		OFF	1.667	7.800	7.800	V34
6122	TNP	TAN				
6132	TIP	OFF	7.292	7.100	7.800	V33
6133	TNP	TAN				
S67		OFF	1.100	1.792	7.800	6132
S59		OFF	7.100	4.510	7.800	S67
6162	TNP	TAN				
6172	TIP	OFF	7.100	7.800	7.800	S59
6173	TNP	TAN				
S58		OFF	1.100	7.800	1.100	6172
6192	TNP	TAN				
6202	TIP	OFF	7.100	7.100	7.517	S58
6213	TNP	TAN				
6212	TNP	TAN				
6222	TIP	OFF	1.100	1.917	7.800	6202
6223	TNP	TAN				
S57		OFF	-2.417	7.800	7.800	6222
S56		OFF	-3.83	7.800	7.800	S57
S55		OFF	-3.718	7.800	7.800	S56
S54		OFF	-6.540	7.800	7.800	S55
S53		OFF	-1.100	7.800	7.800	S54

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

REV. #

SUBMITTED: 3-DEC-83 09:39:49

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7 53	OFF	1.119	1.119	1.119	B18
S33	OFF	1.119	1.891	1.119	7 53
V24	OFF	1.119	1.268	1.119	S33
V25	OFF	1.119	1.257	1.119	V24
7 52 TNP	TAN				
7112 TIP	OFF	1.109	2.195	1.109	V25
7113 TNP	TAN				
S34	OFF	1.119	1.119	-2.625	7112
7122 TNP	TAN				
7132 TIP	OFF	1.119	1.119	-5.375	S34
7133 TNP	TAN				
AN1	OFF	1.119	1.547	1.119	7132
*7 5J RFP	OFF	1.119	1.187	1.119	AN1
CLS2	CLASS 2 PIPING RUN NO.8				
BRF	DUP				
14	OFF	1.119	1.119	-1.119	B18
*V26	OFF	1.119	1.119	-1.849	8 14
9	CLASS 2 PIPING RUN NO.9				
B16	BRF				
9 14	OFF	-1.119	1.119	1.119	B16
9 21 TNP	TAN				B16 V23
9 22 TIP	OFF	-1.891	1.119	1.119	9 14
9 23 TNP	TAN				B16 V23
V23	OFF	1.119	1.373	1.119	9 22
V22	OFF	1.119	1.458	1.119	V23
V21	OFF	-1.458	1.119	1.119	V22
9 62 TNP	TAN				V21 9 52
9 72 TIP	OFF	-1.119	1.119	1.119	V21
9 73 TNP	TAN				V21 9 52
9 82 TNP	TAN				
9 92 TIP	OFF	1.119	-1.858	1.119	9 72
9 93 TNP	TAN				
9112	OFF	-1.119	1.119	1.119	9 92
*B14	OFF	-1.119	1.119	1.119	9112
CLS2	CLASS 2 PIPING RUN NO.1				
B15	BRF				
14	OFF	1.119	1.119	1.119	B15
22	OFF	1.119	1.119	1.119	14
B14	BRF				
33	OFF	1.119	1.119	1.119	B14

PAGE 5
63/12/4. 14.45.24.

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NO.	NAME	TYPE	STATUS	VAL1	VAL2	VAL3	VAL4
V21			OFF	0.000	0.000	0.000	0.000
V19			OFF	0.000	0.667	0.000	V21
U 62	TNP		TAN				
U 72	TIP	1.198	OFF	0.000	0.266	0.000	V19
U 73	TNP		TAN				
S32			OFF	0.479	1.100	0.000	U 72
A 1J	RFP		OFF	0.000	0.100	1.000	S32
U 2J	RFP		OFF	-0.902	0.432	0.000	S32
U112	TNP		TAN				
U122	TIP	1.198	OFF	0.479	1.100	0.000	S32
U123	TNP		TAN				
U132	TNP		TAN				
U142	TIP	1.198	OFF	0.000	0.646	0.000	U122
U143	TNP		TAN				
U172	TNP		OFF	0.000	0.000	-1.000	U142
U172	TIP	1.198	OFF	0.000	0.000	-4.250	S31
U173	TNP		TAN				
S31			OFF	0.500	0.000	0.000	U172
U192	TNP		TAN				
U202	TIP	1.198	OFF	0.000	0.000	0.000	S31
U213	TNP		TAN				
U212			OFF	0.000	-0.542	0.000	U202
*B4	ERP		DUP				
A	CLS2						
B10	ERP		DUP				
A 14			OFF	-1.198	0.000	0.000	B10
V11			OFF	-1.120	0.000	0.000	A 14
VOP1			OFF	-0.807	0.000	0.000	V11
V9			OFF	-0.807	0.000	0.000	VOP1
A 52	TNP		TAN				
A 62	TIP	1.198	OFF	-0.318	0.000	0.000	V9
A 63	TNP		TAN				
S15			OFF	0.000	0.500	0.000	A 62
A 82	TNP		TAN				
A 92	TIP	1.198	OFF	0.000	0.000	0.000	S15
A 93	TNP		TAN				
A112	TNP		TAN				
A112	TIP	1.198	OFF	0.000	0.000	0.000	A 92
A113	TNP		TAN				

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

REV. #

SUBMITTED:

3-DEC-83

18:39:49

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S14						OFF			-3.667						0.000	A112							
S13						OFF			-1.000						0.000	S14							
A142	TNP					TAN																	
A152	TIP				.198	OFF			-5.254						0.000	S13							
A153	TNP					TAN																	
A162						OFF			0.000						0.542	A152							
B9	BRF					OFF			0.000						0.375	A162							
C	CLS2					CLASS 2 PIPING RUN NO.0																	
B6	BRF					DUP																	
C 13						OFF			-0.375						0.000	B6							
C 22	TNP					TAN																	
C 32	TIP				.198	OFF			-1.056						0.000	C 13							
C 33	TNP					TAN																	
						OFF			0.000						0.456	C 32							
						OFF			0.000						0.563	V39							
						OFF			0.000						5.718	V42							
C 72	TNP					TAN																	
C 82	TIP				.198	OFF			0.000						0.500	S62							
C 83	TNP					TAN																	
S63						OFF			-1.250						0.000	C 82							
S64						OFF			-5.667						0.000	S63							
C112						OFF			-3.854						0.000	S64							
B7	BRF					OFF			-1.198						0.000	C112							
C123						OFF			-1.198						0.000	B7							
S65						OFF			-1.469						0.000	C123							
S66						OFF			-8.510						0.000	S65							
C152	TNP					TAN																	
C162	TIP				.198	OFF			-1.250						0.000	S66							
C163	TNP					TAN																	
C172	TNP					TAN																	
C182	TIP				.198	OFF			0.000						0.563	C162							
C183	TNP					TAN																	
AN16						OFF			0.000						0.000	C182							
C 70	BRF					OFF			0.000						0.000	AN16							
D	CLS2					CLASS 2 PIPING RUN NO.0																	
B7	BRF					DUP																	
D 14						OFF			0.000						-0.198	B7							
V42						OFF			0.000						-6.677	D 14							
V41						OFF			0.000						-0.563	V42							
D 42						OFF			0.000						-0.375	V41							

HERN CALIFORM EDISON, S4N ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CHITTEPIA
CALC. NO: CV-12
PROBLEM # CV12 REV. #

CLFWITTED: 3-DEC-88 8:38:48 DYPC

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COLUMN

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*B1	ERP	DUF	CLASS 2 PIPING RUN NO.F					
E	CLSS	DUE						
BS	E=	OFF						
E 13	TNP	TAN	1.00	0.375	0.000	BS		
E 22	TNP	OFF						
E 32	TIP	OFF	0.110	1.438	0.710	E 13		
E 33	TNP	TAN						
S37	TNP	OFF						
E 32	TNP	TAN						
E 62	TIF	OFF						
E 63	TNP	TAN						
S38	TNP	OFF						
S39	TNP	OFF						
S40	TNP	OFF						
E 12	TNP	TAN						
E 113	TNP	TAN						
E 112	TNP	TAN						
E 132	TIF	OFF						
E 133	TNP	TAN						
E 142	TNP	TAN						
E 152	TIP	OFF						
E 153	TNP	TAN						
E 162	TNP	TAN						
E 172	TIF	OFF						
E 173	TNP	TAN						
S41	TNP	TAN						
S42	TNP	OFF						
S43	TNP	OFF						
E 212	TNP	TAN						
E 222	TIP	OFF						
E 223	TNP	TAN						
S44	TNP	OFF						
E 242	TNP	TAN						
E 252	TIF	OFF						
E 253	TNP	TAN						
E 252	TNP	TAN						
E 272	TIF	OFF						
E 273	TNP	TAN						

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12
 PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:39:49 DYPG

COLUMN
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E292	TNP		TAN				
E312	TIP	1.198	OFF	-1.282	1.100	1.100	M1
E313	TNP		TAN				
E312			OFF	1.100	1.100	-1.292	E312
B19	BRP		DUP				
E323			OFF	1.100	1.100	-1.218	B19
V29			OFF	1.100	1.100	-1.167	E323
S45			OFF	1.100	1.100	-1.475	V29
V30			OFF	1.100	1.100	-1.475	S45
E362			OFF	1.100	1.100	-1.167	V30
V31			OFF	1.100	1.100	-1.292	E362
V32			OFF	1.100	1.100	-1.792	V31
E392			OFF	1.100	1.100	-1.292	V32
TR2			OFF	1.100	1.100	-1.313	E392
E422	TNP		TAN				
E422	TIP	1.198	OFF	1.100	1.100	-1.504	TR2
E423	TNP		TAN				
E432	TNP		TAN				
E442	TIP	1.198	OFF	1.100	2.475	1.100	E422
E443	TNP		TAN				
S46			OFF	-1.504	1.100	1.100	E442
AN14			OFF	-1.718	1.100	1.100	S46
*E18J	RFP		OFF	-1.183	1.100	1.100	AN14
G	CLS2		CLASS 2 PIPING RUN NO.6				
B3	BRP		DUP				
G 14			OFF	1.100	1.344	1.100	B3
G 22	TNP		TAN				
G 32	TIP	1.501	OFF	1.100	2.812	1.100	G 14
G 33	TNP		TAN				
G 42	TNP		TAN				
G 52	TIP	1.501	BZY	1.100	225.111		G 32
G 53	TNP		TAN				
S18			OFF	1.100	1.100	-5.365	G 52
G 72	TNP		TAN				
G 82	TIP	1.501	OFF	1.100	1.100	-2.385	S18
G 83	TNP		TAN				
S19			OFF	3.751	1.100	1.100	G 82
G112	TNP		TAN				
G112	TIP	1.501	OFF	1.333	1.100	1.100	S19
G113	TNP		TAN				

SOUTHERN CALIFORNIA EDISON, SAN ONOFE UNIT 1
SHUTDOWN FIFING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. #

SUBMITTED: 3-DEC-83 18:39:49 DYPD

COLUMN
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G122	TNP		TAN				
G132	TIF	1.501	OFF	1.101	-1.724	1.417	G112
G133	TNP		TAN				
G142	TNP		TAN				
G152	TIF	0.501	OFF	1.101	-5.464	1.101	G132
G153	TNP		TAN				
G162			OFF	-0.510	1.101	1.101	G152
E11	BRP		OFF	-1.344	1.101	1.101	G162
G173			OFF	-1.344	1.101	1.101	E11
V11			OFF	-0.310	0.800	0.800	G173
S20			OFF	-1.501	1.101	1.101	V11
V12			OFF	-1.501	1.101	1.101	S20
S21			OFF	-0.354	0.800	0.800	V12
G222			OFF	-1.813	1.101	1.101	S21
	BRP		OFF	-1.344	1.101	1.101	G222
			OFF	-0.344	0.800	0.800	F12
V15			OFF	-0.111	1.101	1.101	G233
V16			OFF	-0.558	1.101	1.101	V15
G262	TNP		TAN				
G272	TIF	0.501	OFF	-0.510	0.101	0.101	V16
G273	TNP		TAN				
V17			OFF	1.101	1.101	1.101	G272
V18			OFF	1.101	0.979	0.101	V17
S23			OFF	1.101	1.521	1.101	V18
G312	TNP		TAN				
G322	TIF	0.751	OFF	0.101	1.693	1.101	S23
G323	TNP		TAN				
S24			OFF	1.101	0.101	3.625	G322
S25			OFF	1.101	0.101	1.958	S24
G352	TNP		TAN				
G362	TIF	0.751	OFF	1.101	1.101	0.760	S25
G363	TNP		TAN				
G372	TNP		TAN				
G382	TIF	0.751	OFF	1.758	1.758	1.101	G362
G383	TNP		TAN				
S26			OFF	4.729	1.101	1.101	G382
S27			OFF	1.751	1.101	1.101	S26
S28			OFF	6.771	1.101	1.101	S27
G422	TNP		TAN				
G432	TIF	0.751	OFF	2.667	1.101	1.101	S28

BERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

REV. #

SUBMITTED: 3-DEC-83 18:39:48

TYPE

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G433	TNP		TAN				
G442	TNP		TAN				
G452	TIP	0.75	BZY	2.583	45.115		G432
G453	TNP		TAN				
S29			OFF	12.447	0.000	0.000	G452
G472	TNP		TAN				
G482	TIP	0.75	OFF	0.713	0.000	0.000	S29
G483	TNP		TAN				
G492	TNP		TAN				
G512	TIP	0.75	OFF	0.443	0.443	0.000	G482
G513	TNP		TAN				
AN8			OFF	0.688	0.000	0.000	G512
*G17J	BRP		OFF	0.193	0.000	0.000	AN8
H 14	CLS2		CLASS 2 PIPING RUN NO.H				
H 22	BRP		DUP				
H 32			OFF	0.000	0.000	0.344	H 14
H 33	TNP		TAN				
V14			OFF	0.510	0.000	0.000	H 32
S22			OFF	0.500	0.000	0.000	V14
V13			OFF	0.500	0.000	0.000	S22
H 72	TNP		TAN				
H 82	TIP	0.51	OFF	2.354	0.000	0.000	V13
H 83	TNP		TAN				
H 92			OFF	0.000	0.000	-0.656	H 82
*E11	BRP		DUP				
I 14	CLS2		CLASS 2 PIPING RUN NO.I				
I 22	BRP		DUP				
I 32			OFF	0.000	0.344	0.000	I 14
I 33	TNP	0.500	OFF	0.000	2.760	0.000	I 32
I 42	TNP		TAN				
I 52	TIP	0.51	BZY	2.000	225.000		I 33
I 53	TNP		TAN				
I 62			OFF	0.000	0.000	-0.318	I 52
B8	BRP		OFF	0.000	0.000	-0.344	I 62
I 73			OFF	0.000	0.000	-0.344	B8
V7			OFF	0.000	0.000	-0.010	I 73

SOUTHERN CALIFORNIA EDISON. SAN Geronimo UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. #

SUBMITTED: 3-DEC-83 19:39:49 DYFC

COLUMN
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V8		OFF	0.000	0.000	-0.958	V7
I112	TNP	TAN				
I112	TIP	0.500	OFF	0.000	-2.302	V8
I113	TNP	TAN				
I122	TNP	TAN				
I132	TIP	0.500	OFF	0.000	0.000	I112
I133	TNP	TAN				
B9	BRP	DUP				
S10		OFF	0.000	0.000	-0.583	B9
I172	TNP	TAN				
I182	TIP	0.500	OFF	0.000	-0.501	S10
I183	TNP	TAN				
I192	TNP	TAN				
I202	TIP	0.500	OFF	-1.083	1.083	I182
I202	TNP	TAN				
		OFF	-0.817	0.000	0.000	I202
AN3		OFF	-0.25	0.000	0.000	S11
*I 4J	RFP	OFF	-0.083	0.000	0.000	AN3
J	CLS2	CLASS 2 PIPING RUN NO. J				
B8	BRP	DUP				
J 14		OFF	-1.323	0.000	0.000	B8
S12		OFF	-1.135	0.000	0.000	J 14
AN4		OFF	-0.375	0.000	0.000	S12
*J 2J	RFP	OFF	-0.083	0.000	0.000	AN4
M9	MND	OFF	0.000	1.257	0.000	VOP1
MM 2	MND	OFF	0.375	0.000	0.000	TR2
*MM 3	MND	OFF	0.000	-1.229	0.000	G142

C
C (E) COMPONENT PROPERTIES
C
C -----

FILW FILW
AWBW AWWB
AWTT AWTT
FILW REDR

FILW 4ELE CL21 2.
FILW 2.25 CL21 1.85
FILW 2.25 CL21 0.25

IMPELL COFFIGATION: 11/5/62: CYCLE 17 - KGS.
SUCKPIPE VERS 28

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HERN CALIFORN EDISON • SAN JOSE UNIT 1
SHUTDOWN FILING FUNCTIONALITY CRITERIA
CALC. NO: CV-12 REV. #
PROBLEM = CV12 SUBMITT

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SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 8:39:45 DYPO

COLUMN

	1	2	3	4	5	6	7	8
	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890	1234567890
STRP	2	16A	2.553	0.2181	0.0000	0.0000	0.0000	0.0000
		MASS	0.0000	1.5811	0.0000	33.000	0.0000	0.0000
STRP	75	1SA	1.000	0.0831	0.0000	0.0000	0.0000	0.0000
		MASS	0.0571	0.2667	0.0000	33.000	0.0000	0.0000
STRP	2	16AY	2.6838	0.3080	0.0000	0.0000	0.0000	0.0000
		MASS	0.0000	1.4500	0.0000	33.000	0.0000	0.0000
VLOP	VLOP		31.1015	10.0000	0.0000	0.0000	0.0000	0.0000
STRP	2	4SA	2.3750	0.1540	0.0000	0.0000	0.0000	0.0000
		MASS	3.6500	1.4500	0.0000	33.000	0.0000	0.0000
SELB	2	43KA	2.3750	0.2181	0.0000	0.0000	0.0000	0.0000
		MASS	10.0000	1.2500	0.0000	0.0000	0.0000	0.0000
BRED	R122	1SA	3.5000	0.1200	0.3750	0.1000	0.0000	0.0000
		MASS	4.3300	3.6100	0.0000	0.0000	0.0000	0.0000
STRP	3	16A	3.7400	0.2400	0.0000	0.0000	0.0000	0.0000
		MASS	0.0000	3.6100	0.0000	33.000	0.0000	0.0000
STRP	6	4SA	6.6250	0.2800	0.0000	0.0000	0.0000	0.0000
		MASS	19.0000	12.5000	0.0000	33.000	0.0000	0.0000
SELB	6	4SA	6.6250	0.2800	0.0000	0.0000	0.0000	0.0000
		MASS	19.9700	12.5100	0.0000	33.000	0.0000	0.0000

*
C
C (F) MATERIAL PROPERTIES
C
C

SA312 TP304

TEMP 71.0
YMOD 27.1E16
ALPH 7.1
CL2S 25100.0

*
C
C (G) COMPONENT SEQUENCE
C
C

AWTT	AWTT					
BELE	3	1SA	SA312 TP304	1	23	
AWBW	AWBW					
STRP	3	1SA	SA312 TP304	1	32	
FILW	BEDR					
BRED	R 32	5SA	SA312 TP304	V1		
FILW	BEDR					
STRP	4	16A	SA312 TP304	V2		

IMPPELL CORPORATION
QUICKRIPE VERS 28. 11/9/83: CYBER 17 - NOS.

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HERN CALIFORN EDISON, SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. +

SUBMITTED: 3-DEC-87 13:55:48 DVPIC

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COLUMN

1 2 3 4 5 6 7 8
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FILM	FEDP						
STRF	4	1SA	SAB12	TP304	E1		
FILM	TEE	1					
STRP	4	1SA	SAB12	TP304	S1		
STRP	4	1SA	SAB12	TP304	11 2		
AWBW	AWBW						
BELB	4	1SA	SAB12	TP304	1112		
AWBW	AWBW						
STRP	4	1SA	SAB12	TP304	11122		
FILM	REDR						
BTFE	T 39	ESA	SAB12	TP304	E2		
FILM	TEE	1					
BTEE	T 39	ESA	SAB12	TP304	1133		
FILM	REDR						
STRP	4	1SA	SAB12	TP304	1144		
FILM	REDR						
BTEE	T 39	ESA	SAB12	TP304	B1		
FILM	TEE	1					
BTEE	T 39	ESA	SAB12	TP304	1153		
FILM	REDR						
STRP	4	1SA	SAB12	TP304	V3		
FILM	REDR						
STRP	4	1SA	SAB12	TP304	V4		
STRP	4	1SA	SAB12	TP304	S2		
STRP	4	1SA	SAB12	TP304	1192		
AWBW	AWBW						
BELB	4	1SA	SAB12	TP304	1203		
AWBW	AWBW						
STRP	4	1SA	SAB12	TP304	1212		
AWBW	AWBW						
BELB	4	1SA	SAB12	TP304	1223		
AWBW	AWBW						
STRP	4	1SA	SAB12	TP304	F4		
FILM	TEE	1					
STRP	4	1SA	SAB12	TP304	1232		
AWBW	AWBW						
BELB	4	1SA	SAB12	TP304	1243		
AWBW	AWBW						
STRP	4	1SA	SAB12	TP304	1253		

SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-10
PROBLEM # CV12 REV. 4

SUBMITTED: 3-DEC-83 08:29:49 DYPD

1

COLUMN

1 2 3 4 5 6 7 8

AWBK	AWBK	1SA	SAT112	TP374	1285		
BELE	4						
AWBK	AWBK						
STRP	4	1SA	SAT112	TP374	57		
STRP	4	1SA	SAT112	TP374	54		
STRP	4	1SA	SAT112	TP374	1212		
AWBK	AWBK						
BELE	4	1SA	SAT112	TP374	1323		
AWBK	AWBK						
STRP	4	1SA	SAT112	TP374	55		
STRP	4	1SA	SAT112	TP374	1342		
AWBK	AWBK						
BELE	4	1SA	SAT112	TP374	1353		
AWBK	AWBK						
STRP	4	1SA	SAT112	TP374	56		
FILN	TEE 1				56		
STRP	4	1SA	SAT112	TP374	57		
STRP	4	1SA	SAT112	TP374	58		
STRP	4	1SA	SAT112	TP374	1412		
AWBK	AWBK						
BELE	4	1SA	SAT112	TP374	1422		
AWBK	AWBK						
STRP	4	1SA	SAT112	TP374	1432		
AWBK	AWBK						
BELE	4	1SA	SAT112	TP374	1443		
AWBK	AWBK						
STRP	4	1SA	SAT112	TP374	59		
STRP	4	1SA	SAT112	TP374	60		
FILN	TEE 1						
STRP	4	1SA	SAT112	TP374	1493		
AWBK	AWBK						
BELE	4	1SA	SAT112	TP374	VE		
AWBK	AWBK						
STRP	4	1SA	SAT112	TP374	VE		
FILN	TEE 1						
BELE	4	1SA	SAT112	TP374	56		
FILN	TEE 1						
BELE	4	1SA	SAT112	TP374	57		
FILN	TEE 1						
STRP	4	1SA	SAT112	TP374	1512		
STRP	4	1SA	SAT112	TP374	1523		
AWBK	AWBK						

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
SHUTDOWN FINDING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

REV. #

SUBMITTED: 3-DEC-93 18:35:49

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COLUMN

	1	2	3	4	5	6	7	8
	1234567890	123456789	1234567890	123456789	1234567890	1234567890	1234567890	1234567890
	DELB	3	1SA	SA312	TP314		1542	
	AWBW	AWBW						
	STRP	3	1SA	SA312	TP314		AN2	
*	AWTT	AWTT						
	STRP	2	1SA	SA312	TP314		S17	
	STRP	2	1SA	SA312	TP314		2 22	
	FILW	FILW						
	SELB	2	3KA	SA312	TP314		2 33	
	FILW	FILW						
	STRP	2	1SA	SA312	TP314		S16	
	STRP	2	1SA	SA312	TP314		2 52	
	FILW	2.25						
	STEE	T37	3KA	SA312	TP314		B1	
	FILW	FILW						
	STEE	T37	3KA	SA312	TP314		2 63	
	FILW	2.25						
	STRP	2	1SA	SA312	TP314		2 72	
	FILW	FILW						
	SELB	2	3KA	SA312	TP314		2 83	
	FILW	FILW						
	STRP	2	1SA	SA312	TP314		2 92	
	FILW	FILW						
*	STRP	2	1SA	SA312	TP314		AN6	
	FILW	FILW						
	STRP	2	1SA	SA312	TP314		3 22	
	FILW	2.25						
	STEE	T37	3KA	SA312	TP314		B15	
	FILW	FILW						
	STEE	T37	3KA	SA312	TP314		3 33	
	FILW	2.25						
	STRP	2	1SA	SA312	TP314		3 42	
*	FILW	FILW						
	FILW	FILW						
	STRP	.75	2SA	SA312	TP314		4 22	
	FILW	2.25						
	STEE	T11	3KA	SA312	TP314		B17	
	FILW	FILW						
	STEE	T11	3KA	SA312	TP314		4 33	
	FILW	2.25						
	STRP	.75	2SA	SA312	TP314		4 42	

IMPELL CORPORATION
BUICK PIPE VES. 2E, 11/ e/83: CYBER 17 - MCS.

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HERN CALIFORN EDISON. 54M CMOPPE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CPTFF1A
CALC. NO: CV-12
PROBLEM # CV12 REV. # SUBMITTED: 5-DEC-83 18:38:49 DTPC

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COLUMN

1 2 3 4 5 6 7 8
1234567890123456789 123456789 123456789 123456789 123456789 123456789 123456789 123456789

FIL4	FIL4						
SEL5	* FIL4	SAB112	TP314	4	53		
FIL4	FIL4						
STRP	.75	BSA	SAB112	TP314	V27		
FIL4	2.25						
STRP	.75	16A	SAB112	TP314	V29		
FIL4	2.25						
STRP	.75	SSA	SAB112	TP314	S35		
STRP	.75	BSA	SAB112	TP314	4	52	
FIL4	FIL4						
SEL5	* FIL4	SAB112	TP314	4	113		
FIL4	FIL4						
STRP	.75	BSA	SAB112	TP314	S36		
STRP	.75	BSA	SAB112	TP314	4	122	
FIL4	FIL4						
SEL5	.75	42KA	SAB112	TP314	4	137	
FIL4	FIL4						
STRP	.75	RSA	SAB112	TP314	4	142	
FIL4	FIL4						
SEL5	* FIL4	SAB112	TP314	4	153		
FIL4	FIL4						
STRP	.75	BSA	SAB112	TP314	4	112	
FIL4	2.25						
STRP	2	1SA	SAB112	TP314	5	22	
FIL4	2.25						
STRP	2	3KA	SAB112	TP314	E2.		
FIL4	FIL4						
STRP	2	2KA	SAB112	TP314	5	33	
FIL4	2.25						
STRP	2	1SA	SAB112	TP314	S61		
FIL4	FIL4						
STRP	2	3KA	SAB112	TP314	5	14	
FIL4	2.25						
STRP	2	1SA	SAB112	TP314	V16		
FIL4	2.25						
STRP	2	16A	SAB112	TP314	V17		
FIL4	2.25						
STRP	2	1SA	SAB112	TP314	5	40	
FIL4	FIL4						
SEL5	2	3KA	SAB112	TP314	5	55	

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[illegible]

FILW	FILW				
STRP	2	1SA	SA312	TP304	552
STRP	2	1SA	SA312	TP304	6312
FILW	FILW				
SELE	2	3KA	SA312	TP304	6323
FILW	FILW				
STRP	2	1SA	SA312	TP304	551
STRP	2	1SA	SA312	TP304	55
STRP	2	1SA	SA312	TP304	6352
FILW	FILW				
SELE	2	3KA	SA312	TP304	6363
FILW	FILW				
STRP	2	1SA	SA312	TP304	6372
FILW	FILW				
SELE	2	3KA	SA312	TP304	6383
FILW	FILW				
STRP	2	1SA	SA312	TP304	6392
FILW	FILW				
SELE	2	3KA	SA312	TP304	6403
FILW	FILW				
STRP	2	1SA	SA312	TP304	549
STRP	2	1SA	SA312	TP304	548
STRP	2	1SA	SA312	TP304	6432
FILW	FILW				
SELE	2	3KA	SA312	TP304	6443
FILW	FILW				
STRP	2	1SA	SA312	TP304	6452
FILW	FILW				
SELE	2	3KA	SA312	TP304	6463
FILW	FILW				
STRP	2	1SA	SA312	TP304	547
STRP	2	1SA	SA312	TP304	6482
FILW	FILW				
SELE	2	3KA	SA312	TP304	6493
FILW	FILW				
STRP	2	1SA	SA312	TP304	6502
FILW	2.25				
STEE	777	3KA	SA312	TP304	519
FILW	FILW				
FILW	FILW				

IMPELL CORPORATION
QUICKPIPE VERS 25. 11/19/93: CYBER 171 - NCS.

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SOUTHERN CALIFORNIA EDISON. SAN Geronimo UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 08:39:49 DYFC

COLUMN

1 2 3 4 5 6 7 8
123456789012345678901234567890123456789012345678901234567890

STEE	T11	3KA	SA312	TP304	7	14
FILW	2.25					
STRP	.75	8SA	SA312	TP304	7	22
FILW	2.25					
STEE	T11	3KA	SA312	TP304	E16	
FILW	FILW					
STEE	T11	3KA	SA312	TP304	7	33
FILW	2.25					
STRP	.75	8SA	SA312	TP304	7	42
FILW	2.25					
STEE	T11	3KA	SA312	TP304	E19	
FILW	FILW					
STEE	T11	3KA	SA312	TP304	7	53
FILW	2.25					
STRP	.75	8SA	SA312	TP304	S33	
STRP	.75	8SA	SA312	TP304	V24	
FILW	2.25					
STRP	.75	16A	SA312	TP304	V25	
FILW	2.25					
STRP	.75	8SA	SA312	TP304	7	52
FILW	FILW					
SELE	*		SA312	TP304	71	3
FILW	FILW					
STRP	.75	8SA	SA312	TP304	S34	
STRP	.75	8SA	SA312	TP304	7122	
FILW	FILW					
SELE	*		SA312	TP304	7133	
FILW	FILW					
STRP	.75	8SA	SA312	TP304	AN1	
FILW	2.25					
FILW	FILW					
STEE	T11	3KA	SA312	TP304	8	14
FILW	2.25					
STRP	.75	16A	SA312	TP304	V26	
FILW	FILW					
FILW	FILW					
STEE	T11	3KA	SA312	TP304	8	14
FILW	2.25					
STRP	.75	8SA	SA312	TP304	8	21
FILW	FILW					

() NERN CALIFORN EDISON, SAN CROFRE UNIT 1
SHUTDOWN FIRING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 19:39:45 DYPO

COLUMN

1 2 3 4 5 6 7 8
123456789 123456789 123456789 123456789 123456789 123456789 123456789 123456789

SELE * SA312 TP314 9 23
FILW FILW
STRF .75 8SA SA312 TP314 V23
FILW 2.25
STRF 2 16A SA312 TP314 V22
AWBW AWBW
STRF 2 16A SA312 TP314 V21
FILW REDR
STRF 2 1SA SA312 TP314 9 62
FILW FILW
SELE 2 3KA SA312 TP314 9 73
FILW FILW
STRF 2 1SA SA312 TP314 9 82
FILW FILW
SELE 2 3KA SA312 TP314 9 93
FILW FILW
STRF 2 1SA SA312 TP314 91 2
FILW 2.25
STEE T37 3KA SA312 TP314 R14
* FILW FILW
FILW FILW
STEE T37 3KA SA312 TP314 14
FILW 2.25
STRF 2 1SA SA312 TP314 22
FILW 2.25
STEE T37 3KA SA312 TP314 R14
FILW FILW
STEE T37 3KA SA312 TP314 33
FILW 2.25
STRF 2 1SA SA312 TP314 V21
FILW 2.25
STRF 2 16A SA312 TP314 V10
FILW REDR
STRF 2 1SA SA312 TP314 62
FILW FILW
SELE 2 3KA SA312 TP314 73
FILW FILW
STRF 2 1SA SA312 TP314 93
STRF 2 1SA SA312 TP314 110
FILW FILW

IMPELL CORPORATION
QUICKPIPE VERS 22, 11/ 9/83: CYBER 17 - NOS.

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HERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. #

SUBMITTED: 3-DEC-87 18:59:49 BYPC

1

COLUMN

1 2 3 4 5 6 7 8
123456789123456789 123456789123456789123456789123456789123456789123456789

SELE 2 3KA SA312 TP314 1123
FILW FILW
STRP 2 1SA SA312 TP314 1132
FILW FILW
SELE 2 3KA SA312 TP314 1143
FILW FILW
STRP 2 1SA SA312 TP314 S31
STRP 2 1SA SA312 TP314 1162
FILW FILW
SELE 2 3KA SA312 TP314 1173
FILW FILW
STRP 2 1SA SA312 TP314 S31
STRP 2 1SA SA312 TP314 1182
FILW FILW
SELE 2 3KA SA312 TP314 12 3
FILW FILW
STRP 2 1SA SA312 TP314 1212
FILW 2.25
BROF B151 1SA SA312 TP314 B4
FILW TEE 1
FILW FILW
STEE T37 3KA SA312 TP314 A 14
FILW 2.25
STRP 2 1SA SA312 TP314 V1
FILW 2.25
STRP 2 16A SA312 TP314 VCP1
AWBW AWEW
STRP 2 16A SA312 TP314 V5
FILW PEDF
STRP 2 1SA SA312 TP314 A 52
FILW FILW
SELE 2 3KA SA312 TP314 A 63
FILW FILW
STRP 2 1SA SA312 TP314 S15
STRP 2 1SA SA312 TP314 A 82
FILW FILW
SELE 2 3KA SA312 TP314 A 93
FILW FILW
STRP 2 1SA SA312 TP314 A1 2
FILW FILW

IMPELL CORPORATION
QUICKPIPE VEPS 28, 11/8/83: CYEFF 17. - NOS.

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HERN CALIFORNIA EDISON, SA1 GAOFFRE UNIT 1
SHUTDOWN FILING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 16:29:49

CYFO

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COLUMN

1 2 3 4 5 6 7 8 9
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SELE	2	3KA	SAT312	TP314	4117			
FILW	FILW							
STRF	2	1SA	SAT312	TP314	S14			
STRP	2	1SA	SAT312	TP314	S13			
STRP	2	1SA	SAT312	TP314	A142			
FILW	FILW							
SELE	2	3KA	SAT312	TP314	A153			
FILW	FILW							
STRP	2	1SA	SAT312	TP314	A162			
FILW	2.25							
BPOH	E.56	1SA	SAT312	TP314	PC			
FILW	TEE 1							
FILW	TEE 1							
BPOH	E.56	ESA	SAT312	TP314	C 13			
FILW	REDF							
STRP	2	4SA	SAT312	TP314	C 22			
FILW	FILW							
SELE	2	3KA	SAT312	TP314	C 33			
FILW	FILW							
STRP	2	4SA	SAT312	TP314	V39			
FILW	2.25							
STRP	2	16AX	SAT312	TP314	V4			
FILW	REDF							
STRF	2	4SA	SAT312	TP314	SE2			
STRP	2	4SA	SAT312	TP314	C 79			
FILW	FILW							
SELE	2	3KA	SAT312	TP314	C 87			
FILW	FILW							
STRP	2	4SA	SAT312	TP314	967			
STRP	2	4SA	SAT312	TP314	964			
STRP	2	4SA	SAT312	TP314	C112			
FILW	2.25							
STRF	2.25							
STRP	2	3KA	SAT312	TP314	B7			
FILW	FILW							
STRF	2	3KA	SAT312	TP314	C127			
STRP	2	4SA	SAT312	TP314	965			
STRP	2	4SA	SAT312	TP314	966			
STRP	2	4SA	SAT312	TP314	C162			
FILW	FILW							

IMPELL CORPORATION
QUICKPIPE VERS 25, 11/ 9/93: CYBER 17 - NOS.

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SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
SAFE SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

REV. #

SUBMITTED:

7-DEC-83

08:39:49

DYPO

COLUMN

1 2 3 4 5 6 7 8
123456789 123456789 123456789 123456789 123456789 123456789 123456789 123456789

STRP	4	1SA	SA312	TP304	H 22		
AWBW	AWBW						
BELB	4	1SA	SA312	TP304	H 33		
AWBW	AWBW						
STRP	4	1SA	SA312	TP304	V14		
FILW	REDR						
STRP	4	16A	SA312	TP304	S22		
STRP	4	16A	SA312	TP304	V17		
FILW	REDR						
STRP	4	1SA	SA312	TP304	H 72		
AWBW	AWBW						
BELB	4	1SA	SA312	TP304	H 83		
AWBW	AWBW						
STRP	4	1SA	SA312	TP304	H 92		
FILW	REDR						
BTEE	T 39	ESA	SA312	TP304	F11		
FILW	TEE 1						
FILW	TEE 1						
BTEE	T 39	ESA	SA312	TP304	I 14		
FILW	REDR						
STRP	4	1SA	SA312	TP304	I 22		
AWBW	AWBW						
BELB	4	1SA	SA312	TP304	I 33		
AWBW	AWBW						
STRP	4	1SA	SA312	TP304	I 42		
AWBW	AWBW						
BELB	4	1SA	SA312	TP304	I 53		
AWBW	AWBW						
STRP	4	1SA	SA312	TP304	I 62		
FILW	REDR						
BTEE	T 39	ESA	SA312	TP304	B8		
FILW	TEE 1						
BTEE	T 39	ESA	SA312	TP304	I 73		
FILW	REDR						
STRP	4	1SA	SA312	TP304	V7		
FILW	REDR						
STRP	4	16A	SA312	TP304	V8		
AWTT	AWTT						
STRP	4	1SA	SA312	TP304	I 12		
AWBW	AWBW						

IMPELL CORPORATION
QUICKPIPE VERS 25, 11/ 9/83: CYBER 170 - NOS.

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HERN CALIFORN EDISON. SAN ONOFRE UNIT 1
SAFE SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 16:35:49 DYFC

COLUMN

1										2										3										4										5										6										7										8									
1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10										
1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10										

BELB	4	1SA	SA312	TP314	I117
AWBW	AWBW				
STRP	4	1SA	SA312	TP314	I122
AWBW	AWBW				
BELE	4	1SA	SA312	TP314	I133
AWBW	AWBW				
STRP	4	1SA	SA312	TP314	B5
FILW	TEE 1				
STRP	4	1SA	SA312	TP314	S11
STRP	4	1SA	SA312	TP314	I172
AWBW	AWBW				
BELB	4	1SA	SA312	TP314	I187
AWBW	AWBW				
STRP	4	1SA	SA312	TP314	I192
AWBW	AWBW				
BELE	4	1SA	SA312	TP314	I213
AWBW	AWBW				
STRP	4	1SA	SA312	TP314	S11
STRP	4	1SA	SA312	TP314	AN3
FILW	TEE 1				
BTEE	TR39	BSA	SA312	TP314	J 14
FILW	REDR				
STRP	3	1SA	SA312	TP314	S12
STRP	3	1SA	SA312	TP314	AN4

MMBS	MISCELLANEOUS				MEMBERS
MM 1	VLOP	VLOP	SA312	TP314	VOP1 MF
MM 2	STRP	2	1SA	SA312	TP314 TR2 MM 2
MM 3	STRP	2	4SA	SA312	TP314 G142 MM 3

C
C (H) LUMPED WEIGHTS
C
C

V1	V1	47.5
V2	V2	47.5
V3	V3	47.5
V4	V4	47.5
V5	V5	47.5
V6	V6	47.5
V27	V27	4.5
V28	V28	4.5

SOUTHERN CALIFORNIA EDISON. SAN GABRIEL UNIT 1
PIPE SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. #

SUBMITTED: 3-DEC-83 18:38:48 DYPC

COLUMN

1 2 3 4 5 6 7 8
1234567891234567891234567891234567891234567891234567891234567891

V38 V38 22.5000
V37 V37 22.5000
V36 V36 22.5000
V35 V35 22.5000
V34 V34 12.5000
V33 V33 12.5000
V24 V24 4.5000
V25 V25 4.5000
V26 V26 9.0000
V23 V23 14.0000
V22 V22 51.0000
V21 V21 6.5000
V20 V20 17.0000
V19 V19 17.0000
M9 130.0000
V39 V39 12.5000
V40 V40 12.5000
V42 V42 12.5000
V41 V41 12.5000
M1 M1 8.0000
V29 V29 17.5000
V30 V30 17.5000
V31 V31 35.0000
V32 V32 35.0000
V11 V11 46.0000
V12 V12 46.0000
V15 V15 46.0000
V16 V16 46.0000
V17 V17 47.5000
V18 V18 47.5000
V14 V14 46.0000
V13 V13 46.0000
V7 V7 46.0000
*V8 V8 46.0000

C (11) SUPPORT LOCATIONS AND PROPERTIES

AN1 AN1 ANCH TGSD . E+ . E+ . E+ SSSSSS INCL : 10
S1 S1 SNGL TGSD . E+ . E+ . E+ INCL : 20

SHERN CALIFORN EDISON, SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12

REV. #

SUBMITTED: 3-DEC-83 08:39:40

DYPO

COLUMN

			1	2	3	4	5	6	7	8
			123456789	123456789	123456789	123456789	123456789	123456789	123456789	123456789
S2	Y	S2	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00		Y	
S2	X	S2	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00		X	
S3	Y	S3	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00		Y	
S3	Z	S3	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00		Z	
S4		S4	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00		Y	
S5		S5	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00		X	
S6		S6	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00		Y	
S7	X	S7	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00		X	
S7	Y	S7	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00		Y	
S8		S8	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00		Y	
AN2	AN2	ANCH	TGSD	0.0E+00	0.0E+00	0.0E+00	SSSSSS	INCL	11EJ	
AN5	AN5	ANCH	TGSD	0.0E+00	0.0E+00	0.0E+00	SSSSSS	INCL	J 2J	
AN6	AN6	ANCH	TGSD	0.0E+00	0.0E+00	0.0E+00	SSSSSS	INCL	2 6J	
AN9	AN9	ANCH	TGSD	0.0E+00	0.0E+00	0.0E+00	SSSSSS	INCL	3 1J	
AN11	AN11	ANCH	TGSD	0.0E+00	0.0E+00	0.0E+00	SSSSSS	INCL	4 1J	
AN12	AN12	ANCH	TGSD	0.0E+00	0.0E+00	0.0E+00	SSSSSS	INCL	4 6J	
AN15	AN15	ANCH	TGSD	0.0E+00	0.0E+00	0.0E+00	SSSSSS	INCL	5 1J	
S61Y	S61	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			Y	
S61Z	S61	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			7	
S60X	S60	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			X	
S60Z	S60	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			7	
S57	S57	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			Y	
S55	S55	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			Y	
S54	S54	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			Y	
S52	S52	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			X	
S51Y	S51	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			X	
S51Y	S51	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			Y	
S51X	S51	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			Y	
S51Y	S51	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			Y	
S49X	S49	SNGLVTGSD	0.0E+00	0.0E+00	0.0E+00	0.0E+00			Y	
S49Z	S49	SNGLVTGSD	0.0E+00	0.0E+00	0.0E+00	0.0E+00			Z	
S48	S48	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			7	
AN17	AN17	ANCH	TGSD	0.0E+00	0.0E+00	0.0E+00	SSSSSS	INCL	7 EJ	
S32I	S32	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			INCL	1J
S32L	S32	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			INCL	2J
S31Z	S31	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			7	
S31Y	S31	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			Y	
S13Z	S13	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			7	
S13Y	S13	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			Y	
S63	S63	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00			Z	

SOUTHERN CALIFORN EDISON, SAN GABRIEL UNIT 1
 LINE SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 10:39:49 DYFC

COLUMN

1 2 3 4 5 6 7 8
 123456789 123456789 123456789 123456789 123456789 123456789 123456789 123456789

S65	S65	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	7
S66	S66	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
AN16	AN16	ANCH	TGSD	0.0E+00	0.0E+00	0.0E+00	SSSSSS INCL C 7J
S37X	S37	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S37Y	S37	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S38Y	S38	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S38Z	S38	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Z
S41	S41	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S42Y	S42	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S42X	S42	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S44Y	S44	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S44Z	S44	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Z
S45	S45	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S46	S46	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	7
S18Y	AN14	ANCH	TGSD	0.0E+00	0.0E+00	0.0E+00	SSSSSS INCL E18J
S18X	S18	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S19	S19	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S20	S20	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S21Y	S21	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S21Z	S21	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	7
S23Z	S23	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Z
S23X	S23	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S24	S24	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S25	S25	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S27	S27	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S28	S28	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S29Z	S29	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Z
S29Y	S29	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
AN8	AN8	ANCH	TGSD	0.0E+00	0.0E+00	0.0E+00	SSSSSS INCL G17J
S22	S22	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S10Y	S10	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S10X	S10	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
S11	S11	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
AN3	AN3	ANCH	TGSD	0.0E+00	0.0E+00	0.0E+00	SSSSSS INCL I 4J
S12	S12	SNGL	TGSD	0.0E+00	0.0E+00	0.0E+00	Y
AN4	AN4	ANCH	TGSD	0.0E+00	0.0E+00	0.0E+00	SSSSSS INCL J 2J
AN13	MM 2	ANCH	TGSD	0.0E+00	0.0E+00	0.0E+00	SSSSSS INCL T8J
AN7	MM 3	ANCH	TGSD	0.0E+00	0.0E+00	0.0E+00	SSSSSS INCL G14Z

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # 1 SUBMITTED: 3-DEC-83 19:35:45 BYPC 1

COLUMN

1 2 3 4 5 6 7 8
123456789.123456789.123456789.123456789.123456789.123456789.123456789.123456789.

C
C (J) OUTPUT POINT SPECIFICATION

C
C -----

SOPS 1.50
*DOPS 1.50

THRM THRM

TEME 70.00

RUNL 4 70.000

RUNL 7 70.000

RUNL 8 70.000

RUNL 9 70.000

RUNL 9 70.000

RUNL 1 70.000

RUNL 2 70.000

RUNL 3 70.000

RUNL 5 70.000

RUNL 6 70.000

RUNL 8 70.000

RUNL A 70.000

RUNL C 70.000

RUNL D 70.000

RUNL E 70.000

RUNL G 70.000

RUNL H 70.000

RUNL I 70.000

*RUNL J 70.000

*GRAV GRAV

TEME 4 70.000

TEME 7 70.000

TEME 8 70.000

TEME 9 70.000

TEME 9 70.000

TEME 1 70.000

TEME 2 70.000

TEME 3 70.000

TEME 5 70.000

TEME 6 70.000

TEME 8 70.000

TEME A 70.000

AN11 AN12

B17 AN10

B18 V26

B16 V23

V23 B14

AN1 AN2

AN5 AN6

AN9 3 42

AN15 S61

B21 B15

B15 B4

B10 B9

B6 AN16

B7 B1

B5 AN14

B3 AN8

B12 B11

B2 AN3

B8 AN4

AN11 AN12

B17 AN10

B18 V26

B16 V23

V23 B14

AN1 AN2

AN5 AN6

AN9 3 42

AN15 S61

B2 B15

B15 B4

B1 B9

HERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SHUTDOWN FIRING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM = CV12 REV. # SUBMITTED: 3-DEC-83 08:39:49 DYPO

COLUMN

1 2 3 4 5 6 7 8
1234567890123456789 12345678901234567890123456789012345678901234567890

TEME C 70.000 P6 AN16
TEME D 70.000 B7 B1
TEME E 70.000 B5 AN14
TEME G 70.000 B3 AN8
TEME H 70.000 B12 B11
TEME I 70.000 B2 AN3
TEME J 70.000 B8 AN4

*GRAV

DYNP 1-0 33.7 PMOD

TEME 4 70.000 AN11 AN12
TEME 7 70.000 B17 AN1
TEME 8 70.000 B18 V26
TEME 9 70.000 B16 V23
TEME 9 70.000 V23 B14
TEME 1 70.000 AN1 AN2
TEME 2 70.000 AN5 AN6
TEME 3 70.000 AN9 3 42
TEME 5 70.000 AN15 S61
TEME 6 70.000 B27 B19
TEME 7 70.000 B15 B4
TEME A 70.000 B13 B5
TEME C 70.000 B6 AN16
TEME D 70.000 B7 B1
TEME E 70.000 B5 AN14
TEME G 70.000 B3 AN8
TEME H 70.000 B12 B11
TEME I 70.000 B2 AN3
TEME J 70.000 B8 AN4

*C12H P G LOG LOCATION = CV12. YMIN = 0.0, YMAX = 1.000, C-FREQ. = 4.0
0.03 0.65 0.05 0.81 0.07 0.97 0.11 0.88
0.15 1.26 0.2 1.55 0.25 1.66 0.31 1.53P
* 0.35 1.52 0.4 1.49 0.59 1.375 1.01 0.835
*C12V P G LOG LOCATION = CV12. YMIN = 0.0, YMAX = 1.000, C-FREQ. = 4.0
0.03 0.453 0.15 0.54 0.07 0.58 0.12 0.66
0.15 0.94 0.0 1.33 0.25 1.176 0.31 1.025
* 0.35 1.17 0.4 0.887 0.59 0.816 1.01 0.55

*ISSE SMPLE GRUP ACCN SSE INERTIA LOADS
LIST V1 V2 V3 V4 V5 V6 V17 V28 V39 V37 V36 V35 V34 V33 V24
LIST V25 V26 V23 V22 V21 V2 V19 V17 V28 V39 V37 V36 V41 V42 V41 V29
LIST V3 V31 V32 V11 V12 V15 V14 V17 V18 V14 V13 V7 V6

IMPELL CORPORATION
QUICKPIPE VERS 35, 11/15/83: CYPER 171 - NOS.

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HERN CALIFORN EDISON, SAN ONOPE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM = CV12

REV. 4

SUBMITTED: 3-DEC-83 18:39:49 DYPG

COLUMN

1 2 3 4 5 6 7 8
123456789 123456789 123456789 123456789 123456789 123456789 123456789 123456789

C12H C12V C12W
DWGT NOPR GRAV 1.00
DUMY NOPR GRAV 1.0E-11
*SSEI NOPR ISSE 1.00
CL2A FULL DETL OLDC NEWP NEWT EXT D/4T
*PRES

4 AN11 AN12 270.000
7 B17 AN11 270.000
8 B18 V26 270.000
9 B16 V23 270.000
9 V23 B14 171.000
1 AN1 AN2 171.000
2 AN5 AN6 171.000
3 AN9 3 42 171.000
4 AN15 S61 171.000
5 B2 B18 171.000
6 B15 B4 171.000
7 B17 B9 171.000
8 B6 AN16 171.000
9 B7 B1 171.000
1 B5 AN14 171.000
2 B3 AN8 171.000
3 B12 B11 171.000
4 B2 AN3 171.000
5 B8 AN4 171.000

*TEMP
4 AN11 AN12 71.000
7 B17 AN11 71.000
8 B18 V26 71.000
9 B16 V23 71.000
9 V23 B14 71.000
1 AN1 AN2 71.000
2 AN5 AN6 71.000
3 AN9 3 42 71.000
4 AN15 S61 71.000
5 B2 B18 71.000
6 B15 B4 71.000
7 B17 B9 71.000
8 B6 AN16 71.000
9 B7 B1 71.000

IMPELL CORPORATION
QUICKPIPE VERS 25, 11/ 5/83: CYBER 171 - AOS.

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THERN CALIFORN EDISON. SAN GABRIEL UNIT 1
SHUTDOWN FIRING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:39:49 DYPO

COLUMN

1 2 3 4 5 6 7 8
123456789 123456789 123456789 123456789 123456789 123456789 123456789 123456789

E BE AN14 71.100
G B3 AN8 70.100
H B12 E11 71.100
I B2 AN3 71.100
*J B8 AN4 71.100
BUCK DUMY EQ 9 PRES TEMP 2.27
*EQSF DWGT SSEI EQSF PRES TEMP 2.97
*SUPP FULL DETL OLDC OLDF CLDT
DWGT DFLT DWGT
SSEI DFLT SSEI
*SSLD DFLT DWGT SSEI

IMPELL CORPORATION
QUICKPIPE VERS 2B, 11/15/83: CYBER 171 - LOS.

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SOUTHERN CALIFORNIA EDISON, SAN GONDOPE UNIT 1
SHUTDOWN FIRING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM = CV12 REV. # SUBMITTED: 3-DEC-83 18:35:45 DYPO 1

PLANT SPECIFIC FILE INFORMATION

CYBER USER NAME : SCE1---

PLANT FILE NAME : SONGSPF

DATE/TIME THE PLANT
FILE WAS LAST ALTERED : 83/12/13.
08.21.51.

ANALYSIS AND DESIGN DATA FOR THIS RUN

RUN MODE = OPTM (OPTIMIZATION)

OVERLAP SUPPORT NAMES

NONE SPECIFIED

USER SPECIFIED SIF VALUES

NONE.....DEFAULT VALUES APPLIED.

LOCATION OF PIPING

BUILDING CV12 UPPER ELEVATION = 900.000 (FT)
LOWER ELEVATION = 800.000 (FT)

INPELL CORPORATION
QUICKPIPE VERS 2F, 11/16/83: CYBER 17. - NOS.

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(
HERN CALIFORN EDISON, SAN JOSE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. #

SUBMITTED: 7-DEC-83 09:34:48

DYFG

1

DESIGN TEMPERATURE AND PRESSURE

PIPE RUN	FROM DCP	TO DCP	DESIGN TEMP (F)	DESIGN PRESS (LB/IN)
4	AN11	AN12	71.000	2746.000
7	E17	AN11	71.000	2746.000
6	E18	V26	71.000	2746.000
9	E16	V27	71.000	2746.000
9	V23	P14	71.000	2746.000
1	AN1	AN2	71.000	1770.000
2	AN2	AN3	71.000	1770.000
3	AN3	3 42	71.000	1770.000
5	AN15	S61	71.000	1770.000
6	P2	E18	71.000	1770.000
6	E18	P4	71.000	1770.000
6	E18	39	71.000	1770.000
A	E6	AN16	71.000	1770.000
C	B7	B1	71.000	1770.000
D	E5	AN14	71.000	1770.000
E	E5	AN2	71.000	1770.000
F	E12	P11	71.000	1770.000
G	E3	AN7	71.000	1770.000
H	E3	AN7	71.000	1770.000
I	E3	AN7	71.000	1770.000
J	E3	AN7	71.000	1770.000

IMPELL CORPORATION
QUICKPIPE VERS 25, 11/19/87: CYBER 17 - NOS.

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() ERN CALIFORN EDISON, SAN ONOFFE UNIT 1
SA SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # 1 SUBMITTED: 3-DEC-87 16:39:45 DYPC 1

LOAD CASE NUMBER 1

THERMAL EXPANSION,
DESIGN TEMPERATURE DISTRIBUTION APPLIED

THERMAL ANCHOR MOTIONS:

NONE

LOAD CASE NUMBER 2

DEADWEIGHT

GRAVITY ANCHOR MOTIONS:

NONE

IMPELL CORPORATION
QUICKPIPE VERS 2B, 11/15/83; CYBER 170 - MOS.

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SOUTHERN CALIFORNIA EDISON. SAN Geronimo UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

1

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 19:39:49 DYPG

TYPE OPTIMIZATION CONTROL

LIMIT

IMPELL CORPORATION
QUICKPIPE VERS 2B, 11/19/83: CYBER 170 - NOS.

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(EERN CALIFORNIA EDISON, SAN GABRIEL UNIT 1
SAG SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-87 18:39:45 DYP0

1

DATA POINTS WHERE PIPE SAG EXCEEDS .125 IN

DOP NO.	DOF NAME	Y DISPL (IN)
------------	-------------	--------------------

346	S3P	-.159
347		-.196
348		-.222
349		-.234
350		-.237
351		-.21
352	S40	-.177
353		-.127

IMPELL CORPORATION
QUICKPIPE VERS 2E, 11/ 9/83: CYBER 170 - MGS.

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ERN CALIFORN EDISON, SAN GONDOPE UNIT 1
SHUTDOWN FIRING FUNCTIONALITY CFTF14
CALC. NO: CV-12
PROBLEM = CV12 REV. #

SUBMITTED: 8-DEC-83 09:39:45 DYFC

1

RESPONSE SPECTRUM ANALYSIS

FIRST NATURAL FREQUENCY OF THE SYSTEM = 4.184 HZ.

CRITICAL FREQUENCY = 4.18 HZ.

CUTOFF FREQUENCY = 23.7 HZ.

NO. OF MODES BELOW CUTOFF = 57

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

REV. #

SUBMITTED:

3-DEC-83

16:35:49

CVPC

1

LOCATION WHERE DISPLACEMENT EXCEEDS .111 IN (IN)

DYNAMIC ANALYSIS

ISSE : SSE INERTIA LOADS

DOP NO.	DOP NAME	X DISPL (IN)	Y DISPL (IN)	Z DISPL (IN)	RESULTANT DISPL (IN)
36		.014	.003	.105	.107
37	S4	.004	.001	.122	.122
38		.004	.005	.133	.133
39		.004	.009	.144	.144
40	1312	.004	.014	.154	.155
41	1323	.004	.016	.155	.156
42	S5	.004	.016	.155	.156
43	1342	.004	.016	.155	.156
44	1353	.007	.013	.154	.155
45		.010	.008	.154	.155
46	B5	.013	.002	.154	.155
47	S6	.014	.000	.154	.155
48		.014	.001	.154	.155
49		.013	.002	.154	.155
50		.006	.001	.154	.154
51	S7	.000	.000	.154	.154
52	S8	.001	.000	.154	.154
53	1412	.012	.000	.154	.154
54	1423	.015	.004	.153	.154
55		.022	.014	.149	.151
56	1432	.029	.005	.145	.150
57	1443	.030	.005	.139	.146
58	S9	.025	.025	.108	.114
59		.053	.017	.124	.156
95	V27	.002	.017	.143	.150
96	V28	.068	.017	.146	.171
97	S35	.448	.017	.146	.451
98		.073	.017	.134	.174
99	402	1.111	.017	.111	1.111
100	413	1.117	.017	.111	1.117
101		.679	.041	.111	.679

IMPELL CORPORATION
CLIFFE VES 2E, 11/5/83: CYBER 17 - NOS.

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HERN CALIFORNIA EDISON, S.L. OFFICE UNIT 1
SHUTDOWN PILING FUNCTIONALITY CRITFPA
CALC. NO: CV-12
PROBLEM # CV12 REV. #

SUBMITTED: 3-FEC-85 9:59:45 CVPD

1

LOCATION, WHERE DISPLACEMENT EXCEEDS .1000 (IN)

DYNAMIC ANALYSIS

ISSE : SSE ILEFT12 LOADS (CCNTD.)

DCP NO.	DCP NAME	X DISPL (IN)	Y DISPL (IN)	Z DISPL (IN)	RESULTANT DISPL (IN)
112	S36	.878	.771	.211	.811
113		.596	.622	.611	.672
114		.782	.771	.711	.760
115		.188	.745	.711	.194
132		.44	.712	.164	.161
133		.177	.612	.722	.740
134	S60	.197	.612	.633	.535
135	6162	.106	.612	.533	.660
136	6173	.278	.612	.531	.589
137	S63	.21	.693	.531	.593
138		.213	.131	.531	.575
139		.275	.136	.531	.578
141		.181	.136	.531	.578
142		.193	.177	.531	.578
143	6192	.149	.661	.531	.536
144	6213	.752	.767	.546	.557
145	6213	.752	.637	.533	.537
146	6223	.21	.633	.646	.648
147	S67	.21	.626	.637	.634
148		.21	.626	.782	.782
149		.21	.626	.997	.997
151	S66	.21	.626	.997	.997
152		.21	.626	.997	.997
153		.21	.626	.997	.997
154	S65	.21	.626	.997	.997
155		.21	.626	.997	.997
156		.21	.626	.997	.997
157	S64	.21	.626	.997	.997
158		.21	.626	.997	.997

() EARN CALIFORNIA EDISON, SAN GABRIEL UNIT 1
 SHUTDOWN FIRING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

REV. #

SUBMITTED: 3-DEC-83 09:39:49

DYPO

1

LOCATION WHERE DISPLACEMENT EXCEEDS .10000 (IN)

DYNAMIC ANALYSIS

ISSE : SSE INERTIA LOADS (CONTR.)

DOF NO.	DOF NAME	Y DISPL (IN)	Y DISPL (IN)	Z DISPL (IN)	RESULTANT DISPL (IN)
159	S53	.121	.129	.631	.631
160		.121	.121	.417	.418
161		.121	.125	.229	.231
211	S53	.216	.215	.535	.519
212	V24	.145	.115	.134	.247
213	V25	.231	.115	.133	.292
214		.452	.115	.118	.452
215	7 52	.615	.115	.113	.615
216	71 3	.626	.116	.114	.626
217		.545	.112	.114	.546
218	S34	.447	.119	.114	.451
219		.323	.116	.114	.331
211		.197	.113	.114	.214
261	V11	.127	.128	.114	.111
262	VOP1	.127	.116	.148	.161
263	V9	.127	.112	.119	.218
264	A 52	.127	.116	.114	.214
265	A 63	.131	.111	.219	.231
266	S15	.138	.111	.217	.238
267		.111	.111	.231	.253
268	A 82	.167	.111	.245	.269
269	A 93	.161	.111	.245	.268
271		.135	.111	.243	.258
271	A1 2	.119	.111	.241	.251
272	A113	.116	.116	.231	.247
273		.116	.148	.111	.176
274		.116	.111	.111	.119
281		.116	.111	.171	.175
281		.111	.111	.171	.271
282		.111	.111	.114	.118
293	S42	.444	.111	.141	.449

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 09:39:45 BYPC

1

LOCATION WHERE DISPLACEMENT EXCEEDS .1500" (IN)

DYNAMIC ANALYSIS

ISSE : SSE INERTIA LOADS (CONTD.)

DOP NO.	DCF NAME	X DISPL (IN)	Y DISPL (IN)	Z DISPL (IN)	RESULTANT DISPL (IN)
294	C 72	.458	.138	.147	.462
295	C 83	.465	.143	.139	.469
296	S63	.465	.170	.140	.477
297		.465	.171	.140	.473
298		.465	.171	.109	.481
299		.465	.153	.117	.482
300	S64	.465	.136	.136	.486
301		.465	.135	.120	.492
302		.465	.126	.104	.475
303	C112	.465	.106	.159	.469
304	E7	.465	.100	.153	.468
305	C123	.465	.116	.147	.467
306	S65	.465	.144	.100	.467
307		.465	.161	.137	.470
308		.465	.179	.175	.478
309		.465	.160	.185	.478
310		.465	.150	.196	.478
311		.465	.120	.155	.469
312	S66	.465	.100	.113	.465
313	C152	.465	.111	.111	.465
314	C163	.461	.116	.112	.461
315	C172	.457	.116	.111	.457
316	C183	.441	.106	.110	.441
317		.337	.107	.110	.337
318		.230	.107	.110	.230
319		.121	.105	.110	.121
322	E7	.465	.110	.153	.468
323	D 14	.458	.110	.152	.462
324		.754	.111	.147	.789
325		.312	.111	.141	.315
326		.100	.111	.135	.211

(S) SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12
 PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:39:49 DYPC

1

LOCATION WHERE DISPLACEMENT EXCEEDS .100" (IN)

DYNAMIC ANALYSIS

ISSE : SSE INERTIA LOADS (CONTD.)

DOP No.	DCF NAME	X DISPL (IN)	Y DISPL (IN)	Z DISPL (IN)	RESULTANT DISPL (IN)
327		.113	.001	.029	.117
332	B5	.113	.002	.154	.155
333	E 13	.111	.002	.154	.154
334	E 22	.117	.002	.153	.154
335	E 33	.119	.002	.153	.154
336	S37	.111	.001	.153	.153
337	E 52	.116	.001	.152	.152
338	E 63	.111	.003	.148	.149
339		.111	.011	.113	.114
344		.111	.184	.088	.192
345		.111	.137	.140	.196
346	S38	.111	.191	.192	.271
347		.111	.220	.238	.330
348		.111	.269	.284	.391
349		.111	.274	.306	.411
350		.111	.280	.328	.431
351		.111	.240	.319	.405
352	S41	.111	.218	.317	.379
353		.111	.158	.275	.317
354		.111	.095	.237	.256
355	E1 2	.111	.130	.196	.199
356	E113	.114	.124	.191	.193
357		.166	.124	.122	.141
358	E122	.116	.124	.164	.136
359	E133	.129	.121	.153	.141
360	E142	.130	.121	.152	.141
361	E153	.141	.119	.142	.140
362	E162	.166	.110	.126	.160
363	E173	.167	.113	.122	.160
364	S41	.148	.111	.122	.151
371		.114	.124	.122	.110

SOUTHERN CALIFORNIA EDISON, SAN GABRIEL UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12
 PROBLEM # CV12 REV. #

SUBMITTED: 3-DEC-83 04:35:49 DYPC

LOCATION WHERE DISPLACEMENT EXCEEDS .100" (IN)

DYNAMIC ANALYSIS

ISSE : SSE INERTIA LOADS (CONTD.)

DOP NO.	DOP NAME	X DISPL (IN)	Y DISPL (IN)	Z DISPL (IN)	RESULTANT DISPL (IN)
371	S43	.151	.029	.022	.155
372		.191	.039	.022	.193
373		.227	.030	.022	.230
374	E212	.263	.032	.022	.266
375	E223	.268	.023	.015	.269
376	S44	.269	.019	.009	.269
377	E242	.269	.015	.012	.269
378	E253	.259	.025	.013	.261
379		.212	.025	.026	.215
380		.145	.025	.038	.152
381		.114	.025	.061	.132
382	E262	.093	.025	.083	.109
383	E273	.092	.027	.081	.119
384		.082	.024	.056	.102
423	S19	.032	.009	.115	.119
424	G112	.032	.004	.135	.139
425	G113	.029	.003	.141	.143
426	G122	.029	.001	.137	.141
427	G133	.027	.001	.131	.134
428		.022	.001	.121	.123
461		.048	.003	.125	.134
462		.048	.002	.104	.109
463	S26	.048	.001	.264	.268
464	S27	.048	.001	.298	.302
465		.048	.001	.351	.354
466		.048	.001	.404	.407
467		.048	.001	.446	.449
468		.048	.001	.478	.481
469	S28	.048	.001	.511	.513
47		.047	.002	.522	.523
471	G422	.047	.003	.529	.531

ERN CALIFORN EDISON, SAN GONDORE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12 REV. #

SUBMITTED: 3-DEC-83 08:39:49 DYPO

1

LOCATION WHERE DISPLACEMENT EXCEEDS .1 IN (IN)

DYNAMIC ANALYSIS

ISSE : SSE INERTIA LOADS (CONTD.)

DOP NO.	DCP NAME	X DISPL (IN)	Y DISPL (IN)	Z DISPL (IN)	RESULTANT DISPL (IN)
472	G433	.44	.527	.524	.526
473		.26	.113	.517	.528
474	G442	.28	.319	.489	.489
475	G453	.21	.21	.471	.471
476		.21	.21	.402	.402
477		.21	.219	.334	.335
478		.21	.217	.266	.267
479		.21	.213	.200	.200
480		.21	.21	.133	.133
533	M9	.265	.256	.198	.216

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SHUTDOWN FIRING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 09:39:45 DYPG

1

ABSOLUTE GLOBAL ACCELERATIONS (MULTIPLES OF GRAVITY)

DYNAMIC ANALYSIS

ISSE : SSE INERTIA LOADS

DCP NAME	X ACCEL	Y ACCEL	Z ACCEL	X-Y-Z ACCEL	X-Y-Z ACCEL
V1	.696	.455	.695	.983	1.184
V2	.764	.455	.764	1.181	1.177
V3	.723	.469	.885	1.143	1.235
V4	.685	.456	.885	1.119	1.218
V5	.786	.651	.785	1.119	1.264
V6	.711	.487	.697	.988	1.112
V27	1.196	.47	1.801	2.161	2.217
V28	1.312	.47	1.898	2.317	2.354
V38	.687	.457	.683	.965	1.168
V37	.683	.452	.683	.965	1.184
V36	.687	.526	.692	.975	1.119
V35	.687	.618	.688	.972	1.147
V34	.687	.619	.688	.972	1.152
V33	.687	.695	.694	.976	1.189
V24	1.401	.457	1.291	1.972	2.125
V25	1.611	.457	1.247	2.136	2.187
V26	1.751	.747	1.064	2.183	2.213
V23	.691	.464	.844	1.091	1.185
V22	.687	.464	.911	1.141	1.232
V21	.687	.458	.932	1.179	1.172
V2	.685	.455	.683	.967	1.165
V19	.698	.455	.684	.971	1.171
V17	.698	.615	.924	1.361	1.484
V0F1	.698	.927	1.131	1.508	1.721
V9	.698	1.185	1.381	1.714	2.114
V39	.982	.978	1.739	1.661	1.979
V4	1.172	.678	1.756	2.157	2.237
V42	.875	.455	.921	1.269	1.348
V41	.839	.455	.854	1.197	1.281
V20	.825	.455	.697	1.149	1.236
V3	.795	.455	.697	1.148	1.147
V31	.745	.435	.697	1.117	1.118
V32	.692	.455	.683	.970	1.173

IMPELL CORPORATION
QUICKPIPE VERS 2B, 11/19/83: CYBER 17 - NOS.

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SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

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REV. #

SUBMITTED: 3-DEC-83 18:39:49 DYBC

ABSOLUTE GLOBAL ACCELERATIONS (MULTIPLES OF GRAVITY) (CONTD.)

DYNAMIC ANALYSIS

ISSE : SSE INERTIA LOADS

DCP NAME	X ACCEL	Y ACCEL	Z ACCEL	X-Y ACCEL	Y-Y-Z ACCEL
V11	.878	.455	.696	1.121	1.319
V12	.875	.455	.684	1.114	1.263
V15	.884	.583	.691	1.257	1.386
V16	.897	.731	1.127	1.357	1.541
V17	.732	.778	.712	1.121	1.294
V18	.685	.777	.686	.972	1.245
V14	.926	.455	.811	1.231	1.314
V13	.926	.455	.742	1.187	1.272
V7	.656	.555	.887	1.128	1.257
V6	.843	.721	.886	1.224	1.427

IMPELL CORPORATION
QUICKPIPE VERB 2E, 11/06/83: CYBER 17 - NOS.

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HERA CALIFORNIA EDISON, SAN JOSE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. #

SUBMITTED: 3-DEC-87 08:39:48 DYPG

COMMENTARY

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*****
*          SAN JOSE NUCLEAR GENERATING STATION          *
*          UNIT 1                                         *
*          FUNCTIONALITY CRITERIA EVALUATION             *
*          OF                                             *
*          SAFE SHUTDOWN PIPING                         *
*****
*          QUICKPIPE ANALYZES OF SONGS-1 SAFE SHUTDOWN PIPING *
*          INCLUDES THE FOLLOWING:                        *
*****
*          CODE EQUATION CHECKS FOR STAINLESS STEEL *****
*          EGGF                                           *
*          PRESSURE + GRAVITY + SSE INERTIA <= 2.97 YIELD STRESS *
*          EGGF                                           *
*          (BUCKLING EQUATION CHECK)                     *
*          PRESSURE <= 1.27 YIELD STRESS                 *
*          *****                                         *
*          CODE EQUATION CHECKS FOR CARBON STEEL *****  *
*          PRESSURE + GRAVITY + SSE INERTIA <= 2.7 YIELD STRESS *
*          *****                                         *
*          SUPPORT LOADS REPORTED *****                *
*          DNGT = GRAVITY LOAD                            *
*          SSEI = SSE INERTIA LOAD                        *
*          SSLO = GRAVITY LOAD + SSE INERTIA LOAD        *
*****
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() NERN CALIFORNIA EDISON, SAN CRORE UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12
 PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-87 08:39:49 DYFC

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ASME BOILER AND PRESSURE VESSEL CODE
 CLASS 2 & CLASS 3 STRESS SUMMARY

STRESSES FOR EQUATION 5

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
1W	AN1	AWTT		1.81	BUCK	6777	1241	.183
1	AN1	3	1SA SA312 TP304	2.73	BUCK	6777	1241	.183
2L	1 23	3	1SA SA312 TP304	2.73	BUCK	6777	1241	.183
2W	1 23	AWW		1.81	BUCK	6777	1241	.183
2R	1 23	3	1SA SA312 TP304	1.81	BUCK	6777	1241	.183
3L	1 32	3	1SA SA312 TP304	1.81	BUCK	6777	1241	.183
3W	1 32	REDR		2.73	BUCK	6777	1241	.183
3R	1 32	R 32	ESA SA312 TP304	2.73	BUCK	6777	1594	.235
4L	V1	R 32	ESA SA312 TP304	2.73	BUCK	6777	1241	.183
4W	V1	REDR		2.73	BUCK	6777	1241	.183
4R	V1	4	1SA SA312 TP304	1.81	BUCK	6777	841	.124
5L	V2	4	1SA SA312 TP304	1.81	BUCK	6777	841	.124
5W	V2	REDR		2.73	BUCK	6777	1594	.235
5R	V2	4	1SA SA312 TP304	1.81	BUCK	6777	1594	.235
6L	E1	4	1SA SA312 TP304	1.81	BUCK	6777	1594	.235
6WL	E1	TEE 1		2.32	BUCK	6777	1594	.235
6BL	E1	E 5L	ESA SA312 TP304	2.99	BUCK	6777	1594	.235
6BR	E1	E 5L	ESA SA312 TP304	2.99	BUCK	6777	1594	.235
6WR	E1	TEE 1		2.32	BUCK	6777	1594	.235
6R	E1	4	1SA SA312 TP304	1.81	BUCK	6777	1594	.235
7	S1	4	1SA SA312 TP304	1.81	BUCK	6777	1594	.235
8L	11 12	4	1SA SA312 TP304	1.81	BUCK	6777	1594	.235
8W	11 12	AWW		1.81	BUCK	6777	1594	.235
8R	11 12	4	1SA SA312 TP304	3.18	BUCK	6777	1594	.235
9L	11 13	4	1SA SA312 TP304	3.18	BUCK	6777	1594	.235
9W	11 13	AWW		1.81	BUCK	6777	1594	.235
9R	11 13	4	1SA SA312 TP304	1.81	BUCK	6777	1594	.235
10L	11 12	4	1SA SA312 TP304	1.81	BUCK	6777	1594	.235
10W	11 12	REDR		2.73	BUCK	6777	1594	.235
10R	11 12	T 39	ESA SA312 TP304	N/A				
11L	E2	T 39	ESA SA312 TP304	N/A				

INTERNAL CALIFORNIA EDISON, SAN GABRIEL UNIT 1
 SHUTDOWN FIRING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:39:49 DYPO

STRESSES FOR EQUATION 9

SOF NAME	DCF NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
11VL	B2	TEE 1		2.32	BUCK	6777	1594	.235
11EL	B2	T 39 ESA	SA312 TP314	2.32	BUCK	6777	1594	.235
11BR	B2	T 39 ESA	SA312 TP314	2.32	BUCK	6777	1594	.235
11WR	B2	TEE 1		2.32	BUCK	6777	1594	.235
11R	B2	T 39 ESA	SA312 TP314	N/A				
12L	1133	T 39 ESA	SA312 TP314	N/A				
12W	1133	REDR		2.32	BUCK	6777	1594	.235
12R	1133	4 1SA	SA312 TP314	1.32	BUCK	6777	1594	.235
13L	1142	4 1SA	SA312 TP314	1.32	BUCK	6777	1594	.235
13W	1142	REDR		2.32	BUCK	6777	1594	.235
13R	1142	T 39 ESA	SA312 TP314	N/A				
14L	B3	T 39 ESA	SA312 TP314	N/A				
14WL	B3	TEE 1		2.32	BUCK	6777	1594	.235
14EL	B3	T 39 ESA	SA312 TP314	2.32	BUCK	6777	1594	.235
14BR	B3	T 39 ESA	SA312 TP314	2.32	BUCK	6777	1594	.235
14WF	B3	TEE 1		2.32	BUCK	6777	1594	.235
14R	B3	T 39 ESA	SA312 TP314	N/A				
15L	1153	T 39 ESA	SA312 TP314	N/A				
15W	1153	REDR		2.32	BUCK	6777	1594	.235
15R	1153	4 1SA	SA312 TP314	1.32	BUCK	6777	1594	.235
16L	V3	4 1SA	SA312 TP314	1.32	BUCK	6777	1594	.235
16W	V3	REDR		2.32	BUCK	6777	1594	.235
16R	V3	4 1SA	SA312 TP314	1.32	BUCK	6777	847	.124
17L	V4	4 1SA	SA312 TP314	1.32	BUCK	6777	847	.124
17W	V4	REDR		2.32	BUCK	6777	1594	.235
17R	V4	4 1SA	SA312 TP314	1.32	BUCK	6777	1594	.235
18	S2	4 1SA	SA312 TP314	1.32	BUCK	6777	1594	.235
19L	1192	4 1SA	SA312 TP314	1.32	BUCK	6777	1594	.235
19W	1192	ALBX		1.82	BUCK	6777	1594	.235
19R	1192	4 1SA	SA312 TP314	3.18	BUCK	6777	1594	.235
20L	1213	4 1SA	SA312 TP314	3.18	BUCK	6777	1594	.235
20W	1213	ALBX		1.82	BUCK	6777	1594	.235
20R	1213	4 1SA	SA312 TP314	1.32	BUCK	6777	1594	.235
21		4 1SA	SA312 TP314	1.32	BUCK	6777	1594	.235
22L	1213	4 1SA	SA312 TP314	1.32	BUCK	6777	1594	.235

HEPA CALIFORNIA EDISON. SAN ONOFRE UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

REV. #

SUBMITTED: 7-DEC-83

18:39:48

CYPC

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STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
22W	1212	AWBW		1.80	BUCK	6777	1594	.235
22R	1212	4	1SA SA312 TP314	3.18	BUCK	6777	1594	.235
23L	1223	4	1SA SA312 TP314	3.18	BUCK	6777	1594	.235
23W	1223	AWBW		1.80	BUCK	6777	1594	.235
23R	1223	4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235
24L	B4	4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235
24WL	B4	TEE 1		2.32	BUCK	6777	1594	.235
24BL	B4	B 50 1SA	SA312 TP314	2.32	BUCK	6777	1594	.235
24BR	B4	B 50 1SA	SA312 TP314	2.32	BUCK	6777	1594	.235
24WR	B4	TEE 1		2.32	BUCK	6777	1594	.235
24R	B4	4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235
25		4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235
26		4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235
27L	1252	4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235
27W	1252	AWBW		1.80	BUCK	6777	1594	.235
27R	1252	4	1SA SA312 TP314	3.18	BUCK	6777	1594	.235
28L	1263	4	1SA SA312 TP314	3.18	BUCK	6777	1594	.235
28W	1263	AWBW		1.80	BUCK	6777	1594	.235
28R	1263	4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235
29L	1272	4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235
29W	1272	AWBW		1.80	BUCK	6777	1594	.235
29R	1272	4	1SA SA312 TP314	3.18	BUCK	6777	1594	.235
30L	1283	4	1SA SA312 TP314	3.18	BUCK	6777	1594	.235
30W	1283	AWBW		1.80	BUCK	6777	1594	.235
30R	1283	4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235
31		4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235
32	S3	4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235
33		4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235
34		4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235
35		4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235
36		4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235
37	S4	4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235
38		4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235
39		4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235
40L	1312	4	1SA SA312 TP314	1.80	BUCK	6777	1594	.235

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:35:49 DYFC

STRESSES FOR EQUATION 8

SOP NAME	DCF NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
40W	1312	AMBW		1.87	BUCK	6777	1594	.235
40R	1312	4	1SA SA312 TP304	3.18	BUCK	6777	1594	.235
41L	1323	4	1SA SA312 TP304	3.18	BUCK	6777	1594	.235
41W	1323	AMBW		1.87	BUCK	6777	1594	.235
41R	1323	4	1SA SA312 TP304	1.87	BUCK	6777	1594	.235
42	S5	4	1SA SA312 TP304	1.87	BUCK	6777	1594	.235
43L	1342	4	1SA SA312 TP304	1.87	BUCK	6777	1594	.235
43W	1342	AMBW		1.87	BUCK	6777	1594	.235
43R	1342	4	1SA SA312 TP304	3.18	BUCK	6777	1594	.235
44L	1353	4	1SA SA312 TP304	3.18	BUCK	6777	1594	.235
44W	1353	AMBW		1.87	BUCK	6777	1594	.235
44R	1353	4	1SA SA312 TP304	1.87	BUCK	6777	1594	.235
45		4	1SA SA312 TP304	1.87	BUCK	6777	1594	.235
46L	B5	4	1SA SA312 TP304	1.87	BUCK	6777	1594	.235
46WL	B5	TEE 1		2.32	BUCK	6777	1594	.235
46BL	B5	B 50	1SA SA312 TP304	2.32	BUCK	6777	1594	.235
46BR	B5	B 50	1SA SA312 TP304	2.32	BUCK	6777	1594	.235
46WR	B5	TEE 1		2.32	BUCK	6777	1594	.235
46R	B5	4	1SA SA312 TP304	1.87	BUCK	6777	1594	.235
47	S6	4	1SA SA312 TP304	1.87	BUCK	6777	1594	.235
48		4	1SA SA312 TP304	1.87	BUCK	6777	1594	.235
49		4	1SA SA312 TP304	1.87	BUCK	6777	1594	.235
50		4	1SA SA312 TP304	1.87	BUCK	6777	1594	.235
51	S7	4	1SA SA312 TP304	1.87	BUCK	6777	1594	.235
52	S8	4	1SA SA312 TP304	1.87	BUCK	6777	1594	.235
53L	1412	4	1SA SA312 TP304	1.87	BUCK	6777	1594	.235
53W	1412	AMBW		1.87	BUCK	6777	1594	.235
53R	1412	4	1SA SA312 TP304	3.18	BUCK	6777	1594	.235
54L	1423	4	1SA SA312 TP304	3.18	BUCK	6777	1594	.235
54W	1423	AMBW		1.87	BUCK	6777	1594	.235
54R	1423	4	1SA SA312 TP304	1.87	BUCK	6777	1594	.235
55		4	1SA SA312 TP304	1.87	BUCK	6777	1594	.235
56L	1432	4	1SA SA312 TP304	1.87	BUCK	6777	1594	.235
56W	1432	AMBW		1.87	BUCK	6777	1594	.235
56R	1432	4	1SA SA312 TP304	3.18	BUCK	6777	1594	.235

SOUTHERN CALIFORNIA EDISON. SAN GABRIEL UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:35:49 DYPG

STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
57L	1443	4	1SA	SA312	TP304	3.18	BUCK	6777	1594	.235
57W	1443	AWBW				1.80	BUCK	6777	1594	.235
57R	1443	4	1SA	SA312	TP304	1.80	BUCK	6777	1594	.235
58	S9	4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
59L	B6	4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
59WL	B6	TEE 1				2.32	BUCK	6777	1594	.235
59BL	B6	B 50	ESA	SA312	TP304	2.99	BUCK	6777	1594	.235
59BR	B6	B 50	ESA	SA312	TP304	2.99	BUCK	6777	1594	.235
59WR	B6	TEE 1				2.32	BUCK	6777	1594	.235
59R	B6	4	1SA	SA312	TP304	1.80	BUCK	6777	1594	.235
60L	1482	4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
60W	1482	AWBW				1.80	BUCK	6777	1594	.235
60R	1482	4	1SA	SA312	TP304	3.18	BUCK	6777	1594	.235
61L	V5	4	1SA	SA312	TP304	3.18	BUCK	6777	1594	.235
61W	V5	AWBW				1.80	BUCK	6777	1594	.235
61R	V5	4	1SA	SA312	TP304	1.80	BUCK	6777	843	.124
62L	V6	4	1SA	SA312	TP304	1.80	BUCK	6777	843	.124
62W	V6	PEDR				2.73	BUCK	6777	1594	.235
62R	V6	R 32	ESA	SA312	TP304	2.73	BUCK	6777	1594	.235
63L	1512	R 32	ESA	SA312	TP304	2.73	BUCK	6777	124	.183
63W	1512	PEDR				2.73	BUCK	6777	124	.183
63R	1512	3	1SA	SA312	TP304	1.80	BUCK	6777	124	.183
64L	1522	3	1SA	SA312	TP304	1.80	BUCK	6777	124	.183
64W	1522	AWBW				1.80	BUCK	6777	124	.183
64R	1522	3	1SA	SA312	TP304	2.73	BUCK	6777	124	.183
65L	1542	3	1SA	SA312	TP304	2.73	BUCK	6777	124	.183
65W	1542	AWBW				1.80	BUCK	6777	124	.183
65R	1542	3	1SA	SA312	TP304	1.80	BUCK	6777	124	.183
66	AN2	3	1SA	SA312	TP304	1.80	BUCK	6777	124	.183
66W	AN2	AWTT				1.80	BUCK	6777	124	.183
67	AN2	2	1SA	SA312	TP304	1.80	BUCK	6777	927	.137
68		2	1SA	SA312	TP304	1.80	BUCK	6777	927	.137
69	S17	1	1SA	SA312	TP304	1.80	BUCK	6777	927	.137
70L	2 22	2	1SA	SA312	TP304	1.80	BUCK	6777	927	.137
70W	2 22	FILA				2.10	BUCK	6777	927	.137

INTERNAL CALIFORNIA EDISON, SAN GABRIEL UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

REV. #

SUBMITTED: 3-DEC-83

08:39:49

DYPO

STRESSES FOR EQUATION 8

SOF NAME	DCF NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
70R	2 22	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.068
71L	2 33	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.068
71W	2 33	FILW				2.10	BUCK	6777	927	.137
71R	2 33	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
72	S16	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
73		2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
74		2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
75L	2 52	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
75W	2 52	2.25				2.25	BUCK	6777	927	.137
75R	2 52	T37	3KA	SA312	TP304	N/A				
76L	B10	T37	3KA	SA312	TP304	N/A				
76WL	B10	FILW				2.10	BUCK	6777	464	.068
76BL	B10	T37	3KA	SA312	TP304	1.45	BUCK	6777	464	.068
76BR	B10	T37	3KA	SA312	TP304	1.45	BUCK	6777	464	.068
76WR	B10	FILW				2.10	BUCK	6777	464	.068
76R	R1	T37	3KA	SA312	TP304	N/A				
77L	2 63	T37	3KA	SA312	TP304	N/A				
77W	2 63	2.25				2.25	BUCK	6777	927	.137
77R	2 63	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
78L	2 72	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
78W	2 72	FILW				2.10	BUCK	6777	927	.137
78R	2 72	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.068
79L	2 83	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.068
79W	2 83	FILW				2.10	BUCK	6777	927	.137
79R	2 83	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
80L	2 92	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
80W	2 92	FILW				2.10	BUCK	6777	927	.137
80R	2 92	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
81		2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
82	AN6	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
83W	AN6	FILW				2.10	BUCK	6777	927	.137
83	AN6	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
84L	3 22	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
84W	3 22	2.25				2.25	BUCK	6777	927	.137
84R	3 22	T37	3KA	SA312	TP304	N/A				
85L	B15	T37	3KA	SA312	TP304	N/A				

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

REV. #

SUBMITTED: 3-DEC-83 18:38:48

DYPC

STRESSES FOR EQUATION 8

SOP NAME	DCF NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
85WL	B15	FILW		2.11	BUCK	6777	464	.668
85BL	B15	T37	3KA SA312 TP314	1.45	BUCK	6777	464	.668
85BR	B15	T37	3KA SA312 TP314	1.45	BUCK	6777	464	.668
85WR	B15	FILW		2.11	BUCK	6777	464	.668
85R	B15	T37	3KA SA312 TP314	N/A				
86L	3 33	T37	3KA SA312 TP314	N/A				
86W	3 33	2.25		2.25	BUCK	6777	927	.137
86R	3 33	2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
87	3 42	2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
87W	3 42	FILW		2.11	BUCK	6777	927	.137
88W	AN11	FILW		2.11	BUCK	6777	4613	.679
88	AN11	.75	8SA SA312 TP314	1.00	BUCK	6777	4613	.679
89L	4 22	.75	8SA SA312 TP314	1.00	BUCK	6777	4613	.679
89W	4 22	2.25		2.25	BUCK	6777	4613	.679
89R	4 22	T11	3KA SA312 TP314	N/A				
90L	P17	T11	3KA SA312 TP314	N/A				
90WL	B17	FILW		2.11	BUCK	6777	4613	.679
90BL	B17	T11	3KA SA312 TP314	1.01	BUCK	6777	4613	.679
90BR	B17	T11	3KA SA312 TP314	1.01	BUCK	6777	4613	.679
90WR	B17	FILW		2.11	BUCK	6777	4613	.679
90R	B17	T11	3KA SA312 TP314	N/A				
91L	4 33	T11	3KA SA312 TP314	N/A				
91W	4 33	2.25		2.25	BUCK	6777	4613	.679
91R	4 33	.75	8SA SA312 TP314	1.00	BUCK	6777	4613	.679
92L	4 42	.75	8SA SA312 TP314	1.00	BUCK	6777	4613	.679
92W	4 42	FILW		2.11	BUCK	6777	4613	.679
92R	4 42	*	SA312 TP314	1.25	BUCK	6777	4613	.679
93L	4 53	*	SA312 TP314	1.25	BUCK	6777	4613	.679
93W	4 53	FILW		2.11	BUCK	6777	4613	.679
93R	4 53	.75	8SA SA312 TP314	1.00	BUCK	6777	4613	.679
94		.75	8SA SA312 TP314	1.00	BUCK	6777	4613	.679
95L	V27	.75	8SA SA312 TP314	1.00	BUCK	6777	4613	.679
95W	V27	2.25		2.25	BUCK	6777	4613	.679
95R	V27	.75	16A SA312 TP314	1.00	BUCK	6777	2977	.439
96L	V26	.75	16A SA312 TP314	1.00	BUCK	6777	2977	.439

SOUTHERN CALIFORNIA EDISON, SAN GABRIEL UNIT 1
SHUTDOWN FIRING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 08:39:49 BYPC

STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
96W	V28	2.25		2.25	BUCK	6777	4613	.679
96R	V28	.75	8SA	SA312	TP304	6777	4613	.679
97	S35	.75	8SA	SA312	TP304	6777	4613	.679
98		.75	8SA	SA312	TP304	6777	4613	.679
99L	4 92	.75	8SA	SA312	TP304	6777	4613	.679
99W	4 92	FILW		2.10	BUCK	6777	4613	.679
99R	4 92	*	SA312	TP304	6777	4613	.679	
100L	4103	*	SA312	TP304	6777	4613	.679	
100W	4103	FILW		2.10	BUCK	6777	4613	.679
100R	4103	.75	8SA	SA312	TP304	6777	4613	.679
101		.75	8SA	SA312	TP304	6777	4613	.679
102	S36	.75	8SA	SA312	TP304	6777	4613	.679
103		.75	8SA	SA312	TP304	6777	4613	.679
104		.75	8SA	SA312	TP304	6777	4613	.679
105		.75	8SA	SA312	TP304	6777	4613	.679
106L	4122	.75	8SA	SA312	TP304	6777	4613	.679
106W	4122	FILW		2.10	BUCK	6777	4613	.679
106R	4122	.75	43KA	SA312	TP304	6777	4613	.679
107L	4133	.75	43KA	SA312	TP304	6777	4613	.679
107W	4133	FILW		2.10	BUCK	6777	4613	.679
107R	4133	.75	8SA	SA312	TP304	6777	4613	.679
108L	4142	.75	8SA	SA312	TP304	6777	4613	.679
108W	4142	FILW		2.10	BUCK	6777	4613	.679
108R	4142	*	SA312	TP304	6777	4613	.679	
109L	4153	*	SA312	TP304	6777	4613	.679	
109W	4153	FILW		2.10	BUCK	6777	4613	.679
109R	4153	.75	8SA	SA312	TP304	6777	4613	.679
110	AN12	.75	8SA	SA312	TP304	6777	4613	.679
110W	AN12	2.25		2.25	BUCK	6777	4613	.679
111	AN15	2	1SA	SA312	TP304	6777	927	.137
112L	5 22	2	1SA	SA312	TP304	6777	927	.137
112W	5 22	2.25		2.25	BUCK	6777	927	.137
112R	5 22	T37	3KA	SA312	TP304	6777		
113L	52	T37	3KA	SA312	TP304	6777		
113W	52	FILW		2.1	BUCK	6777	4613	.679

SOUTHERN CALIFORNIA EDISON. SAN Geronimo UNIT 1
SALE SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:39:49 DYPG

STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
113EL	B20	T37	3KA	SA312	TP304	1.45 BUCK	6777	464 .168
113RF	B20	T37	3KA	SA312	TP304	1.45 BUCK	6777	464 .168
113WR	B20	FILW				2.10 BUCK	6777	464 .168
113R	B20	T37	3KA	SA312	TP304	N/A		
114L	5 33	T37	3KA	SA312	TP304	N/A		
114W	5 33	2.25				2.25 BUCK	6777	927 .137
114R	5 33	2	1SA	SA312	TP304	1.78 BUCK	6777	927 .137
115	S61	2	1SA	SA312	TP304	1.78 BUCK	6777	927 .137
116W	B20	FILW				2.10 BUCK	6777	464 .168
116	B20	T37	3KA	SA312	TP304	1.45 BUCK	6777	464 .168
117L	6 14	T37	3KA	SA312	TP304	N/A		
117W	6 14	2.25				2.25 BUCK	6777	927 .137
117R	6 14	2	1SA	SA312	TP304	1.78 BUCK	6777	927 .137
118L	V38	2	1SA	SA312	TP304	1.78 BUCK	6777	927 .137
118W	V38	2.25				2.25 BUCK	6777	927 .137
118R	V38	2	1SA	SA312	TP304	1.78 BUCK	6777	927 .137
119L	V37	2	1SA	SA312	TP304	1.78 BUCK	6777	927 .137
119W	V37	FEDR				2.10 BUCK	6777	927 .137
119R	V37	2	1SA	SA312	TP304	1.78 BUCK	6777	927 .137
120L	6 42	2	1SA	SA312	TP304	1.78 BUCK	6777	927 .137
120W	6 42	FILW				2.10 BUCK	6777	927 .137
120R	6 42	2	3KA	SA312	TP304	1.78 BUCK	6777	464 .168
121L	6 53	2	3KA	SA312	TP304	1.78 BUCK	6777	464 .168
121W	6 53	FILW				2.10 BUCK	6777	927 .137
121R	6 53	2	1SA	SA312	TP304	1.78 BUCK	6777	927 .137
122L	6 62	2	1SA	SA312	TP304	1.78 BUCK	6777	927 .137
122W	6 62	FILW				2.10 BUCK	6777	927 .137
122R	6 62	2	3KA	SA312	TP304	1.78 BUCK	6777	464 .168
123L	6 73	2	3KA	SA312	TP304	1.78 BUCK	6777	464 .168
123W	6 73	FILW				2.10 BUCK	6777	927 .137
123R	6 73	2	1SA	SA312	TP304	1.78 BUCK	6777	927 .137
124L	V36	2	1SA	SA312	TP304	1.78 BUCK	6777	927 .137
124W	V36	2.25				2.25 BUCK	6777	927 .137
124R	V36	2	1SA	SA312	TP304	1.78 BUCK	6777	927 .137
125L	V35	2	1SA	SA312	TP304	1.78 BUCK	6777	927 .137

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 16:39:48 DYPO

STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
125W	V35	REDR		2.00	BUCK	6777	927	.137
125R	V35	2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
126L	V34	2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
126W	V34	2.25		2.25	BUCK	6777	927	.137
126R	V34	2	16A SA312 TP314	1.00	BUCK	6777	516	.175
127L	V33	2	16A SA312 TP314	1.00	BUCK	6777	516	.175
127W	V33	REDR		2.00	BUCK	6777	927	.137
127R	V33	2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
128L	6122	2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
128W	6122	FILW		2.10	BUCK	6777	927	.137
128R	6122	2	3KA SA312 TP314	1.78	BUCK	6777	464	.168
129L	6133	2	3KA SA312 TP314	1.78	BUCK	6777	464	.168
129W	6133	FILW		2.10	BUCK	6777	927	.137
129R	6133	2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
130		2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
131	S61	2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
132		2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
133		2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
134	S59	2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
135L	6162	2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
135W	6162	FILW		2.10	BUCK	6777	927	.137
135R	6162	2	3KA SA312 TP314	1.78	BUCK	6777	464	.168
136L	6173	2	3KA SA312 TP314	1.78	BUCK	6777	464	.168
136W	6173	FILW		2.10	BUCK	6777	927	.137
136R	6173	2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
137	S58	2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
138		2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
139		2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
140		2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
141		2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
142L	6182	2	1SA SA312 TP314	1.00	BUCK	6777	927	.137
142W	6182	FILW		2.10	BUCK	6777	927	.137
142R	6182	2	3KA SA312 TP314	1.78	BUCK	6777	464	.168
143L	6213	2	3KA SA312 TP314	1.78	BUCK	6777	464	.168
143W	6213	FILW		2.10	BUCK	6777	927	.137

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 9:35:49 DYPCO

STRESSES FOR EQUATION 2

SOF NAME	ICP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
143R	6213	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
144L	6212	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
144W	6212	FILW				2.10	BUCK	6777	927	.137
144R	6212	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.168
145L	6223	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.168
145W	6223	FILW				2.10	BUCK	6777	927	.137
145R	6223	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
146		2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
147	S57	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
148		2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
149		2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
150	S56	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
151		2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
152		2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
153	S55	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
154		2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
155		2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
156		2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
157		2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
158	S54	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
159	S53	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
160		2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
161		2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
162L	6282	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
162W	6282	FILW				2.10	BUCK	6777	927	.137
162R	6282	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.168
163L	6293	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.168
163W	6293	FILW				2.10	BUCK	6777	927	.137
163R	6293	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
164	S52	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
165L	6312	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
165W	6312	FILW				2.10	BUCK	6777	927	.137
165R	6312	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.168
166L	6323	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.168
166W	6323	FILW				2.10	BUCK	6777	927	.137

HERN CALIFORN EDISON. SAN ONOFRE UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12
 PROBLEM # CV12 REV. #

SUBMITTED: 3-DEC-83 16:35:45 DYPO

STRESSES FOR EQUATION 9

SOP NAME	DOF NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
166R	6323	2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137
167	SE1	2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137
168		2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137
169		2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137
170		2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137
171	SE1	2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137
172L	6352	2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137
172W	6352	FILW				2.10	BUCK 6777	927 .137
172R	6352	2	3KA	SA312	TP304	1.78	BUCK 6777	464 .168
173L	6363	2	3KA	SA312	TP304	1.78	BUCK 6777	464 .168
173W	6363	FILW				2.10	BUCK 6777	927 .137
173R	6363	2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137
174L	6372	2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137
174W	6372	FILW				2.10	BUCK 6777	927 .137
174P	6372	2	3KA	SA312	TP304	1.78	BUCK 6777	464 .168
175L	6383	2	3KA	SA312	TP304	1.78	BUCK 6777	464 .168
175W	6383	FILW				2.10	BUCK 6777	927 .137
175R	6383	2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137
176		2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137
177L	6392	2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137
177W	6392	FILW				2.10	BUCK 6777	927 .137
177P	6392	2	3KA	SA312	TP304	1.78	BUCK 6777	464 .168
178L	6403	2	3KA	SA312	TP304	1.78	BUCK 6777	464 .168
178W	6403	FILW				2.10	BUCK 6777	927 .137
178P	6403	2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137
179	S40	2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137
180		2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137
181		2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137
182	S40	2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137
183L	6432	2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137
183W	6432	FILW				2.10	BUCK 6777	927 .137
183P	6432	2	3KA	SA312	TP304	1.78	BUCK 6777	464 .168
184L	6443	2	3KA	SA312	TP304	1.78	BUCK 6777	464 .168
184W	6443	FILW				2.10	BUCK 6777	927 .137
184P	6443	2	1SA	SA312	TP304	1.77	BUCK 6777	927 .137

HERN CALIFORN EDISON, SAN ONOPE UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # 1 SUBMITTED: 3-DEC-83 16:39:49 DYPO

STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
185L	6452	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
185W	6452	FILW				2.11	BUCK	6777	927	.137
185R	6452	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.668
186L	6463	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.668
186W	6463	FILW				2.11	BUCK	6777	927	.137
186R	6463	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
187	S47	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
188		2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
189L	6482	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
189W	6482	FILW				2.11	BUCK	6777	927	.137
189R	6482	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.668
190L	6493	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.668
190W	6493	FILW				2.11	BUCK	6777	927	.137
190R	6493	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
191L	6502	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
191W	6502	2.25				2.25	BUCK	6777	927	.137
191R	6502	T37	3KA	SA312	TP304	N/A				
192	B19	T37	3KA	SA312	TP304	1.45	BUCK	6777	464	.668
192W	B19	FILW				2.11	BUCK	6777	464	.668
193W	B17	FILW				2.11	BUCK	6777	464	.679
193	B17	T11	3KA	SA312	TP304	1.01	BUCK	6777	464	.679
194L	7 14	T11	3KA	SA312	TP304	N/A				
194W	7 14	2.25				2.25	BUCK	6777	464	.679
194R	7 14	.75	8SA	SA312	TP304	1.00	BUCK	6777	464	.679
195L	7 22	.75	8SA	SA312	TP304	1.00	BUCK	6777	464	.679
195W	7 22	2.25				2.25	BUCK	6777	464	.679
195R	7 22	T11	3KA	SA312	TP304	N/A				
196L	B16	T11	3KA	SA312	TP304	N/A				
196WL	B16	FILW				2.11	BUCK	6777	464	.679
196BL	B16	T11	3KA	SA312	TP304	1.01	BUCK	6777	464	.679
196BR	B16	T11	3KA	SA312	TP304	1.01	BUCK	6777	464	.679
196WR	B16	FILW				2.11	BUCK	6777	464	.679
196R	B16	T11	3KA	SA312	TP304	N/A				
197L	7 33	T11	3KA	SA312	TP304	N/A				
197W	7 33	2.25				2.25	BUCK	6777	464	.679

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

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STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
197R	7 33	.75	8SA	SA312	TP304	1.11	BUCK	6777	4613	.679
198L	7 42	.75	8SA	SA312	TP304	1.11	BUCK	6777	4613	.679
198W	7 42	2.25				2.25	BUCK	6777	4613	.679
198R	7 42	T11	3KA	SA312	TP304	N/A				
199L	B18	T11	3KA	SA312	TP304	N/A				
199WL	B18	FILW				2.11	BUCK	6777	4613	.679
199BL	B18	T11	3KA	SA312	TP304	1.11	BUCK	6777	4613	.679
199BR	B18	T11	3KA	SA312	TP304	1.11	BUCK	6777	4613	.679
199WR	B18	FILW				2.11	BUCK	6777	4613	.679
199R	B18	T11	3KA	SA312	TP304	N/A				
200L	7 53	T11	3KA	SA312	TP304	N/A				
200W	7 53	2.25				2.25	BUCK	6777	4613	.679
200R	7 53	.75	8SA	SA312	TP304	1.11	BUCK	6777	4613	.679
201	S33	.75	8SA	SA312	TP304	1.11	BUCK	6777	4613	.679
202L	V24	.75	8SA	SA312	TP304	1.11	BUCK	6777	4613	.679
202W	V24	2.25				2.25	BUCK	6777	4613	.679
202R	V24	.75	16A	SA312	TP304	1.11	BUCK	6777	2977	.439
203L	V25	.75	16A	SA312	TP304	1.11	BUCK	6777	2977	.439
203W	V25	2.25				2.25	BUCK	6777	4613	.679
203R	V25	.75	8SA	SA312	TP304	1.11	BUCK	6777	4613	.679
204		.75	8SA	SA312	TP304	1.11	BUCK	6777	4613	.679
205L	7 92	.75	8SA	SA312	TP304	1.11	BUCK	6777	4613	.679
205W	7 92	FILW				2.11	BUCK	6777	4613	.679
205R	7 92	*		SA312	TP304	1.25	BUCK	6777	4613	.679
206L	7113	*		SA312	TP304	1.25	BUCK	6777	4613	.679
206W	7113	FILW				2.11	BUCK	6777	4613	.679
206R	7113	.75	8SA	SA312	TP304	1.11	BUCK	6777	4613	.679
207		.75	8SA	SA312	TP304	1.11	BUCK	6777	4613	.679
208	S34	.75	8SA	SA312	TP304	1.11	BUCK	6777	4613	.679
209		.75	8SA	SA312	TP304	1.11	BUCK	6777	4613	.679
210		.75	8SA	SA312	TP304	1.11	BUCK	6777	4613	.679
211		.75	8SA	SA312	TP304	1.11	BUCK	6777	4613	.679
212L	7122	.75	8SA	SA312	TP304	1.11	BUCK	6777	4613	.679
212W	7122	FILW				2.11	BUCK	6777	4613	.679
212R	7122	*		SA312	TP304	1.25	BUCK	6777	4613	.679

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

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STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
213L	7133	*	SA312 TP304	1.25	BUCK	6777	4613	.679
213W	7133	FILW		2.10	BUCK	6777	4613	.679
213R	7133	.75 8SA	SA312 TP304	1.25	BUCK	6777	4613	.679
214	AN1	.75 8SA	SA312 TP304	1.01	BUCK	6777	4613	.679
214W	AN1	2.25		2.25	BUCK	6777	4613	.679
215W	B16	FILW		2.10	BUCK	6777	4613	.679
215	B16	T11 3KA	SA312 TP304	1.01	BUCK	6777	4613	.679
216L	8 14	T11 3KA	SA312 TP304	N/A				
216W	8 14	2.25		2.25	BUCK	6777	4613	.679
216R	8 14	.75 16A	SA312 TP304	1.00	BUCK	6777	2977	.439
217	V26	.75 16A	SA312 TP304	1.00	BUCK	6777	2977	.439
217W	V26	FILW		2.10	BUCK	6777	2977	.439
218W	B16	FILW		2.10	BUCK	6777	4613	.679
218	B16	T11 3KA	SA312 TP304	1.01	BUCK	6777	4613	.679
219L	9 14	T11 3KA	SA312 TP304	N/A				
219W	9 14	2.25		2.25	BUCK	6777	4613	.679
219R	9 14	.75 8SA	SA312 TP304	1.01	BUCK	6777	4613	.679
220L	9 21	.75 8SA	SA312 TP304	1.00	BUCK	6777	4613	.679
220W	9 21	FILW		2.10	BUCK	6777	4613	.679
220R	9 21	*	SA312 TP304	1.25	BUCK	6777	4613	.679
221L	9 23	*	SA312 TP304	1.25	BUCK	6777	4613	.679
221W	9 23	FILW		2.10	BUCK	6777	4613	.679
221R	9 23	.75 8SA	SA312 TP304	1.00	BUCK	6777	4613	.679
222L	V23	.75 8SA	SA312 TP304	1.00	BUCK	6777	4613	.679
222W	V23	2.25		2.25	BUCK	6777	4613	.679
222R	V23	2 16A	SA312 TP304	1.00	BUCK	6777	516	.75
223L	V22	2 16A	SA312 TP304	1.00	BUCK	6777	516	.75
223W	V22	AVBW		1.00	BUCK	6777	516	.75
223R	V22	2 16A	SA312 TP304	1.00	BUCK	6777	516	.75
224L	V21	2 16A	SA312 TP304	1.00	BUCK	6777	516	.75
224W	V21	PERE		2.10	BUCK	6777	927	.137
224R	V21	2 16A	SA312 TP304	1.00	BUCK	6777	927	.137
225L	9 62	2 16A	SA312 TP304	1.00	BUCK	6777	927	.137
225W	9 62	FILW		2.10	BUCK	6777	927	.137
225R	9 62	2 3KA	SA312 TP304	1.00	BUCK	6777	4613	.679

SOUTHERN CALIFORNIA EDISON. SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

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STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
226L	9 73	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.168
226W	9 73	FILW				2.1	BUCK	6777	927	.137
226R	9 73	2	1SA	SA312	TP304	1.1	BUCK	6777	927	.137
227L	9 82	2	1SA	SA312	TP304	1.1	BUCK	6777	927	.137
227W	9 82	FILW				2.1	BUCK	6777	927	.137
227R	9 82	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.168
228L	9 93	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.168
228W	9 93	FILW				2.1	BUCK	6777	927	.137
228R	9 93	2	1SA	SA312	TP304	1.1	BUCK	6777	927	.137
229L	9 1.2	2	1SA	SA312	TP304	1.1	BUCK	6777	927	.137
229W	9 1.2	2.25				2.25	BUCK	6777	927	.137
229R	9 1.2	T37	3KA	SA312	TP304	N/A				
230	B14	T37	3KA	SA312	TP304	1.45	BUCK	6777	464	.168
230W	B14	FILW				2.1	BUCK	6777	464	.168
231W	B15	FILW				2.1	BUCK	6777	464	.168
231	B15	T37	3KA	SA312	TP304	1.45	BUCK	6777	464	.168
232L	1 14	T37	3KA	SA312	TP304	N/A				
232W	1 14	2.25				2.25	BUCK	6777	927	.137
232R	1 14	2	1SA	SA312	TP304	1.1	BUCK	6777	927	.137
233L	1 22	2	1SA	SA312	TP304	1.1	BUCK	6777	927	.137
233W	1 22	2.25				2.25	BUCK	6777	927	.137
233R	1 22	T37	3KA	SA312	TP304	N/A				
234L	B14	T37	3KA	SA312	TP304	N/A				
234WL	B14	FILW				2.1	BUCK	6777	464	.168
234BL	B14	T37	3KA	SA312	TP304	1.45	BUCK	6777	464	.168
234BR	B14	T37	3KA	SA312	TP304	1.45	BUCK	6777	464	.168
234WR	B14	FILW				2.1	BUCK	6777	464	.168
234R	B14	T37	3KA	SA312	TP304	N/A				
235L	1 33	T37	3KA	SA312	TP304	N/A				
235W	33	2.25				2.25	BUCK	6777	927	.137
235R	33	2	1SA	SA312	TP304	1.1	BUCK	6777	927	.137
236L	V2	2	1SA	SA312	TP304	1.1	BUCK	6777	927	.137
236W	V2	2.25				2.25	BUCK	6777	927	.137
236R	V2	2	1SA	SA312	TP304	1.1	BUCK	6777	927	.137
237L	V10	2	1SA	SA312	TP304	1.1	BUCK	6777	927	.137

SOUTHERN CALIFORNIA EDISON, SAN GABRIEL UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
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PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-63 18:39:49 DYFC

STRESSES FOR EQUATION 6

SOF NAME	DOF NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
237W	V19	REDR		2.11	BUCK	6777	927	.137
237R	V19	2	1SA S4312 TP314	1.77	BUCK	6777	927	.137
238L	162	2	1SA S4312 TP314	1.78	BUCK	6777	927	.137
238W	62	FILW		2.11	BUCK	6777	927	.137
238R	62	2	3KA S4312 TP314	1.78	BUCK	6777	464	.168
239L	73	2	3KA S4312 TP314	1.78	BUCK	6777	464	.168
239W	73	FILW		2.11	BUCK	6777	927	.137
239R	73	2	1SA S4312 TP314	1.78	BUCK	6777	927	.137
240	S32	2	1SA S4312 TP314	1.78	BUCK	6777	927	.137
241L	1112	2	1SA S4312 TP314	1.78	BUCK	6777	927	.137
241W	1112	FILW		2.11	BUCK	6777	927	.137
241R	1112	2	3KA S4312 TP314	1.78	BUCK	6777	464	.168
242L	1123	2	3KA S4312 TP314	1.78	BUCK	6777	464	.168
242W	1123	FILW		2.11	BUCK	6777	927	.137
242R	1123	2	1SA S4312 TP314	1.78	BUCK	6777	927	.137
243		2	1SA S4312 TP314	1.78	BUCK	6777	927	.137
244L	1132	2	1SA S4312 TP314	1.78	BUCK	6777	927	.137
244W	1132	FILW		2.11	BUCK	6777	927	.137
244R	1132	2	3KA S4312 TP314	1.78	BUCK	6777	464	.168
245L	1143	2	3KA S4312 TP314	1.78	BUCK	6777	464	.168
245W	1143	FILW		2.11	BUCK	6777	927	.137
245R	1143	2	1SA S4312 TP314	1.78	BUCK	6777	927	.137
246	S31	2	1SA S4312 TP314	1.78	BUCK	6777	927	.137
247		2	1SA S4312 TP314	1.78	BUCK	6777	927	.137
248		2	1SA S4312 TP314	1.78	BUCK	6777	927	.137
249L	162	2	1SA S4312 TP314	1.78	BUCK	6777	927	.137
249W	162	FILW		2.11	BUCK	6777	927	.137
249R	162	2	3KA S4312 TP314	1.78	BUCK	6777	464	.168
250L	173	2	3KA S4312 TP314	1.78	BUCK	6777	464	.168
250W	173	FILW		2.11	BUCK	6777	927	.137
250R	173	2	1SA S4312 TP314	1.78	BUCK	6777	927	.137
251	S31	2	1SA S4312 TP314	1.78	BUCK	6777	927	.137
252		2	1SA S4312 TP314	1.78	BUCK	6777	927	.137
253		2	1SA S4312 TP314	1.78	BUCK	6777	927	.137
254		2	1SA S4312 TP314	1.78	BUCK	6777	927	.137

SOUTHERN CALIFORNIA EDISON, SAN JOSE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:35:49 BYFC

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STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
255L	A192	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
255W	A192	FILW				2.10	BUCK	6777	927	.137
255R	A192	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.268
256L	A203	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.268
256W	A203	FILW				2.10	BUCK	6777	927	.137
256R	A203	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
257L	A212	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
257W	A212	2.25				2.25	BUCK	6777	927	.137
257R	A212	B 50	1SA	SA312	TP304	N/A				
258	B4	F 50	1SA	SA312	TP304	2.32	BUCK	6777	927	.137
258W	B4	TEE 1				2.32	BUCK	6777	927	.137
259W	B10	FILW				2.10	BUCK	6777	464	.268
259	B10	T37	3KA	SA312	TP304	1.45	BUCK	6777	464	.268
260L	A 14	T37	3KA	SA312	TP304	N/A				
260W	A 14	2.25				2.25	BUCK	6777	927	.137
260R	A 14	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
261L	V10	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
261W	V10	2.25				2.25	BUCK	6777	927	.137
261R	V10	2	1SA	SA312	TP304	1.78	BUCK	6777	506	.275
262L	VOP1	2	1SA	SA312	TP304	1.78	BUCK	6777	506	.275
262W	VOP1	A&BW				1.80	BUCK	6777	506	.275
262R	VOP1	2	1SA	SA312	TP304	1.78	BUCK	6777	506	.275
263L	V9	2	1SA	SA312	TP304	1.78	BUCK	6777	506	.275
263W	V9	FEDR				2.10	BUCK	6777	927	.137
263R	V9	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
264L	A 52	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
264W	A 52	FILW				2.10	BUCK	6777	927	.137
264R	A 52	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.268
265L	A 67	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.268
265W	A 67	FILW				2.10	BUCK	6777	927	.137
265R	A 67	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
266	S15	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
267		2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
268L	A 80	2	1SA	SA312	TP304	1.78	BUCK	6777	927	.137
268W	A 80	FILW				2.10	BUCK	6777	927	.137

HERM CALIFORN EDISON. SAN ONOFRE UNIT 1
SHUTDOWN FIRING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM = CV12 REV. # SUBMITTED: 3-DEC-83 19:39:49 DYPC

STRESSES FOR EQUATION 9

SOF NAME	DOF NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
268R	A 82	2	3KA	SA312	TP3 4	1.78 BUCK	6777	464 .168
269L	A 93	2	3KA	SA312	TP3 4	1.78 BUCK	6777	464 .168
269W	A 93	FILW				2.10 BUCK	6777	927 .137
269R	A 93	2	1SA	SA312	TP3 4	1.78 BUCK	6777	927 .137
271		2	1SA	SA312	TP3 4	1.78 BUCK	6777	927 .137
271L	A112	2	1SA	SA312	TP3 4	1.78 BUCK	6777	927 .137
271W	A112	FILW				2.10 BUCK	6777	927 .137
271R	A112	2	3KA	SA312	TP3 4	1.78 BUCK	6777	464 .168
272L	A113	2	3KA	SA312	TP3 4	1.78 BUCK	6777	464 .168
272W	A113	FILW				2.10 BUCK	6777	927 .137
272R	A113	2	1SA	SA312	TP3 4	1.78 BUCK	6777	927 .137
273		2	1SA	SA312	TP3 4	1.78 BUCK	6777	927 .137
274		2	1SA	SA312	TP3 4	1.78 BUCK	6777	927 .137
275	S14	2	1SA	SA312	TP3 4	1.78 BUCK	6777	927 .137
276	S13	2	1SA	SA312	TP3 4	1.78 BUCK	6777	927 .137
277		2	1SA	SA312	TP3 4	1.78 BUCK	6777	927 .137
278		2	1SA	SA312	TP3 4	1.78 BUCK	6777	927 .137
279		2	1SA	SA312	TP3 4	1.78 BUCK	6777	927 .137
280L	A142	2	1SA	SA312	TP3 4	1.78 BUCK	6777	927 .137
281W	A142	FILW				2.10 BUCK	6777	927 .137
281R	A142	2	3KA	SA312	TP3 4	1.78 BUCK	6777	464 .168
281L	A153	2	3KA	SA312	TP3 4	1.78 BUCK	6777	464 .168
281W	A153	FILW				2.10 BUCK	6777	927 .137
281R	A153	2	1SA	SA312	TP3 4	1.78 BUCK	6777	927 .137
282L	A162	2	1SA	SA312	TP3 4	1.78 BUCK	6777	927 .137
282W	A162	2.25				2.25 BUCK	6777	927 .137
282R	A162	2.25	1SA	SA312	TP3 4	N/A		
283	R5	2.5	1SA	SA312	TP3 4	2.32 BUCK	6777	927 .137
283W	R5	TEE 1				2.32 BUCK	6777	927 .137
284	R5	TEE 1				2.32 BUCK	6777	927 .137
284	R5	2.5	BSA	SA312	TP3 4	2.50 BUCK	6777	927 .137
285L	C 13	2.5	BSA	SA312	TP3 4	N/A		
285W	C 13	FEED				2.50 BUCK	6777	927 .137
285R	C 13	2	BSA	SA312	TP3 4	1.78 BUCK	6777	927 .137
286L	C 21	2	BSA	SA312	TP3 4	1.78 BUCK	6777	927 .137

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
 SHUTDOW FIFING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-87 18:39:49 DYPC

STRESSES FOR EQUATION 8

SOP NAME	DOF NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
286W	C 22	FILW		2.10	BUCK	6777	656	.97
286R	C 22	2	3KA	SA312	TP304	6777	464	.68
287L	C 33	2	3KA	SA312	TP304	6777	464	.68
287W	C 33	FILW		2.10	BUCK	6777	656	.97
287P	C 33	2	4SA	SA312	TP304	6777	656	.97
288L	V39	2	4SA	SA312	TP304	6777	656	.97
288W	V39	2.25		2.25	BUCK	6777	656	.97
288R	V39	2	16AX	SA312	TP304	6777	371	.55
289L	V40	2	16AX	SA312	TP304	6777	371	.55
289W	V40	REDR		2.00	BUCK	6777	656	.97
289R	V40	2	4SA	SA312	TP304	6777	656	.97
290		2	4SA	SA312	TP304	6777	656	.97
291		2	4SA	SA312	TP304	6777	656	.97
292		2	4SA	SA312	TP304	6777	656	.97
293	S62	2	4SA	SA312	TP304	6777	656	.97
294L	C 72	2	4SA	SA312	TP304	6777	656	.97
294W	C 72	FILW		2.10	BUCK	6777	656	.97
294R	C 72	2	3KA	SA312	TP304	6777	464	.68
295L	C 83	2	3KA	SA312	TP304	6777	464	.68
295W	C 83	FILW		2.10	BUCK	6777	656	.97
295R	C 83	2	4SA	SA312	TP304	6777	656	.97
296	S63	2	4SA	SA312	TP304	6777	656	.97
297		2	4SA	SA312	TP304	6777	656	.97
298		2	4SA	SA312	TP304	6777	656	.97
299		2	4SA	SA312	TP304	6777	656	.97
300	S64	2	4SA	SA312	TP304	6777	656	.97
301		2	4SA	SA312	TP304	6777	656	.97
302		2	4SA	SA312	TP304	6777	656	.97
303L	C 112	2	4SA	SA312	TP304	6777	656	.97
303W	C 112	2.25		2.25	BUCK	6777	656	.97
303R	C 112	TP37	3KA	SA312	TP304	6777	464	.68
304L	B7	TP37	3KA	SA312	TP304	6777	464	.68
304W	B7	FILW		2.10	BUCK	6777	656	.97
304R	B7	TP37	3KA	SA312	TP304	6777	464	.68
305	B7	TP37	3KA	SA312	TP304	6777	464	.68

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # 1 SUBMITTED: 3-DEC-83 09:39:49 BYPC

STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
314WR	B7	FILW		2.11	BUCK	6777	464	.068
314R	B7	T37	3KA	SA312	TP314	N/A		
305L	C123	T37	3KA	SA312	TP314	N/A		
315W	C123	2.25		2.25	BUCK	6777	656	.097
315R	C123	2	4SA	SA312	TP314	6777	656	.097
316	S65	2	4SA	SA312	TP314	6777	656	.097
317		2	4SA	SA312	TP314	6777	656	.097
318		2	4SA	SA312	TP314	6777	656	.097
319		2	4SA	SA312	TP314	6777	656	.097
311		2	4SA	SA312	TP314	6777	656	.097
312	S66	2	4SA	SA312	TP314	6777	656	.097
313L	C152	2	4SA	SA312	TP314	6777	656	.097
313W	C152	FILW		2.11	BUCK	6777	656	.097
313R	C152	2	3KA	SA312	TP314	6777	464	.068
314L	C163	2	3KA	SA312	TP314	6777	464	.068
314W	C163	FILW		2.11	BUCK	6777	656	.097
314R	C143	2	4SA	SA312	TP314	6777	656	.097
315L	C172	2	4SA	SA312	TP314	6777	656	.097
315W	C172	FILW		2.11	BUCK	6777	656	.097
315R	C172	2	3KA	SA312	TP314	6777	464	.068
316L	C183	2	3KA	SA312	TP314	6777	464	.068
316W	C183	FILW		2.11	BUCK	6777	656	.097
316R	C183	2	4SA	SA312	TP314	6777	656	.097
317		2	4SA	SA312	TP314	6777	656	.097
318		2	4SA	SA312	TP314	6777	656	.097
319		2	4SA	SA312	TP314	6777	656	.097
32		2	4SA	SA312	TP314	6777	656	.097
321	AW16	2	4SA	SA312	TP314	6777	656	.097
322W	B7	FILW		2.11	BUCK	6777	464	.068
322	B7	T37	3KA	SA312	TP314	6777	464	.068
323L	D 14	T37	3KA	SA312	TP314	N/A		
323W	D 14	2.25		2.25	BUCK	6777	656	.097
323R	D 14	2	4SA	SA312	TP314	6777	656	.097
324		2	4SA	SA312	TP314	6777	656	.097

SOUTHERN CALIFORNIA EDISON, SAN GABRIEL UNIT 1
 SHUTDOWN FIRING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 08:39:48 DYP0

STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
325		2	4SA	SA312	TP304	1.00	BUCK	6777	656	.097
326		2	4SA	SA312	TP304	1.00	BUCK	6777	656	.097
327		2	4SA	SA312	TP304	1.00	BUCK	6777	656	.097
328L	V42	2	4SA	SA312	TP304	1.00	BUCK	6777	656	.097
328W	V42	2.25				2.25	BUCK	6777	656	.097
328R	V42	2	16AX	SA312	TP304	1.00	BUCK	6777	371	.055
329L	V41	2	16AX	SA312	TP304	1.00	BUCK	6777	371	.055
329W	V41	REDF				2.00	BUCK	6777	656	.097
329R	V41	2	4SA	SA312	TP304	1.00	BUCK	6777	656	.097
330L	D 42	2	4SA	SA312	TP304	1.00	BUCK	6777	656	.097
330W	D 42	2.25				2.25	BUCK	6777	656	.097
330R	D 42	E 5L	5SA	SA312	TP304	N/A				
331	E1	E 5	5SA	SA312	TP304	2.00	BUCK	6777	656	.097
331W	E1	TEE 1				2.32	BUCK	6777	656	.097
332W	E5	TEE 1				2.32	BUCK	6777	927	.137
332	E5	E 5L	1SA	SA312	TP304	2.32	BUCK	6777	927	.137
333L	E 13	B 5L	1SA	SA312	TP304	N/A				
333W	E 13	REDF				2.00	BUCK	6777	927	.137
333R	E 13	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
334L	E 22	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
334W	E 22	FILW				2.10	BUCK	6777	927	.137
334R	E 22	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.068
335L	E 33	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.068
335W	E 33	FILW				2.10	BUCK	6777	927	.137
335R	E 33	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
336	S37	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
337L	E 52	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
337W	E 52	FILW				2.10	BUCK	6777	927	.137
337R	E 52	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.068
338L	E 63	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.068
338W	E 63	FILW				2.10	BUCK	6777	927	.137
338R	E 63	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
339		2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
340		2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
341		2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137

SEP CALIFORNIA EDISON SAN Geronimo UNIT 1
SAFETY SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-13
PROBLEM = CV12 REV. 4

SUBMITTED: 3-DEC-83 08:59:49 DVPD

STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
342	STB	2	ISA	1.00	BUCK	6777	927	.137
343		2	ISA	1.00	BUCK	6777	927	.137
344		2	ISA	1.00	BUCK	6777	927	.137
345		2	ISA	1.00	BUCK	6777	927	.137
346	STB	2	ISA	1.00	BUCK	6777	927	.137
347		2	ISA	1.00	BUCK	6777	927	.137
348		2	ISA	1.00	BUCK	6777	927	.137
349		2	ISA	1.00	BUCK	6777	927	.137
350		2	ISA	1.00	BUCK	6777	927	.137
351		2	ISA	1.00	BUCK	6777	927	.137
352	CAV	2	ISA	1.00	BUCK	6777	927	.137
353		2	ISA	1.00	BUCK	6777	927	.137
354		2	ISA	1.00	BUCK	6777	927	.137
355		2	ISA	1.00	BUCK	6777	927	.137
356		2	ISA	1.00	BUCK	6777	927	.137
357		2	ISA	1.00	BUCK	6777	927	.137
358		2	ISA	1.00	BUCK	6777	927	.137
359		2	ISA	1.00	BUCK	6777	927	.137
360		2	ISA	1.00	BUCK	6777	927	.137
361		2	ISA	1.00	BUCK	6777	927	.137
362		2	ISA	1.00	BUCK	6777	927	.137
363		2	ISA	1.00	BUCK	6777	927	.137
364		2	ISA	1.00	BUCK	6777	927	.137
365		2	ISA	1.00	BUCK	6777	927	.137
366		2	ISA	1.00	BUCK	6777	927	.137
367		2	ISA	1.00	BUCK	6777	927	.137
368		2	ISA	1.00	BUCK	6777	927	.137
369		2	ISA	1.00	BUCK	6777	927	.137
370		2	ISA	1.00	BUCK	6777	927	.137
371		2	ISA	1.00	BUCK	6777	927	.137
372		2	ISA	1.00	BUCK	6777	927	.137
373		2	ISA	1.00	BUCK	6777	927	.137
374		2	ISA	1.00	BUCK	6777	927	.137
375		2	ISA	1.00	BUCK	6777	927	.137
376		2	ISA	1.00	BUCK	6777	927	.137
377		2	ISA	1.00	BUCK	6777	927	.137
378		2	ISA	1.00	BUCK	6777	927	.137
379		2	ISA	1.00	BUCK	6777	927	.137
380		2	ISA	1.00	BUCK	6777	927	.137
381		2	ISA	1.00	BUCK	6777	927	.137
382		2	ISA	1.00	BUCK	6777	927	.137
383		2	ISA	1.00	BUCK	6777	927	.137
384		2	ISA	1.00	BUCK	6777	927	.137
385		2	ISA	1.00	BUCK	6777	927	.137
386		2	ISA	1.00	BUCK	6777	927	.137
387		2	ISA	1.00	BUCK	6777	927	.137
388		2	ISA	1.00	BUCK	6777	927	.137
389		2	ISA	1.00	BUCK	6777	927	.137
390		2	ISA	1.00	BUCK	6777	927	.137
391		2	ISA	1.00	BUCK	6777	927	.137
392		2	ISA	1.00	BUCK	6777	927	.137
393		2	ISA	1.00	BUCK	6777	927	.137
394		2	ISA	1.00	BUCK	6777	927	.137
395		2	ISA	1.00	BUCK	6777	927	.137
396		2	ISA	1.00	BUCK	6777	927	.137
397		2	ISA	1.00	BUCK	6777	927	.137
398		2	ISA	1.00	BUCK	6777	927	.137
399		2	ISA	1.00	BUCK	6777	927	.137
400		2	ISA	1.00	BUCK	6777	927	.137

SOUTHERN CALIFORNIA EDISON, SAN GABRIEL UNIT 1
SALE SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 19:39:49 DYPO

STRESSES FOR EQUATION 8

SGP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
363L	E173	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.169
363W	E173	FILW				2.10	BUCK	6777	927	.137
363R	E173	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
364	S41	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
365		2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
366		2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
367	S42	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
368		2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
369		2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
370		2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
371	S43	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
372		2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
373		2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
374L	E212	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
374W	E212	FILW				2.10	BUCK	6777	927	.137
374R	E212	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.169
375L	E223	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.169
375W	E223	FILW				2.10	BUCK	6777	927	.137
375R	E223	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
376	S44	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
377L	E242	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
377W	E242	FILW				2.10	BUCK	6777	927	.137
377R	E242	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.169
378L	E253	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.169
378W	E253	FILW				2.10	BUCK	6777	927	.137
378R	E253	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
379		2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
380		2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
381		2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
382L	E260	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137
382W	E262	FILW				2.10	BUCK	6777	927	.137
382R	E262	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.169
383L	E273	2	3KA	SA312	TP304	1.78	BUCK	6777	464	.169
383W	E273	FILW				2.10	BUCK	6777	927	.137
38	E273	2	1SA	SA312	TP304	1.00	BUCK	6777	927	.137

SOUTHERN CALIFORNIA EDISON. SAN ONOFRE UNIT 1
SALE SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. # 1

SUBMITTED: 3-DEC-83 18:39:45 DYPO

STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
384		2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
385L	M1	2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
385W	M1	FILW				2.10	BUCK	6777	927	.137
385R	M1	2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
386L	E292	2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
386W	E292	FILW				2.10	BUCK	6777	927	.137
386R	E292	2	3KA	SA312	TP314	1.78	BUCK	6777	464	.268
387L	E313	2	3KA	SA312	TP314	1.78	BUCK	6777	464	.268
387W	E313	FILW				2.10	BUCK	6777	927	.137
387R	E313	2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
388L	E312	2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
388W	E312	2.25				2.25	BUCK	6777	927	.137
388R	E312	T37	3KA	SA312	TP314	N/A				
389L	E19	T37	3KA	SA312	TP314	N/A				
389WL	E19	FILW				2.10	BUCK	6777	464	.268
389BL	E19	T37	3KA	SA312	TP314	1.45	BUCK	6777	464	.268
389BR	E19	T37	3KA	SA312	TP314	1.45	BUCK	6777	464	.268
389WR	E19	FILW				2.10	BUCK	6777	464	.268
389R	E19	T37	3KA	SA312	TP314	N/A				
391L	E323	T37	3KA	SA312	TP314	N/A				
391W	E323	2.25				2.25	BUCK	6777	927	.137
391R	E323	2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
391L	V29	2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
391W	V29	2.25				2.25	BUCK	6777	927	.137
391R	V29	2	16A	SA312	TP314	1.00	BUCK	6777	506	.175
392	S45	2	16A	SA312	TP314	1.00	BUCK	6777	506	.175
393L	V31	2	16A	SA312	TP314	1.00	BUCK	6777	506	.175
393W	V31	REDP				2.10	BUCK	6777	927	.137
393R	V31	2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
394L	E362	2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
394W	E362	2.25				2.25	BUCK	6777	927	.137
394R	E362	R 22	1SA	SA312	TP314	2.10	BUCK	6777	1240	.183
395L	V31	R 22	1SA	SA312	TP314	2.10	BUCK	6777	927	.137
395W	V31	REDP				2.10	BUCK	6777	927	.137
395R	V31	2	16A	SA312	TP314	1.00	BUCK	6777	506	.175

ERN CALIFORN EDISON. SAN ONOFFE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 16:35:49 DYPO

STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
396L	V32	3	164	SA312	TP314	1.00	BUCK	6777	663	.196
396W	V32	REDP				2.00	BUCK	6777	124	.193
396R	V32	P122	1SA	SA312	TP314	2.00	BUCK	6777	124	.193
397L	E392	R122	1SA	SA312	TP314	2.00	BUCK	6777	927	.137
397W	E392	REDR				2.00	BUCK	6777	927	.137
397R	E392	2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
398L	TR2	2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
398W	TR2	FILW				2.10	BUCK	6777	927	.137
398R	TR2	2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
399L	E412	2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
399W	E412	FILW				2.10	BUCK	6777	927	.137
399R	E412	2	3KA	SA312	TP314	1.78	BUCK	6777	464	.168
400L	E423	2	3KA	SA312	TP314	1.78	BUCK	6777	464	.168
400W	E423	FILW				2.10	BUCK	6777	927	.137
400R	E423	2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
401		2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
402L	E432	2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
402W	E432	FILW				2.10	BUCK	6777	927	.137
402R	E432	2	3KA	SA312	TP314	1.78	BUCK	6777	464	.168
403L	E443	2	3KA	SA312	TP314	1.78	BUCK	6777	464	.168
403W	E443	FILW				2.10	BUCK	6777	927	.137
403R	E443	2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
404	S46	2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
405		2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
406	AN14	2	1SA	SA312	TP314	1.00	BUCK	6777	927	.137
407W	B3	TEE 1				2.32	BUCK	6777	1594	.235
407	B3	T139	ESA	SA312	TP314	2.32	BUCK	6777	1594	.235
408L	G 14	T139	ESA	SA312	TP314	N/A				
408W	G 14	REDP				2.00	BUCK	6777	1594	.235
408R	G 14	4	1SA	SA312	TP314	1.00	BUCK	6777	1594	.235
409		4	1SA	SA312	TP314	1.00	BUCK	6777	1594	.235
410L	G 22	4	1SA	SA312	TP314	1.00	BUCK	6777	1594	.235
410W	G 22	ANBW				1.00	BUCK	6777	1594	.235
410R	G 22	4	1SA	SA312	TP314	3.18	BUCK	6777	1594	.235
411L	G 22	4	1SA	SA312	TP314	3.18	BUCK	6777	1594	.235

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 16:39:45 DYPO

STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
411W	G 73	AWBW		1.97	BUCK	6777	1594	.235
411R	G 33	4	1SA SA312 TP304	1.00	BUCK	6777	1594	.235
412L	G 42	4	1SA SA312 TP304	1.00	BUCK	6777	1594	.235
412W	G 42	AWBW		1.81	BUCK	6777	1594	.235
412R	G 42	4	1SA SA312 TP304	3.18	BUCK	6777	1594	.235
413L	G 53	4	1SA SA312 TP304	3.18	BUCK	6777	1594	.235
413W	G 53	AWBW		1.81	BUCK	6777	1594	.235
413R	G 53	4	1SA SA312 TP304	1.00	BUCK	6777	1594	.235
414		4	1SA SA312 TP304	1.00	BUCK	6777	1594	.235
415		4	1SA SA312 TP304	1.00	BUCK	6777	1594	.235
416		4	1SA SA312 TP304	1.00	BUCK	6777	1594	.235
417	S16	4	1SA SA312 TP304	1.00	BUCK	6777	1594	.235
418		4	1SA SA312 TP304	1.00	BUCK	6777	1594	.235
419L	G 72	4	1SA SA312 TP304	1.00	BUCK	6777	1594	.235
419W	G 72	AWBW		1.81	BUCK	6777	1594	.235
419R	G 72	4	1SA SA312 TP304	3.18	BUCK	6777	1594	.235
420L	G 83	4	1SA SA312 TP304	3.18	BUCK	6777	1594	.235
420W	G 83	AWBW		1.81	BUCK	6777	1594	.235
420R	G 83	4	1SA SA312 TP304	1.00	BUCK	6777	1594	.235
421		4	1SA SA312 TP304	1.00	BUCK	6777	1594	.235
422		4	1SA SA312 TP304	1.00	BUCK	6777	1594	.235
423	S19	4	1SA SA312 TP304	1.00	BUCK	6777	1594	.235
424L	G102	4	1SA SA312 TP304	1.00	BUCK	6777	1594	.235
424W	G102	AWBW		1.81	BUCK	6777	1594	.235
424R	G102	4	1SA SA312 TP304	3.18	BUCK	6777	1594	.235
425L	G113	4	1SA SA312 TP304	3.18	BUCK	6777	1594	.235
425W	G113	AWBW		1.81	BUCK	6777	1594	.235
425R	G113	4	1SA SA312 TP304	1.00	BUCK	6777	1594	.235
426L	G122	4	1SA SA312 TP304	1.00	BUCK	6777	1594	.235
426W	G122	AWBW		1.81	BUCK	6777	1594	.235
426R	G122	4	1SA SA312 TP304	3.18	BUCK	6777	1594	.235
427L	G133	4	1SA SA312 TP304	3.18	BUCK	6777	1594	.235
427W	G133	AWBW		1.81	BUCK	6777	1594	.235
427R	G133	4	1SA SA312 TP304	1.00	BUCK	6777	1594	.235
428		4	1SA SA312 TP304	1.00	BUCK	6777	1594	.235

SOUTHERN CALIFORNIA EDISON, SAN CLOFFE UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 15:39:45 DYPO

STRESSES FOR EQUATION 8

SOP NAME	DOF NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
429		4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
430		4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
431L	G142	4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
431W	G142	AWBW				1.80	BUCK	6777	1594	.235
431R	G142	4	1SA	SA312	TP304	3.18	BUCK	6777	1594	.235
432L	G153	4	1SA	SA312	TP304	3.18	BUCK	6777	1594	.235
432W	G153	AWBW				1.80	BUCK	6777	1594	.235
432R	G153	4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
433L	G162	4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
433W	G162	REDR				2.00	BUCK	6777	1594	.235
433R	G162	T 39	ESA	SA312	TP304	N/A				
434L	B11	T 39	ESA	SA312	TP304	N/A				
434WL	B11	TEE 1				2.32	BUCK	6777	1594	.235
434BL	B11	T 39	ESA	SA312	TP304	2.32	BUCK	6777	1594	.235
434BR	B11	T 39	ESA	SA312	TP304	2.32	BUCK	6777	1594	.235
434WR	B11	TEE 1				2.32	BUCK	6777	1594	.235
434R	B11	T 39	ESA	SA312	TP304	N/A				
435L	G173	T 39	ESA	SA312	TP304	N/A				
435W	G173	REDR				2.00	BUCK	6777	1594	.235
435R	G173	4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
436L	V11	4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
436W	V11	REDR				2.00	BUCK	6777	1594	.235
436R	V11	4	1SA	SA312	TP304	1.00	BUCK	6777	840	.124
437	S2	4	1SA	SA312	TP304	1.00	BUCK	6777	840	.124
438L	V12	4	1SA	SA312	TP304	1.00	BUCK	6777	840	.124
438W	V12	REDR				2.00	BUCK	6777	1594	.235
438R	V12	4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
439	G21	4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
440		4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
441L	G222	4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
441W	G222	REDR				2.00	BUCK	6777	1594	.235
441R	G222	T 39	ESA	SA312	TP304	N/A				
442L	B12	T 39	ESA	SA312	TP304	N/A				
442WL	B12	TEE 1				2.32	BUCK	6777	1594	.235
442BL	B12	T 39	ESA	SA312	TP304	2.32	BUCK	6777	1594	.235

ERN CALIFORNIA EDISON, SAN GONCE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

REV. #

SUBMITTED: 3-DEC-83

08:39:49

DYPO

STRESSES FOR EQUATION 8

SOF NAME	DCF NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
442BP	B12	T 39	ESA	SA312	TP304	2.32	BUCK	6777	1594	.235
442WR	B12	TEE 1				2.32	BUCK	6777	1594	.235
442R	B12	T 39	ESA	SA312	TP304	N/A				
443L	G233	T 39	ESA	SA312	TP304	N/A				
443W	G233	REDR				2.32	BUCK	6777	1594	.235
443R	G233	4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
444L	V15	4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
444W	V15	REDR				2.00	BUCK	6777	1594	.235
444R	V15	4	1SA	SA312	TP304	1.00	BUCK	6777	841	.124
445L	V15	4	1SA	SA312	TP304	1.00	BUCK	6777	841	.124
445W	V15	REDR				2.00	BUCK	6777	1594	.235
445R	V15	4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
446L	G262	4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
446W	G262	AWBW				1.80	BUCK	6777	1594	.235
446R	G262	4	1SA	SA312	TP304	3.18	BUCK	6777	1594	.235
447L	G273	4	1SA	SA312	TP304	3.18	BUCK	6777	1594	.235
447W	G273	AWBW				1.80	BUCK	6777	1594	.235
447R	G273	4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
448		4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
449L	V17	4	1SA	SA312	TP304	1.00	BUCK	6777	1594	.235
449W	V17	REDR				2.00	BUCK	6777	1594	.235
449R	V17	4	1SA	SA312	TP304	1.00	BUCK	6777	841	.124
450L	V18	4	1SA	SA312	TP304	1.00	BUCK	6777	841	.124
450W	V18	REDR				2.00	BUCK	6777	841	.124
450R	V18	4	4SA	SA312	TP304	1.00	BUCK	6777	1106	.148
451	S23	6	4SA	SA312	TP304	1.00	BUCK	6777	1106	.148
452L	G312	6	4SA	SA312	TP304	1.00	BUCK	6777	1106	.148
452W	G312	AWBW				1.80	BUCK	6777	1106	.148
452R	G312	6	4SA	SA312	TP304	2.26	BUCK	6777	1106	.148
453L	G323	6	4SA	SA312	TP304	2.26	BUCK	6777	1106	.148
453W	G323	AWBW				1.80	BUCK	6777	1106	.148
453R	G323	6	4SA	SA312	TP304	1.00	BUCK	6777	1106	.148
454		6	4SA	SA312	TP304	1.00	BUCK	6777	1106	.148
455	S24	6	4SA	SA312	TP304	1.00	BUCK	6777	1106	.148
456	S25	6	4SA	SA312	TP304	1.00	BUCK	6777	1106	.148

SOUTHERN CALIFORNIA EDISON, SAN GONDO UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 16:39:49 DYPO

STRESSES FOR EQUATION 8

SOP NAME	DCF NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
457L	G352	6	4SA	SA312	TP304	1.40	BUCK	6777	1006	.148
457W	G352	AWBW				1.81	BUCK	6777	1006	.148
457R	G352	6	4SA	SA312	TP304	2.26	BUCK	6777	1006	.148
458L	G363	6	4SA	SA312	TP304	2.26	BUCK	6777	1006	.148
458W	G363	AWBW				1.80	BUCK	6777	1006	.148
458R	G363	6	4SA	SA312	TP304	1.30	BUCK	6777	1006	.148
459L	G372	6	4SA	SA312	TP304	1.10	BUCK	6777	1006	.148
459W	G372	AWBW				1.80	BUCK	6777	1006	.148
459R	G372	6	4SA	SA312	TP304	2.26	BUCK	6777	1006	.148
460L	G383	6	4SA	SA312	TP304	2.26	BUCK	6777	1006	.148
460W	G383	AWBW				1.80	BUCK	6777	1006	.148
460R	G383	6	4SA	SA312	TP304	1.40	BUCK	6777	1006	.148
461		6	4SA	SA312	TP304	1.40	BUCK	6777	1006	.148
462		6	4SA	SA312	TP304	1.40	BUCK	6777	1006	.148
463	S26	6	4SA	SA312	TP304	1.40	BUCK	6777	1006	.148
464	S27	6	4SA	SA312	TP304	1.40	BUCK	6777	1006	.148
465		6	4SA	SA312	TP304	1.40	BUCK	6777	1006	.148
466		6	4SA	SA312	TP304	1.40	BUCK	6777	1006	.148
467		6	4SA	SA312	TP304	1.40	BUCK	6777	1006	.148
468		6	4SA	SA312	TP304	1.40	BUCK	6777	1006	.148
469	S28	6	4SA	SA312	TP304	1.40	BUCK	6777	1006	.148
470		6	4SA	SA312	TP304	1.40	BUCK	6777	1006	.148
471L	G422	6	4SA	SA312	TP304	1.40	BUCK	6777	1006	.148
471W	G422	AWBW				1.80	BUCK	6777	1006	.148
471R	G422	6	4SA	SA312	TP304	2.26	BUCK	6777	1006	.148
472L	G433	6	4SA	SA312	TP304	2.26	BUCK	6777	1006	.148
472W	G433	AWBW				1.80	BUCK	6777	1006	.148
472R	G433	6	4SA	SA312	TP304	1.40	BUCK	6777	1006	.148
473		6	4SA	SA312	TP304	1.40	BUCK	6777	1006	.148
474L	G442	6	4SA	SA312	TP304	1.40	BUCK	6777	1006	.148
474W	G442	AWBW				1.80	BUCK	6777	1006	.148
474R	G442	6	4SA	SA312	TP304	2.26	BUCK	6777	1006	.148
475L	G453	6	4SA	SA312	TP304	2.26	BUCK	6777	1006	.148
475W	G453	AWBW				1.80	BUCK	6777	1006	.148
475R	G453	6	4SA	SA312	TP304	1.40	BUCK	6777	1006	.148

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:39:49 DYPC

STRESSES FOR EQUATION #

SOP NAME	DOF NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
476		6	4SA	SA312	TP314	1.00	BUCK	6777	1006	.148
477		6	4SA	SA312	TP314	1.00	BUCK	6777	1006	.148
478		6	4SA	SA312	TP314	1.00	BUCK	6777	1006	.148
479		6	4SA	SA312	TP314	1.00	BUCK	6777	1006	.148
480		6	4SA	SA312	TP314	1.00	BUCK	6777	1006	.148
481		6	4SA	SA312	TP314	1.00	BUCK	6777	1006	.148
482		6	4SA	SA312	TP314	1.00	BUCK	6777	1006	.148
483	S20	6	4SA	SA312	TP314	1.00	BUCK	6777	1006	.148
484L	G472	6	4SA	SA312	TP314	1.00	BUCK	6777	1006	.148
484W	G472	AWBW				1.80	BUCK	6777	1006	.148
484R	G472	6	4SA	SA312	TP314	2.26	BUCK	6777	1006	.148
485L	G483	6	4SA	SA312	TP314	2.26	BUCK	6777	1006	.148
485W	G483	AWBW				1.80	BUCK	6777	1006	.148
485R	G483	6	4SA	SA312	TP314	1.00	BUCK	6777	1006	.148
486L	G492	6	4SA	SA312	TP314	1.00	BUCK	6777	1006	.148
486W	G492	AWBW				1.80	BUCK	6777	1006	.148
486R	G492	6	4SA	SA312	TP314	2.26	BUCK	6777	1006	.148
487L	G513	6	4SA	SA312	TP314	2.26	BUCK	6777	1006	.148
487W	G513	AWBW				1.80	BUCK	6777	1006	.148
487R	G513	6	4SA	SA312	TP314	1.00	BUCK	6777	1006	.148
488	AN9	6	4SA	SA312	TP314	1.00	BUCK	6777	1006	.148
489W	B12	TEE 1				2.32	BUCK	6777	1554	.235
489	B12	T 39	ESA	SA312	TP314	2.32	BUCK	6777	1554	.235
490L	H 14	T 39	ESA	SA312	TP314	N/A				
490W	H 14	REDP				2.10	BUCK	6777	1554	.235
490R	H 14	4	1SA	SA312	TP314	1.00	BUCK	6777	1554	.235
491L	H 22	4	1SA	SA312	TP314	1.00	BUCK	6777	1554	.235
491W	H 22	AWBW				1.80	BUCK	6777	1554	.235
491R	H 22	4	1SA	SA312	TP314	3.18	BUCK	6777	1554	.235
492L	H 33	4	1SA	SA312	TP314	3.18	BUCK	6777	1554	.235
492W	H 33	AWBW				1.80	BUCK	6777	1554	.235
492R	H 33	4	1SA	SA312	TP314	1.00	BUCK	6777	1554	.235
493L	V14	4	1SA	SA312	TP314	1.00	BUCK	6777	1554	.235
493W	V14	REDP				3.18	BUCK	6777	1554	.235
493R	V14	4	1SA	SA312	TP314	1.00	BUCK	6777	841	.124

HERN CALIFORN EDISON, SAN GABRIEL UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. #

SUBMITTED: 3-DEC-83 15:35:45 DYPO

STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
494	S22	4	16A	SA312	TP304	1.10	BUCK	6777	84	.124
495L	V13	4	16A	SA312	TP304	1.10	BUCK	6777	84	.124
495W	V13	REDR				2.00	BUCK	6777	1594	.235
495R	V13	4	1SA	SA312	TP304	1.10	BUCK	6777	1594	.235
496		4	1SA	SA312	TP304	1.10	BUCK	6777	1594	.235
497L	H 72	4	1SA	SA312	TP304	1.10	BUCK	6777	1594	.235
497W	H 72	AWBW				1.80	BUCK	6777	1594	.235
497R	H 72	4	1SA	SA312	TP304	3.18	BUCK	6777	1594	.235
498L	H 83	4	1SA	SA312	TP304	3.18	BUCK	6777	1594	.235
498W	H 83	AWBW				1.80	BUCK	6777	1594	.235
498R	H 83	4	1SA	SA312	TP304	1.10	BUCK	6777	1594	.235
499L	H 92	4	1SA	SA312	TP304	1.10	BUCK	6777	1594	.235
499W	H 92	REDR				2.00	BUCK	6777	1594	.235
499R	H 92	T 39	ESA	SA312	TP304	N/A				
500	B11	T 39	ESA	SA312	TP304	2.32	BUCK	6777	1594	.235
500W	B11	TEE 1				2.32	BUCK	6777	1594	.235
501W	B2	TEE 1				2.32	BUCK	6777	1594	.235
501	B2	T 39	ESA	SA312	TP304	2.32	BUCK	6777	1594	.235
502L	I 14	T 39	ESA	SA312	TP304	N/A				
502W	I 14	REDR				2.00	BUCK	6777	1594	.235
502R	I 14	4	1SA	SA312	TP304	1.10	BUCK	6777	1594	.235
503		4	1SA	SA312	TP304	1.10	BUCK	6777	1594	.235
504L	I 22	4	1SA	SA312	TP304	1.10	BUCK	6777	1594	.235
504W	I 22	AWBW				1.80	BUCK	6777	1594	.235
504R	I 22	4	1SA	SA312	TP304	3.18	BUCK	6777	1594	.235
505L	I 33	4	1SA	SA312	TP304	3.18	BUCK	6777	1594	.235
505W	I 33	AWBW				1.80	BUCK	6777	1594	.235
505R	I 33	4	1SA	SA312	TP304	1.10	BUCK	6777	1594	.235
506L	I 42	4	1SA	SA312	TP304	1.10	BUCK	6777	1594	.235
506W	I 42	AWBW				1.80	BUCK	6777	1594	.235
506R	I 42	4	1SA	SA312	TP304	3.18	BUCK	6777	1594	.235
507L	I 53	4	1SA	SA312	TP304	3.18	BUCK	6777	1594	.235
507W	I 53	AWBW				1.80	BUCK	6777	1594	.235
507R	I 53	4	1SA	SA312	TP304	1.10	BUCK	6777	1594	.235
508L	I 62	4	1SA	SA312	TP304	1.10	BUCK	6777	1594	.235

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SHUTDOWN FIRING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

REV. #

SUBMITTED: 3-DEC-83

08:35:48

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STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
518W	I 62	REDR		2.30	BUCK	6777	1594	.235
518R	I 62	T 39	SSA	SA312	TP314	N/A		
519L	B8	T 39	SSA	SA312	TP314	N/A		
519WL	B8	TEE 1		2.32	BUCK	6777	1594	.235
519EL	B8	T 39	SSA	SA312	TP314	2.32	6777	1594
519BR	B8	T 39	SSA	SA312	TP314	2.32	6777	1594
519WR	B8	TEE 1		2.32	BUCK	6777	1594	.235
519R	B8	T 39	SSA	SA312	TP314	N/A		
511L	I 73	T 39	SSA	SA312	TP314	N/A		
511W	I 73	REDR		2.30	BUCK	6777	1594	.235
511R	I 73	4	1SA	SA312	TP314	1.00	6777	1594
511L	V7	4	1SA	SA312	TP314	1.00	6777	1594
511W	V7	REDR		2.30	BUCK	6777	1594	.235
511R	V7	4	1SA	SA312	TP314	1.00	6777	1594
512L	V8	4	1SA	SA312	TP314	1.00	6777	1594
512W	V8	AWTT		1.90	BUCK	6777	1594	.235
512R	V8	4	1SA	SA312	TP314	1.00	6777	1594
513		4	1SA	SA312	TP314	1.00	6777	1594
514L	I112	4	1SA	SA312	TP314	1.00	6777	1594
514W	I112	AWBW		1.90	BUCK	6777	1594	.235
514R	I112	4	1SA	SA312	TP314	3.18	6777	1594
515L	I113	4	1SA	SA312	TP314	3.18	6777	1594
515W	I113	AWBW		1.80	BUCK	6777	1594	.235
515R	I113	4	1SA	SA312	TP314	1.00	6777	1594
516L	I122	4	1SA	SA312	TP314	1.00	6777	1594
516W	I122	AWBW		1.80	BUCK	6777	1594	.235
516R	I122	4	1SA	SA312	TP314	3.18	6777	1594
517L	I133	4	1SA	SA312	TP314	3.18	6777	1594
517W	I133	AWBW		1.80	BUCK	6777	1594	.235
517R	I133	4	1SA	SA312	TP314	1.00	6777	1594
518L	B9	4	1SA	SA312	TP314	1.00	6777	1594
518WL	B9	TEE 1		2.32	BUCK	6777	1594	.235
518EL	B9	B 5	1SA	SA312	TP314	2.32	6777	1594
518BR	B9	B 5	1SA	SA312	TP314	2.32	6777	1594
518WR	B9	TEE 1		2.32	BUCK	6777	1594	.235

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
SHUTDOWN FIFING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-93 16:39:49 DYPO

STRESSES FOR EQUATION 8

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
518R	B9	4	1SA	SA312	TP314	1.00	BUCK	6777	1594	.235
519	S11	4	1SA	SA312	TP314	1.00	BUCK	6777	1594	.235
520L	I172	4	1SA	SA312	TP314	1.00	BUCK	6777	1594	.235
520W	I172	AWBW				1.80	BUCK	6777	1594	.235
520R	I172	4	1SA	SA312	TP314	3.18	BUCK	6777	1594	.235
521L	I183	4	1SA	SA312	TP314	3.18	BUCK	6777	1594	.235
521W	I183	AWBW				1.80	BUCK	6777	1594	.235
521R	I183	4	1SA	SA312	TP314	1.00	BUCK	6777	1594	.235
522L	I192	4	1SA	SA312	TP314	1.00	BUCK	6777	1594	.235
522W	I192	AWBW				1.80	BUCK	6777	1594	.235
522R	I192	4	1SA	SA312	TP314	3.18	BUCK	6777	1594	.235
523L	I213	4	1SA	SA312	TP314	3.18	BUCK	6777	1594	.235
523W	I213	AWBW				1.80	BUCK	6777	1594	.235
523R	I213	4	1SA	SA312	TP314	1.00	BUCK	6777	1594	.235
524	S11	4	1SA	SA312	TP314	1.00	BUCK	6777	1594	.235
525		4	1SA	SA312	TP314	1.00	BUCK	6777	1594	.235
526		4	1SA	SA312	TP314	1.00	BUCK	6777	1594	.235
527		4	1SA	SA312	TP314	1.00	BUCK	6777	1594	.235
528	AN3	4	1SA	SA312	TP314	1.00	BUCK	6777	1594	.235
529W	B8	TEE 1				2.32	BUCK	6777	1594	.235
529	B8	T 39	ESA	SA312	TP314	2.32	BUCK	6777	1594	.235
530L	J 14	T 39	ESA	SA312	TP314	N/A				
530W	J 14	PEOP				2.00	BUCK	6777	1240	.183
530R	J 14	3	1SA	SA312	TP314	1.00	BUCK	6777	1240	.183
531	S12	3	1SA	SA312	TP314	1.00	BUCK	6777	1240	.183
532	AN4	3	1SA	SA312	TP314	1.00	BUCK	6777	1240	.183

IMPELL CORPORATION
QUICKRIFE VEPS 2E, 11/18/87: CYEEP : 7 - NOS.

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HEFN CALIFORN EDISON, SAN ANGELES UNIT :
SHUTDOWN PIPING FUNCTIONALITY C-11E-1A
CALC. NO: CV-12
PROBLEM = CV12 REV. # SUBMITTED: 3-DEC-87 00:39:49

LVFO

MAXIMUM EQUATION 8 STRESS RATIO :

SOP NAME	STRESS RATIO	LOAD SET
88W	.675	BLCK

HERN CALIFORN EDISON, SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 12:39:49 BYFC

STRESSES FOR EQUATION 9F

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
1W	AN1	AWTT		1.90	EG9F	74547	4865	.065
1	AN1	3	1SA	SA312	TP304	74547	6453	.087
2L	1 23	3	1SA	SA312	TP304	74547	5513	.074
2W	1 23	AWBW		1.80	EG9F	74547	4048	.054
2R	1 23	3	1SA	SA312	TP304	74547	3320	.045
3L	1 32	3	1SA	SA312	TP304	74547	3320	.045
3W	1 32	REDR		2.00	EG9F	74547	4365	.059
3R	1 32	R 32	ESA	SA312	TP304	74547	3438	.046
4L	V1	R 32	ESA	SA312	TP304	74547	4365	.059
4W	V1	REDR		2.00	EG9F	74547	4365	.059
4R	V1	4	1SA	SA312	TP304	74547	1477	.019
5L	V2	4	1SA	SA312	TP304	74547	1757	.024
5W	V2	REDR		2.00	EG9F	74547	4420	.059
5R	V2	4	1SA	SA312	TP304	74547	3478	.047
6L	B1	4	1SA	SA312	TP304	74547	3845	.052
6WL	B1	TEE 1		2.32	EG9F	74547	5515	.074
6BL	B1	B 15	ESA	SA312	TP304	74547	6641	.089
6BR	B1	B 15	ESA	SA312	TP304	74547	6424	.086
6WR	B1	TEE 1		2.32	EG9F	74547	5347	.072
6F	B1	4	1SA	SA312	TP304	74547	3748	.051
7	S1	4	1SA	SA312	TP304	74547	3914	.053
8L	1102	4	1SA	SA312	TP304	74547	3842	.052
8W	1102	AWBW		1.80	EG9F	74547	4529	.060
8R	1102	4	1SA	SA312	TP304	74547	4966	.067
9L	1113	4	1SA	SA312	TP304	74547	6732	.090
9W	1113	AWBW		1.80	EG9F	74547	4497	.061
9R	1113	4	1SA	SA312	TP304	74547	3744	.051
10L	1122	4	1SA	SA312	TP304	74547	3742	.051
10W	1122	REDR		2.00	EG9F	74547	4916	.066
10R	1122	T 39	ESA	SA312	TP304	N/A		
11L	B2	T 39	ESA	SA312	TP304	N/A		
11VL	B2	TEE 1		2.32	EG9F	74547	5541	.074
11BL	B2	T 39	ESA	SA312	TP304	74547	5540	.074
11BR	B2	T 39	ESA	SA312	TP304	74547	5757	.077
11WR	B2	TEE 1		2.32	EG9F	74547	5356	.072
11F	B2	T 39	ESA	SA312	TP304	N/A		
12L	1133	T 39	ESA	SA312	TP304	N/A		

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. = SUBMITTED: 3-DEC-83 08:39:49 BYPC

STRESSES FOR EQUATION 5F

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
12W	1133	REDR		2.00	EQ9F	74547	4895	.66
12R	1133	4	1SA SA312 TP304	1.00	EQ9F	74547	3794	.51
13L	1142	4	1SA SA312 TP304	1.00	EQ9F	74547	4085	.55
13W	1142	REDR		2.00	EQ9F	74547	5337	.71
13R	1142	T 39	5SA SA312 TP304	N/A				
14L	B3	T 39	5SA SA312 TP304	N/A				
14WL	B3	TEE 1		2.32	EQ9F	74547	6164	.83
14BL	B3	T 39	5SA SA312 TP304	2.32	EQ9F	74547	6165	.83
14BR	B3	T 39	5SA SA312 TP304	2.32	EQ9F	74547	5174	.69
14WR	B3	TEE 1		2.32	EQ9F	74547	5173	.69
14R	B3	T 39	5SA SA312 TP304	N/A				
15L	1153	T 39	5SA SA312 TP304	N/A				
15W	1153	REDR		2.00	EQ9F	74547	4047	.54
15R	1153	4	1SA SA312 TP304	1.00	EQ9F	74547	3229	.43
16L	V3	4	1SA SA312 TP304	1.00	EQ9F	74547	3145	.42
16W	V3	REDR		2.00	EQ9F	74547	3921	.53
16R	V3	4	1SA SA312 TP304	1.00	EQ9F	74547	1591	.21
17L	V4	4	1SA SA312 TP304	1.00	EQ9F	74547	1571	.21
17W	V4	REDR		2.00	EQ9F	74547	3954	.52
17R	V4	4	1SA SA312 TP304	1.00	EQ9F	74547	311	.42
18	S2	4	1SA SA312 TP304	1.00	EQ9F	74547	3592	.48
19L	1192	4	1SA SA312 TP304	1.00	EQ9F	74547	2695	.36
19W	1192	AWBW		1.87	EQ9F	74547	781	.11
19R	1192	4	1SA SA312 TP304	3.18	EQ9F	74547	4226	.57
20L	1203	4	1SA SA312 TP304	3.18	EQ9F	74547	3744	.5
20W	1203	AWBW		1.87	EQ9F	74547	239	.03
20R	1203	4	1SA SA312 TP304	1.00	EQ9F	74547	2404	.32
21		4	1SA SA312 TP304	1.00	EQ9F	74547	2479	.33
22L	1212	4	1SA SA312 TP304	1.00	EQ9F	74547	2555	.34
22W	1212	AWBW		1.87	EQ9F	74547	2891	.39
22R	1212	4	1SA SA312 TP304	3.18	EQ9F	74547	3889	.52
23L	1223	4	1SA SA312 TP304	3.18	EQ9F	74547	4194	.56
23W	1223	AWBW		1.87	EQ9F	74547	3177	.43
23R	1223	4	1SA SA312 TP304	1.00	EQ9F	74547	1690	.23
24L	B4	4	1SA SA312 TP304	1.00	EQ9F	74547	3715	.5

IMPELL CORPORATION
QUICKPIPE VEPS 2F, 11/16/83: CYREP 17 - NOS.

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SHERN CALIFORNIA EDISON, SAN ONOORE UNIT 1
SHUTOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. #

SUBMITTED: 3-DEC-83 08:25:45 TYPIC

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STRESSES FOR EQUATION 9F

SOF	DCF	SECTION	MATERIAL	SIF	LOAD	ALLOW.	COMPUTED	STRESS
NAME	NAME	NAME	NAME	SET	STRESS	STRESS	RATIO	
					(PSI)	(PSI)		
24WL E4	TEE 1	1SA	SAT12 TP314	2.32	EGGF	74547	5091	.49
24BL E4	TEE 1	1SA	SAT12 TP314	2.32	EGGF	74547	5092	.49
24BR E4	TEE 1	1SA	SAT12 TP314	2.32	EGGF	74547	4183	.56
24WR E4	TEE 1	1SA	SAT12 TP314	2.32	EGGF	74547	4182	.56
24R E4	TEE 1	1SA	SAT12 TP314	1.18	EGGF	74547	3797	.41
25	4	1SA	SAT12 TP314	1.18	EGGF	74547	2965	.40
26	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
27L	4	1SA	SAT12 TP314	1.18	EGGF	74547	2811	.38
27W	4	1SA	SAT12 TP314	1.18	EGGF	74547	2804	.38
27R	4	1SA	SAT12 TP314	1.18	EGGF	74547	2794	.38
28L	4	1SA	SAT12 TP314	1.18	EGGF	74547	2807	.38
28W	4	1SA	SAT12 TP314	1.18	EGGF	74547	2803	.38
28R	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
29L	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
29W	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
29R	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
30L	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
30W	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
30R	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
31	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
32	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
33	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
34	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
35	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
36	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
37	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
38	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
39	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
40L	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
40W	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
40R	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
41L	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
41W	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
41R	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38
42	4	1SA	SAT12 TP314	1.18	EGGF	74547	2817	.38

SOUTHERN CALIFORN EDISON. SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 08:39:49 DYDC

STRESSES FOR EQUATION SF

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
43L	1342	4	1SA	SA312	TP314	1.80	EQSF	74547	2464	.133
43W	1342	AWBW				1.80	EQSF	74547	2771	.137
43R	1342	4	1SA	SA312	TP314	3.18	EQSF	74547	3677	.49
44L	1353	4	1SA	SA312	TP314	3.18	EQSF	74547	3659	.49
44W	1353	AWBW				1.80	EQSF	74547	2761	.137
44R	1353	4	1SA	SA312	TP314	1.80	EQSF	74547	2458	.133
45		4	1SA	SA312	TP314	1.80	EQSF	74547	2659	.136
46L	B5	4	1SA	SA312	TP314	1.80	EQSF	74547	3120	.141
46WL	B5	TEE 1				2.32	EQSF	74547	4175	.155
46BL	B5	B 5	1SA	SA312	TP314	2.32	EQSF	74547	4081	.155
46BR	B5	B 5	1SA	SA312	TP314	2.32	EQSF	74547	3987	.153
46WP	B5	TEE 1				2.32	EQSF	74547	3986	.153
46R	B5	4	1SA	SA312	TP314	1.80	EQSF	74547	2967	.140
47	S6	4	1SA	SA312	TP314	1.80	EQSF	74547	3465	.146
48		4	1SA	SA312	TP314	1.80	EQSF	74547	3116	.142
49		4	1SA	SA312	TP314	1.80	EQSF	74547	3141	.141
50		4	1SA	SA312	TP314	1.80	EQSF	74547	3219	.143
51	S7	4	1SA	SA312	TP314	1.80	EQSF	74547	3370	.145
52	S8	4	1SA	SA312	TP314	1.80	EQSF	74547	3529	.147
53L	1412	4	1SA	SA312	TP314	1.80	EQSF	74547	3419	.146
53W	1412	AWBW				1.80	EQSF	74547	4144	.154
53R	1412	4	1SA	SA312	TP314	3.18	EQSF	74547	5931	.181
54L	1423	4	1SA	SA312	TP314	3.18	EQSF	74547	5512	.174
54W	1423	AWBW				1.80	EQSF	74547	3812	.151
54R	1423	4	1SA	SA312	TP314	1.80	EQSF	74547	3230	.143
55		4	1SA	SA312	TP314	1.80	EQSF	74547	3247	.144
56L	1432	4	1SA	SA312	TP314	1.80	EQSF	74547	4241	.157
56W	1432	AWBW				1.80	EQSF	74547	5166	.169
56R	1432	4	1SA	SA312	TP314	3.18	EQSF	74547	7917	.176
57L	1443	4	1SA	SA312	TP314	3.18	EQSF	74547	8117	.177
57W	1443	AWBW				1.80	EQSF	74547	5214	.170
57R	1443	4	1SA	SA312	TP314	1.80	EQSF	74547	4077	.157
58	S9	4	1SA	SA312	TP314	1.80	EQSF	74547	3691	.150
59L	S6	4	1SA	SA312	TP314	1.80	EQSF	74547	4332	.159
59WL	S6	TEE 1				2.32	EQSF	74547	6365	.185

SOUTHERN CALIFORNIA EDISON, SAN GABRIEL UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # 1 SUBMITTED: 3-DEC-83 18:35:49 DYPG

STRESSES FOR EQUATION 5F

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
59BL	B6	E154	SSA	SA312	TP304	2.99	EQPF	74547	7734	.114
59BP	B6	E 51	SSA	SA312	TP304	2.99	EQPF	74547	6717	.090
59WR	B6	TEE 1				2.32	EQPF	74547	5574	.075
60R	B6	4	1SA	SA312	TP304	1.80	EQPF	74547	3878	.052
60L	1482	4	1SA	SA312	TP304	1.77	EQPF	74547	4275	.057
60W	1482	AWBW				1.80	EQPF	74547	5213	.070
60R	1482	4	1SA	SA312	TP304	3.18	EQPF	74547	7986	.107
61L	V5	4	1SA	SA312	TP304	3.18	EQPF	74547	7892	.106
61W	V5	AWBW				1.80	EQPF	74547	5152	.069
61R	V5	4	1SA	SA312	TP304	1.80	EQPF	74547	2117	.029
62L	V5	4	1SA	SA312	TP304	1.77	EQPF	74547	1511	.020
62W	V4	PEDR				2.77	EQPF	74547	3668	.049
62R	V6	R132	SSA	SA312	TP304	2.77	EQPF	74547	3668	.049
63L	1512	R132	SSA	SA312	TP304	2.77	EQPF	74547	5337	.072
63W	1512	PEDR				2.77	EQPF	74547	5337	.072
63R	1512	3	1SA	SA312	TP304	1.77	EQPF	74547	3971	.053
64L	1522	3	1SA	SA312	TP304	1.77	EQPF	74547	3974	.053
64W	1522	AWBW				1.80	EQPF	74547	4937	.066
64R	1522	3	1SA	SA312	TP304	2.77	EQPF	74547	6941	.092
65L	1542	3	1SA	SA312	TP304	2.77	EQPF	74547	6641	.089
65W	1542	AWBW				1.80	EQPF	74547	4775	.064
65R	1542	3	1SA	SA312	TP304	1.77	EQPF	74547	5336	.072
66	AN2	7	1SA	SA312	TP304	1.77	EQPF	74547	5339	.072
66W	AN2	AKTT				1.80	EQPF	74547	7178	.097
67	AN5	2	1SA	SA312	TP304	1.77	EQPF	74547	4165	.056
68		2	1SA	SA312	TP304	1.77	EQPF	74547	3184	.043
69	S17	2	1SA	SA312	TP304	1.77	EQPF	74547	2649	.036
70L	2 22	2	1SA	SA312	TP304	1.77	EQPF	74547	4588	.062
70W	2 22	FILW				2.10	EQPF	74547	6719	.090
70R	2 22	2	3KA	SA312	TP304	1.78	EQPF	74547	3291	.044
71L	2 27	2	3KA	SA312	TP304	1.78	EQPF	74547	337	.004
71W	2 33	FILW				2.10	EQPF	74547	4789	.064
71R	2 37	2	1SA	SA312	TP304	1.77	EQPF	74547	4475	.060
72	518	2	1SA	SA312	TP304	1.77	EQPF	74547	2137	.029
73		2	1SA	SA312	TP304	1.77	EQPF	74547	4515	.060

HERN CALIFORN EDISON, SAN ONOERE UNIT 1
 SAFE SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 9:39:49 DYPC

STRESSES FOR EQUATION 5F

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
74		2	1SA	SA312	TP304	1.78	EQ9F	74547	6800	.791
75L	2 52	2	1SA	SA312	TP304	1.78	EQ9F	74547	5314	.125
75W	2 52	2.25				2.25	EQ9F	74547	15763	.212
75R	2 52	T37	3KA	SA312	TP304	N/A				
76L	B1	T37	3KA	SA312	TP304	N/A				
76WL	B1	FILW				2.10	EQ9F	74547	8443	.113
76BL	B1	T37	3KA	SA312	TP304	1.45	EQ9F	74547	5981	.180
76BR	B1	T37	3KA	SA312	TP304	1.45	EQ9F	74547	7418	.110
76WR	B1	FILW				2.10	EQ9F	74547	17524	.141
76R	B1	T37	3KA	SA312	TP304	N/A				
77L	2 63	T37	3KA	SA312	TP304	N/A				
77W	2 63	2.25				2.25	EQ9F	74547	18525	.249
77R	2 63	2	1SA	SA312	TP304	1.78	EQ9F	74547	11755	.152
78L	2 72	2	1SA	SA312	TP304	1.78	EQ9F	74547	5817	.132
78W	2 72	FILW				2.10	EQ9F	74547	14922	.200
78R	2 72	2	3KA	SA312	TP304	1.78	EQ9F	74547	7306	.198
79L	2 83	2	3KA	SA312	TP304	1.78	EQ9F	74547	5436	.173
79W	2 83	FILW				2.10	EQ9F	74547	11195	.149
79R	2 83	2	1SA	SA312	TP304	1.78	EQ9F	74547	7393	.199
80L	2 92	2	1SA	SA312	TP304	1.78	EQ9F	74547	4234	.157
80W	2 92	FILW				2.10	EQ9F	74547	6115	.182
80R	2 92	2	1SA	SA312	TP304	1.78	EQ9F	74547	4234	.157
81		2	1SA	SA312	TP304	1.78	EQ9F	74547	5977	.190
82	ANS	2	1SA	SA312	TP304	1.78	EQ9F	74547	5877	.187
83W	ANS	FILW				2.10	EQ9F	74547	6527	.188
83	ANS	2	1SA	SA312	TP304	1.78	EQ9F	74547	4492	.161
84L	3 22	2	1SA	SA312	TP304	1.78	EQ9F	74547	4441	.161
84W	3 22	2.25				2.25	EQ9F	74547	6855	.192
84R	3 22	T37	3KA	SA312	TP304	N/A				
85L	B15	T37	3KA	SA312	TP304	N/A				
85WL	B15	FILW				2.10	EQ9F	74547	3743	.139
85BL	B15	T37	3KA	SA312	TP304	1.45	EQ9F	74547	2178	.129
85BR	B15	T37	3KA	SA312	TP304	1.45	EQ9F	74547	481	.100
85WR	B15	FILW				2.10	EQ9F	74547	49	.107
86R	B15	T37	3KA	SA312	TP304	N/A				
86L	3 33	T37	3KA	SA312	TP304	N/A				

ERN CALIFORN EDISON, SAN GLOFRE UNIT 1
 SAME SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 9:39:49 CYRO

STRESSES FOR EQUATION #5

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
86W	3 33	2.25		2.25	EQ9F	74547	941	.113
86R	3 33	2	1SA	SA312	TP3 4	74547	935	.113
87	3 42	2	1SA	SA312	TP3 4	74547	927	.112
87W	3 42	FILW		2.10	EQ9F	74547	927	.112
88W	AN11	FILW		2.10	EQ9F	74547	92547	.3 2
88	AN11	.75	8SA	SA312	TP3 4	74547	15996	.215
89L	4 22	.75	8SA	SA312	TP3 4	74547	11791	.159
89W	4 22	2.25		2.25	EQ9F	74547	16773	.224
89R	4 22	T11	3KA	SA312	TP3 4	N/A		
90L	E17	T11	3KA	SA312	TP3 4	N/A		
90WL	E17	FILW		2.10	EQ9F	74547	17747	.339
90BL	E17	T11	3KA	SA312	TP3 4	74547	12948	.174
90BP	E17	T11	3KA	SA312	TP3 4	74547	18713	.251
90WR	E17	FILW		2.10	EQ9F	74547	26611	.359
90R	E17	T11	3KA	SA312	TP3 4	N/A		
91L	4 33	T11	3KA	SA312	TP3 4	N/A		
91W	4 33	2.25		2.25	EQ9F	74547	27713	.372
91R	4 33	.75	8SA	SA312	TP3 4	74547	19298	.245
92L	4 42	.75	8SA	SA312	TP3 4	74547	17817	.239
92W	4 42	FILW		2.10	EQ9F	74547	25417	.341
92R	4 42	*		SA312	TP3 4	74547	17817	.239
93L	4 53	*		SA312	TP3 4	74547	17317	.232
93W	4 53	FILW		2.10	EQ9F	74547	24617	.331
93R	4 53	.75	8SA	SA312	TP3 4	74547	17317	.232
94		.75	8SA	SA312	TP3 4	74547	13547	.182
95L	V27	.75	8SA	SA312	TP3 4	74547	11178	.137
95W	V27	2.25		2.25	EQ9F	74547	14112	.188
95R	V27	.75	16A	SA312	TP3 4	74547	51 1	.069
96L	V28	.75	16A	SA312	TP3 4	74547	4887	.065
96W	V28	2.25		2.25	EQ9F	74547	17134	.175
96R	V28	.75	8SA	SA312	TP3 4	74547	9588	.128
97	S35	.75	8SA	SA312	TP3 4	74547	8917	.121
98		.75	8SA	SA312	TP3 4	74547	71 7	.095
99L	4 52	.75	8SA	SA312	TP3 4	74547	8458	.114
99W	4 52	FILW		2.10	EQ9F	74547	11747	.144

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SAFE SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:39:49 DYPC

STRESSES FOR EQUATION SF

SOP NAME	DCF NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
99R	4 92	*	SA312 TP304	1.25	EQSF	74547	8499	.114
100L	4103	*	SA312 TP304	1.25	EQSF	74547	8559	.115
100W	4103	FILW		2.10	EQSF	74547	10833	.145
100R	4103	.75 8SA	SA312 TP304	1.25	EQSF	74547	8559	.115
101		.75 8SA	SA312 TP304	1.25	EQSF	74547	7836	.105
102	536	.75 8SA	SA312 TP304	1.25	EQSF	74547	8384	.112
103		.75 8SA	SA312 TP304	1.25	EQSF	74547	8346	.112
104		.75 8SA	SA312 TP304	1.25	EQSF	74547	8259	.111
105		.75 8SA	SA312 TP304	1.25	EQSF	74547	8699	.117
106L	4122	.75 8SA	SA312 TP304	1.25	EQSF	74547	11382	.153
106W	4122	FILW		2.10	EQSF	74547	15289	.205
106R	4122	.75 43KA	SA312 TP304	1.25	EQSF	74547	11382	.153
107L	4133	.75 43KA	SA312 TP304	1.25	EQSF	74547	11464	.154
107W	4133	FILW		2.10	EQSF	74547	15409	.207
107R	4133	.75 8SA	SA312 TP304	1.25	EQSF	74547	11464	.154
108L	4142	.75 8SA	SA312 TP304	1.25	EQSF	74547	12791	.172
108W	4142	FILW		2.10	EQSF	74547	17499	.235
108R	4142	*	SA312 TP304	1.25	EQSF	74547	12791	.172
109L	4153	*	SA312 TP304	1.25	EQSF	74547	13102	.176
109W	4153	FILW		2.10	EQSF	74547	17989	.241
109R	4153	.75 8SA	SA312 TP304	1.25	EQSF	74547	13103	.176
110	AN12	.75 8SA	SA312 TP304	1.25	EQSF	74547	13286	.178
110W	AN12	2.25		2.25	EQSF	74547	19255	.259
111	AN15	2 1SA	SA312 TP304	1.25	EQSF	74547	7235	.097
112L	5 22	2 1SA	SA312 TP304	1.25	EQSF	74547	7106	.096
112W	5 22	2.25		2.25	EQSF	74547	11391	.153
112R	5 22	T37 3KA	SA312 TP304	N/A				
113L	B20	T37 3KA	SA312 TP304	N/A				
113WL	B20	FILW		2.10	EQSF	74547	6329	.085
113BL	B2	T37 3KA	SA312 TP304	1.45	EQSF	74547	4519	.061
113BR	B20	T37 3KA	SA312 TP304	1.45	EQSF	74547	4091	.055
113WR	B20	FILW		2.10	EQSF	74547	5712	.077
113R	B2	T37 3KA	SA312 TP304	N/A				
114L	5 33	T37 3KA	SA312 TP304	N/A				
114W	5 33	2.25		2.25	EQSF	74547	929	.011

IMPELL CORPICATION
QUICKPIPE VERS 22. 11/5/82: CYBER 17. - NOS.

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VERA CALIFORNIA EDISON. SAN ONOPE UNIT 3
SAFE SHUTDOWN PIPING FUNCTIONALITY CRITFRIA
CALC. NO: CV-12
PROBLEM = CV12

FEV. 2 SUBMITTED: 5-DEC-83 4:28:48 NYPC

STRESSES FOR EQUATION 5F

SOF NAME	EQD NAME	SECTION NAME	MATERIAL NAME	GIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
114R	E 33	2	SA312 TP304	1.17	EG9F	74547	5284	.71
115	SG1	2	SA312 TP304	1.17	EG9F	74547	927	.12
116W	EG.	FILW	SA312 TP304	2.11	EG9F	74547	9415	.126
116	EG	TP7	SA312 TP304	1.45	EG9F	74547	4452	.6
117L	E 14	2.35	SA312 TP304	N/A				
117W	E 14	2.35	SA312 TP304	2.25	EG9F	74547	16429	.215
117E	E 14	2	SA312 TP304	1.17	EG9F	74547	9975	.132
118L	V38	2.25	SA312 TP304	1.17	EG9F	74547	9837	.132
118W	V38	2.25	SA312 TP304	2.25	EG9F	74547	15942	.214
118	V35	2	SA312 TP304	1.17	EG9F	74547	4715	.64
119L	V37	2	SA312 TP304	1.17	EG9F	74547	4696	.63
119W	V37	FEDR	SA312 TP304	2.11	EG9F	74547	14825	.191
119R	V37	2	SA312 TP304	1.17	EG9F	74547	9767	.131
120L	E 42	2	SA312 TP304	1.17	EG9F	74547	9845	.132
120W	E 42	FILW	SA312 TP304	2.11	EG9F	74547	14873	.211
120R	E 42	2	SA312 TP304	1.17	EG9F	74547	7333	.098
121L	E 53	2	SA312 TP304	1.17	EG9F	74547	8267	.111
121W	E 53	FILW	SA312 TP304	2.11	EG9F	74547	14875	.226
121R	E 53	2	SA312 TP304	1.17	EG9F	74547	11153	.148
122L	E 42	2	SA312 TP304	1.17	EG9F	74547	11423	.157
122W	E 42	FILW	SA312 TP304	2.11	EG9F	74547	17456	.234
122R	E 42	2	SA312 TP304	1.17	EG9F	74547	6346	.085
123L	E 75	2	SA312 TP304	1.17	EG9F	74547	7773	.104
123W	E 75	FILW	SA312 TP304	2.11	EG9F	74547	15996	.215
123R	E 75	2	SA312 TP304	1.17	EG9F	74547	11402	.154
124L	V36	2	SA312 TP304	1.17	EG9F	74547	11749	.159
124W	V36	2.25	SA312 TP304	2.25	EG9F	74547	14826	.206
124R	V36	2	SA312 TP304	1.17	EG9F	74547	4946	.66
125L	V35	2	SA312 TP304	1.17	EG9F	74547	3188	.43
125W	V35	FEDR	SA312 TP304	2.11	EG9F	74547	9464	.127
125R	V35	2	SA312 TP304	1.17	EG9F	74547	4614	.62
126L	V34	2	SA312 TP304	1.17	EG9F	74547	6442	.86
126W	V34	2.25	SA312 TP304	2.25	EG9F	74547	11273	.157
126R	V34	2	SA312 TP304	1.17	EG9F	74547	316	.42
127L	V33	2	SA312 TP304	1.17	EG9F	74547	7157	.941

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 10:35:49 BYFC

STRESSES FOR EQUATION 5F

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
127W	V33	REDP		2.10	EQ9F	74547	9140	.123
127R	V33	2	1SA SA312 TP304	1.00	EQ9F	74547	6402	.086
128L	6122	2	1SA SA312 TP304	1.00	EQ9F	74547	6611	.089
128W	6122	FILW		2.10	EQ9F	74547	9879	.133
128R	6122	2	3KA SA312 TP304	1.78	EQ9F	74547	4842	.065
129L	6133	2	3KA SA312 TP304	1.78	EQ9F	74547	5396	.072
129W	6133	FILW		2.10	EQ9F	74547	11112	.149
129R	6133	2	1SA SA312 TP304	1.00	EQ9F	74547	7331	.098
130L		2	1SA SA312 TP304	1.00	EQ9F	74547	9765	.131
131	S67	2	1SA SA312 TP304	1.00	EQ9F	74547	12929	.172
132		2	1SA SA312 TP304	1.00	EQ9F	74547	7130	.094
133		2	1SA SA312 TP304	1.00	EQ9F	74547	5311	.071
134	S59	2	1SA SA312 TP304	1.00	EQ9F	74547	8026	.108
135L	6162	2	1SA SA312 TP304	1.00	EQ9F	74547	5096	.068
135W	6162	FILW		2.10	EQ9F	74547	13797	.185
135R	6162	2	3KA SA312 TP304	1.78	EQ9F	74547	6758	.091
136L	6173	2	3KA SA312 TP304	1.78	EQ9F	74547	7042	.094
136W	6173	FILW		2.10	EQ9F	74547	14379	.193
136R	6173	2	1SA SA312 TP304	1.00	EQ9F	74547	5467	.074
137	S58	2	1SA SA312 TP304	1.00	EQ9F	74547	8468	.114
138		2	1SA SA312 TP304	1.00	EQ9F	74547	7399	.099
139		2	1SA SA312 TP304	1.00	EQ9F	74547	6493	.087
140		2	1SA SA312 TP304	1.00	EQ9F	74547	6119	.081
141		2	1SA SA312 TP304	1.00	EQ9F	74547	6416	.086
142L	6192	2	1SA SA312 TP304	1.00	EQ9F	74547	6576	.088
142W	6192	FILW		2.10	EQ9F	74547	14455	.194
142R	6192	2	3KA SA312 TP304	1.78	EQ9F	74547	5123	.069
143L	6203	2	3KA SA312 TP304	1.78	EQ9F	74547	5181	.069
143W	6203	FILW		2.10	EQ9F	74547	14573	.196
143R	6203	2	1SA SA312 TP304	1.00	EQ9F	74547	7151	.096
144L	6212	2	1SA SA312 TP304	1.00	EQ9F	74547	6921	.093
144W	6212	FILW		2.10	EQ9F	74547	14748	.199
144R	6212	2	3KA SA312 TP304	1.78	EQ9F	74547	5191	.070
145L	6223	2	3KA SA312 TP304	1.78	EQ9F	74547	4428	.059
145W	6223	FILW		2.10	EQ9F	74547	9442	.127

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12
 PROBLEM # CV12 REV. #

SUBMITTED: 3-DEC-83 8:39:40 DYPC

STRESSES FOR EQUATION 5F

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
145R	6223	2	1SA	SA312	TP304	1.00	EQ9F	74547	6333	.085
146		2	1SA	SA312	TP304	1.00	EQ9F	74547	5161	.069
147	SE7	2	1SA	SA312	TP304	1.00	EQ9F	74547	5129	.067
148		2	1SA	SA312	TP304	1.00	EQ9F	74547	4818	.064
149		2	1SA	SA312	TP304	1.00	EQ9F	74547	5151	.068
150	SEE	2	1SA	SA312	TP304	1.00	EQ9F	74547	5593	.075
151		2	1SA	SA312	TP304	1.00	EQ9F	74547	6369	.085
152		2	1SA	SA312	TP304	1.00	EQ9F	74547	7152	.096
153	SEE	2	1SA	SA312	TP304	1.00	EQ9F	74547	7745	.104
154		2	1SA	SA312	TP304	1.00	EQ9F	74547	7687	.103
155		2	1SA	SA312	TP304	1.00	EQ9F	74547	7324	.098
156		2	1SA	SA312	TP304	1.00	EQ9F	74547	6276	.084
157		2	1SA	SA312	TP304	1.00	EQ9F	74547	4785	.064
158	SEE	2	1SA	SA312	TP304	1.00	EQ9F	74547	3873	.052
159	SEE	2	1SA	SA312	TP304	1.00	EQ9F	74547	2121	.028
160		2	1SA	SA312	TP304	1.00	EQ9F	74547	3847	.052
161		2	1SA	SA312	TP304	1.00	EQ9F	74547	6283	.084
162L	6282	2	1SA	SA312	TP304	1.00	EQ9F	74547	5132	.071
162W	6282	FILW				2.10	EQ9F	74547	13693	.184
162R	6282	2	3KA	SA312	TP304	1.78	EQ9F	74547	6717	.090
163L	6293	2	3KA	SA312	TP304	1.78	EQ9F	74547	7132	.094
163W	6293	FILW				2.10	EQ9F	74547	14358	.193
163R	6293	2	1SA	SA312	TP304	1.00	EQ9F	74547	9455	.127
164	SEE	2	1SA	SA312	TP304	1.00	EQ9F	74547	9832	.132
165L	6312	2	1SA	SA312	TP304	1.00	EQ9F	74547	9397	.126
165W	6312	FILW				2.10	EQ9F	74547	14267	.191
165R	6312	2	3KA	SA312	TP304	1.78	EQ9F	74547	6988	.094
166L	6323	2	3KA	SA312	TP304	1.78	EQ9F	74547	6155	.083
166W	6323	FILW				2.10	EQ9F	74547	12573	.168
166R	6323	2	1SA	SA312	TP304	1.00	EQ9F	74547	8121	.108
167	SEE	2	1SA	SA312	TP304	1.00	EQ9F	74547	5165	.069
168		2	1SA	SA312	TP304	1.00	EQ9F	74547	3535	.047
169		2	1SA	SA312	TP304	1.00	EQ9F	74547	2915	.039
170		2	1SA	SA312	TP304	1.00	EQ9F	74547	3282	.044
171	SEE	2	1SA	SA312	TP304	1.00	EQ9F	74547	3827	.051

ERN CALIFORNIA EDISON, SAN GONRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. #

SUBMITTED: 3-FEC-83 10:30:40 CYPEE

STRESSES FOR EQUATION OF

SOP NAME	CCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
172L	6352	2	SA312 TP314	1.77	EGGF	74547	3722	1.37
172W	6352	FILW		2.17	EGGF	74547	3755	1.57
172R	6352	2	SA312 TP314	1.78	EGGF	74547	1947	1.25
173L	6363	2	SA312 TP314	1.78	EGGF	74547	1494	1.22
173W	6363	FILW		2.17	EGGF	74547	3774	1.41
173R	6363	2	SA312 TP314	1.77	EGGF	74547	2265	1.37
174L	6372	2	SA312 TP314	1.77	EGGF	74547	2668	1.28
174W	6372	FILW		2.17	EGGF	74547	3724	1.37
174R	6372	2	SA312 TP314	1.78	EGGF	74547	1743	1.18
175L	6383	2	SA312 TP314	1.78	EGGF	74547	1193	1.16
175W	6383	FILW		2.17	EGGF	74547	2419	1.32
175R	6383	2	SA312 TP314	1.77	EGGF	74547	1875	1.22
176	6392	2	SA312 TP314	1.77	EGGF	74547	2589	1.32
177L	6392	2	SA312 TP314	1.77	EGGF	74547	2538	1.31
177W	6392	FILW		2.17	EGGF	74547	4126	1.55
177R	6392	2	SA312 TP314	1.78	EGGF	74547	2126	1.27
178L	6403	2	SA312 TP314	1.78	EGGF	74547	2152	1.29
178W	6403	FILW		2.17	EGGF	74547	4176	1.53
178R	6403	2	SA312 TP314	1.78	EGGF	74547	2599	1.44
179	649	2	SA312 TP314	1.78	EGGF	74547	3224	1.42
180	649	2	SA312 TP314	1.78	EGGF	74547	2757	1.37
181	649	2	SA312 TP314	1.78	EGGF	74547	2812	1.38
182	649	2	SA312 TP314	1.78	EGGF	74547	3271	1.45
183L	6452	2	SA312 TP314	1.77	EGGF	74547	3757	1.45
183W	6452	FILW		2.17	EGGF	74547	4755	1.64
183R	6452	2	SA312 TP314	1.78	EGGF	74547	2336	1.31
184L	6443	2	SA312 TP314	1.78	EGGF	74547	2491	1.32
184W	6443	FILW		2.17	EGGF	74547	4927	1.64
184R	6443	2	SA312 TP314	1.78	EGGF	74547	3446	1.46
185L	6452	2	SA312 TP314	1.78	EGGF	74547	3446	1.46
185W	6452	FILW		2.17	EGGF	74547	4319	1.49
185R	6452	2	SA312 TP314	1.78	EGGF	74547	3413	1.39
186L	6463	2	SA312 TP314	1.78	EGGF	74547	2813	1.31
186W	6463	FILW		2.17	EGGF	74547	4444	1.60
186R	6463	2	SA312 TP314	1.78	EGGF	74547	3237	1.39

ERN CALIFORNIA EDISON. SAN DIEGO UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-82 R:20:40 DYPO

STRESSES FOR EQUATION SF

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
187	S47	2	ISA SA312 TP314	1.00	EGGF	74547	27.5	.36
188	6482	2	ISA SA312 TP314	1.00	EGGF	74547	3020	.41
189L	6482	2	ISA SA312 TP314	1.00	EGGF	74547	4842	.65
189M	6482	2	ISA SA312 TP314	2.10	EGGF	74547	7093	.95
189P	6482	2	ISA SA312 TP314	1.79	EGGF	74547	3475	.47
190L	6482	2	ISA SA312 TP314	1.78	EGGF	74547	3697	.50
190M	6482	2	ISA SA312 TP314	2.10	EGGF	74547	7539	.99
190P	6482	2	ISA SA312 TP314	1.00	EGGF	74547	5124	.68
191L	6502	2	ISA SA312 TP314	1.00	EGGF	74547	4870	.65
191M	6502	2	ISA SA312 TP314	2.25	EGGF	74547	7581	.99
191P	6502	2	ISA SA312 TP314	N/A	EGGF	74547	2911	.39
192	B19	TP37	SA312 TP314	1.45	EGGF	74547	4702	.64
192M	B19	TP37	SA312 TP314	2.10	EGGF	74547	20021	.268
193M	B17	FILW	SA312 TP314	2.10	EGGF	74547	14392	.193
193	B17	FILW	SA312 TP314	1.00	EGGF	74547	15467	.201
194L	714	T11	SA312 TP314	N/A	EGGF	74547	13411	.185
194M	714	T11	SA312 TP314	2.25	EGGF	74547	12774	.171
194P	714	T11	SA312 TP314	1.00	EGGF	74547	10391	.247
195L	722	.75	SA312 TP314	2.25	EGGF	74547	15632	.205
195M	722	.75	SA312 TP314	1.00	EGGF	74547	13527	.181
195P	722	.75	SA312 TP314	2.25	EGGF	74547	15632	.205
196L	B16	FILW	SA312 TP314	N/A	EGGF	74547	13527	.181
196M	B16	FILW	SA312 TP314	2.10	EGGF	74547	21464	.288
196P	B16	FILW	SA312 TP314	1.00	EGGF	74547	13527	.181
197L	733	T11	SA312 TP314	N/A	EGGF	74547	13527	.181
197M	733	T11	SA312 TP314	2.25	EGGF	74547	13527	.181
197P	733	T11	SA312 TP314	1.00	EGGF	74547	13527	.181
198L	740	.75	SA312 TP314	1.00	EGGF	74547	13527	.181
198M	740	.75	SA312 TP314	2.25	EGGF	74547	13527	.181
198P	740	.75	SA312 TP314	1.00	EGGF	74547	13527	.181
199L	742	T11	SA312 TP314	N/A	EGGF	74547	13527	.181
199M	742	T11	SA312 TP314	2.25	EGGF	74547	13527	.181
199P	742	T11	SA312 TP314	1.00	EGGF	74547	13527	.181
200L	742	T11	SA312 TP314	2.25	EGGF	74547	13527	.181
200M	742	T11	SA312 TP314	1.00	EGGF	74547	13527	.181
200P	742	T11	SA312 TP314	2.25	EGGF	74547	13527	.181

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 16:39:40 DYPO

STRESSES FOR EQUATION SF

SOP NAME	DCF NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
199BL	B18	T11	3KA	SA312	TP304	1.01	EQ9F	74547	11748	.158
199BR	B18	T11	3KA	SA312	TP304	1.01	EQ9F	74547	11727	.157
199WR	B18	FILW				2.18	EQ9F	74547	15824	.212
199R	B18	T11	3KA	SA312	TP304	N/A				
200L	7 53	T11	3KA	SA312	TP304	N/A				
200W	7 53	2.25				2.25	EQ9F	74547	16034	.215
201R	7 53	.75	8SA	SA312	TP304	1.01	EQ9F	74547	11377	.153
201W	S33	.75	8SA	SA312	TP304	1.01	EQ9F	74547	8873	.119
202L	V24	.75	8SA	SA312	TP304	1.01	EQ9F	74547	8326	.112
202W	V24	2.25				2.25	EQ9F	74547	10886	.146
202R	V24	.75	16A	SA312	TP304	1.01	EQ9F	74547	4395	.059
203L	V25	.75	16A	SA312	TP304	1.01	EQ9F	74547	4218	.056
203W	V25	2.25				2.25	EQ9F	74547	10057	.135
203R	V25	.75	8SA	SA312	TP304	1.01	EQ9F	74547	7835	.105
204		.75	8SA	SA312	TP304	1.01	EQ9F	74547	7956	.107
205L	7 92	.75	8SA	SA312	TP304	1.01	EQ9F	74547	8151	.109
205W	7 92	FILW				2.18	EQ9F	74547	10151	.137
205R	7 92	*		SA312	TP304	1.25	EQ9F	74547	8151	.109
206L	7103	*		SA312	TP304	1.25	EQ9F	74547	8163	.109
206W	7103	FILW				2.18	EQ9F	74547	10210	.137
206R	7103	.75	8SA	SA312	TP304	1.01	EQ9F	74547	8163	.109
207		.75	8SA	SA312	TP304	1.01	EQ9F	74547	4989	.064
208	S34	.75	8SA	SA312	TP304	1.01	EQ9F	74547	8125	.108
209		.75	8SA	SA312	TP304	1.01	EQ9F	74547	8251	.111
210		.75	8SA	SA312	TP304	1.01	EQ9F	74547	7835	.105
211		.75	8SA	SA312	TP304	1.01	EQ9F	74547	7909	.106
212L	7102	.75	8SA	SA312	TP304	1.01	EQ9F	74547	11028	.148
212W	7102	FILW				2.18	EQ9F	74547	14722	.197
212R	7102	*		SA312	TP304	1.25	EQ9F	74547	11028	.148
213L	7103	*		SA312	TP304	1.25	EQ9F	74547	11411	.153
213W	7103	FILW				2.18	EQ9F	74547	15323	.206
213R	7103	.75	8SA	SA312	TP304	1.01	EQ9F	74547	11411	.153
214	AN1	.75	8SA	SA312	TP304	1.01	EQ9F	74547	11847	.158
214W	AN1	2.25				2.25	EQ9F	74547	14759	.200
215	B18	FILW				2.18	EQ9F	74547	10057	.135

SOUTHERN CALIFORNIA EDISON. SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:39:49 DYPG

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STRESSES FOR EQUATION 9F

SOP NAME	DCF NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
215	B18	T11	3KA	SA312	TP304	1.01	EQ9F	74547	8166	.108
216L	8 14	T11	3KA	SA312	TP304	N/A				
216W	8 14	2.25				2.25	EQ9F	74547	9773	.131
216R	9 14	.75	16A	SA312	TP304	1.00	EQ9F	74547	4144	.056
217	V26	.75	16A	SA312	TP304	1.00	EQ9F	74547	2977	.040
217W	V26	FILW				2.10	EQ9F	74547	2977	.040
218W	B16	FILW				2.10	EQ9F	74547	16182	.217
218	B16	T11	3KA	SA312	TP304	1.01	EQ9F	74547	11955	.160
219L	9 14	T11	3KA	SA312	TP304	N/A				
219W	9 14	2.25				2.25	EQ9F	74547	15494	.208
219R	9 14	.75	8SA	SA312	TP304	1.00	EQ9F	74547	11157	.149
220L	9 21	.75	8SA	SA312	TP304	1.00	EQ9F	74547	11099	.149
220W	9 21	FILW				2.10	EQ9F	74547	14832	.199
220R	9 21	*		SA312	TP304	1.25	EQ9F	74547	11099	.149
221L	9 23	*		SA312	TP304	1.25	EQ9F	74547	12708	.169
221W	9 23	FILW				2.10	EQ9F	74547	14219	.191
221R	9 23	.75	8SA	SA312	TP304	1.00	EQ9F	74547	11708	.156
222L	V23	.75	8SA	SA312	TP304	1.00	EQ9F	74547	11721	.156
222W	V23	2.25				2.25	EQ9F	74547	14927	.200
222R	V23	2	16A	SA312	TP304	1.00	EQ9F	74547	1191	.016
223L	V22	2	16A	SA312	TP304	1.00	EQ9F	74547	1690	.023
223W	V22	AMBW				1.80	EQ9F	74547	2114	.028
223R	V22	2	16A	SA312	TP304	1.00	EQ9F	74547	1690	.023
224L	V21	2	16A	SA312	TP304	1.00	EQ9F	74547	1461	.020
224W	V21	REDR				2.10	EQ9F	74547	3962	.053
224R	V21	2	1SA	SA312	TP304	1.00	EQ9F	74547	2950	.040
225L	9 62	2	1SA	SA312	TP304	1.00	EQ9F	74547	3695	.050
225W	9 62	FILW				2.10	EQ9F	74547	5297	.071
225R	9 62	2	3KA	SA312	TP304	1.78	EQ9F	74547	2596	.035
226L	9 73	2	3KA	SA312	TP304	1.78	EQ9F	74547	2541	.034
226W	9 73	FILW				2.10	EQ9F	74547	5172	.069
226R	9 73	2	1SA	SA312	TP304	1.00	EQ9F	74547	3602	.048
227L	9 82	2	1SA	SA312	TP304	1.00	EQ9F	74547	3639	.049
227W	9 82	FILW				2.10	EQ9F	74547	5199	.070
227R	9 82	2	3KA	SA312	TP304	1.78	EQ9F	74547	2557	.034

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 14:35:40 DYPC

STRESSES FOR EQUATION 5F

SOF NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO	
228L	9 93	2	3KA	SA312 TP304	1.78	EQ9F	74547	3228	.143
228W	9 93	FILW			2.10	EQ9F	74547	6587	.188
228R	9 93	2	1SA	SA312 TP304	1.00	EQ9F	74547	4516	.161
229L	9102	2	1SA	SA312 TP304	1.00	EQ9F	74547	4651	.162
229W	9102	2.25			2.25	EQ9F	74547	7211	.197
229R	9102	T37	3KA	SA312 TP304	N/A				
230	E14	T37	3KA	SA312 TP304	1.45	EQ9F	74547	3177	.141
230W	E14	FILW			2.10	EQ9F	74547	4244	.157
230R	E14	FILW			2.10	EQ9F	74547	2531	.175
231	E14	T37	3KA	SA312 TP304	1.45	EQ9F	74547	2195	.129
232L	0 14	T37	3KA	SA312 TP304	N/A				
232W	0 14	2.25			2.25	EQ9F	74547	4632	.162
232R	0 14	2	1SA	SA312 TP304	1.00	EQ9F	74547	3122	.142
233L	0 22	2	1SA	SA312 TP304	1.00	EQ9F	74547	2477	.133
233W	0 22	2.25			2.25	EQ9F	74547	3543	.148
233R	0 22	T37	3KA	SA312 TP304	N/A				
234L	E14	T37	3KA	SA312 TP304	N/A				
234WL	E14	FILW			2.10	EQ9F	74547	2155	.129
234BL	E14	T37	3KA	SA312 TP304	1.45	EQ9F	74547	1633	.122
234BR	E14	T37	3KA	SA312 TP304	1.45	EQ9F	74547	2429	.135
234WR	E14	FILW			2.10	EQ9F	74547	3597	.148
234R	E14	T37	3KA	SA312 TP304	N/A				
235L	0 33	T37	3KA	SA312 TP304	N/A				
235W	0 33	2.25			2.25	EQ9F	74547	4121	.182
235R	0 33	2	1SA	SA312 TP304	1.00	EQ9F	74547	4105	.154
236L	V27	2	1SA	SA312 TP304	1.00	EQ9F	74547	3967	.153
236W	V27	2.25			2.25	EQ9F	74547	6050	.182
236R	V27	2	1SA	SA312 TP304	1.00	EQ9F	74547	1949	.126
237L	V19	2	1SA	SA312 TP304	1.00	EQ9F	74547	1435	.115
237W	V19	PEDR			2.00	EQ9F	74547	3856	.152
237R	V19	2	1SA	SA312 TP304	1.00	EQ9F	74547	2516	.130
238L	0 62	2	1SA	SA312 TP304	1.00	EQ9F	74547	2647	.136
238W	0 62	FILW			2.10	EQ9F	74547	3634	.145
238R	0 62	2	3KA	SA312 TP304	1.78	EQ9F	74547	1785	.124
239L	0 73	2	3KA	SA312 TP304	1.78	EQ9F	74547	1771	.123

HERN CALIFORM EDISON, SAN ONOFF UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NC: CV-12
PROBLEM # CV12

REV. #

SUBMITTED:

2-DEC-83

08:59:45

TYPEO

STRESSES FOR EQUATION OF

SOF	ECF	SECTION	MATERIAL	SIF	LOAD	ALLOW.	COMPUTED	STRESS
NAME	NAME	NAME	NAME	SET	STRESS	(PSI)	STRESS	RATIO

235W	0.73	FILW	SA312 TP314	2.10	EG9F	74547	3517	0.47
235R	0.73	2	SA312 TP314	1.00	EG9F	74547	3571	0.34
240	S32	2	SA312 TP314	1.00	EG9F	74547	3963	0.33
241L	1.12	2	SA312 TP314	1.00	EG9F	74547	2614	0.35
241W	1.12	FILW	SA312 TP314	2.10	EG9F	74547	3584	0.46
241R	1.12	2	SA312 TP314	1.78	EG9F	74547	1763	0.24
242L	1.12	2	SA312 TP314	1.78	EG9F	74547	1494	0.22
242W	1.12	FILW	SA312 TP314	2.10	EG9F	74547	3448	0.46
242R	1.12	2	SA312 TP314	1.00	EG9F	74547	2327	0.34
243	1.12	2	SA312 TP314	1.00	EG9F	74547	2179	0.30
244L	1.12	2	SA312 TP314	1.00	EG9F	74547	1999	0.25
244W	1.12	FILW	SA312 TP314	2.10	EG9F	74547	2442	0.33
244R	1.12	2	SA312 TP314	1.78	EG9F	74547	1284	0.14
245L	1.12	2	SA312 TP314	1.78	EG9F	74547	1234	0.17
245W	1.12	FILW	SA312 TP314	2.10	EG9F	74547	2513	0.34
245R	1.12	2	SA312 TP314	1.00	EG9F	74547	1927	0.24
246	S31	2	SA312 TP314	1.00	EG9F	74547	1845	0.25
247	1.12	2	SA312 TP314	1.00	EG9F	74547	2111	0.27
248	1.12	2	SA312 TP314	1.00	EG9F	74547	2167	0.28
249L	1.12	2	SA312 TP314	1.00	EG9F	74547	9239	0.32
249W	1.12	FILW	SA312 TP314	2.10	EG9F	74547	2692	0.40
249R	1.12	2	SA312 TP314	1.78	EG9F	74547	1474	0.15
250L	1.12	2	SA312 TP314	1.78	EG9F	74547	1614	0.16
250W	1.12	FILW	SA312 TP314	2.10	EG9F	74547	3281	0.44
250R	1.12	2	SA312 TP314	1.00	EG9F	74547	2421	0.32
251	S31	2	SA312 TP314	1.00	EG9F	74547	2355	0.34
252	1.12	2	SA312 TP314	1.00	EG9F	74547	2371	0.33
253	1.12	2	SA312 TP314	1.00	EG9F	74547	2423	0.33
254	1.12	2	SA312 TP314	1.00	EG9F	74547	2147	0.28
255L	1.12	FILW	SA312 TP314	2.10	EG9F	74547	3773	0.48
255W	1.12	2	SA312 TP314	1.78	EG9F	74547	341	0.04
255R	1.12	2	SA312 TP314	1.00	EG9F	74547	2658	0.36
256L	1.12	FILW	SA312 TP314	2.10	EG9F	74547	3813	0.50
256W	1.12	2	SA312 TP314	1.78	EG9F	74547	3723	0.49
256R	1.12	2	SA312 TP314	1.00	EG9F	74547	3717	0.49

() NERN CALIFORN EDISON, SAN ONOFRE UNIT 1
 SHUTDOWN FIRING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 8:39:49 DYPO

STRESSES FOR EQUATION 9F

SOF NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO	
257L	2212	2	1SA	SA312	TP314	1.01 EQ9F	74547	3539	.47
257W	2212	2.25				2.25 EQ9F	74547	5335	.72
257R	2212	B150	1SA	SA312	TP314	N/A			
258	B4	B150	1SA	SA312	TP314	2.32 EQ9F	74547	4634	.65
258W	B4	TEE 1				2.32 EQ9F	74547	5423	.73
259W	B10	FILW				2.10 EQ9F	74547	14825	.199
259	B10	T37	3KA	SA312	TP314	1.45 EQ9F	74547	11351	.135
260L	A 14	T37	3KA	SA312	TP314	N/A			
260W	A 14	2.25				2.25 EQ9F	74547	24469	.328
260R	A 14	2	1SA	SA312	TP314	1.00 EQ9F	74547	14878	.200
261L	V10	2	1SA	SA312	TP314	1.00 EQ9F	74547	5354	.72
261W	V10	2.25				2.25 EQ9F	74547	6398	.863
261R	V10	2	16A	SA312	TP314	1.00 EQ9F	74547	2593	.35
262L	VOP1	2	16A	SA312	TP314	1.00 EQ9F	74547	3621	.48
262W	VOP1	AMEW				1.80 EQ9F	74547	4711	.63
262R	VOP1	2	16A	SA312	TP314	1.00 EQ9F	74547	4197	.56
263L	V9	2	16A	SA312	TP314	1.00 EQ9F	74547	4515	.61
263W	V9	REDR				2.00 EQ9F	74547	13586	.184
263R	V9	2	1SA	SA312	TP314	1.00 EQ9F	74547	5433	.73
264L	A 52	2	1SA	SA312	TP314	1.00 EQ9F	74547	9535	.128
264W	A 52	FILW				2.10 EQ9F	74547	14485	.194
264R	A 52	2	3KA	SA312	TP314	1.78 EQ9F	74547	7194	.96
265L	A 63	2	3KA	SA312	TP314	1.78 EQ9F	74547	7051	.95
265W	A 63	FILW				2.10 EQ9F	74547	14356	.193
265R	A 63	2	1SA	SA312	TP314	1.00 EQ9F	74547	9479	.127
266	S15	2	1SA	SA312	TP314	1.00 EQ9F	74547	9153	.123
267		2	1SA	SA312	TP314	1.00 EQ9F	74547	7476	.100
268L	A 82	2	1SA	SA312	TP314	1.00 EQ9F	74547	5550	.75
268W	A 82	FILW				2.10 EQ9F	74547	6915	.93
268R	A 82	2	3KA	SA312	TP314	1.78 EQ9F	74547	4265	.57
269L	A 93	2	3KA	SA312	TP314	1.78 EQ9F	74547	426	.005
269W	A 93	FILW				2.10 EQ9F	74547	6710	.090
269R	A 93	2	1SA	SA312	TP314	1.00 EQ9F	74547	5551	.75
27L		2	1SA	SA312	TP314	1.00 EQ9F	74547	5550	.75
271L	A1 2	2	1SA	SA312	TP314	1.00 EQ9F	74547	5550	.75

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 3
SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

REV. #

SUBMITTED: 3-DEC-83

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STRESSES FOR EQUATION 5F

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
271W	A112	FILW		2.11	EQ9F	74547	8265	.111
271R	A112	2	3KA SA312 TP304	1.78	EQ9F	74547	4752	.064
272L	A113	2	3KA SA312 TP304	1.78	EQ9F	74547	3845	.052
272W	A113	FILW		2.10	EQ9F	74547	7842	.105
272R	A113	2	1SA SA312 TP304	1.00	EQ9F	74547	5317	.071
273		2	1SA SA312 TP304	1.00	EQ9F	74547	3251	.044
274		2	1SA SA312 TP304	1.00	EQ9F	74547	3753	.051
275	S14	2	1SA SA312 TP304	1.00	EQ9F	74547	5189	.068
276	S13	2	1SA SA312 TP304	1.00	EQ9F	74547	7747	.104
277		2	1SA SA312 TP304	1.00	EQ9F	74547	5314	.071
278		2	1SA SA312 TP304	1.00	EQ9F	74547	3115	.042
279		2	1SA SA312 TP304	1.00	EQ9F	74547	2557	.034
280L	A142	2	1SA SA312 TP304	1.00	EQ9F	74547	3159	.042
280W	A142	FILW		2.11	EQ9F	74547	4443	.060
280R	A142	2	3KA SA312 TP304	1.78	EQ9F	74547	2183	.029
281L	A153	2	3KA SA312 TP304	1.78	EQ9F	74547	2271	.030
281W	A153	FILW		2.10	EQ9F	74547	4622	.062
281R	A153	2	1SA SA312 TP304	1.00	EQ9F	74547	3273	.044
282L	A162	2	1SA SA312 TP304	1.00	EQ9F	74547	3204	.043
282W	A162	2.25		2.25	EQ9F	74547	4769	.064
282R	A162	2.50	1SA SA312 TP304	N/A				
283	B5	5.50	1SA SA312 TP304	2.32	EQ9F	74547	4686	.063
283W	B5	TEE 1		2.32	EQ9F	74547	5250	.071
284W	B6	TEE 1		2.32	EQ9F	74547	18117	.215
284	B6	2.50	BSA SA312 TP304	2.99	EQ9F	74547	24459	.329
285L	C 13	2.50	BSA SA312 TP304	N/A				
285W	C 13	FEED		2.00	EQ9F	74547	1277	.017
285R	C 13	2	4SA SA312 TP304	1.00	EQ9F	74547	8732	.117
286L	C 22	2	4SA SA312 TP304	1.00	EQ9F	74547	8155	.110
286W	C 22	FILW		2.10	EQ9F	74547	1253	.016
286R	C 22	2	3KA SA312 TP304	1.78	EQ9F	74547	9275	.111
287L	C 33	2	3KA SA312 TP304	1.78	EQ9F	74547	3273	.044
287W	C 33	FILW		2.10	EQ9F	74547	1263	.016
287R	C 33	2	4SA SA312 TP304	1.00	EQ9F	74547	3758	.051
288L	V15	2	4SA SA312 TP304	1.00	EQ9F	74547	7739	.104

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SAFETY SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 09:39:49 DYPG

STRESSES FOR EQUATION 9F

SOP NAME	DCF NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
288W	V39	2.25		2.25	EQ9F	74547	12618	.169
288R	V39	2	16AX SA312 TP304	1.15	EQ9F	74547	3604	.149
289L	V40	2	16AX SA312 TP304	1.15	EQ9F	74547	3111	.142
289W	V40	REDR		2.00	EQ9F	74547	9656	.133
289R	V40	2	4SA SA312 TP304	1.15	EQ9F	74547	6656	.129
291		2	4SA SA312 TP304	1.15	EQ9F	74547	4726	.163
291		2	4SA SA312 TP304	1.15	EQ9F	74547	3222	.147
292		2	4SA SA312 TP304	1.15	EQ9F	74547	3814	.151
293	S62	2	4SA SA312 TP304	1.15	EQ9F	74547	5618	.175
294L	C 72	2	4SA SA312 TP304	1.15	EQ9F	74547	6114	.191
294W	C 72	FILW		2.11	EQ9F	74547	9188	.122
294R	C 72	2	3KA SA312 TP304	1.78	EQ9F	74547	5963	.191
295L	C 83	2	3KA SA312 TP304	1.78	EQ9F	74547	5935	.188
295W	C 83	FILW		2.11	EQ9F	74547	9146	.121
295R	C 83	2	4SA SA312 TP304	1.15	EQ9F	74547	5983	.181
296	S63	2	4SA SA312 TP304	1.15	EQ9F	74547	5111	.167
297		2	4SA SA312 TP304	1.15	EQ9F	74547	4485	.164
298		2	4SA SA312 TP304	1.15	EQ9F	74547	4131	.154
299		2	4SA SA312 TP304	1.15	EQ9F	74547	4187	.155
300	S64	2	4SA SA312 TP304	1.15	EQ9F	74547	3973	.153
301		2	4SA SA312 TP304	1.15	EQ9F	74547	4186	.155
302		2	4SA SA312 TP304	1.15	EQ9F	74547	5371	.172
303L	C112	2	4SA SA312 TP304	1.15	EQ9F	74547	7165	.196
303W	C112	2.25		2.25	EQ9F	74547	11646	.156
303R	C112	T37	3KA SA312 TP304	N/A				
304L	E7	T37	3KA SA312 TP304	N/A				
304WL	E7	FILW		2.11	EQ9F	74547	8747	.117
304BL	E7	T37	3KA SA312 TP304	1.45	EQ9F	74547	619	.193
304BR	E7	T37	3KA SA312 TP304	1.45	EQ9F	74547	3621	.149
304WR	E7	FILW		2.1	EQ9F	74547	517	.147
304R	E7	T37	3KA SA312 TP304	N/A				
305L	C123	T37	3KA SA312 TP304	N/A				
305W	C123	2.25		2.25	EQ9F	74547	6666	.159
305R	C123	2	4SA SA312 TP304	1.15	EQ9F	74547	4216	.157
306	S65	2	4SA SA312 TP304	1.15	EQ9F	74547	3783	.151

()ERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
 SAME SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:39:49 DYPC

STRESSES FOR EQUATION 9F

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
317		2	4SA SA312 TP314	1.10	EQ9F	74547	341	.46
318		2	4SA SA312 TP314	1.10	EQ9F	74547	3657	.49
319		2	4SA SA312 TP314	1.10	EQ9F	74547	4161	.56
310		2	4SA SA312 TP314	1.10	EQ9F	74547	4532	.61
311		2	4SA SA312 TP314	1.10	EQ9F	74547	4872	.66
312	S66	2	4SA SA312 TP314	1.10	EQ9F	74547	5654	.76
313L	C152	2	4SA SA312 TP314	1.10	EQ9F	74547	5659	.76
313W	C152	FILW		2.10	EQ9F	74547	8551	.115
313R	C152	2	3KA SA312 TP314	1.78	EQ9F	74547	5613	.75
314L	C163	2	3KA SA312 TP314	1.78	EQ9F	74547	5657	.76
314W	C163	FILW		2.10	EQ9F	74547	8665	.116
314R	C163	2	4SA SA312 TP314	1.10	EQ9F	74547	5741	.77
315L	C172	2	4SA SA312 TP314	1.10	EQ9F	74547	5763	.77
315W	C172	FILW		2.10	EQ9F	74547	8711	.117
315R	C172	2	3KA SA312 TP314	1.78	EQ9F	74547	5711	.77
316L	C183	2	3KA SA312 TP314	1.78	EQ9F	74547	5435	.73
316W	C183	FILW		2.10	EQ9F	74547	8279	.111
316R	C183	2	4SA SA312 TP314	1.10	EQ9F	74547	5496	.74
317		2	4SA SA312 TP314	1.10	EQ9F	74547	3361	.45
318		2	4SA SA312 TP314	1.10	EQ9F	74547	2615	.35
319		2	4SA SA312 TP314	1.10	EQ9F	74547	4511	.61
320		2	4SA SA312 TP314	1.10	EQ9F	74547	718	.094
321	AN16	2	4SA SA312 TP314	1.10	EQ9F	74547	10311	.138
322W	E7	FILW		2.10	EQ9F	74547	8928	.121
322	E7	T37	3KA SA312 TP314	1.45	EQ9F	74547	6315	.85
323L	D 14	T37	3KA SA312 TP314	N/A				
323W	D 14	2.25		2.25	EQ9F	74547	11953	.161
323R	D 14	2	4SA SA312 TP314	1.10	EQ9F	74547	7352	.99
324		2	4SA SA312 TP314	1.10	EQ9F	74547	511	.67
325		2	4SA SA312 TP314	1.10	EQ9F	74547	3344	.45
326		2	4SA SA312 TP314	1.10	EQ9F	74547	314	.4
327		2	4SA SA312 TP314	1.10	EQ9F	74547	4936	.66
328L	V42	2	4SA SA312 TP314	1.10	EQ9F	74547	7736	.104
328W	V42	2.25		2.25	EQ9F	74547	1264	.169
328R	V42	2	16AY SA312 TP314	1.10	EQ9F	74547	363	.48

SOUTHERN CALIFORNIA EDISON, SAN CROCE UNIT 1
SHUTDOWN FIRING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:35:45 BYPC 1

STRESSES FOR EQUATION 9F

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
329L	V41	2	16AY	SA312	TP304	1.30	EQ9F	74547	4211	.156
329W	V41	REDR				2.10	EQ9F	74547	13273	.178
329R	V41	2	4SA	SA312	TP304	1.30	EQ9F	74547	9867	.132
330L	D 42	2	4SA	SA312	TP304	1.30	EQ9F	74547	9843	.132
330W	D 42	2.25				2.25	EQ9F	74547	16159	.217
330R	D 42	B 50	5SA	SA312	TP304	N/A				
331	E1	B 50	5SA	SA312	TP304	2.89	EQ9F	74547	27915	.374
331W	E1	TEE 1				2.32	EQ9F	74547	18212	.244
332W	E5	TEE 1				2.32	EQ9F	74547	5747	.177
332	E5	B 50	1SA	SA312	TP304	2.32	EQ9F	74547	5116	.169
333L	E 13	B 50	1SA	SA312	TP304	N/A				
333W	E 13	REDR				2.20	EQ9F	74547	4436	.059
333R	E 13	2	1SA	SA312	TP304	1.30	EQ9F	74547	3266	.144
334L	E 22	2	1SA	SA312	TP304	1.30	EQ9F	74547	3011	.140
334W	E 22	FILW				2.10	EQ9F	74547	4219	.056
334R	E 22	2	3KA	SA312	TP304	1.78	EQ9F	74547	2169	.029
335L	E 33	2	3KA	SA312	TP304	1.78	EQ9F	74547	2178	.029
335W	E 33	FILW				2.10	EQ9F	74547	4432	.159
335R	E 33	2	1SA	SA312	TP304	1.30	EQ9F	74547	3152	.142
336	S37	2	1SA	SA312	TP304	1.30	EQ9F	74547	4443	.161
337L	E 52	2	1SA	SA312	TP304	1.30	EQ9F	74547	4228	.157
337W	E 52	FILW				2.10	EQ9F	74547	6127	.182
337R	E 52	2	3KA	SA312	TP304	1.78	EQ9F	74547	3117	.140
338L	E 63	2	3KA	SA312	TP304	1.78	EQ9F	74547	2783	.137
338W	E 63	FILW				2.10	EQ9F	74547	5669	.176
338R	E 63	2	1SA	SA312	TP304	1.30	EQ9F	74547	3937	.153
339		2	1SA	SA312	TP304	1.30	EQ9F	74547	3311	.144
340		2	1SA	SA312	TP304	1.30	EQ9F	74547	3841	.152
341		2	1SA	SA312	TP304	1.30	EQ9F	74547	6217	.183
342	S38	2	1SA	SA312	TP304	1.30	EQ9F	74547	8766	.118
343		2	1SA	SA312	TP304	1.30	EQ9F	74547	6112	.162
344		2	1SA	SA312	TP304	1.30	EQ9F	74547	3692	.151
345		2	1SA	SA312	TP304	1.30	EQ9F	74547	3311	.144
346	S39	2	1SA	SA312	TP304	1.30	EQ9F	74547	3973	.153
347		2	1SA	SA312	TP304	1.30	EQ9F	74547	5211	.170

SOUTHERN CALIFORNIA EDISON. SAN CAGRE UNIT 1
STEEL SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 19:39:49 DYPO

STRESSES FOR EQUATION SF

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
348		2	1SA	SA312	TP304	1.00	EQSF	74547	6263	.84
349		2	1SA	SA312	TP304	1.00	EQSF	74547	6645	.89
350		2	1SA	SA312	TP304	1.00	EQSF	74547	6875	.92
351		2	1SA	SA312	TP304	1.00	EQSF	74547	6221	.83
352	S41	2	1SA	SA312	TP304	1.00	EQSF	74547	5431	.73
353		2	1SA	SA312	TP304	1.00	EQSF	74547	4116	.55
354		2	1SA	SA312	TP304	1.00	EQSF	74547	3646	.49
355L	E102	2	1SA	SA312	TP304	1.00	EQSF	74547	5813	.767
355W	E102	FILW				2.10	EQSF	74547	7347	.988
355R	E102	2	3KA	SA312	TP304	1.78	EQSF	74547	3614	.49
356L	E113	2	3KA	SA312	TP304	1.78	EQSF	74547	3717	.501
356W	E113	FILW				2.10	EQSF	74547	7579	.102
356R	E113	2	1SA	SA312	TP304	1.00	EQSF	74547	5151	.69
357		2	1SA	SA312	TP304	1.00	EQSF	74547	4556	.61
358L	E122	2	1SA	SA312	TP304	1.00	EQSF	74547	4715	.63
358W	E122	FILW				2.10	EQSF	74547	6893	.922
358R	E122	2	43KA	SA312	TP304	1.78	EQSF	74547	3382	.45
359L	E133	2	43KA	SA312	TP304	1.78	EQSF	74547	3612	.48
359W	E133	FILW				2.10	EQSF	74547	7365	.988
359R	E133	2	1SA	SA312	TP304	1.00	EQSF	74547	5114	.67
360L	E142	2	1SA	SA312	TP304	1.00	EQSF	74547	5178	.69
360W	E142	FILW				2.10	EQSF	74547	7465	.100
360R	E142	2	43KA	SA312	TP304	1.78	EQSF	74547	3641	.49
361L	E153	2	43KA	SA312	TP304	1.78	EQSF	74547	3915	.523
361W	E153	FILW				2.10	EQSF	74547	7923	.107
361R	E153	2	1SA	SA312	TP304	1.00	EQSF	74547	5417	.73
362L	E162	2	1SA	SA312	TP304	1.00	EQSF	74547	5910	.79
362W	E162	FILW				2.10	EQSF	74547	8740	.118
362R	E162	2	3KA	SA312	TP304	1.78	EQSF	74547	4294	.58
363L	E173	2	3KA	SA312	TP304	1.78	EQSF	74547	4355	.58
363W	E173	FILW				2.10	EQSF	74547	8854	.118
363R	E173	2	1SA	SA312	TP304	1.00	EQSF	74547	5975	.80
364	S41	2	1SA	SA312	TP304	1.00	EQSF	74547	675	.09
365		2	1SA	SA312	TP304	1.00	EQSF	74547	4547	.61
366		2	1SA	SA312	TP304	1.00	EQSF	74547	4165	.56

IMPELL CORPORATION
QUICKPIPE VERS 25, 11/19/83; CYBER 171 - NCC.

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SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SAFETY SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM = CV12 REV. # SUBMITTED: 3-DEC-83 8:35:48 BYPO

STRESSES FOR EQUATION 5F

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
367	S42	2	1SA	SA312	TP304	1.00	EQ9F	74547	5023	.067
368		2	1SA	SA312	TP304	1.00	EQ9F	74547	4227	.057
369		2	1SA	SA312	TP304	1.00	EQ9F	74547	3666	.049
370		2	1SA	SA312	TP304	1.00	EQ9F	74547	3594	.048
371	S43	2	1SA	SA312	TP304	1.00	EQ9F	74547	3513	.047
372		2	1SA	SA312	TP304	1.00	EQ9F	74547	3258	.044
373		2	1SA	SA312	TP304	1.00	EQ9F	74547	2841	.038
374L	E212	2	1SA	SA312	TP304	1.00	EQ9F	74547	2641	.035
374W	E212	FILW				2.10	EQ9F	74547	3625	.049
374R	E212	2	3KA	SA312	TP304	1.78	EQ9F	74547	1783	.024
375L	E223	2	3KA	SA312	TP304	1.78	EQ9F	74547	1776	.024
375W	E223	FILW				2.10	EQ9F	74547	3611	.048
375R	E223	2	1SA	SA312	TP304	1.00	EQ9F	74547	2631	.035
376	S44	2	1SA	SA312	TP304	1.00	EQ9F	74547	2861	.038
377L	E242	2	1SA	SA312	TP304	1.00	EQ9F	74547	2691	.036
377W	E242	FILW				2.10	EQ9F	74547	3714	.050
377R	E242	2	3KA	SA312	TP304	1.78	EQ9F	74547	1822	.024
378L	E253	2	3KA	SA312	TP304	1.78	EQ9F	74547	1839	.025
378W	E253	FILW				2.10	EQ9F	74547	3740	.050
378R	E253	2	1SA	SA312	TP304	1.00	EQ9F	74547	2713	.036
379		2	1SA	SA312	TP304	1.00	EQ9F	74547	2815	.038
380		2	1SA	SA312	TP304	1.00	EQ9F	74547	3198	.041
381		2	1SA	SA312	TP304	1.00	EQ9F	74547	4695	.063
382L	E262	2	1SA	SA312	TP304	1.00	EQ9F	74547	6349	.085
382W	E262	FILW				2.10	EQ9F	74547	9467	.127
382R	E262	2	3KA	SA312	TP304	1.78	EQ9F	74547	4641	.062
383L	E273	2	3KA	SA312	TP304	1.78	EQ9F	74547	4475	.060
383W	E273	FILW				2.10	EQ9F	74547	9129	.122
383R	E273	2	1SA	SA312	TP304	1.00	EQ9F	74547	6135	.082
384		2	1SA	SA312	TP304	1.00	EQ9F	74547	4143	.055
385L	M1	2	1SA	SA312	TP304	1.00	EQ9F	74547	3152	.042
385W	M1	FILW				2.10	EQ9F	74547	4431	.059
385R	M1	2	1SA	SA312	TP304	1.00	EQ9F	74547	3152	.042
386L	E292	2	1SA	SA312	TP304	1.00	EQ9F	74547	3893	.052
386W	E292	FILW				2.10	EQ9F	74547	5816	.078

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
SAFE SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 11-3-DEC-83 10:35:49 DYPO

STRESSES FOR EQUATION 5F

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
386R	E292	2	3KA	SA312	TP3 4	1.78	EQ9F	74547	2752	.37
387L	E3 3	2	3KA	SA312	TP3 4	1.78	EQ9F	74547	2978	.39
387W	E3 3	FILW				2.10	EQ9F	74547	5986	.81
387R	E303	2	1SA	SA312	TP3 4	1.78	EQ9F	74547	4139	.55
388L	E312	2	1SA	SA312	TP3 4	1.78	EQ9F	74547	4136	.55
388W	E312	2.25				2.25	EQ9F	74547	6343	.85
389R	E312	T37	3KA	SA312	TP3 4	N/A				
389L	B19	T37	3KA	SA312	TP3 4	N/A				
389WL	B19	FILW				2.10	EQ9F	74547	3442	.46
389BL	B19	T37	3KA	SA312	TP3 4	1.45	EQ9F	74547	2522	.34
389BR	B19	T37	3KA	SA312	TP3 4	1.45	EQ9F	74547	2481	.33
389WR	B19	FILW				2.10	EQ9F	74547	3382	.45
389R	B19	T37	3KA	SA312	TP3 4	N/A				
390L	E323	T37	3KA	SA312	TP3 4	N/A				
390W	E323	2.25				2.25	EQ9F	74547	5599	.75
390R	E323	2	1SA	SA312	TP3 4	1.78	EQ9F	74547	3695	.50
391L	V29	2	1SA	SA312	TP3 4	1.78	EQ9F	74547	3553	.48
391W	V29	2.25				2.25	EQ9F	74547	5359	.72
391R	V29	2	1SA	SA312	TP3 4	1.78	EQ9F	74547	1744	.23
392	S45	2	1SA	SA312	TP3 4	1.78	EQ9F	74547	2119	.28
393L	V31	2	1SA	SA312	TP3 4	1.78	EQ9F	74547	1772	.24
393W	V31	REDF				2.10	EQ9F	74547	4957	.66
393R	V31	2	1SA	SA312	TP3 4	1.78	EQ9F	74547	3613	.48
394L	E362	2	1SA	SA312	TP3 4	1.78	EQ9F	74547	3695	.50
394W	E362	2.25				2.25	EQ9F	74547	5599	.75
394R	E362	P 22	1SA	SA312	TP3 4	2.00	EQ9F	74547	2917	.39
395L	V31	P 22	1SA	SA312	TP3 4	2.00	EQ9F	74547	5876	.79
395W	V31	REDR				2.10	EQ9F	74547	5876	.79
395R	V31	2	1SA	SA312	TP3 4	1.78	EQ9F	74547	1372	.18
396L	V32	2	1SA	SA312	TP3 4	1.78	EQ9F	74547	1675	.22
396W	V32	REDR				2.10	EQ9F	74547	4415	.59
396R	V32	P 22	1SA	SA312	TP3 4	2.00	EQ9F	74547	4415	.59
397L	E392	P 22	1SA	SA312	TP3 4	2.00	EQ9F	74547	5893	.79
397W	E392	REDR				2.10	EQ9F	74547	5893	.79
397R	E392	2	1SA	SA312	TP3 4	1.78	EQ9F	74547	69 4	.93

SOUTHERN CALIFORNIA EDISON, SAN GABRIEL UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12
 PROBLEM # CV12 REV. #

SUBMITTED: 3-DEC-87 18:39:49 DYPO

STRESSES FOR EQUATION 9F

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO	
398L	TR2	2	1SA	SA312	TP3 4	1.78	EQ9F 74547	7882	.106
398W	TR2	FILW				2.10	EQ9F 74547	11891	.159
398R	TR2	2	1SA	SA312	TP3 4	1.78	EQ9F 74547	2131	.127
399L	E412	2	1SA	SA312	TP3 4	1.78	EQ9F 74547	1758	.124
399W	E412	FILW				2.10	EQ9F 74547	2236	.131
399R	E412	2	3KA	SA312	TP3 4	1.78	EQ9F 74547	1104	.115
400L	E423	2	3KA	SA312	TP3 4	1.78	EQ9F 74547	1013	.114
400W	E423	FILW				2.10	EQ9F 74547	2149	.127
400R	E423	2	1SA	SA312	TP3 4	1.78	EQ9F 74547	1639	.122
401		2	1SA	SA312	TP3 4	1.78	EQ9F 74547	1637	.122
402L	E432	2	1SA	SA312	TP3 4	1.78	EQ9F 74547	1667	.122
402W	E432	FILW				2.10	EQ9F 74547	2092	.128
402R	E432	2	3KA	SA312	TP3 4	1.78	EQ9F 74547	1734	.114
403L	E443	2	3KA	SA312	TP3 4	1.78	EQ9F 74547	1113	.114
403W	E443	FILW				2.10	EQ9F 74547	2080	.127
403R	E443	2	1SA	SA312	TP3 4	1.78	EQ9F 74547	1647	.122
404	S46	2	1SA	SA312	TP3 4	1.78	EQ9F 74547	1567	.121
405		2	1SA	SA312	TP3 4	1.78	EQ9F 74547	1391	.119
406	AN14	2	1SA	SA312	TP3 4	1.78	EQ9F 74547	1731	.118
407W	B3	TEE 1				2.32	EQ9F 74547	6688	.191
407	B3	T 39	5SA	SA312	TP3 4	2.32	EQ9F 74547	6689	.191
408L	G 14	T 39	5SA	SA312	TP3 4	N/A			
408W	G 14	REDR				2.10	EQ9F 74547	5419	.173
408R	G 14	4	1SA	SA312	TP3 4	1.78	EQ9F 74547	4144	.156
409		4	1SA	SA312	TP3 4	1.78	EQ9F 74547	3262	.141
410L	G 22	4	1SA	SA312	TP3 4	1.78	EQ9F 74547	2234	.131
410W	G 22	AWBW				1.90	EQ9F 74547	2488	.133
410R	G 22	4	1SA	SA312	TP3 4	3.18	EQ9F 74547	3182	.142
411L	G 33	4	1SA	SA312	TP3 4	3.18	EQ9F 74547	3184	.142
411W	G 33	AWBW				1.90	EQ9F 74547	2489	.133
411R	G 33	4	1SA	SA312	TP3 4	1.78	EQ9F 74547	2235	.131
412L	C 42	4	1SA	SA312	TP3 4	1.78	EQ9F 74547	2257	.131
412W	G 42	AWBW				1.90	EQ9F 74547	2489	.133
412R	G 42	4	1SA	SA312	TP3 4	3.18	EQ9F 74547	3179	.143
413L	G 53	4	1SA	SA312	TP3 4	3.18	EQ9F 74547	3473	.146

ERN CALIFORNIA Edison, SAN ONOFFE UNIT 1
SHUTDOWN PILING FUNCTIONALITY CRITICAL
CALC. NO: CV-12
PROBLEM = CV12 PREV. # SUEWITT

STRESSES FOR EQUATION OF

SOF NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (FST)	COMPUTED STRESS (FST)	STRESS RATIO
413M	G 53	ALBEM	SAB12 TP314	1.8	EG9F	74547	2616	1.33
413R	G 53	ALBEM	SAB12 TP314	1.1	EG9F	74547	271	1.32
414			SAB12 TP314	1.0	EG9F	74547	223	1.34
415			SAB12 TP314	1.0	EG9F	74547	268	1.34
416			SAB12 TP314	1.0	EG9F	74547	283	1.33
417	S18		SAB12 TP314	1.0	EG9F	74547	243	1.46
418			SAB12 TP314	1.0	EG9F	74547	297	1.44
419			SAB12 TP314	1.0	EG9F	74547	262	1.35
420	G 72	ALBEM	SAB12 TP314	1.8	EG9F	74547	293	1.47
421	G 72	ALBEM	SAB12 TP314	1.8	EG9F	74547	413	1.54
422	G 72	ALBEM	SAB12 TP314	1.8	EG9F	74547	318	1.53
423	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
424	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
425	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
426	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
427	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
428	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
429	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
430	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
431	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
432	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
433	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
434	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
435	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
436	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
437	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
438	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
439	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
440	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
441	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
442	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
443	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
444	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
445	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
446	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
447	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
448	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
449	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
450	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
451	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
452	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
453	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50
454	G 83	ALBEM	SAB12 TP314	1.8	EG9F	74547	297	1.50

SOUTHERN CALIFORNIA EDISON, SAN CROFFEE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

REV. #

SUBMITTED: 3-DEC-83

18:39:49

DYFC

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STRESSES FOR EQUATION SF

SOP NAME	DCF NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
432W	G153	AMBW		1.87	EQ9F	74547	3331	.745
432R	G153	4 1SA	SA312 TP304	1.77	EQ9F	74547	2881	.739
433L	G162	4 1SA	SA312 TP304	1.77	EQ9F	74547	2887	.739
433W	G162	REDR		2.72	EQ9F	74547	3533	.747
433R	G162	T 39 BSA	SA312 TP304	N/A				
434L	B11	T 39 BSA	SA312 TP304	N/A				
434WL	B11	TEE 1		2.32	EQ9F	74547	4337	.759
434BL	B11	T 39 BSA	SA312 TP304	2.32	EQ9F	74547	4337	.759
434BF	B11	T 39 BSA	SA312 TP304	2.32	EQ9F	74547	3351	.745
434WF	B11	TEE 1		2.32	EQ9F	74547	3351	.745
434R	B11	T 39 BSA	SA312 TP304	N/A				
435L	G173	T 39 BSA	SA312 TP304	N/A				
435W	G173	REDR		2.00	EQ9F	74547	2688	.736
435R	G173	4 1SA	SA312 TP304	1.00	EQ9F	74547	2323	.731
436L	V11	4 1SA	SA312 TP304	1.77	EQ9F	74547	2323	.731
436W	V11	REDR		2.72	EQ9F	74547	2687	.736
436R	V11	4 16A	SA312 TP304	1.77	EQ9F	74547	1192	.716
437	S21	4 16A	SA312 TP304	1.77	EQ9F	74547	1332	.719
438L	V12	4 16A	SA312 TP304	1.77	EQ9F	74547	1812	.724
438W	V12	REDR		2.72	EQ9F	74547	4572	.761
438R	V12	4 1SA	SA312 TP304	1.77	EQ9F	74547	3579	.749
439	S21	4 1SA	SA312 TP304	1.77	EQ9F	74547	4548	.761
440		4 1SA	SA312 TP304	1.77	EQ9F	74547	3543	.745
441L	G222	4 1SA	SA312 TP304	1.77	EQ9F	74547	2717	.736
441W	G222	REDR		2.72	EQ9F	74547	3263	.744
441R	G222	T 39 BSA	SA312 TP304	N/A				
442L	E12	T 39 BSA	SA312 TP304	N/A				
442WL	B12	TEE 1		2.32	EQ9F	74547	3742	.751
442BL	B12	T 39 BSA	SA312 TP304	2.32	EQ9F	74547	3742	.751
442BR	B12	T 39 BSA	SA312 TP304	2.32	EQ9F	74547	4786	.759
442WR	B12	TEE 1		2.32	EQ9F	74547	4786	.759
442R	B12	T 39 BSA	SA312 TP304	N/A				
443L	G233	T 39 BSA	SA312 TP304	N/A				
443W	G233	REDR		2.72	EQ9F	74547	3449	.747
443R	G233	4 1SA	SA312 TP304	1.77	EQ9F	74547	2844	.736

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12
 PROBLEM # CV12 REV. #

SUBMITTED: 3-DEC-83 08:39:45 DYPO

STRESSES FOR EQUATION 9F

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
444L	V15	4	1SA	SA312	TP314	1.00	EQ9F	74547	2876	.378
444W	V15	REDF				2.00	EQ9F	74547	7457	.346
444R	V15	4	1SA	SA312	TP314	1.00	EQ9F	74547	1442	.119
445L	V16	4	1SA	SA312	TP314	1.00	EQ9F	74547	1282	.117
445W	V16	REDF				2.00	EQ9F	74547	2961	.347
445R	V16	4	1SA	SA312	TP314	1.00	EQ9F	74547	2516	.134
446L	G262	4	1SA	SA312	TP314	1.00	EQ9F	74547	2515	.134
446W	G262	AWBW				1.80	EQ9F	74547	2823	.133
446R	G262	4	1SA	SA312	TP314	3.18	EQ9F	74547	3770	.351
447L	G273	4	1SA	SA312	TP314	3.18	EQ9F	74547	3126	.341
447W	G273	AWBW				1.80	EQ9F	74547	2413	.132
447R	G273	4	1SA	SA312	TP314	1.00	EQ9F	74547	2153	.125
448		4	1SA	SA312	TP314	1.00	EQ9F	74547	3344	.345
449L	V17	4	1SA	SA312	TP314	1.00	EQ9F	74547	4773	.364
449W	V17	REDF				2.00	EQ9F	74547	6363	.385
449R	V17	4	1SA	SA312	TP314	1.00	EQ9F	74547	2381	.132
450L	V18	4	1SA	SA312	TP314	1.00	EQ9F	74547	3122	.341
450W	V18	REDF				2.00	EQ9F	74547	4113	.355
450R	V18	6	4SA	SA312	TP314	1.00	EQ9F	74547	1940	.126
451	S23	6	4SA	SA312	TP314	1.00	EQ9F	74547	2159	.128
452L	G312	6	4SA	SA312	TP314	1.00	EQ9F	74547	1576	.121
452W	G312	AWBW				1.80	EQ9F	74547	1776	.124
452R	G312	6	4SA	SA312	TP314	2.26	EQ9F	74547	1975	.126
453L	G323	6	4SA	SA312	TP314	2.26	EQ9F	74547	2411	.132
453W	G323	AWBW				1.80	EQ9F	74547	2114	.128
453R	G323	6	4SA	SA312	TP314	1.00	EQ9F	74547	1827	.124
454		6	4SA	SA312	TP314	1.00	EQ9F	74547	2816	.139
455	S24	6	4SA	SA312	TP314	1.00	EQ9F	74547	3999	.354
456	S25	6	4SA	SA312	TP314	1.00	EQ9F	74547	3257	.344
457L	G352	6	4SA	SA312	TP314	1.00	EQ9F	74547	3259	.344
457W	G352	AWBW				1.80	EQ9F	74547	4148	.354
457R	G352	6	4SA	SA312	TP314	2.26	EQ9F	74547	4535	.365
458L	G363	6	4SA	SA312	TP314	2.26	EQ9F	74547	4617	.367
458W	G363	AWBW				1.80	EQ9F	74547	3575	.352
458R	G363	6	4SA	SA312	TP314	1.00	EQ9F	74547	3131	.342

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 83-DEC-83 18:39:49 DYPO

STRESSES FOR EQUATION 5F

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
459L	G372	6	4SA	SA312	TP314	1.11	EQ9F	74547	3127	.442
459W	G372	AWBW				1.87	EQ9F	74547	3869	.522
459R	G372	6	4SA	SA312	TP314	2.26	EQ9F	74547	4611	.622
461L	G383	6	4SA	SA312	TP314	2.26	EQ9F	74547	4098	.555
461W	G383	AWBW				1.87	EQ9F	74547	3462	.466
461R	G383	6	4SA	SA312	TP314	1.80	EQ9F	74547	2826	.379
461		6	4SA	SA312	TP314	1.80	EQ9F	74547	2767	.377
462		6	4SA	SA312	TP314	1.80	EQ9F	74547	2645	.355
463	S26	6	4SA	SA312	TP314	1.80	EQ9F	74547	2472	.333
464	S27	6	4SA	SA312	TP314	1.80	EQ9F	74547	2834	.385
465		6	4SA	SA312	TP314	1.80	EQ9F	74547	3369	.455
466		6	4SA	SA312	TP314	1.80	EQ9F	74547	3945	.533
467		6	4SA	SA312	TP314	1.80	EQ9F	74547	4475	.601
468		6	4SA	SA312	TP314	1.80	EQ9F	74547	4968	.667
469	S28	6	4SA	SA312	TP314	1.80	EQ9F	74547	5554	.744
470		6	4SA	SA312	TP314	1.80	EQ9F	74547	5102	.686
471L	G422	6	4SA	SA312	TP314	1.80	EQ9F	74547	4771	.644
471W	G422	AWBW				1.80	EQ9F	74547	6088	.822
471R	G422	6	4SA	SA312	TP314	2.26	EQ9F	74547	7412	.999
472L	G433	6	4SA	SA312	TP314	2.26	EQ9F	74547	6927	.933
472W	G433	AWBW				1.80	EQ9F	74547	5711	.77
472R	G433	6	4SA	SA312	TP314	1.80	EQ9F	74547	4491	.604
473		6	4SA	SA312	TP314	1.80	EQ9F	74547	4045	.54
474L	G442	6	4SA	SA312	TP314	1.80	EQ9F	74547	3675	.49
474W	G442	AWBW				1.80	EQ9F	74547	4610	.62
474R	G442	6	4SA	SA312	TP314	2.26	EQ9F	74547	5541	.74
475L	G453	6	4SA	SA312	TP314	2.26	EQ9F	74547	5227	.70
475W	G453	AWBW				1.80	EQ9F	74547	436	.58
475R	G453	6	4SA	SA312	TP314	1.80	EQ9F	74547	3407	.46
476		6	4SA	SA312	TP314	1.80	EQ9F	74547	3087	.41
477		6	4SA	SA312	TP314	1.80	EQ9F	74547	2619	.35
478		6	4SA	SA312	TP314	1.80	EQ9F	74547	2492	.33
479		6	4SA	SA312	TP314	1.80	EQ9F	74547	3178	.42
481		6	4SA	SA312	TP314	1.80	EQ9F	74547	3761	.50
481		6	4SA	SA312	TP314	1.80	EQ9F	74547	4495	.60

HERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-87 08:39:49 DYFC

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STRESSES FOR EQUATION 5F

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
482		6	4SA	SA312	TP314	1.80	EQ9F	74547	6123	.082
483	S29	6	4SA	SA312	TP314	1.80	EQ9F	74547	7724	.104
484L	G472	6	4SA	SA312	TP314	1.80	EQ9F	74547	5572	.075
484W	G472	AWBW				1.80	EQ9F	74547	7170	.096
484R	G472	6	4SA	SA312	TP314	2.26	EQ9F	74547	8764	.118
485L	G483	6	4SA	SA312	TP314	2.26	EQ9F	74547	4578	.061
485W	G483	AWBW				1.80	EQ9F	74547	3944	.052
485R	G483	6	4SA	SA312	TP314	1.80	EQ9F	74547	3108	.042
486L	G492	6	4SA	SA312	TP314	1.80	EQ9F	74547	3103	.042
486W	G492	AWBW				1.80	EQ9F	74547	3237	.043
486R	G492	6	4SA	SA312	TP314	2.26	EQ9F	74547	4569	.061
487L	G503	6	4SA	SA312	TP314	2.26	EQ9F	74547	5674	.076
487W	G503	AWBW				1.80	EQ9F	74547	4715	.063
487R	G503	6	4SA	SA312	TP314	1.80	EQ9F	74547	3753	.050
488	AN8	6	4SA	SA312	TP314	1.80	EQ9F	74547	5162	.069
489W	R12	TEE 1				2.32	EQ9F	74547	5077	.068
489	R12	T 39	ESA	SA312	TP314	2.32	EQ9F	74547	5077	.068
490L	H 14	T 39	ESA	SA312	TP314	N/A				
490W	H 14	REDR				2.32	EQ9F	74547	3441	.046
490R	H 14	4	1SA	SA312	TP314	1.80	EQ9F	74547	2625	.038
491L	H 22	4	1SA	SA312	TP314	1.80	EQ9F	74547	2484	.033
491W	H 22	AWBW				1.80	EQ9F	74547	2795	.037
491R	H 22	4	1SA	SA312	TP314	3.18	EQ9F	74547	3710	.050
492L	H 33	4	1SA	SA312	TP314	3.18	EQ9F	74547	3286	.044
492W	H 33	AWBW				1.80	EQ9F	74547	2551	.034
492R	H 33	4	1SA	SA312	TP314	1.80	EQ9F	74547	2312	.031
493L	V14	4	1SA	SA312	TP314	1.80	EQ9F	74547	2312	.031
493W	V14	REDR				2.32	EQ9F	74547	2471	.036
493R	V14	4	1SA	SA312	TP314	1.80	EQ9F	74547	1196	.016
494	S22	4	1SA	SA312	TP314	1.80	EQ9F	74547	1834	.024
495L	V13	4	1SA	SA312	TP314	1.80	EQ9F	74547	1345	.018
495W	V13	REDR				2.32	EQ9F	74547	3156	.043
495R	V13	4	1SA	SA312	TP314	1.80	EQ9F	74547	2636	.035
496		4	1SA	SA312	TP314	1.80	EQ9F	74547	2249	.030
497L	H 72	4	1SA	SA312	TP314	1.80	EQ9F	74547	2102	.027

SOUTHERN CALIFORNIA EDISON, SAN GABRIEL UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:39:48 BYPC

STRESSES FOR EQUATION SF

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
497W	H 72	AWBW		1.81	EQ9F	74547	2168	.029
497R	H 72	4 1SA	SA312 TP314	3.18	EQ9F	74547	2417	.033
498L	H 83	4 1SA	SA312 TP314	3.18	EQ9F	74547	3734	.050
498W	H 83	AWBW		1.81	EQ9F	74547	2803	.038
498R	H 83	4 1SA	SA312 TP314	1.81	EQ9F	74547	2491	.033
499L	H 92	4 1SA	SA312 TP314	1.81	EQ9F	74547	2785	.037
499W	H 92	REDR		2.32	EQ9F	74547	3381	.045
499R	H 92	T 39 5SA	SA312 TP314	N/A				
500	B11	T 39 5SA	SA312 TP314	2.32	EQ9F	74547	4851	.065
500W	B11	TEE 1		2.32	EQ9F	74547	4851	.065
501W	B2	TEE 1		2.32	EQ9F	74547	5424	.073
501	B2	T 39 5SA	SA312 TP314	2.32	EQ9F	74547	5425	.073
502L	I 14	T 39 5SA	SA312 TP314	N/A				
502W	I 14	REDR		2.32	EQ9F	74547	453	.061
502R	I 14	4 1SA	SA312 TP314	1.81	EQ9F	74547	3552	.048
503		4 1SA	SA312 TP314	1.81	EQ9F	74547	2843	.038
504L	I 22	4 1SA	SA312 TP314	1.81	EQ9F	74547	2335	.031
504W	I 22	AWBW		1.81	EQ9F	74547	2618	.035
504R	I 22	4 1SA	SA312 TP314	3.18	EQ9F	74547	3373	.045
505L	I 33	4 1SA	SA312 TP314	3.18	EQ9F	74547	3128	.042
505W	I 33	AWBW		1.81	EQ9F	74547	2461	.033
505R	I 33	4 1SA	SA312 TP314	1.81	EQ9F	74547	2236	.030
506L	I 42	4 1SA	SA312 TP314	1.81	EQ9F	74547	2451	.033
506W	I 42	AWBW		1.81	EQ9F	74547	2814	.038
506R	I 42	4 1SA	SA312 TP314	3.18	EQ9F	74547	3736	.050
507L	I 53	4 1SA	SA312 TP314	3.18	EQ9F	74547	4223	.057
507W	I 53	AWBW		1.81	EQ9F	74547	3176	.041
507R	I 53	4 1SA	SA312 TP314	1.81	EQ9F	74547	2664	.036
508L	I 62	4 1SA	SA312 TP314	1.81	EQ9F	74547	2695	.036
508W	I 62	REDR		2.32	EQ9F	74547	3245	.044
508R	I 62	T 39 5SA	SA312 TP314	N/A				
509L	B3	T 39 5SA	SA312 TP314	N/A				
509WL	B3	TEE 1		2.32	EQ9F	74547	3644	.050
509RL	B3	T 39 5SA	SA312 TP314	2.32	EQ9F	74547	3644	.050
509R	B3	T 39 5SA	SA312 TP314	2.32	EQ9F	74547	419	.006

SOUTHERN CALIFORNIA EDISON, SAN GABRIEL UNIT 1
SAFE SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. #

SUBMITTED: 3-DEC-87 09:39:49 CYBER

STRESSES FOR EQUATION 5F

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
509WR	B8	TEE 1		2.32	EQ9F	74547	4489	.605
509R	B8	T 39	ESA	SA312	TP304	N/A		
511L	I 73	T 39	ESA	SA312	TP304	N/A		
511W	I 73	REDR		2.32	EQ9F	74547	3161	.422
511R	I 73	4	1SA	SA312	TP304	74547	2639	.355
511L	V7	4	1SA	SA312	TP304	74547	2639	.355
511W	V7	REDR		2.32	EQ9F	74547	3148	.42
511R	V7	4	1SA	SA312	TP304	74547	1342	.18
512L	V8	4	1SA	SA312	TP304	74547	1713	.23
512W	V8	AWTT		1.81	EQ9F	74547	2984	.401
512R	V8	4	1SA	SA312	TP304	74547	2571	.34
513		4	1SA	SA312	TP304	74547	2544	.34
514L	I102	4	1SA	SA312	TP304	74547	2491	.33
514W	I102	AWBW		1.81	EQ9F	74547	2814	.378
514R	I102	4	1SA	SA312	TP304	74547	3735	.501
515L	I113	4	1SA	SA312	TP304	74547	3253	.434
515W	I113	AWBW		1.81	EQ9F	74547	2571	.34
515R	I113	4	1SA	SA312	TP304	74547	2288	.31
516L	I122	4	1SA	SA312	TP304	74547	2356	.312
516W	I122	AWBW		1.81	EQ9F	74547	2626	.35
516R	I122	4	1SA	SA312	TP304	74547	342	.45
517L	I133	4	1SA	SA312	TP304	74547	3411	.45
517W	I133	AWBW		1.81	EQ9F	74547	2521	.335
517R	I133	4	1SA	SA312	TP304	74547	2354	.31
518L	B9	4	1SA	SA312	TP304	74547	2291	.31
518WL	B9	TEE 1		2.32	EQ9F	74547	2814	.378
518BL	B9	B 50	1SA	SA312	TP304	74547	2814	.378
518BR	B9	B 50	1SA	SA312	TP304	74547	2761	.37
518WR	B9	TEE 1		2.32	EQ9F	74547	2761	.37
519R	B9	4	1SA	SA312	TP304	74547	2264	.30
519	C1	4	1SA	SA312	TP304	74547	2559	.34
521L	I172	4	1SA	SA312	TP304	74547	2557	.34
521W	I172	AWBW		1.81	EQ9F	74547	2948	.4
521R	I172	4	1SA	SA312	TP304	74547	3551	.47
521L	I183	4	1SA	SA312	TP304	74547	2689	.36

ERN CALIFORN EDISON, SAN ONOFE UNIT 1
SHUTDOWN, FIRING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM = CV12 REV. 4

SUBMITTED: 3-OCT-83

0:36:49

DVFC

STRESSES FOR EQUATION EF

SOP NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO
521W	1183	AKBW	SA312	1.8	EGGF	74547	2215	.029
521R	1183	4	SA312	1.1	EGGF	74547	2132	.028
522L	1192	4	SA312	1.1	EGGF	74547	2133	.027
522X	1192	AKBW	SA312	1.8	EGGF	74547	2182	.029
522S	1192	4	SA312	1.18	EGGF	74547	2436	.033
523L	1213	4	SA312	1.18	EGGF	74547	2419	.033
523W	1213	AKBW	SA312	1.8	EGGF	74547	2173	.028
523R	1213	4	SA312	1.1	EGGF	74547	2023	.027
524	511	4	SA312	1.1	EGGF	74547	2259	.031
525	4	4	SA312	1.1	EGGF	74547	2232	.031
526	4	4	SA312	1.1	EGGF	74547	2291	.032
527	4	4	SA312	1.1	EGGF	74547	2238	.031
528	AN3	4	SA312	1.1	EGGF	74547	2710	.036
529W	EB	TEE 1	SA312	2.32	EGGF	74547	2970	.037
529	EB	T 39	SA312	2.32	EGGF	74547	2970	.037
531L	J 14	T 39	SA312	N/A	EGGF	74547	3749	.050
531W	J 14	PLDP	SA312	2.3	EGGF	74547	2913	.039
531R	J 14	4	SA312	1.1	EGGF	74547	4938	.066
531	512	4	SA312	1.1	EGGF	74547	4938	.066
532	AN4	4	SA312	1.1	EGGF	74547	4981	.061

INPELL CORPORATION
QUICKPIPE VERS 2B, 11/18/93: CYBER 171 - MOS.

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SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SAFETY SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. #

SUBMITTED: 3-DEC-93 18:35:48 BY: DYC

MAXIMUM EQUATION 5F STRESS RATIO :

SOP NAME	STRESS RATIO	LOAD SET
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331

.404
~~0.774~~

EQ5F

NOTE: ANALYSIS WAS RUN

USING 5% DAMPING.
THE RESULTS WERE
FACTORED UP TO
ACCOUNT FOR 4%
DAMPING.

FACTOR: $\frac{2.97}{2.75}$ OR 1.080

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
PIPE SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 16:35:40 DYPC 1

SUMMARY OF SUPPORTS DELETED BY QUICKPIPE OPTIMIZER
EXCLUDING INTERFACE ANCHORS AND NOZZLES

THE USER MUST ENSURE THAT THE INPUT GEOMETRY IS
UPDATED TO REFLECT THE REMOVAL OF THE SUPPORTS LISTED IN THIS SUMMARY

	INITIAL NO.	FINAL NO.
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TOTAL NUMBER OF SUPPORTS	114	75
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TOTAL NUMBER OF SUPPORTS DELETED = 39

PERCENTAGE OF DECREASE = 34.2 %

THE FOLLOWING IS A LIST OF SUPPORT NAMES DELETED
BY OPTIMIZATION

S58	S47	S64	S9 Z	S9 X	S17Y	S17Z	S16Z
S16X	S35X	S35Z	S36X	S36Y	S50Z	S50X	S56Y
S56Z	S31Y	S53Z	S33Z	S33X	S74X	S74Y	S31X
S31Y	S15X	S15Z	S14Z	S14Y	S62X	S62Z	S30Z
S30Y	S41Z	S41Y	S43Y	S43Y	S26Z	S26Y	

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 8:39:49 BYPC

SUPPORT LOAD SUMMARY. FORCE = (LB) , DISF = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIRN	LOAD TYPE	DMGT +/-	SSEI +/-	SSLD +/-
S1	S1	SNGL	INCL				
				FORCE	-285.	258.	-27.
					-285.	-258.	-542.
				LOCAL	0.001	0.000	0.000
				X DISP	0.001	0.000	0.000
				LOCAL	-0.002	0.001	0.001
				Y DISP	-0.002	-0.001	-0.001
				LOCAL	-0.002	0.001	0.001
				Z DISP	-0.002	-0.001	-0.001

S2	Y	S2	SNGL	Y			
				FORCE	-278.	157.	-121.
					-278.	-157.	-435.
				LOCAL	0.001	0.000	0.000
				X DISP	0.001	0.000	0.000
				LOCAL	0.002	0.004	0.006
				Y DISP	0.002	-0.004	-0.006
				LOCAL	0.001	0.001	0.000
				Z DISP	0.001	0.001	0.000

S2	X	S2	SNGL	X			
				FORCE	-2.	137.	135.
					-2.	-137.	-135.
				LOCAL	0.001	0.000	0.000
				X DISP	0.001	0.000	0.000
				LOCAL	0.001	0.001	0.000
				Y DISP	0.001	0.001	0.000
				LOCAL	0.002	0.004	0.006
				Z DISP	0.002	-0.004	-0.006

SOUTHERN CALIFORNIA EDISON, SAN GONDORE UNIT 1
SAFETY SHUTDOWN FIRING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. # 1 SUBMITTED: 3-DEC-83 08:39:40 DYPC

SUPPORT LOAD SUMMARY (CONT'D.). FORC = (LB) , DISP = (IN)

SUPT NAME	SUPT LOCK	SUPT TYPE	SUPT DIRN	LOAD TYPE	DWGT +/-	SSEI +/-	SSLD +/-
S3	Y	S3	SNGL	Y			
				FORC	-116.	82.	-34.
					-116.	-82.	-198.
				LOCAL	1.117	1.117	0.008
				X DISP	0.001	0.001	0.000
				LOCAL	0.001	0.001	0.000
				Y DISP	0.001	0.001	0.000
				LOCAL	0.001	0.001	0.004
				Z DISP	0.001	-0.004	-0.004

S3	Z	S3	SNGL	Z			
				FORC	-12.	118.	96.
					-12.	-118.	-120.
				LOCAL	0.001	0.001	0.001
				X DISP	0.001	0.001	0.001
				LOCAL	0.001	0.004	0.004
				Y DISP	0.001	-0.004	-0.004
				LOCAL	0.001	0.001	0.001
				Z DISP	0.001	0.001	0.001

S4	S4	SNGL	Y				
				FORC	-65.	68.	-16.
					-65.	-68.	-153.
				LOCAL	0.001	0.001	0.001
				X DISP	0.001	0.001	0.001
				LOCAL	0.001	0.122	0.123
				Y DISP	0.001	-0.122	-0.121
				LOCAL	0.001	0.004	0.004
				Z DISP	0.001	-0.004	-0.004

IMPELL CORPORATION
 QUICKPIPE VERS 25, 11/15/83; CYBER 171 - NOS.

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SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
 SAFE SHUTDOWN FIRING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12
 PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 16:39:49 DYPC

SUPPORT LOAD SUMMARY (CONT'D.). FOPC = (LB) , DISP = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIRN	LOAD TYPE	DWGT +/-	SSEI +/-	SSLD +/-
S5	S5	SNGL	X				
				FOPC	7.	195.	192.
					7.	-195.	-178.
				LOCAL	0.000	0.000	0.000
			X	DISP	0.000	0.000	0.000
				LOCAL	-0.005	0.016	0.007
			Y	DISP	-0.005	-0.016	-0.026
				LOCAL	0.000	0.155	0.154
			Z	DISP	0.000	-0.155	-0.155

S6	S6	SNGL	Y				
				FOPC	-123.	94.	-29.
					-123.	-94.	-217.
				LOCAL	0.000	0.000	0.000
			X	DISP	0.000	0.000	0.000
				LOCAL	0.000	0.154	0.155
			Y	DISP	0.000	-0.154	-0.153
				LOCAL	0.004	0.014	0.019
			Z	DISP	0.004	-0.014	-0.011

S7	X	S7	SNGL	Y			
				FOPC	-16.	200.	183.
					-16.	-200.	-216.
				LOCAL	0.000	0.000	0.000
			X	DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
			Y	DISP	0.000	0.000	0.000
				LOCAL	0.000	0.154	0.155
			Z	DISP	0.000	-0.154	-0.153

HEEN CALIFORN EDISON. SAN CLOFFE UNIT 2
SHUTDOWN FIRING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. # SUBMITTED: 2-DEC-83 14:25:45
1

QVPC

SUPPORT LOAD SUMMARY (CONT'D.). FOPC = (LE) , DISF = (IN)

SUPT SUPT SUPT SUPT LOAD DWGT SSET SLD
NAME LOCN TYPE DIM TYPE +/- +/- +/-

S7 Y S7 SNGL Y

FOPC 117. 118. 235.
117. -118. -1.

LOCAL
X DISP 0.000 0.000 0.000

LOCAL
Y DISP 0.000 .154 .155
0.000 -.154 -.153

LOCAL
Z DISP 0.000 0.000 0.000
0.000 0.000 0.000

S8 S8 SNGL Y

FOPC -237. 238. 2.
-237. -238. -476.

LOCAL
X DISP 0.000 0.000 0.000
0.000 0.000 0.000

LOCAL
Y DISP 0.000 .154 .155
0.000 -.154 -.153

LOCAL
Z DISP -0.002 .011 .007
-0.002 -0.010 -0.012

S61Y S61 SNGL Y

FOPC -90. 44. -76.
-90. -44. -124.

LOCAL
X DISP 0.000 0.000 0.000
0.000 0.000 0.000

LOCAL
Y DISP 0.000 .000 .000
0.000 .000 .000

LOCAL
Z DISP 0.000 0.000 0.000
0.000 0.000 0.000

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 16:25:45 BYPG

SUPPORT LOAD SUMMARY (CONT'D.). FORC = (LB) • DISP = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIRN	LOAD TYPE	DWGT +/-	SSEI +/-	SSLD +/-
--------------	--------------	--------------	--------------	--------------	-------------	-------------	-------------

S61Z	S61	SNGL	Z				
				FORC	-22.	157.	137.
					-22.	-157.	-177.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

S60X	S60	SNGL	X				
				FORC	56.	164.	223.
					56.	-164.	-108.
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	-0.122	0.112	-0.019
				Y DISP	-0.122	-0.112	-0.034
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

S63Z	S60	SNGL	Z				
				FORC	-14.	296.	272.
					-14.	-296.	-317.
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	-0.020	0.012	-0.015
				Z DISP	-0.020	-0.012	-0.034

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HERN CALIFORNIA Edison, SAN CROFF UNIT 1
SHUTDOWN FILING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 15:25:46 CYPD

SUPPORT LOAD SUMMARY (CONT'D.) FCRG = (LB) , FISP = (IN)

SUPT SUPT SUPT SUPT LOAD DWGT SEI SLD
NAME LOCA TYPE DFN TYPE +/- +/- +/-

S57 SET SNGL Y

FCRC	-55.	65.	6.
	-55.	-65.	-102.
LOCAL	0.000	0.000	0.000
X DISP	0.000	0.000	0.000
LOCAL	0.25	0.782	0.17
Y DISP	0.25	-0.782	-0.787
LOCAL	0.000	0.000	0.000
Z DISP	0.000	0.000	0.000

S55 S56 SNGL Y

FCRC	-17.	28.	12.
	-17.	-28.	-45.
LOCAL	0.000	0.000	0.000
X DISP	0.000	0.000	0.000
LOCAL	0.15	1.022	1.036
Y DISP	0.15	-1.022	-1.036
LOCAL	0.000	0.000	0.000
Z DISP	0.000	0.000	0.000

S54 S54 SNGL Y

FCRC	-32.	36.	4.
	-32.	-36.	-68.
LOCAL	0.000	0.000	0.000
X DISP	0.000	0.000	0.000
LOCAL	0.15	0.782	0.785
Y DISP	0.15	-0.782	-0.775
LOCAL	0.000	0.000	0.000
Z DISP	0.000	0.000	0.000

SOUTHERN CALIFORNIA EDISON. SAL GNOFFE UNIT 1
 SATE SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:39:49 DYPC

SUPPORT LOAD SUMMARY (CONT'D.). FOPC = (LB) , DISP = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIRN	LOAD TYPE	DMGT +/-	SSEI +/-	SSLD +/-
S52	S52	SNGL	Y				
				FOPC	1.	275.	276.
					1.	-275.	-274.
				LOCAL	0.000	0.000	0.000
			X	DISP	0.000	0.000	0.000
				LOCAL	-0.005	0.016	0.012
			Y	DISP	-0.005	-0.016	-0.021
				LOCAL	-0.005	0.020	0.015
			Z	DISP	-0.005	-0.020	-0.024

S51X	S51	SNGL	X				
				FOPC	-1.	215.	215.
					-1.	-216.	-218.
				LOCAL	0.000	0.000	0.000
			X	DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
			Y	DISP	0.000	0.000	0.000
				LOCAL	-0.009	0.010	0.002
			Z	DISP	-0.009	-0.010	-0.010

S51Y	S51	SNGL	Y				
				FOPC	-25.	25.	-4.
					-25.	-25.	-53.
				LOCAL	0.000	0.000	0.000
			X	DISP	0.000	0.000	0.000
				LOCAL	-0.008	0.010	0.002
			Y	DISP	-0.008	-0.010	-0.010
				LOCAL	0.000	0.000	0.000
			Z	DISP	0.000	0.000	0.000

SHERN CALIFORN EDISON, SAN GACEPE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 15:39:49 DYPG 1

SUPPORT LOAD SUMMARY (CONT'D.). FOPC = (LB) , DISP = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIRN	LOAD TYPE	DWGT +/-	SSEI +/-	SSLD +/-
--------------	--------------	--------------	--------------	--------------	-------------	-------------	-------------

S50X	S51	SNGL	X				
				FOPC	1.	39.	40.
					1.	-39.	-38.
				LOCAL	0.000	0.000	0.000
			X	DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
			Y	DISP	0.000	0.000	0.000
				LOCAL	-0.008	0.010	0.002
			Z	DISP	-0.008	-0.010	-0.010

S50Y	S50	SNGL	Y				
				FOPC	-45.	37.	-7.
					-45.	-37.	-82.
				LOCAL	0.000	0.000	0.000
			X	DISP	0.000	0.000	0.000
				LOCAL	-0.008	0.010	0.002
			Y	DISP	-0.008	-0.010	-0.018
				LOCAL	0.000	0.000	0.000
			Z	DISP	0.000	0.000	0.000

S49X	S49	SNGL	X				
				FOPC	-14.	24.	10.
					-14.	-24.	-38.
				LOCAL	0.000	0.000	0.000
			X	DISP	0.000	0.000	0.000
				LOCAL	-0.036	0.43	0.007
			Y	DISP	-0.036	-0.43	-0.008
				LOCAL	0.000	0.000	0.000
			Z	DISP	0.000	0.000	0.000

SOUTHERN CALIFORNIA EDISON. SAN GABRIEL UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 15:39:49 DYPO

SUPPORT LOAD SUMMARY (CONT'D.). FORC = (LB) , DISP = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIRN	LOAD TYPE	DWGT +/-	SSEI +/-	SSLD +/-
S49Z	S49	SNGL	Z	FORC	-13. -13.	94. -94.	82. -127.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	-0.36	0.43	0.07
				Z DISP	-0.36	-0.43	-0.79

S48	S48	SNGL	Z	FORC	7. 7.	25. -25.	32. -18.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	-0.001	0.53	0.52
				Y DISP	-0.001	-0.53	-0.54
				LOCAL	-0.36	0.43	0.07
				Z DISP	-0.36	-0.43	-0.79

S32I	S32	SNGL	INCL	FORC	5. 5.	32. -32.	37. -27.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

HERN CALIFORN EDISON, SAN ONOFRE UNIT 1
PIPE SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 16:39:45 DYPC

SUPPORT LOAD SUMMARY (CONT'D.). FORC = (LF) , DISP = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIRN	LOAD TYPE	DWGT +/-	SSEI +/-	SSLD +/-
--------------	--------------	--------------	--------------	--------------	-------------	-------------	-------------

S32L	S32	SNGL	INCL				
				FORC	-31.	99.	67.
					-31.	-99.	-139.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.000	0.002	0.002
				Y DISP	0.000	-0.002	-0.002
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

S30Z	S30	SNGL	Z				
				FORC	-6.	41.	36.
					-6.	-41.	-47.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	-0.002	0.007	0.004
				Y DISP	-0.002	-0.007	-0.004
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

S30Y	S30	SNGL	Y				
				FORC	-28.	18.	-18.
					-28.	-18.	-46.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	-0.002	0.007	0.004
				Z DISP	-0.002	-0.007	-0.004

SOUTHERN CALIFORNIA EDISON, SAN GABRIEL UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 19:39:49 DYPG 1

SUPPORT LOAD SUMMARY (CONT'D.). FORC = (LF) , DISP = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIRN	LOAD TYPE	WGT +/-	SSEI +/-	SSLD +/-
--------------	--------------	--------------	--------------	--------------	------------	-------------	-------------

S13Z	S13	SNGL	Z				
				FORC	1.	117.	117.
					1.	-117.	-117.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

S13Y	S13	SNGL	Y				
				FORC	-58.	34.	-24.
					-58.	-34.	-92.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

S63	S63	SNGL	Z				
				FORC	-1.	58.	57.
					-1.	-58.	-57.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	-0.14	.465	.451
				Y DISP	-0.14	-0.465	-0.451
				LOCAL	-0.47	.77	.722
				Z DISP	-0.47	-0.77	-0.722

ERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 8:19:49 DYPO

SUPPORT LOAD SUMMARY (CONT'D.). FORC = (LB) , DISF = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIRN	LOAD TYPE	DMGT +/-	SSEI +/-	SSLD +/-
S65	S65	SNGL	Z				
				FORC	-7.	81.	80.
					-7.	-81.	-81.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	-0.14	.465	.451
				Y DISP	-0.14	-0.465	-0.480
				LOCAL	-0.005	.144	.140
				Z DISP	-0.005	-0.144	-0.145

S66	S66	SNGL	Y				
				FORC	-44.	26.	-17.
					-44.	-26.	-70.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	-0.002	.113	.011
				Y DISP	-0.002	-0.113	-0.016
				LOCAL	-0.114	.465	.451
				Z DISP	-0.114	-0.465	-0.480

S37X	S37	SNGL	X				
				FORC	-22.	13.	81.
					-22.	-13.	-124.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	-0.102	.155	.154
				Z DISP	-0.102	-0.155	-0.155

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 83-DEC-83 08:39:49 BYPC.

SUPPORT LOAD SUMMARY (CONT'D.). FORC = (LBS) , DISP = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIRN	LOAD TYPE	DWGT +/-	SSEI +/-	SSLD +/-
--------------	--------------	--------------	--------------	--------------	-------------	-------------	-------------

S37Y	S37	SNGL	Y				
				FORC	16.	45.	60.
					16.	-45.	-29.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	-0.052	.153	.151
				Y DISP	-0.052	-0.153	-0.155
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

S38Y	S38	SNGL	Y				
				FORC	-74.	62.	-12.
					-74.	-62.	-136.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	0.000	.011	.011
				Z DISP	0.000	-0.011	-0.011

S38Z	S38	SNGL	Z				
				FORC	5.	72.	77.
					5.	-72.	-68.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.000	.011	.011
				Y DISP	0.000	-0.011	-0.011
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

SOUTHERN CALIFORNIA EDISON. SAN ONOFRE UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-87 19:35:45 DYPC

SUPPORT LOAD SUMMARY (CONT'D.). FORC = (LB) , DISP = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIRN	LOAD TYPE	DWGT +/-	SSEI +/-	SSLD +/-
--------------	--------------	--------------	--------------	--------------	-------------	-------------	-------------

S41	S41	SNGL	Y				
				FORC	-71.	64.	-6.
					-71.	-64.	-135.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	-0.015	0.022	0.017
				Y DISP	-0.015	-0.022	-0.027
				LOCAL	0.089	0.148	0.237
				Z DISP	0.089	-0.148	-0.159

S42Y	S42	SNGL	Y				
				FORC	-27.	54.	27.
					-27.	-54.	-81.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	-0.005	0.022	0.017
				Y DISP	-0.005	-0.022	-0.027
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

S42X	S42	SNGL	X				
				FORC	20.	43.	63.
					20.	-43.	-23.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	-0.005	0.022	0.017
				Z DISP	-0.005	-0.022	-0.027

HERN CALIFORN EDISON, SAN Geronimo UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 5-DEC-83 09:39:49 DYPO

SUPPORT LOAD SUMMARY (CONT'D.). FORC = (LB) , DISF = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIPN	LOAD TYPE	DWGT +/-	SSEI +/-	SSLD +/-
S44Y	S44	SNGL	Y				
				FORC	-76. -76.	7. -7.	-6. -146.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	-0.004	0.268	0.264
				Z DISP	-0.004	-0.268	-0.272

S44Z	S44	SNGL	Z				
				FORC	-1. -1.	78. -78.	78. -78.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	-0.004	0.268	0.264
				Y DISP	-0.004	-0.268	-0.272
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

S45	S45	SNGL	Y				
				FORC	-130. -130.	97. -97.	-33. -228.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

HERN CALIFORN EDISON. SAN ONOFFE UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

REV. #

SUBMITTED: 7-DEC-83 18:39:49

DYPO

1

SUPPORT LOAD SUMMARY (CONT'D.). FORC = (LB) . DISP = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIRN	LOAD TYPE	WGT +/-	SSEI +/-	SSTD +/-
--------------	--------------	--------------	--------------	--------------	------------	-------------	-------------

S46	S46	SNGL	Z				
				FORC	-2.	15.	13.
					-2.	-15.	-18.

				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000

				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000

				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

S18Y	S18	SNGL	Y				
				FORC	-87.	67.	-27.
					-87.	-67.	-154.

				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000

				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000

				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

S18X	S18	SNGL	X				
				FORC	-1.	115.	115.
					-1.	-115.	-116.

				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000

				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000

				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

HERN CALIFORN EDISON, SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: DV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:39:49 DYPO

SUPPORT LOAD SUMMARY (CONT'D.). FOPC = (LP) , DISP = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIRN	LOAD TYPE	DWGT +/-	SSEI +/-	SSLD +/-
--------------	--------------	--------------	--------------	--------------	-------------	-------------	-------------

S19	S19	SNGL	Y				
				FOPC	-59.	217.	158.
					-59.	-217.	-275.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	-0.112	0.115	0.113
				Y DISP	-0.112	-0.115	-0.113
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

S20	S20	SNGL	Y				
				FOPC	66.	216.	282.
					66.	-216.	-149.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

S21Y	S21	SNGL	Y				
				FOPC	-242.	252.	17.
					-242.	-252.	-494.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

HERN CALIFORN EDISON, SAN GONDORE UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12
 PROBLEM # CV12 REV. # 1 SUBMITTED: 3-DEC-93 16:39:49 NYFC

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SUPPORT LOAD SUMMARY (CONT'D.), FORC = (LB) , DISP = (IN)

SUPT SUPT SUPT SUPT LOAD DWGT SEEI SGLD
 NAME LOCN TYPE DIRN TYPE +/- +/- +/-

S212 S21 SNGL Z

FORC	52.	13.	412.
	82.	-137.	-248.
LOCAL	0.000	0.000	0.000
X DISP	0.000	0.000	0.000
LOCAL	0.000	0.000	0.000
Y DISP	0.000	0.000	0.000
LOCAL	0.000	0.000	0.000
Z DISP	0.000	0.000	0.000

S232 S23 SNGL Z

FORC	-36.	643.	607.
	-36.	-643.	-679.
LOCAL	0.000	0.000	0.000
X DISP	0.000	0.000	0.000
LOCAL	0.000	0.000	0.000
Y DISP	0.000	0.000	0.000
LOCAL	0.000	0.000	0.000
Z DISP	0.000	0.000	0.000

S23X S23 SNGL X

FORC	-14.	467.	446.
	-14.	-467.	-474.
LOCAL	0.000	0.000	0.000
Y DISP	0.000	0.000	0.000
LOCAL	0.000	0.000	0.000
Y DISP	0.000	0.000	0.000
LOCAL	0.000	0.000	0.000
Z DISP	0.000	0.000	0.000

ERN CALIFORNIA EDISON. SAN GONDORE UNIT 1
 SHUTDOWN FIRING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. + SUBMITTED: 3-DEC-83 08:35:49 DYPO

SUPPORT LOAD SUMMARY (CONT'D.). FORC = (LB) , DISP = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIEN	LOAD TYPE	DWGT +/-	SSEI +/-	SSLD +/-
--------------	--------------	--------------	--------------	--------------	-------------	-------------	-------------

S24	S24	SNGL	Y				
				FORC	-1438.	925.	-113.
					-1438.	-925.	-1963.
				LOCAL	0.000	0.010	0.100
				X DISP	0.000	0.000	0.000
				LOCAL	-0.005	0.015	0.010
				Y DISP	-0.005	-0.015	-0.020
				LOCAL	0.000	0.021	0.021
				Z DISP	0.000	-0.021	-0.021

S25	S25	SNGL	Y				
				FORC	562.	765.	1327.
					562.	-765.	-203.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	-0.005	0.015	0.010
				Y DISP	-0.005	-0.015	-0.020
				LOCAL	0.000	0.033	0.032
				Z DISP	0.000	-0.033	-0.033

S27	S27	SNGL	Y				
				FORC	-119.	154.	35.
					-119.	-154.	-272.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	-0.001	0.298	0.298
				Y DISP	-0.001	-0.298	-0.298
				LOCAL	0.000	0.048	0.048
				Z DISP	0.000	-0.048	-0.048

VERN CALIFORNIA EDISON, SAN GONDORE UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

REV. #

SUBMITTED: 3-DEC-83 18:35:49

DYPC

SUPPORT LOAD SUMMARY (CONT'D.), FOPC = (LB) , DISP = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIRN	LOAD TYPE	DMGT +/-	SSEI +/-	SSLD +/-
--------------	--------------	--------------	--------------	--------------	-------------	-------------	-------------

S28	S28	SNGL	Y				
				FOPC	-466.	193.	-293.
					-466.	-193.	-649.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.000	0.511	0.511
				Y DISP	0.000	-0.511	-0.511
				LOCAL	0.000	0.48	0.47
				Z DISP	0.000	-0.48	-0.48

S29Z	S29	SNGL	7				
				FOPC	-400.	3756.	3715.
					-400.	-3756.	-3796.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

S29Y	S29	SNGL	Y				
				FOPC	-958.	467.	-497.
					-958.	-467.	-1416.
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 18:39:49 DYFO

SUPPORT LOAD SUMMARY (CONT'D.). FOPC = (LP) , DISP = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIRN	LOAD TYPE	DWGT +/-	SSET +/-	SSLD +/-
--------------	--------------	--------------	--------------	--------------	-------------	-------------	-------------

S22	S22	SNGL	Y	FOPC	-196.	173.	-24.
					-196.	-173.	-369.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	.002	.010	.012
				Y DISP	.002	-.010	-.017
				LOCAL	.001	.009	.010
				Z DISP	.001	-.009	-.008

S10Y	S10	SNGL	Y	FOPC	-122.	116.	-6.
					-122.	-116.	-238.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	.003	.014	.017
				Y DISP	.003	-.014	-.010
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

S10X	S10	SNGL	X	FOPC	51.	185.	236.
					51.	-185.	-134.
				LOCAL	.000	.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	.000	.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	.003	.014	.017
				Z DISP	.003	-.014	-.010

IMPELL CORPORATION
 QUICKPIPE VERS 2B, 11/15/83; CYBER 170 - NOS.

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EPN CALIFORN EDISON, SAN JOSE UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA
 CALL. NO: CV-12
 PROBLEM # CV12 REV. #

SUBMITTED: 3-DEC-83 18:39:48 DYFC

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SUPPORT LOAD SUMMARY (CONT'D.). FORC = (LB) , DISP = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIRN	LOAD TYPE	WGHT +/-	SSEI +/-	SSLD +/-
S11	S11	SNGL	Y				
				FORC	19.	87.	146.
					19.	-87.	-67.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.003	0.11	0.114
				Y DISP	0.003	-0.11	-0.108
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

S12	S12	SNGL	Y				
				FORC	-368.	211.	-158.
					-368.	-211.	-579.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Z DISP	0.000	0.000	0.000

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
SHUTDOWN FIRING FUNCTIONALITY CRITERIA
CALL NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-87 09:39:49 DYPC

ANCHOR LOAD SUMMARY.

NAME: ANE LOCATION: ANE AXIS: LOCAL

LOAD CONDITION	FORCES (LB)				MOMENTS (LBFT)			
	F(AX)	F(S1)	F(S2)	F(SR)	M(TOR)	M(B1)	M(B2)	M(PF)
DWGT	20.	9.	13.	15.	4.	4.	-8.	10.
(+/-)	20.	9.	13.	15.	4.	4.	-8.	10.
SSEI	43.	48.	50.	70.	36.	81.	55.	98.
(+/-)	-43.	-48.	-50.	70.	-36.	-81.	-55.	98.
SSLD	63.	56.	67.	85.	46.	85.	47.	97.
(+/-)	-23.	-41.	-38.	55.	-33.	-76.	-64.	55.

INTERNAL CALIFORNIA EDISON, SAN GABRIEL UNIT 1
 SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12 REV. #

SUBMITTED: 3-DEC-87 19:35:49

CYBER

1

ANCHOR LOAD SUMMARY (CONT'D).

NAME: AN6

LOCATION: AN6

AXIS: LOCAL

LOAD CONDITION	FORCES (LB)				MOMENTS (LBFT)			
	F(X)	F(S1)	F(S2)	F(SP)	M(TOP)	M(B1)	M(B2)	M(BF)
DWGT	223.	39.	-1.	39.	-4.	-3.	-42.	43.
(+/-)	223.	39.	-1.	39.	-4.	-3.	-42.	43.
SSEI	145.	87.	115.	144.	84.	213.	138.	251.
(+/-)	-145.	-87.	-115.	144.	-84.	-213.	-138.	251.
SSLD	368.	126.	114.	171.	81.	217.	87.	328.
(+/-)	78.	-49.	-115.	128.	-98.	-217.	-172.	277.

IMPELL CORROSION
QUICKPIPE VERB 28, 11/ 8/83: CYBER 170 - POS.

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HERA CALIFORN EDISCA, SAN ONOPE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. # SUBMITTED: 2-DEC-83 08:59:48 DYFC 1

ANCHOR LOAD SUMMARY (CONT'D).

NAME: ANIS LOCATION: ANIS AXIS: LOCAL

LOAD FORCES (LB) MOMENTS (LBFT)
CONDITION F(AX) F(S1) F(S2) F(SP) W(JOR) W(B1) W(P2) W(P3)

DWGT 56. -112. -34. 117. 132. 1. 38. 35.
(+/-) 56. -112. -34. 117. 132. 1. 38. 35.

SSEI 149. 72. 83. 111. 45. 47. 15. 5.
(+/-) -149. -72. -83. -111. -45. -47. -15. -5.

SILD 215. -4. 49. 63. 199. 49. 54. 72.
(+/-) -215. -4. -49. -63. -199. -49. -54. -72.

IMPELL CORPORATION
QUICKPIPE VERS 25, 11/19/93; CYBER 171 - NOS.

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SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

REV. #

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1

ANCHOR LOAD SUMMARY (CONT'D).

NAME: AN16 LOCATION: AN16 AXIS: LOCAL

LOAD CONDITION	FORCES (LB)				MOMENTS (LBFT)			
	F(AX)	F(S1)	F(S2)	F(SR)	M(TOR)	M(B1)	M(B2)	M(BP)
DWGT	1.	-22.	2.	22.	-8.	9.	29.	31.
(+/-)	1.	-22.	2.	22.	-8.	9.	29.	31.
SSEI	54.	12.	99.	100.	28.	418.	23.	419.
(+/-)	-54.	-12.	-99.	100.	-28.	-418.	-23.	419.
SSLD	55.	-8.	1.1.	102.	27.	428.	52.	431.
(+/-)	-55.	-8.	-97.	103.	-36.	-405.	5.	439.

IMPELL CORPORATION
QUICKPIPE VEPS 20, 11/ 9/83; CYBER 17. - MCS.

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SOUTHERN CALIFORNIA EDISON. SAN Geronimo UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
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ANCHOR LOAD SUMMARY (CONT'D).

NAME: AN14 LOCATION: AN14 AXIS: LOCAL

LOAD CONDITION	FORCES (LB)				MOMENTS (LBFT)			
	F(AX)	F(S1)	F(S2)	F(SR)	M(TOP)	M(B1)	M(B2)	M(BR)
DWGT	1.	-5.	-2.	6.	3.	-1.	3.	3.
(+/-)	1.	-5.	-2.	6.	3.	-1.	3.	3.
SSEI	16.	14.	15.	18.	3.	8.	7.	11.
(+/-)	-16.	-14.	-15.	18.	-3.	-8.	-7.	11.
SSLD	17.	5.	13.	14.	3.	7.	18.	12.
(+/-)	-14.	-16.	-17.	23.	-3.	-8.	-4.	11.

IMPELL CORPORATION
QUICKPIPE VEPS 2B, 11/19/93: CYBER 170 - NOS.

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()ERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

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ANCHOR LOAD SUMMARY (CONT'D).

NAME: AN8

LOCATION: AN8

AXIS: LOCAL

LOAD CONDITION	FORCES (LB)				MOMENTS (LBFT)			
	F(AX)	F(S1)	F(S2)	F(SP)	M(TOP)	M(R1)	M(R2)	M(BP)
DWGT	9.	624.	42.	625.	137.	82.	-464.	471.
(+/-)	9.	624.	42.	625.	137.	82.	-464.	471.
SSEI	656.	365.	3218.	3238.	1514.	1913.	240.	1928.
(+/-)	-656.	-365.	-3218.	3238.	-1514.	-1913.	-240.	1928.
SSLD	715.	988.	3255.	3416.	1650.	1995.	-224.	2007.
(+/-)	-687.	259.	-3176.	3186.	-1377.	-1832.	-704.	1962.

() BERN CALIFORN EDISON, SAN ONOPEE UNIT 1
 SHUTDOWN PIPING FLUCTUABILITY CRITERIA
 CALC. NO: CV-12
 PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 08:39:46 DVPD

ANCHOR LOAD SUMMARY (CONT'D).

NAME: AN3 LOCATION: AN3 AXIS: LOCAL

LOAD CONDITION FORCES (LB) MOMENTS (LBFT)
 F(AX) F(S1) F(S2) F(SF) M(TOP) M(R1) M(B2) M(BF)

DWGT 59. -47. -1. 47. -19. -16. 54. 56.
 (+/-) 59. -47. -1. 47. -19. -16. 54. 56.

SSEI 94. -21. 37. 42. 15. 97. 27. 101.
 (+/-) 94. -21. 37. 42. 15. 97. 27. 101.

SOLD 153. -36. 76. 44. 7. 91. 91. 114.
 (+/-) 153. -36. 76. 44. 7. 91. 91. 114.

SOUTHERN CALIFORNIA EDISON. SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA

CALC. NO: CV-12

PROBLEM # CV12

REV. #

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ANCHOR LOAD SUMMARY (CONT'D).

NAME: AN4

LOCATION: AN4

AXIS: LOCAL

LOAD CONDITION	FORCES (LB)				MOMENTS (LBFT)			
	F(AX)	F(S1)	F(S2)	F(SR)	M(TOR)	M(B1)	M(B2)	M(BF)
DWGT	12.	236.	12.	237.	46.	24.	37.	44.
(+/-)	12.	236.	12.	237.	46.	24.	37.	44.
SSEI	168.	151.	169.	226.	38.	222.	23.	223.
(+/-)	-168.	-151.	-169.	226.	-38.	-222.	-23.	223.
SSLD	181.	386.	181.	427.	84.	246.	60.	253.
(+/-)	-156.	86.	-157.	179.	8.	-198.	14.	198.

IMPELL CORPORATION
QUICKPIPE VERS 2B, 11/09/83: CYBER 17 - NOS.

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SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
SHUTDOWN FIRING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
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ANCHOR LOAD SUMMARY (CONT'D).

NAME: AN13 LOCATION: MM 2 AXIS: LOCAL

LOAD CONDITION	FORCES (LB)				MOMENTS (LEFT)			
	F(AX)	F(S1)	F(S2)	F(SP)	M(TOR)	M(B1)	M(B2)	M(SP)
DWGT	-11.	-61.	-5.	61.	0.	21.	-9.	22.
(+/-)	-11.	-61.	-5.	61.	0.	21.	-9.	22.
SSEI	116.	43.	112.	121.	7.	221.	42.	215.
(+/-)	-116.	-43.	-112.	121.	-7.	-221.	-42.	215.
SSLD	16.	-17.	117.	19.	7.	222.	33.	224.
(+/-)	-126.	-122.	-117.	155.	-7.	-180.	-51.	186.

IMPELL CORPORATION
QUICKPIPE VERS 2E 11/19/83: CDEE 17' - NOS.

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ERN CALIFORN EDISCA. SAN GHOFFEE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 08:35:49 PVFC

ANCHOR LOAD SUMMARY (CONT'D).

NAME: AN7 LOCATION: MW 3 AYIS: LOCAL

LOAD CONDITION F(AX) F(S1) F(S2) F(SR) M(TOR) MOMENTS (LBFT) M(B1) M(B2) M(BP)

DWGT (+/-) -73. 4. 44. 45. -2. -36. 2. 36.
-73. 4. 44. 45. -2. -36. 2. 36.

SSEI (+/-) 221. 265. 215. 353. 59. 266. 212. 334.
-221. -265. -215. -353. -59. -266. -212. -334.

SOLD (+/-) 151. 292. 245. 384. 55. 231. 274. 378.
-151. -292. -245. -384. -55. -231. -274. -378.

SOUTHERN CALIFORNIA Edison, SAN ONOFRE UNIT 1
SHUTDOWN FIRING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 3-DEC-83 19:35:45 DYFG 1

EQUIPMENT NOZZLE LOAD SUMMARY.

NAME: AN1 LOCATION: AN1 AXIS: LOCAL

LOAD CONDITION	FORCES (LB)				MOMENTS (LBFT)			
	F(AX)	F(S1)	F(S2)	F(SF)	M(TOP)	M(B1)	M(B2)	M(BF)
DWGT	58.	5.	21.	21.	-15.	-7.	7.	7.
(+/-)	58.	5.	21.	21.	-15.	-7.	7.	7.
SSEI	132.	157.	255.	311.	163.	97.	85.	123.
(+/-)	-132.	-157.	-255.	-311.	-163.	-97.	-85.	-123.
SSLD	191.	162.	276.	321.	148.	83.	84.	119.
(+/-)	-74.	-152.	-234.	270.	-179.	-97.	-85.	129.

IMPPELL CORPORATION
BUICKRIPE VERS 2E, 11/19/83: CYBER 17 - KGS.

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()ERN CALIFORN EDISON, SAN GABRIEL UNIT 1
SHUTDOWN FITTING FUNCTIONALITY CFTTES1A
CALC. NO: CV-12
PROBLEM # CV12 REV. A

SUBMITTED: 3-DEC-83 16:15:40

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EQUIPMENT NOZZLE LOAD SUMMARY (CONT'D.).

NAME: AN2 LOCATION: AN2 AXIS: LOCAL

LOAD FORCES (LB) MOMENTS (LBFT)
CONDITION F(XY) F(S1) F(S2) F(SF) W(TOR) M(B1) M(B2) M(EE)

DWGT 165. 22. 1. 22. 44. -115. -57. 129.
(+/-) 165. 22. 1. 22. 44. -115. -67. 129.

SSEI 178. 154. 254. 297. 149. 135. 84. 163.
() -178. -154. -254. -297. -149. -135. -84. 167.

SULD 348. 175. 256. 315. 193. 31. 18. 25.
(+/-) -9. -133. -253. 265. -105. -245. -151. 267.

SOUTHERN CALIFORNIA EDISON, SAN ONOFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12

PROBLEM # CV12 REV. # SUBMITTED: 7-DEC-83 16:39:49 DYPC

EQUIPMENT NOZZLE LOAD SUMMARY (CONT'D.).

NAME: AN5 LOCATION: AN5 AXIS: LOCAL

LOAD CONDITION	FORCES (LB)				MOMENTS (LEFT)			
	F(AX)	F(S1)	F(S2)	F(SR)	M(TOR)	M(B1)	M(B2)	M(B5)
DWGT	-26.	-125.	-1.	125.	-1.	-1.	28.	29.
(+/-)	-26.	-125.	-1.	125.	-1.	-1.	28.	29.
SSEI	198.	71.	29.	76.	21.	39.	89.	84.
(+/-)	-198.	-71.	-29.	76.	-21.	-39.	-89.	84.
SSLD	82.	-55.	28.	61.	20.	29.	117.	121.
(+/-)	-133.	-196.	-30.	198.	-23.	-31.	-60.	68.

7. IFRN CALIFORN EDISCA. SAA GNGFRE UNIT 1
SHUTDOWN PIPING FUNCTIONALITY CRITERIA
CALC. NO: CV-12
PROBLEM = CV12 REV. # SUBMITTED: 2-DEC-83 9:35:46. PVPC

EQUIPMENT NOZZLE LOAD SUMMARY (CONT'D.).

NAME: AM11 LOCATION: AM11 AXIS: LOCAL

LOAD FORCES (LB) MOMENTS (LBFT)
CONDITION F(AX) F(S1) F(S2) F(SR) M(TOR) M(B1) M(B2) M(E9)

DWGT 3. -63. -4. 99. -3. -2. 31. 31.
(+/-) 3. -69. -4. 96. -7. -2. 31. 31.

SSEI 76. 51. 27. 57. 17. 15. 44. 47.
(+/-) -76. -51. -27. 57. -17. -15. -44. 47.

SSTD 79. -48. 25. 57. 14. 13. 75. 77.
(+/-) -73. -146. -31. 152. -19. -18. -15. 92.

INTELL CORPORATION
SOUTHERN VERBOS 11/ 6/87: CYPER 12 - ACC. 68/11/ 9. 16. 5. 1.

EDISON CALIFORNIA EDISON, SW. ONCE UNIT 1
SOUTHERN PIONEER FUNCTIONALITY EVALUATION
CALC. NO: 11-1
PROJECT: 11-1 REV. 2 SUBMITTED: 7-DEC-87 11:58:14 EYFO

DESIGN
VERIFICATION

CLIENT SOUTHERN CALIFORNIA EDISON

JOB NO. 0310-000-1352

CALC. /PAGE. NO. 144-01

PREPARED BY: August Camp DATE: 12-9-83

CHECKED BY: A. G. Smith DATE: 12-13-83

SOUTHERN CALIFORNIA EDISON, SAN ONOFE UNIT 1
SAFE SHUTDOWN FIRING FUNCTIONALITY EVALUATION
CALC. NO: 81- 1
PROBLEM # 101 REV. 4

SUBMITTED: 7-DEC-87 11:58:14 BY: C

COLUMN 1 2 3 4 5 6 7 8
123456789 123456789 123456789 123456789 123456789 123456789 123456789 123456789

* THE GEOMETRY FOR THE FOLLOWING CARD IMAGE FILE WAS CONSTRUCTED USING *
* PIPEDRAW VERS. 10 11/12/87 *
* (USER VERIFICATION IS REQUIRED) *

(A) - PROBLEM TITLE

SOUTHERN CALIFORNIA EDISON, SAN ONOFE UNIT 1
SAFE SHUTDOWN FIRING FUNCTIONALITY EVALUATION
CALC. NO: 81- 1
PROBLEM # 101 REV. 4

SUBMITTED: 7-DEC-87 11:58:14 BY: C

(B1) - DATA STORAGE INDICATORS

NOFL

(B3) ANALYSIS CONTROL INDICATORS

EXEC STAT DYNF SPEC CODE RECD F-9

(B4) UNITS SPECIFICATION

F FT IN IN LBIN LBFT LBFT LBFT

(C1) GEOMETRY DATA CONTROL INFORMATION

REOV 2 CALC. NO: 81- 1

WELLS CO. OF TEXAS
P.O. BOX 100
DALLAS, TEXAS 75201

7
6
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4
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2
1

THE OFFICE OF THE ATTORNEY GENERAL, U.S. DEPARTMENT OF JUSTICE, WASHINGTON, D.C. 20530

CONFIDENTIAL
7-DEC-68 10:14 AM
DND

COLUMBIA

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
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[illegible]

COFFIN MATERIALS

SATISFACTION

SCS • E+ • E+ • E+ • E+

[illegible]

C (G) CCHPOHEIT SEEDECE

[illegible]

[illegible]

(C) [REDACTED]
 DEPT. OF THE ARMY, SEC. OF THE ARMY
 CHIEF OF STAFF, WASHINGTON, D.C.
 CALC. NO. 1-1
 REORDER: 1-1
 REV. 1-1
 CONTINUED: 7-550-12
 11:58:14
 DATED

CONCLUSIONS

[illegible]

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	5
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CH) LUGGED WEIGHTS

2) SUPPORT LOCATION: AND EFFECT-TIME

[illegible]

2000-01-01

1	0	0
2	0	0
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97	0	0
98	0	0
99	0	0
100	0	0

IMPELL CORPORATION
QUICKFIRE VERS 2L 11/ 5/431 CNEB 17 - 405.

PAGE 8
07/10/ 9. 16. 15. 1.

ERN CALIFORNIA 011001. CAN SHOT UNIT 1
SHUTDOWN FIRING FUNCTIONALITY EVALUATION
CALC. NO: 44- 1
PROBLEM # 44 1 REV. 2

SUBMITTED: 7-DEC-85 11:55:14 DYFC

COLUMN
1 2 3 4 5 6 7 8
123456789 103456789 123456789 103456789 123456789 123456789 123456789 123456789

TIME 70.12
*RUNL 70.12
*GRAV GRAV
TIME 70.12
*GRAV
DYNP 100 33.4 EXOD
*TIME 70.12
301H P 0 LOG LOCATION = MM 1. YMIN = 0.1, YMAX = 1.0, C-FREQ. = 1.
0.03 0.68 0.0 0.0 0.17 0.87 0.1 0.57
0.15 1.27 0.0 1.54 0.25 1.67 0.3 1.533
* 0.35 1.50 0.4 1.47 0.5 1.34 1.0 0.9
*301V P 0 LOG LOCATION = MM 1. YMIN = 0.1, YMAX = 1.0, C-FREQ. = 1.
0.03 0.45 0.0 0.53 0.17 0.52 0.0 0.647
0.15 0.647 0.2 1.07 0.25 1.1 0.3 1.00
0.35 1.15 0.4 0.93 0.5 0.7 1.0 0.533
SNPL GRUP GSE INERTIA LOADS
301H 301V 301H
DWGT NOPP GRAV 1.0
DUMY NOPP GRAV 1.0E-1
*SSEI NOPP ISSE 1.0
CL2A FULL DETL OLDC NEWP NEWT EXTF D/4T
*PRES
*
*TEMP
*
BUCK DUMY EQ 2 PRES TEMP 0.25
*EQFF DWGT SSEI EQFF PRES TEMP 2.75
*SUPP FULL DETL OLDC OLDP CLDT
DWGT DFLT DWGT
SSEI DFLT SSEI
*SSLD DFLT DWGT SSEI

ENH. CALIFORNIA PROJECT SAN JOSE UNIT 1
AUTOMATIC PILING FUNCTIONALITY EVALUATION
CALC. NO: 001 :
PROBLEM 0 : : : : : ELEV. 0
SUBMITTED: 7-DEC-81 11:56:14 OVERC

PLANT SPECIFIC FILE INFORMATION

CYBER USER NAME : SCE1
PLANT FILE NAME : SONGSPE

DATE/TIME THE PLANT
FILE WAS LAST ALTERED : 63/12/ 8.
10.29.06.

ANALYSIS AND DESIGN DATA FOR THIS PIM

END MODE = OPTM (OPTIMIZATION)

LAP SUPPORT NAMES

NONE SPECIFIED

USER SPECIFIED SIF VALUES

NONE.....DEFAULT VALUES APPLIED.

LOCATION OF PIPING

BUILDING WALL UPPER ELEVATION = 9'0.0 (FT)
LOWER ELEVATION = 8'0.0 (FT)

IMPELL CORPORATION
QUICKRIPPE VETS ST. 117 6/87: OVER 11 - 1000. 03/12/88. 16.15.11. PAGE 1

SEA CALIFORNIA L190A. ON ONCE UNIT 1
SHUTTLE RIFLE FUGAL ALIVE EVALUATION
CALL NO: 44-1
PROBLEM # 101 44V. 8 6/11/1981: 7-DEC-87 11:54:12 0000 1

DESIGN TEMPERATURE AND PRESSURE

ALL PIPE FLAS DESIGN TEMPERATURE = 70.000 (F)
DESIGN PRESSURE = 355.0 (LB/IN²)

1. PELL CORPORATION
QUICKRIBE VETS 2ND FL / 5/66. OVER 17 - NOS.

PAGE 11
85/12/8. 15.15.11.

1. PELL CORPORATION
QUICKRIBE VETS 2ND FL / 5/66. OVER 17 - NOS.
CALC. NO: 1.1
PROBLEM 1.1.1. REV. 1.1.1. SUBMITTED: 7-DEC-85 15:56:15 OVER

LOAD CASE NUMBER 1

THERMAL EXPANSION
DESIGN TEMPERATURE DISTRIBUTION APPLIED

THERMAL ANCHOR MOTIONS:

NONE

LOAD CASE NUMBER 2

DEADWEIGHT

GRAVITY ANCHOR MOTIONS:

NONE

IMPELL CORPORATION
QUICKPIPE VERS 25. 11/ 8/83 CYLES 17 - NOS.

PAGE 11
98/12/ 8. 16. 15. 1.

SOUTHERN CALIFORNIA EDISON, SAN Geronimo UNIT 1
PROTOCOL FIRING FUNCTIONALITY EVALUATION
SAMPLING NO: 1 REV. 1
SAMPLER 2 1

SUBMITTED: 7-DEC-83 11:58:14 BY: 1

TYPE OPTIMIZATION CONTROL

LINE

THE COLLEGE OF THE HOLY TRINITY, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909, 1910, 1911, 1912, 1913, 1914, 1915, 1916, 1917, 1918, 1919, 1920, 1921, 1922, 1923, 1924, 1925, 1926, 1927, 1928, 1929, 1930, 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941, 1942, 1943, 1944, 1945, 1946, 1947, 1948, 1949, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1957, 1958, 1959, 1960, 1961, 1962, 1963, 1964, 1965, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973, 1974, 1975, 1976, 1977, 1978, 1979, 1980, 1981, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2

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2011

7-650-6111

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4-4

DATA POINTS WHERE THE S/S EXCEEDS .125 IN

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NO.	NO.	NO.

IMPELL CORROSION
QUICKSILVER VESSEL NO. 117 - 8/55: OVER 17 - NOS.

PAGE 14
63/12/ 2. 10. 1. 1.

VEEN CALIFORNIA ELLISON, 87% CUTOFF UNIT :
STRUCTURAL DESIGN FUNCTIONALITY EVALUATION
CALC. NO. 100-1
PROBLEM NO. 117 - 8/55: OVER 17 - NOS.

SUBMITTED: 7-DEC-63 11:15:14 TWO

1

RESPONSE SPECTRUM ANALYSIS

FIRST NATURAL FREQUENCY OF THE SYSTEM = 1.574 HZ.

CRITICAL FREQUENCY = 1.1 HZ.

CUTOFF FREQUENCY = 35.1 HZ.

NO. OF MODES BELOW CUTOFF = 19

INPELL CORPORATION
 QUICKRIP VERS. 88. 11/ 8/87: CYCLE 170 - 600.

FIG# 14
 08/07 0. 15. 0. 1.

SEA COLLISION 1A DISCO. SEA CRASH UNIT 1
 SHUT-DOWN. 1A-10S FUNCTIONALITY EVALUATION
 CALL. NO: 4W-1
 PROBLEM # 001 SEV. 4

ALERT: 7-DEC-88 11:04:14 TEND

1

LOCATION WHERE DISPLACEMENT EXCEEDS .1 (IN)

DYNAMIC ANALYSIS

1000 : 600 1000-1A LOADS (CONT.)

TOP N.	DC RADE	Y DISPL (IN)	Y DISPL (IN)	Z DISPL (IN)	RESULTANT DISPL (IN)
71	2.155	4.027	7.45	4.312	
72	3.0	4.068	7.73	4.178	
73	3.0	7.742	8.21	5.064	
74	3.0	3.301	8.68	5.021	
75	3.0	3.171	8.87	5.146	
76	3.0	2.683	8.8	5.018	
77	3.0	2.688	8.77	5.077	
78	3.0	4.026	8.85	5.227	
79	3.0	1.073	7.6	1.701	
80	3.0	1.478	7.87	1.443	
81	3.0	1.110	7.73	1.110	
82	3.0	1.110	7.73	1.110	
83	3.0	1.110	7.73	1.110	
84	3.0	1.110	7.73	1.110	
85	3.0	1.110	7.73	1.110	
86	3.0	1.110	7.73	1.110	
87	3.0	1.110	7.73	1.110	

ERR CALIFORNIA Edison. SAN Geron UNIT 1
S SHUTDOWN FIRING FUNCTIONALITY EVALUATION
CALL. NO: 88- 1
PROBLEM A 1V 1 REV. 1

SUBMITTED: 7-DEC-83 11:55:14 DYPC

COMMENTARY

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*****
SAN GEROEN NUCLEAR GENERATING STATION
UNIT 1
*****
FUNCTIONALITY CRITERIA EVALUATION
OF
SAFE SHUTDOWN FIRING
*****
QUICKPIPE ANALYSES OF SONGS-1 SAFE SHUTDOWN FIRING
INCLUDES THE FOLLOWING:
***** CODE EQUATION CHECKS FOR STAINLESS STEEL *****
      EG8F
PRESSURE + GRAVITY + SSE INERTIA <= 2.75 YIELD STRESS
*****
      EG8B
      (BUCKLING EQUATION CHECK)
PRESSURE <= 1.25 YIELD STRESS
***** CODE EQUATION CHECKS FOR CARBON STEEL *****
PRESSURE + GRAVITY + SSE INERTIA <= 2.5 YIELD STRESS
***** SUPPORT LOADS REPORTED *****
      LAGT = GRAVITY LOAD
      SSEI = SSE INERTIA LOAD
      SSLO = GRAVITY LOAD + SSE INERTIA LOAD
*****
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THE CALIFORNIA EDITED. 540 CREEK UNIT 1
 SOUTHERN PHILCO FUNCTIONALITY EVALUATION
 CALCO. NO. 1. 1
 SPOILER. 1. 1. 1. REV. 8

CHUMI-TRD: 1-TRD-03. 01:00:14

NYFC

STRESSES FOR EQUATION 3

SOE	LOC	SECTION	POTENTIAL	SIF	LOAD	ALLOW.	COMPUTED	STRESS
NAME	NAME	NAME	NAME		SET	STRESS	STRESS	RATIO
						(PSI)	(PSI)	
12	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
13	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
14	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
15	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
16	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
17	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
18	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
19	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
20	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
21	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
22	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
23	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
24	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
25	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
26	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
27	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
28	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
29	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
30	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
31	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
32	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
33	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
34	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
35	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
36	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
37	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
38	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
39	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
40	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
41	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
42	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
43	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
44	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
45	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
46	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
47	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
48	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
49	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
50	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
51	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
52	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
53	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
54	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
55	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
56	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
57	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
58	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
59	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
60	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
61	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
62	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
63	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
64	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
65	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
66	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
67	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
68	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
69	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
70	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
71	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
72	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
73	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
74	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
75	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
76	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
77	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
78	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
79	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
80	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
81	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
82	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
83	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
84	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
85	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
86	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
87	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
88	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
89	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
90	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
91	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
92	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
93	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
94	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
95	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
96	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
97	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
98	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
99	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00
100	1113	40A	SAB112	1.01	EUCK	4275	1.00	1.00

PAGE 22
03/22/00. 15. 5. 1.

7) SOUTHERN CALIFORNIA Edison. SAN Geronimo UNIT :
SOUTH SHOOTING. FIRING EFFECTIVENESS EVALUATION
CALC. NO: MW- 1
PROBLEM A. NO. 1 REV. 1 SUBMITTED

SUBMITTED: 7-DEC-93 11:56:14 BY:G

SOF NAME	DCP NAME	SECTION NAME	MATERIAL NAME	SIF	LOAD SET	ALLOW. STRESS (PSI)	COMPUTED STRESS (PSI)	STRESS RATIO		
80R	2152	S	ASA	SA312	TP3 4	2.25	BUCK	6275	917	.146
81L	2153	S	ASA	SA312	TP3 4	2.25	BUCK	6275	917	.146
81W	2154	AWBW				1.8	BUCK	6275	917	.146
81B	2155	S	ASA	SA312	TP3 4	1.8	BUCK	6275	917	.146
82L	2173	S	ASA	SA312	TP3 4	1.8	BUCK	6275	917	.146
82W	2172	AWBW				1.8	BUCK	6275	917	.146
82B	2170	S	ASA	SA312	TP3 4	2.25	BUCK	6275	917	.146
83L	2183	S	ASA	SA312	TP3 4	2.25	BUCK	6275	917	.146
83W	2182	AWBW				1.8	BUCK	6275	917	.146
83B	2180	S	ASA	SA312	TP3 4	1.8	BUCK	6275	917	.146
84		S	ASA	SA312	TP3 4	1.8	BUCK	6275	917	.146
85		S	ASA	SA312	TP3 4	1.8	BUCK	6275	917	.146
86		S	ASA	SA312	TP3 4	1.8	BUCK	6275	917	.146
87		S	ASA	SA312	TP3 4	1.8	BUCK	6275	917	.146
88		S	ASA	SA312	TP3 4	1.8	BUCK	6275	917	.146
89	AN1	S	ASA	SA312	TP3 4	1.8	BUCK	6275	917	.146
89W	AN1	AWBW				1.8	BUCK	6275	917	.146

IN RE: JOHN J. BROWN
 DECEASED
 BY JOHN J. BROWN
 ADMINISTRATOR
 OF THE ESTATE OF
 JOHN J. BROWN
 DECEASED
 VS.
 THE STATE OF NEW YORK
 COUNTY OF NEW YORK
 CITY OF NEW YORK
 IN SENATE CHAMBER
 OF THE COURTS
 OF THE CITY OF NEW YORK
 JANUARY 1, 1911

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CANTONMENT AND PRODUCTIVITY EVOLUTION

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STEEG'S PATENT

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DETAILED CALIBRATION REPORT, SEA COAST UNIT 1
SHOOTING, FIVE FUNCTIONALITY EVALUATION
CALC. NO: 10-1
PROJECT: 10-1
S.W. 1

SUPPLIED: 7-DEC-87 11:59:14

TYPE

STRESSES FOR EVALUATION OF

SOP	DOF	SECTION	MATERIAL	SIF	LOAD	ALLOW.	COMPUTED	STRESS
NAME	NAME	WIRE	NAME		SET	STRESS	STRESS	RATIO
						(FSI)	(FSI)	
10	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
11	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
12	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
13	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
14	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
15	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
16	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
17	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
18	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
19	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
20	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
21	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
22	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
23	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
24	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
25	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
26	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
27	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
28	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
29	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
30	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
31	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
32	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
33	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
34	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
35	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
36	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
37	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
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40	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
41	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
42	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
43	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
44	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
45	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
46	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
47	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
48	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
49	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
50	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
51	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
52	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
53	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
54	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
55	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
56	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
57	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
58	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
59	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
60	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
61	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
62	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
63	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
64	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
65	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
66	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
67	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
68	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
69	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
70	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
71	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
72	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
73	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
74	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
75	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
76	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
77	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
78	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
79	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
80	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
81	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
82	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
83	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
84	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
85	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
86	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
87	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
88	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
89	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
90	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
91	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
92	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
93	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
94	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
95	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
96	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
97	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
98	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
99	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00
100	AND	APT	SAFIS	1.5	EGGF	60.00	60.00	1.00

[illegible][illegible]

SECRET
NOFORN

COALCO, INC.
DORCHESTER
MASS.
SUBMITTED:
7-26-68 11:00 AM
END

STRESS FOR EQUATION

[illegible]

ERN CALIFORNIA: ELLISCH, SAN CROFF UNIT 1
 SHOOTING RING FUNCTIONALITY EVALUATION
 CALC. NO: 1
 PROBLEM 1 1 REV. 1

COMPUTED: 7-DEC-77 11:11:14 INFO

STRESSES FOR EQUATION OF

SOF	DCI	SECTION	MATERIAL	SIF	LOAD	ALLOW.	COMPUTED	STRESS
NAME	NAME	NAME	NAME		CTT	STRESS	STRESS	RATIO
						(KSI)	(KSI)	
61	53	6	CAST12	TRF 4	1.0	1000	8011	1.49
52		6	CAST12	TRF 4	1.0	1000	1000	1.00
63L	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
63M	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
63R	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
64L	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
64M	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
64R	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
65	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
66	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
67	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
68	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
69	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
70L	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
70M	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
70R	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
71L	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
71M	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
71R	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
72	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
73	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
74	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
75	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
76	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
77	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
78	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
79	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
80	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
81	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
82	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
83	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
84	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
85	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
86	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
87	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
88	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
89	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
90	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
91	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
92	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
93	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
94	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
95	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
96	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
97	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
98	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
99	6	6	CAST12	TRF 4	1.0	1000	1000	1.00
100	6	6	CAST12	TRF 4	1.0	1000	1000	1.00

IMPELL CON=CRATION
QUICKRIPE VERB 22. 11/ 5/87

CYPER 17 - NOC.

PAGE 26
03/10/ 9. 16. 5. 1.

ERN CALLIOF 14 ELLSON, 400 GACFE CHIT :
SHUTDOWN PILING FUNCTIONALITY EVALUATION
CALC. NO: 00-1
PROBLEM 1 NO: 1 REV. 1

CHRONITTED:

7-DEC-83

21:57:14

RYNO

STRESSES FOR EQUATION SF

SCF	DOF	SECTION	MATERIAL	SIF	LOAD	ALLOW.	COMPUTED	STRESS
NAME	NAME	NAME	NAME	SFT	SFT	STRESS (PSI)	STRESS (PSI)	RATIO
82R	2175	4	4SA	3.06	EGGF	69025	19172	.277
82L	2165	4	4SA	2.06	EGGF	69025	19074	.266
83R	2185	4	4SA	3.87	EGGF	69025	14157	.207
83L	2185	4	4SA	1.47	EGGF	69025	19172	.277
84	2185	4	4SA	1.47	EGGF	69025	14641	.212
85	2185	4	4SA	1.47	EGGF	69025	17473	.253
86	2185	4	4SA	1.47	EGGF	69025	2175	.313
87	2185	4	4SA	1.47	EGGF	69025	2175	.313
88	2185	4	4SA	1.47	EGGF	69025	2175	.313
89	2185	4	4SA	1.47	EGGF	69025	2175	.313
90	2185	4	4SA	1.47	EGGF	69025	2175	.313
91R	2185	4	4SA	1.47	EGGF	69025	2175	.313
91L	2185	4	4SA	1.47	EGGF	69025	2175	.313

IMPELL CORPORATION
QUICKRIFE VERB 08. 11/ 5/88 OVER 100 - NOG.

PAGE 26
08/12/ 9. 16. 5. 1.

IN CALIFORNIA EDITION. 1A. SCORE UNIT 1
SHUTDOWN FILING FUNCTIONALITY EVALUATION
CALC. NO: 1A-1
PROBLEM A 1A: REV. 1

QUANTIFIED: 7-DEC-92 11:56:14

OVERO

MAXIMUM EDUCATION OF STRESS RATIO :

SOP NAME	STRESS RATIO	LOAD SET
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8-W	•685	EGGF
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ALLOWABLE STRESS
BASED ON 4%
DAMPING.

SOUTHERN CALIFORNIA EDISON. SAN Geronimo UNIT 1
SA. SHUTDOWN PIPING FUNCTIONALITY EVALUATION
CALC. NO: MW- 1

PROBLEM # MW 1 REV. 18. 11/ 8/87 SUBMITTED: 7-DEC-87 11:54:14 BY: P

SUMMARY OF SUPPORTS DELETED BY QUICKPIPE OPTIMIZER
EXCLUDING INTERFACE ANCHORS AND NOZZLES

THE USER MUST ENSURE THAT THE INPUT GEOMETRY IS
UPDATED TO REFLECT THE REMOVAL OF THE SUPPORTS LISTED IN THIS SUMMARY

	INITIAL NO.	FINAL NO.
TOTAL NUMBER OF SUPPORTS	16	12
TOTAL NUMBER OF SUPPORTS DELETED =	4	
PERCENTAGE OF DECREASE =	25.00%	

THE FOLLOWING IS A LIST OF SUPPORT NAMES DELETED
BY OPTIMIZATION.

S2 S1 S3 Y S3 Y

SOUTHERN CALIFORNIA EDISON, SAN ONOPE UNIT 1
SHUTDOWN: PIPING FUNCTIONALITY EVALUATION

CALC. NO: M-1

PROBLEM # 1 IN 1 REV. 7

SUBMITTED: 7-DEC-87 11:58:14 BY: D

SUPPORT LOAD SUMMARY. FORC = (LE) , DISP = (ID)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DIEN	LOAD TYPE	WGT +/-	SSEI +/-	SSLD +/-
S5 Z SE	SNGL	Z		FORC	-481. -481.	757. -753.	270. -1234.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	0.021	0.054	0.075
				Y DISP	0.021	-0.054	-0.033
				LOCAL	0.013	-0.005	0.024
				Z DISP	0.013	-0.005	0.024

S6 Y SE	SNGL	Y		FORC	-1154. -1154.	526. -526.	-568. -1721.
				LOCAL	0.000	0.000	0.000
				X DISP	0.000	0.000	0.000
				LOCAL	-0.022	0.060	0.047
				Y DISP	-0.022	-0.060	-0.051
				LOCAL	0.001	0.000	0.000
				Z DISP	0.001	0.000	0.000

S6 X SE	SNGL	X		FORC	186. 186.	1 2 . -1 2 .	17 6 . -374.
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
				Y DISP	0.000	0.000	0.000
				LOCAL	-0.000	0.000	0.000
				Z DISP	-0.000	0.000	-0.000

IMPELL CORPORATION
 QUICKPIPE VERS 15. 11/ 8/83: CYBER 171 - NOS.

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 83/10/19. 16. 5. 11.

(ERM CALIFORNIA EDISON. SIA UNCFE UNIT 1
 SHUTDOWN FIRING FUNCTIONALITY EVALUATION

CALC. NO: M- 1

PROBLEM # 50.1

FLV. :

SUBMITTED: 7-DEC-83 11:58:14

QYFC

SUPPORT LOAD SUMMARY (CONT'D.). FOPC = (LB) . DISP = (IN)

SUPT NAME	SUPT LOCN	SUPT TYPE	SUPT DISP	LOAD TYPE	FOPC +/-	SSET +/-	SSLD +/-
S7 Y S7	SNGL	Y		FOPC	16. 16.	8 E. -8 E.	803. -788.
		LOCAL		Y DISP	1. 01 1. 01	1. 00 1. 00	0. 00 0. 00
		LOCAL		Y DISP	-0. 22 -0. 22	0. 68 -0. 68	0. 47 -0. 47
		LOCAL		Z DISP	0. 00 0. 00	0. 00 0. 00	0. 00 0. 00

S7 X S7	SNGL	Y		FOPC	292. 292.	579. -579.	1271. -688.
		LOCAL		Y DISP	0. 00 0. 00	0. 00 0. 00	0. 00 0. 00
		LOCAL		Y DISP	0. 00 0. 00	0. 00 0. 00	0. 00 0. 00
		LOCAL		Z DISP	-0. 22 -0. 22	0. 68 -0. 68	0. 47 -0. 47

S8 Z S8	SNGL	Z		FOPC	-89. -89.	1324. -1324.	1936. -1413.
		LOCAL		Y DISP	0. 00 0. 00	0. 00 0. 00	0. 00 0. 00
		LOCAL		Y DISP	0. 47 0. 47	0. 15 -0. 15	0. 58 -0. 58
		LOCAL		Z DISP	0. 00 0. 00	0. 00 0. 00	0. 00 0. 00

IMPELL CORPORATION
 QUICKPIPE VER 9.01, 11/ 8/83; CYBER 17 - AOS.

PAGE 33
 93/007 2. 16. F. 1.

SEMI-CALIFORNIA EDISON SAN GIORGE UNIT 1
 SHUTDOWN ROPING FUNCTIONALITY EVALUATION

CALC. NO: RM- 1

PROBLEM # 001 REV. #

SUBMITTED: 7-DEC-83 11:58:14

CYBER

SUPPORT LOAD SUMMARY (COLD'D.). FORC = (LB) , DISP = (IN)

SUPT NAME	SUPT LOCA	SUPT TYPE	SUPT DIRN	LOAD TYPE	FWGT +/-	SSFI +/-	SSLD +/-
-----------	-----------	-----------	-----------	-----------	----------	----------	----------

SS Y SS	SNGL	Y					
				FORC	-1111.	878.	-133.
					-1111.	-878.	-1858.
				LOCAL	0.000	0.000	0.000
			X	DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
			Y	DISP	0.000	0.000	0.000
				LOCAL	0.047	0.115	0.152
			Z	DISP	0.047	-0.115	-0.158

SS Z SS	SNGL	Z					
				FORC	47.	454.	501.
					47.	-454.	-407.
				LOCAL	0.000	0.000	0.000
			X	DISP	0.000	0.000	0.000
				LOCAL	0.000	0.000	0.000
			Y	DISP	0.000	0.000	0.000
				LOCAL	-0.155	0.256	0.141
			Z	DISP	-0.155	-0.256	-0.451

SS X SS	SNGL	X					
				FORC	-231.	413.	180.
					-231.	-413.	-645.
				LOCAL	0.000	0.000	0.000
			X	DISP	0.000	0.000	0.000
				LOCAL	-0.155	0.256	0.141
			Y	DISP	-0.155	-0.256	-0.451
				LOCAL	0.000	0.000	0.000
			Z	DISP	0.000	0.000	0.000

RE: CALIFORNIA BEER & SPIRITS CONTROL
SHEEDS AND TESTING FOR QUALITY EVALUATION
CALC. NO. 10-1
ORDER # 10-1
REV. 1
COMMITTEE

SUBJECT LEAD COMPANY (COT-15). FORD = (LE) • TSC = (TH)

[illegible]

SA 124 376L 71CL

FORC	3576	24	3530
3575	24	3530	
3574	24	3530	
3573	24	3530	
3572	24	3530	
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3476	24	3530	
3475	24	3530	
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2-8135

SA 4301

[illegible][illegible]

LOCAL	DATE	TIME	LOCATION	REMARKS
Y	01	01	01	01

LOCAL
ZETSP

SAZS
TGNL

Case	Age	Sex	Occupation	Duration of illness	Site of lesion	Pathological changes	Microscopic findings	Diagnosis
1	45	M	Farmer	10 years	Brain	Chronic	Microscopic	Chronic
2	55	F	Housewife	5 years	Brain	Chronic	Microscopic	Chronic
3	65	M	Teacher	15 years	Brain	Chronic	Microscopic	Chronic
4	75	F	Retired	20 years	Brain	Chronic	Microscopic	Chronic
5	85	M	Farmer	25 years	Brain	Chronic	Microscopic	Chronic
6	95	F	Housewife	30 years	Brain	Chronic	Microscopic	Chronic
7	105	M	Farmer	35 years	Brain	Chronic	Microscopic	Chronic
8	115	F	Housewife	40 years	Brain	Chronic	Microscopic	Chronic
9	125	M	Farmer	45 years	Brain	Chronic	Microscopic	Chronic
10	135	F	Housewife	50 years	Brain	Chronic	Microscopic	Chronic
11	145	M	Farmer	55 years	Brain	Chronic	Microscopic	Chronic
12	155	F	Housewife	60 years	Brain	Chronic	Microscopic	Chronic
13	165	M	Farmer	65 years	Brain	Chronic	Microscopic	Chronic
14	175	F	Housewife	70 years	Brain	Chronic	Microscopic	Chronic
15	185	M	Farmer	75 years	Brain	Chronic	Microscopic	Chronic
16	195	F	Housewife	80 years	Brain	Chronic	Microscopic	Chronic
17	205	M	Farmer	85 years	Brain	Chronic	Microscopic	Chronic
18	215	F	Housewife	90 years	Brain	Chronic	Microscopic	Chronic
19	225	M	Farmer	95 years	Brain	Chronic	Microscopic	Chronic
20	235	F	Housewife	100 years	Brain	Chronic	Microscopic	Chronic

LOCAL
CITY
COUNTY
STATE

100

[illegible]

THELL CORPORATION, 225 E. 4TH ST., CHICAGO, ILL. 60601

[illegible]

UTHERA CALIFORNIA 411904 527 OCT 1971
THE SCIENCE AND TECHNOLOGY EVALUATION

[illegible]

FOURTH MODEL FOR CIPHER.

NAME: AVE LOCATION: AVE
TYPE: LOCAL

LOAD CONDITION	FORCES (LB) F(X) F(Y) F(Z)	MOMENTS (LBF) M(X) M(Y) M(Z)
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