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Attention: Robert C. Pierson, Director
Standardization and Non-Power Reactor Project Directorate

Subject: **Piping Analyses Issue - December 9-10, 1991 GE/NRC Meeting**

Enclosed are thirty-four (34) copies of the following draft reports:

1. ABWR SSAR Main Steam Line A and SRVDL Piping Stress Analysis
2. ABWR SRV Discharge Wetwell Piping.

Sincerely,

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Revision 0

ADVANCED BOILING WATER REACTOR
SRVDL WETWELL PIPING
STRESS ANALYSIS DESIGN REPORT

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1. INTRODUCTION

1.1 Purpose. The purpose of this Engineering Report is to show compliance with Article NC-3600 of the ASME Boiler and Pressure Vessel Code Section III (hereinafter referred to as ASME III) of the Safety Relief Valve discharge line (SRVDL) pipings in the wetwell of the Advanced Boiling Water Reactor Power Plant.

1.2 Documentation

1.2.1 This document: (a) provides a summary of the most severe stress intensities throughout the piping system for the design and operating conditions defined in the Design Criteria and Analysis Method Document (Reference 1); (b) shows that all pipe and fittings in the piping system satisfy the pressure design requirements of Article NC-3600 of ASME III for the conditions specified in the Design Specification; (c) summarizes the interface loads acting on the component supports, the diaphragm floor, and the quencher basemat anchor. The detailed supporting computer output and calculations are contained in internal GE Design Record Files (DRF).

1.3 Scope. This Design Report covers only the SRVDL piping and the welds used for attaching this piping to the diaphragm floor head fitting, pipe suspension and the X-quencher.

1.3.1 There are 18 SRVDL's in the wetwell. Line G has the longest line and has the lowest natural frequency. The stresses due to OBEI and SSEI should be the highest among the lines. Therefore, Line G was selected for analysis.

2. SUMMARY

2.1 Model. The mathematical model of the piping system used in the analysis includes the anchor at the diaphragm floor, the wetwell piping, quencher body, quencher arms and quencher pedestal. The model is shown in Figure 1.

2.2 Analysis. GE's proprietary computer program, PISYS, was used to calculate the response of the piping system for all of the static and dynamic loads defined in Reference (1). The output from the PISYS computer program was evaluated by another GE proprietary computer program, ANSI7, to solve the stress intensity equations of ASME III Subarticle NC-3650 and to calculate the combined loads on all the supports interfacing with the piping.

2.3 Results

2.3.1 ASME III Code Compliance. All of the analyzed piping components satisfy the requirements of Article NC-3600 of ASME III. A summary of the results obtained by solution of the Subarticle NC-3650 equations for all significant joints in the piping system is contained in Appendix B.

The maximum primary stress ratio is 0.707 at the first elbow below the diaphragm floor (node 6) which is caused by occasional load due to the combination of pressure, weight, RV1 and OBE1. The maximum primary plus secondary stress ratio (EQ.11) is 0.362 which occurs at same elbow (node 4). Since line G is the longest line, the thermal expansion is expected to be the smallest. Since all the SRV wetwell piping in the wetwell are flexible, the maximum stress ratio for other shorter lines are below 0.5.

2.3.2 Design Requirements Appendix B contains a tabulation of all the support loads due to each input load as well as the combined load for Line G. The displacements due to each load are also tabulated. If a frame type support is used for the pipe, the thermal displacement at the support shows the rubbing distance between the pipe and the supports. The friction effects to the support loads are not included. The enveloped loads for all the lines studied, including the effect of friction, to be used for the design of upset condition, are as follows. For Level C and Level D the load increases are less than 20% and are are not controlling.

Support	Upset condition design loads
GH1A	30 kips
GH1V	30 kips
GH1P	9 kips
GH3R	20 kips
GH3T	20 kips

The calculated loads for the diaphragm floor penetration and basemat anchor are shown in Appendix C-4.

3. REQUIREMENTS AND BASIS

The input requirements used in the analysis are defined in Reference (1), drawings and other documents referenced in this Design Report. These input documents are addressed in the paragraphs below.

3.1 Configuration

3.1.1 The configuration of the piping and suspension is defined by the SRV wetwell piping and suspension drawings (Reference 2).

3.1.2 The properties of the materials used are shown in Tables 1 and 2, and the properties of the piping are shown in Table 3.

3.1.4 An isometric joint diagram and a list of the joint coordinates of the complete piping mathematical model are shown in Appendix E.

3.2 Loads. Reference 1 contains a complete listing and description of all static and dynamic loads acting on the piping system. A complete listing of these loads is also contained in Table 5.

3.2.1 Static Loads and Pressure-Temperature. The pressure, thermal, and dead weight loads acting on the piping system are defined in the Reference (1). The definition of thermal expansion cases is presented in Table 4.

3.2.2 Dynamic Loads. Vibratory building loads acting on the piping system are caused by the response of the reactor building structure and reactor pressure vessel to dynamic loads. The analysis of the reactor building and pressure vessel is performed by others and the results of this analysis provide amplified response spectra and maximum displacements at or near all points to which the pipe or pipe supports are attached to the structure. The input response spectra for applicable attachment points are specified in Reference 6.1.

3.3 Load Combinations. Many of the static and dynamic loads acting on the piping system act concurrently. The load combinations used for pipe, quencher and the pipe suspensions for each combination are defined in Reference 6.1 and presented in Appendix A.

4. METHODS

4.1 Modeling. The piping system is mathematically modeled to realistically reflect the static and dynamic reactions of the piping. The piping and equipment are represented in the model as a series of mass points (nodes) and interconnecting weightless springs. Mass points are spaced so that the elements between them will be of no greater length than a simple supported beam with uniformly distributed mass having a natural frequency equal to the cut-off frequency of the analysis.

4.1.4 Spring Hangers. There are no spring hangers used in the wetwell piping system.

4.1.5 Anchors and Struts. All the piping supports, such as struts and anchors are modeled as boundary elements with equivalent translation stiffness and rotational stiffness. In general, it is required that the strut translational stiffness should be more than 500,000 lb/in. The analysis result changes will be small for stiffnesses greater than that value. The rotational stiffness at the quencher basemat should be equal or greater than $8.7E9$ in-lb/radian.

4.1.6 Quencher and Submerged Piping. The water weight inside the pipe and the hydrodynamic weight for the water outside the pipe have been included in the analysis.

4.2 Analysis Methods. The dynamic analysis was performed using two methods. The inertia effects of each of the governing dynamic loads are evaluated using enveloped response spectrum method. The high frequency effect is included in the analysis in accordance with SRP 3.7.2. The loads and analysis methods that are the same as the drywell pipings are listed in Table 5-1. The analysis of wetwell loads are shown in Table 5-2.

4.2.1 Some other important dynamic criteria used in the analysis are tabulated below:

ITEM	CRITERIA
Damping: Seismic DBE/SSE Dynamic Loads	Reg. Guide 1.61 Reg. Guide 1.61
Cutoff Frequencies Acceleration Response Spectra (ARS)	Seismic - 33 Hz Other dynamic loads-60Hz
Combination of 3 Direction Components	Square Root of the Sum of the Squares (SRSS)
Combination of Primary and Secondary Loads and Stresses	SRSS
Response Spectrum Peak Broadening	Plus or minus 10 %
Modal Combination	Double Sum Method which accounts for effects of any closely spaced modes per Reg. Guide 1.92

4.3 Wetwell Loads : A brief description of additional wetwell loads and analysis methods for each load are shown in Table 5-2. The damping ratio used in all the dynamic time history analyses is 0.5%.

4.4 Computer Programs. The computer programs used in the piping stress analysis are described below.

4.4.1 PISYS. PISYS performs static and dynamic analysis of piping systems. The analysis modules of PISYS were derived directly from the SAP4G program.

4.4.2 ANSI7. The ANSI7 program calculates stresses and cumulative usage factors for Class 1, 2 and 3 piping components in accordance with Article NB/NC/ND-3600 of ASME III. This program also calculates combined loads on piping equipment in accordance with the equipment load combinations given in the piping Design Criteria and Analysis Methods Document and compares them with the allowable loads where applicable.

5. RESULTS

5.1 Design for Pressure (ND-3640)

5.1.1 Straight Pipe and Pipe Bends. Membrane protection for these items is provided by meeting the minimum wall requirements of Paragraphs NC-3641 and NC-3642 of ASME III. The comparison of minimum wall calculations with the values specified on the piping drawing (Reference 2) are contained in Table 3.

5.1.2 Elbows. The elbows used in the wetwell pipings are 3D bends which are manufactured in accordance with ANSI B16.9 Standard. The minimum wall requirements for the elbows are the same as for straight pipe; therefore, the minimum wall thickness tabulated in Table 3 for straight pipe applies to elbows.

5.2 Structural Analysis. The forces, moments and deflections of the pipe at each joint in the piping system identified on the stress analysis diagram for the thermal, dead weight and dynamic loading are calculated. The summary of calculated stresses and stress ratios for applicable load combinations by service level is presented in Appendix B.

5.3 Piping Component Analysis

5.3.1 ASME Code Evaluation. The piping components were analyzed in accordance with the requirements of ASME III, Subarticle NC-3650 by the computer program ANSI7. The analysis showed that all of the requirements of Subarticle NC-3650 of ASME III have been met.

5.3.2 Summary of Analytical Evaluation. A summary of the analytical evaluation of the piping components is given in Appendix B. The summary consists of stresses, and ratios to allowable for each service level.

5.4 Piping System Equipment Loads, Appendices A through C. The loads acting on equipment and supports interfacing with the piping are presented in Appendices A through C of this report. Appendix A provides the load combinations, Appendix B contains a summary of results, and Appendix C provides the detailed interface loads for the pipe supports .

5.4.1 Suspension and Structural Attachments. Appendix B gives the loading combinations and calculated loads for the piping suspension. This includes struts, diaphragm floor penetration and quencher basemat anchor. The location of, and coordinates for, the suspension are given in Appendix E.

5.5 Thermal Displacements, Appendix D. Appendix D presents the thermal displacements for the normal operating condition for all significant nodes in the piping system.

6.0. REFERENCES

1. GE Document No. NEDC-XXX, "ABWR Main Steam, Feedwater and SRVDL Piping Systems Design Criteria and Analysis Methods".
2. GE Drawing No. 103E1481, "SRV Wetwell Piping" Rev. 0 , (for K7) .

TABLE 1 PROPERTIES OF MATERIALS

Material	Material Type	Temp. (F)	S _h (psi)	S _y (psi)	Modulus Elast. (psi)
ASME SA-376	1	480 (4)	18060	20192	25.8E6 (2)
TP-316 SS wetwell piping		130 (3)	18770	30000	28.6E6 (1)
ASME SA-376	2	480 (4)	14606	16068	25.8E6 (2)
TP-316L quencher		130 (3)	16296	25000	28.6E6 (1)

- (1) E_c = Modulus of Elasticity at 70 degree F
 (2) E_h = Modulus of Elasticity at 480 degree F
 (3) Piping at room temperature
 (4) Piping at design temperature

TABLE 2 MATERIAL ALLOWABLES

Mat. Type	Level Lesser of the	Design 1.5 S _h	Occas 1.8 S _h 1.5 S _y	Level C 2.25 S _h 1.8 S _y	Level D 3.0 S _h 2.0 S _y	Eq. 11 1.25(S _h +S _c)
1	Allow psi	27090	30288	36345	40384	53100
2	Allow psi	21969	24102	28922	32136	38627

TABLE 3 PIPING DIMENSIONAL PROPERTIES

Nom. Pipe Size (in)	10	10	12	12	12	24
Nom. Pipe OD (in)	10.75	10.75	12.750	12.75	12.75	1.812
Nom. Pipe ID (in)	9.564	9.75	11.624	11.624	11.376	20.376
Min Wall t_{mc} (2)	0.519	0.438	0.493	0.493	0.601	1.586
Nom. Wall t_{nom} (in)	0.593	0.500	0.562	0.562	0.687	1.812
Material Type (1)	1	1	1	1	2	2
Weight* (lb/ft) (3)	62.85	53.49	71.93	169.75	182.5	765.98
Location	Dene.	Dry area	Dry area	Water	Q-Arms	Q-body

- Notes: (1) Refer to Table 1
 (2) Minimum Wall Requirements Calculated per ASME III, Section NB-3640
 (3) Weight equals pipe weight plus water weight plus hydro-dyn weight

TABLE 4 DEFINITION OF THERMAL EXPANSION CASE 1

	Temperature (degrees F)
SRV Piping in air space	450
SRV piping under water	330
Quencher Pedestal support column	200

Case 1 is SRV discharge conditions.
 SRV piping is at room temperature during normal operation

TABLE 5 NOMENCLATURE OF LOADS OTHER THAN WETWELL LOADS

Load Type	Case	Ident	Dir***	Description
		PO		Operating Pressure
		PD		Design Pressure, 540 psi
		PP		Peak Pressure
Thermal	1	TE1		SRV discharge Condition
Weight	1	WT1		Dead Weight
Seismic	1	OBEI	X	Operating Basis Earthquake - Inertia Effect
Seismic	2	"	Y	Operating Basis Earthquake - Inertia Effect
Seismic	3	"	Z	Operating Basis Earthquake - Inertia Effect
OBE D	1	OBED*	X	Operating Basis Earthquake - Anchor Displacement
OBE D	2	OBED*	Z	Operating Basis Earthquake - Anchor Displacement
SSEI	1	SSEI	X	Safe Shutdown Earthquake - Inertia Effect
SSEI	2	SSEI	Y	Safe Shutdown Earthquake - Inertia Effect
SSEI	3	SSEI	Z	Safe Shutdown Earthquake - Inertia Effect
SSD	1	SSD*	X	Safe Shutdown Earthquake - Anchor Displacement
SSD	2	SSD*	Z	Safe Shutdown Earthquake - Anchor Displacement
A.P.I.	1	API**	HOR	Annulus Pressurization Inertia Effect - Enveloped load in X.
A.P.I.	4	API**	HOR	Annulus Pressurization Inertia Effect - Enveloped load in Z
A.P.D.		APD		Annulus Pressurization Anchor Displacement. Negligible in wetwell piping.

TABLE 5-1 NOMENCLATURE OF LOADS (Continued)

Load Type	Case	Ident	Dir***	Description
CHUG. I	1,3	CHUGI	HOR	Chugging Load - Inertia Effect
CHUG. I	2	CHUGI	Y	Chugging Load - Inertia Effect
COND. I	2	CONDI	Y	Condensation Oscillation - Inertia Effect
RV2 SV1I	1,3	X,2		Single Safety Relief Valve - Inertia Effect
RV2 SV1I	2	Y		Single Safety Relief Valve - Inertia Effect
RV2 I	1,3	RV2 I	X,Z	All Safety Relief Valves Basemat Acceleration - Inertia Effect
RV2 I	2	RV2 I	Y	All Safety Relief Valves Basemat Acceleration - Inertia Effect

* OBED cases 1 and 2 were combined using the SRSS method.

SSD cases 1 and 2 were combined using the SRSS method.

** For API, the enveloped of load due to the Recirculation, Feedwater, or Main steam Breaks is used.

*** The X-direction is east/west, the Z-direction is north/south, and Y is vertical.

TABLE 5-2 WETWELL PIPING LOADS

ADJQ : Air clearing load from active quencher acting on adjacent inactive quencher. Total 3 cases.
Analysis method : Time history direct integration.

AIRBB : Air bubble load from main vent opening.
Analysis method : Time history direct integration.

AIRC : Air clearing load from active quencher acting on that same quencher's arms.
Analysis method : Static analysis.

CHUGW : Chugging wetwell acoustic triangular pulse type pressure load.
Analysis method : Time history direct integration analysis.

CHUGR : Chugging acoustic pressure ringout type loading.
Analysis method : Time history direct integration analysis.

CONDH : Condensation oscillation pressure load case 1.
Analysis method : Time history direct integration method

CONDL : Condensation oscillation wetwell pressure load case 2.
Analysis method : Time history direct integration method

PSWLY : Pool swell load.
Analysis method : Time history direct integration analysis.

RV1 : Relief valve lift acoustic load and water clearing load.
Analysis method : Time history direct integration analysis.

WJET : Water jet load from active quencher acting on adjacent inactive quencher.
The load is negligible and is not included in the analysis.

WJETMV : Water jet from main vent opening.
The load is negligible and is not included in the analysis.

TABLE 6 NOMENCLATURE FOR APPENDICES

ALLOW	=	Allowable force (lb) or moment (in-lb)
ANC	=	Anchor identification in structural analysis
COMB	=	Service level equation number as shown on load combination table
FA, FB, FC*	=	Local force in A, B, C directions (lb)
F/M	=	Force (lb) and moment (in-lb)
FX, FY, FZ	=	Global force in X, Y, Z directions (lb)
LOAD	=	Calculated load (lb)
MA, MB, MC*	=	Local moment in A, B, C directions (in-lb)
MX, MY, MZ	=	Global moment in X, Y, Z directions (in-lb)
RATIO	=	Calculated load or stress divided by allowable load or stress
STR	=	Strut
ANC	=	Anchor

*There are two types of elements that the PISYS computer program uses to form the pipe model. One is the straight or tangent element and the other is a planar bend element. Each element has local coordinate axes that orient the element in the global coordinate system and identify force and moment components at a joint with respect to element axes. Moreover, joint displacement and rotation require a knowledge of the local axes. The convention for the orientation of these local axes is as follows:

- (1) Tangent elements parallel to the global Y-axis (vertical axis) have their local B-axis diverted to and in the same direction as the global Z-axis.
- (2) Tangent elements not parallel to the global Y-axis have their local B-axis contained in a vertical (global) plane such that local B-axis projects positively on the positive global Y-axis.
- (3) For bend elements, the local B-axis is directed positively toward and intersects the center of curvature of the bend (i.e., radius vector).
- (4) The local A-axis is tangent to the arc of the bend or straight element and is directed positively from the FROM joint to the TO joint.

APPENDIX A

THE LOADING COMBINATION USED FOR THE ANALYSIS **PIPE **

DESIGN1 1	PD + WT1	
OCCAS 1	PO + WT1	+ SQRT((RV1)**2 + (OBEI)**2)
OCCAS 2	PO + WT1	+ SQRT((RV2I)**2 + (ADJQ)**2 + (OBEI)**2)
OCCAS 3	PO + WT1	+ SQRT((AIRC)**2 + (OBEI)**2)
THERM 1	TE1	
TH+WT 1	PO + WT1	+ TE1
LEVL C 1	PO + WT1	+ SQRT((RV1)**2 + (CHUGI)**2 + (CHUGW + CHUGR)**2)
LEVL C 2	PO + WT1	+ SQRT((RV2I)**2 + (ADJQ)**2 + (CHUGI)**2 + (CHUGW + CHUGR)**2)
LEVL C 3	PO + WT1	+ SQRT((AIRC)**2 + (CHUGI)**2 + (CHUGW + CHUGR)**2)
LEVL D 1	PO + WT1	+ SQRT((SSEI)**2 + (RV1)**2 + (CHUGI)**2 + (CHUGW + CHUGR)**2)
LEVL D 2	PO + WT1	+ SQRT((SSEI)**2 + (RV2I)**2 + (ADJQ)**2 + (CHUGI)**2 + (CHUGW + CHUGR)**2)
LEVL D 3	PO + WT1	+ SQRT((SSEI)**2 + (AIRC)**2 + (CHUGI)**2 + (CHUGW + CHUGR)**2)
LEVL D 4	PO + WT1	+ SQRT((SSEI)**2 + (RV1)**2 + (CONDI)**2 + (CONDL + CONDH)**2)
LEVL D 5	PO + WT1	+ SQRT((SSEI)**2 + (RV2I)**2 + (ADJQ)**2 + (CONDI)**2 + (CONDL + CONDH)**2)
LEVL D 6	PO + WT1	+ SQRT((SSEI)**2 + (AIRC)**2 + (CONDI)**2 + (CONDL + CONDH)**2)
LEVL D 7	PO + WT1	+ SQRT((SSEI)**2 + (PSWLY)**2 + (AIRBB)**2)
LEVL D 8	PO + WT1	+ SQRT((SSEI)**2 + (API)**2)

GENERAL ELECTRIC COMPANY
BOILING WATER REACTOR SYSTEMS DEPARTMENT

SPEC NO 0000000000000000

REV NO 000

G-K7-USA

LOADING COMBINATION FOR STR/ANC ARE AS FOLLOW

LEVEL A 1	WT1	+ TE1					
LEVEL B 1	WT1	+ TE1	+ SORT1(OBE1) 1**2	+ 1 OBED 1**2	+ 1 RV1 1**2		
LEVEL B 2	WT1	+ TE1	+ SORT1(OBE1) 1**2	+ 1 OBED 1**2	+ 1 RV21 1**2	+ 1 RV2D 1**2	
	+ 1 ADJO 1**2						
LEVEL B 3	WT1	+ TE1	+ SORT1(OBE1) 1**2	+ 1 OBED 1**2	+ 1 AIRC 1**2		
LEVEL C 1	WT1	+ TE1	+ SORT1(RV1) 1**2	+ 1 CHUG1 1**2	+ 1 CHUGW	+ CHUGR	
	1**2						
LEVEL C 2	WT1	+ TE1	+ SORT1(RV21) 1**2	+ 1 RV2D 1**2	+ 1 ADJO 1**2	+ 1 CHUG1 1**2	
	+ 1 CHUGW	+ CHUGR 1**2					
LEVEL C 3	WT1	+ TE1	+ SORT1(AIRC) 1**2	+ 1 CHUG1 1**2	+ 1 CHUGW	+ CHUGR	
	1**2						
LEVEL C 4	WT1	+ TE1	+ SORT1(AIRC) 1**2	+ 1 CONDI 1**2	+ 1 CONDL	+ CONDH	
	1**2						
LEVEL C 5	WT1	+ TE1	+ SORT1(PSWLY) 1**2	+ 1 AIRBB 1**2			
LEVEL D 1	WT1	+ TE1	+ SORT1(SSE1) 1**2	+ 1 SSED 1**2	+ 1 RV1 1**2	+ 1 CHUG1 1**2	
	+ 1 CHUGW	+ CHUGR 1**2					
LEVEL D 2	WT1	+ TE1	+ SORT1(SSE1) 1**2	+ 1 SSED 1**2	+ 1 RV21 1**2	+ 1 RV2D 1**2	
	+ 1 ADJO 1**2	+ 1 CHUG1 1**2					
LEVEL D 3	WT1	+ TE1	+ SORT1(SSE1) 1**2	+ 1 SSED 1**2	+ 1 AIRC 1**2	+ 1 CHUG1 1**2	
	+ 1 CHUGW	+ CHUGR 1**2					
LEVEL D 4	WT1	+ TE1	+ SORT1(SSE1) 1**2	+ 1 SSED 1**2	+ 1 AIRC 1**2	+ 1 CONDI 1**2	
	+ 1 CONDL	+ CONDH 1**2					
LEVEL D 5	WT1	+ TE1	+ SORT1(SSE1) 1**2	+ 1 SSED 1**2	+ 1 PSWLY 1**2	+ 1 AIRBB 1**2	
LEVEL D 6	WT1	+ TE1	+ SORT1(SSE1) 1**2	+ 1 SSED 1**2	+ 1 API 1**2		

APPENDIX B-1-1 SUMMARY OF STRESSES FOR NODES IN INPUT SEQUENCE

NO	SIZE O.D.	COMP TYPE	SUSTAIN EQ 8 STRESS RATIO	* OCCA EQ 9 * STRESS RATIO	* PRI+SEC EQ11 * STRESS RATIO	* LEVEL C EQ 9* * STRESS RATIO	LEVEL D EQ 9* STRESS RATIO
001.	10.750	TRANSI	2839. 0.10	13223. 0.44	5928. 0.13	6639. 0.18	22869. 0.57
203.	10.750	ST PIP	2764. 0.10	7199. 0.24	11564. 0.25	5325. 0.15	10750. 0.27
004.	10.750	ELBOW	1326. 0.05	9433. 0.31	16679. 0.36	4271. 0.12	17267. 0.43
006.	10.750	ELBOW	3639. 0.13	21417. 0.71	9545. 0.21	13331. 0.37	36490. 0.90
106.	10.750	ST PIP	5236. 0.19	17635. 0.58	5473. 0.12	12494. 0.34	27626. 0.68
008.	10.750	ELBOW	2223. 0.08	12424. 0.41	10241. 0.22	9134. 0.25	20877. 0.52
010.	10.750	ELBOW	2928. 0.11	12538. 0.41	12294. 0.27	12043. 0.33	17798. 0.14
110.	10.750	ST PIP	3671. 0.14	8250. 0.27	10071. 0.22	8360. 0.23	10248. 0.25
012.	12.750	REDUCE	3380. 0.12	6904. 0.23	7973. 0.17	6020. 0.17	9685. 0.24
013.	12.750	ELBOW	1601. 0.06	8504. 0.28	8427. 0.18	6534. 0.18	14120. 0.35
015.	12.750	ELBOW	2271. 0.08	11137. 0.37	7268. 0.16	9370. 0.26	16871. 0.42
017.	12.750	ELBOW	1160. 0.04	12840. 0.42	4670. 0.10	10375. 0.29	21225. 0.53
019.	12.750	ELBOW	1558. 0.06	11189. 0.37	6427. 0.14	7025. 0.19	19719. 0.49
020.	12.750	ST PIP	3236. 0.12	8886. 0.29	5551. 0.12	7905. 0.22	13389. 0.33
022.	12.750	ELBOW	2122. 0.08	14612. 0.48	6808. 0.15	14141. 0.39	24712. 0.61
024.	12.750	ELBOW	2346. 0.09	16335. 0.54	6827. 0.15	16265. 0.45	26890. 0.67
027.	12.750	ELBOW	1877. 0.07	10999. 0.36	4808. 0.10	12817. 0.35	18650. 0.46
029.	12.750	ELBOW	1838. 0.07	12462. 0.41	4810. 0.10	13426. 0.37	20812. 0.52
030.	12.750	REDUCE	3159. 0.14	12007. 0.50	4387. 0.11	11417. 0.39	18478. 0.57
030.	12.540	REDUCE	3113. 0.14	12262. 0.51	4376. 0.11	11651. 0.40	18967. 0.59
032.	12.540	BR NOZ	5066. 0.23	16656. 0.69	5031. 0.13	16838. 0.58	16852. 0.52
032.	12.540	TRANSI	2572. 0.12	10488. 0.44	2588. 0.07	10631. 0.37	10643. 0.33
033.	12.540		3293. 0.15	11842. 0.49	3308. 0.09	12026. 0.42	12039. 0.37
036.	12.540	BR NOZ	5066. 0.23	16653. 0.69	5011. 0.13	16788. 0.58	16803. 0.52
036.	12.540	TRANSI	2572. 0.12	10485. 0.44	2588. 0.07	10592. 0.37	10604. 0.33
037.	12.540		3293. 0.15	11843. 0.49	3308. 0.09	11975. 0.41	11988. 0.37
040.	12.540	BR NOZ	5066. 0.23	11218. 0.47	5031. 0.13	11542. 0.40	11593. 0.36
040.	12.540	TRANSI	2572. 0.12	6209. 0.26	2588. 0.07	6464. 0.22	6504. 0.20
041.	12.540		3293. 0.15	7549. 0.31	3308. 0.09	7810. 0.27	7853. 0.24
044.	12.540	BR NOZ	5066. 0.23	11218. 0.47	5031. 0.13	12037. 0.42	12080. 0.38
044.	12.540	TRANSI	2572. 0.12	6209. 0.26	2588. 0.07	6854. 0.24	6887. 0.21
045.	12.540		3293. 0.15	7548. 0.31	3308. 0.09	8494. 0.29	8526. 0.27
048.	24.000	TRANSI	1889. 0.09	6598. 0.27	2125. 0.05	7480. 0.26	8728. 0.27
049.	24.000	TRANSI	1526. 0.07	7178. 0.30	1765. 0.05	9563. 0.33	10939. 0.34

APPENDIX B-1-2 SUMMARY OF PIPING STRESSES FROM HIGH TO LOW

SUSTAINED EQ 8 *			OCCASIONAL EQ 9 *			PRI+SEC EQ 11 *			LEVL C EQ 9*			LEVL D EQ 9*		
NO	STRESS	RATIO *	NO	STRESS	RATIO	NO	STRESS	RATIO *	NO	STRESS	RATIO *	NO	STRESS	RATIO *
044.	5066.	0.231	006.	21417.	0.707	004.	16679.	0.362	032.	16838.	0.582	006.	36490.	0.904
032.	5065.	0.231	032.	16656.	0.691	010.	12294.	0.267	036.	16788.	0.580	106.	27626.	0.684
040.	5066.	0.231	036.	16653.	0.691	203.	11564.	0.251	024.	16265.	0.447	024.	26890.	0.666
036.	5066.	0.231	106.	17635.	0.582	008.	10245.	0.223	044.	12037.	0.416	022.	24712.	0.612
106.	5236.	0.193	024.	16335.	0.539	110.	10071.	0.219	033.	12026.	0.416	030.	18967.	0.590
041.	3293.	0.150	030.	12262.	0.509	006.	9545.	0.207	037.	11975.	0.414	030.	18478.	0.575
033.	3293.	0.150	030.	12007.	0.498	013.	8427.	0.183	030.	11651.	0.403	001.	22869.	0.566
037.	3293.	0.150	037.	11843.	0.491	012.	7973.	0.173	040.	11542.	0.399	017.	21225.	0.526
045.	3293.	0.150	033.	11842.	0.491	015.	7268.	0.158	030.	11417.	0.395	032.	16852.	0.524
030.	3159.	0.144	022.	14612.	0.482	024.	6827.	0.148	022.	14141.	0.389	036.	16803.	0.523
030.	3113.	0.142	044.	11218.	0.465	022.	5808.	0.148	029.	13426.	0.369	008.	20877.	0.517
110.	3671.	0.136	040.	11218.	0.465	019.	6427.	0.140	032.	10631.	0.368	029.	20812.	0.515
006.	3639.	0.134	001.	13223.	0.437	032.	5031.	0.130	006.	13331.	0.367	019.	19719.	0.488
012.	3380.	0.125	032.	10488.	0.435	044.	5031.	0.130	036.	10592.	0.366	027.	18650.	0.462
020.	3236.	0.119	036.	10485.	0.435	040.	5031.	0.130	027.	12817.	0.353	010.	17798.	0.441
044.	2572.	0.117	017.	12840.	0.424	036.	5031.	0.130	106.	12494.	0.344	004.	17267.	0.428
032.	2572.	0.117	010.	12538.	0.414	031.	5928.	0.129	010.	12043.	0.331	015.	16871.	0.418
040.	2572.	0.117	029.	12462.	0.411	020.	5551.	0.121	049.	9563.	0.331	044.	12080.	0.376
036.	2572.	0.117	008.	12424.	0.410	106.	5473.	0.119	045.	8494.	0.294	033.	12039.	0.375
010.	2928.	0.108	019.	11189.	0.369	030.	4384.	0.113	017.	10375.	0.285	037.	11988.	0.373
001.	2839.	0.105	015.	11137.	0.368	030.	4376.	0.113	041.	7810.	0.270	040.	11593.	0.361
203.	2764.	0.102	027.	10999.	0.363	029.	4810.	0.104	048.	7480.	0.259	013.	14120.	0.350
024.	2346.	0.087	041.	7549.	0.313	027.	4808.	0.104	015.	9370.	0.258	049.	10939.	0.340
048.	1889.	0.086	045.	7548.	0.311	017.	4670.	0.101	008.	9134.	0.251	020.	13389.	0.332
015.	2271.	0.084	004.	9433.	0.311	041.	3308.	0.086	044.	6854.	0.237	032.	10643.	0.331
008.	2223.	0.082	049.	7178.	0.298	033.	3308.	0.086	110.	8360.	0.230	036.	10604.	0.330
022.	2122.	0.078	020.	8886.	0.293	037.	3308.	0.086	040.	6464.	0.223	048.	8728.	0.272
049.	1526.	0.069	013.	8504.	0.281	045.	3308.	0.086	020.	7905.	0.218	203.	10750.	0.266
027.	1877.	0.069	048.	6598.	0.274	044.	2588.	0.067	019.	7025.	0.193	045.	8526.	0.265
029.	1838.	0.068	110.	8250.	0.272	032.	2588.	0.067	001.	6639.	0.183	110.	10248.	0.254
013.	1601.	0.059	044.	6209.	0.258	040.	2588.	0.067	013.	6534.	0.180	041.	7853.	0.244
019.	1558.	0.058	040.	6209.	0.258	036.	2588.	0.067	012.	6020.	0.166	012.	9685.	0.240
004.	1326.	0.049	203.	7199.	0.238	048.	2125.	0.055	203.	5325.	0.147	044.	6887.	0.214
017.	1160.	0.043	012.	6904.	0.228	049.	1765.	0.046	004.	4271.	0.118	040.	6504.	0.202

APPENDIX B-2-1 LOADS ON DIAPHRAGM FLOOR NODE=101, GLOBAL COORDIANTES

		FX	FY	FZ	MX	MY	MZ
TE1	CASE 1	-3985.	-7865.	-2108.	-32526.	6715.	79106.
WT1	CASE 1	15.	136.	-162.	3942.	5715.	12667.
DBE1	CASE 1	1217.	2046.	2017.	137227.	96727.	71743.
DBE1	CASE 2	1477.	2227.	2771.	184820.	129014.	94701.
DBE1	CASE 3	103.	2101.	180.	14095.	13261.	23289.
RV1	CASE 1	1664.	11801.	600.	65349.	33905.	96043.
RV21	CASE 1	159.	668.	237.	9578.	4388.	12613.
RV21	CASE 2	230.	940.	196.	8165.	4553.	19433.
RV21	CASE 3	104.	2596.	185.	16537.	17131.	27372.
CHUG1	CASE 1	123.	117.	249.	2774.	2402.	2257.
CHUG1	CASE 2	138.	317.	218.	2919.	2700.	4692.
CHUG1	CASE 3	8.	33.	15.	424.	263.	485.
CONDH	CASE 1	12.	76.	14.	1531.	1167.	818.
CONDL	CASE 1	63.	211.	129.	7700.	5249.	4312.
CHUGW	CASE 1	0.	1.	0.	1.	7.	1.
CHUGR	CASE 1	19.	333.	13.	2128.	1175.	2272.
API	CASE 1	138.	198.	277.	4025.	3295.	3547.
API	CASE 4	139.	340.	232.	4136.	3352.	6433.
ADJO	CASE 1	23.	350.	20.	2209.	1972.	2652.
ADJO	CASE 2	74.	578.	49.	8636.	5835.	8034.
ADJO	CASE 3	95.	944.	58.	7142.	3901.	9243.
SSE1	CASE 1	2435.	4092.	4035.	274455.	193454.	143485.
SSE1	CASE 2	2954.	4454.	5543.	369640.	258028.	189402.
SSE1	CASE 3	205.	4201.	360.	28189.	26523.	46577.
SSD	CASE 1	-2.	391.	53.	-723.	230.	-499.
SSD	CASE 2	4.	-66.	-24.	-1181.	-2194.	-1234.
COND1	CASE 3	144.	2046.	235.	16635.	15486.	22457.
PSWLY	CASE 1	110.	1003.	111.	1749.	1046.	3741.
OBED	CASE 1	-12.	183.	44.	-1128.	-408.	-1073.
OBED	CASE 2	-13.	-163.	-3.	-1322.	-1749.	-1497.
AIRBB	CASE 1	42.	162.	38.	4212.	3677.	3283.
AIRC	CASE 1	7.	63.	-1.	-368.	26.	1023.

APPENDIX B-2-1 LOADS ON DIAPHRAGM FLOOR MODE=101. GLOBAL COORDINATES
(COMBINED RESULTS).

		FX	FY	FZ	MX	MY	MZ
LEVL A	1	3999.	8001.	2271.	36468.	12429.	91773.
LEVL B	1	6538.	20366.	5756.	276180.	177745.	246322.
LEVL B	2	5941.	12694.	5722.	268196.	175363.	218310.
LEVL B	3	5916.	11692.	5703.	267101.	174231.	212860.
LEVL C	1	5674.	19812.	2956.	101977.	46548.	187985.
LEVL C	2	4359.	10939.	2761.	59432.	31975.	128962.
LEVL C	3	4186.	8481.	2602.	41057.	16241.	97565.
LEVL C	4	4445.	10697.	2809.	90325.	52419.	138023.
LEVL C	5	4117.	9017.	2388.	41028.	16253.	96750.
LEVL D	1	8182.	21925.	9170.	502351.	337814.	352328.
LEVL D	2	7849.	15939.	9154.	498294.	336610.	336753.
LEVL D	3	7837.	15391.	9144.	497745.	336043.	333983.
LEVL D	4	7858.	15853.	9157.	500856.	338482.	338292.
LEVL D	5	7834.	15445.	9137.	497745.	336043.	333965.
LEVL D	6	7838.	15386.	9146.	497759.	336055.	334026.

APPENDIX B-2-2 LOADS ON QUENCHER BASEMAT NODE=049, GLOBAL COORDINATES

		FX	FY	FZ	MX	MY	MZ
TE9	CASE 1	-317.	1652.	478.	94966.	-63174.	48067.
WT1	CASE 1	131.	9460.	884.	110181.	2134.	-12791.
OBE1	CASE 1	6578.	1866.	7093.	920918.	111990.	860847.
OBE1	CASE 2	5735.	1398.	7251.	962177.	144045.	773851.
OBE1	CASE 3	1392.	3302.	1805.	190347.	23943.	177579.
RV1	CASE 1	13030.	37962.	30797.	2991577.	88439.	1503039.
RV21	CASE 1	3860.	1932.	4489.	468773.	25553.	390180.
RV21	CASE 2	2808.	1250.	3650.	368412.	16738.	313885.
RV21	CASE 3	1397.	1719.	1562.	168787.	28391.	195779.
CHUG1	CASE 1	1553.	469.	896.	89341.	22791.	103361.
CHUG1	CASE 2	651.	730.	2215.	130682.	13665.	68430.
CHUG1	CASE 3	101.	112.	221.	15575.	987.	8632.
CONDH	CASE 1	2451.	1344.	3412.	256870.	2586.	194575.
CONDL	CASE 1	12907.	6920.	18110.	1283952.	10293.	936978.
CHUGW	CASE 1	15303.	7987.	2304.	131536.	7249.	724913.
CHUGR	CASE 1	519.	5451.	1537.	246359.	2741.	61283.
API	CASE 1	1999.	651.	1301.	138474.	26101.	150794.
API	CASE 4	894.	589.	1884.	150563.	15881.	101522.
ADJQ	CASE 1	4202.	8282.	8765.	672889.	7648.	335605.
ADJQ	CASE 2	5694.	8707.	9695.	780600.	15795.	575722.
ADJQ	CASE 3	6759.	8791.	10266.	896659.	24486.	579599.
SSE1	CASE 1	13156.	3732.	14186.	1841836.	223980.	1721694.
SSE1	CASE 2	11469.	2796.	14501.	1924354.	288090.	1547703.
SSE1	CASE 3	2784.	6604.	3610.	380693.	47886.	355158.
SSED	CASE 1	-248.	126.	2.	-4517.	-22450.	90252.
SSED	CASE 2	-19.	-23.	-289.	-103513.	4780.	5433.
COND1	CASE 3	2283.	2489.	3559.	296987.	26398.	247133.
PSWLY	CASE 1	289.	7026.	542.	256653.	358.	48886.
OBED	CASE 1	-218.	78.	-10.	-5676.	-20648.	77119.
OBED	CASE 2	-21.	-42.	-264.	-90513.	5018.	5841.
AIRBB	CASE 1	7316.	1673.	9828.	979385.	13831.	730793.
AIRC	CASE 1	-31614.	-16805.	-4969.	-615782.	-1527261.	2431319.

APPENDIX B-2-2 LOADS ON QUENCHER BASEMAT NODE=049, GLOBAL COORDINATES
(COMBINED RESULTS)

		FX	FY	FZ	MX	MY	MZ
LEVL A	1	448.	11112.	1362.	205146.	65307.	60858.
LEVL B	1	16193.	49288.	33837.	3486589.	270580.	1967831.
LEVL B	2	12636.	21205.	17094.	1939013.	256760.	1475937.
LEVL B	3	33275.	28396.	12803.	1687550.	1603762.	2760623.
LEVL C	1	21014.	51391.	32490.	3224690.	158196.	1761643.
LEVL C	2	18437.	27448.	14083.	1369651.	121393.	1182719.
LEVL C	3	35841.	32646.	8085.	944940.	1592833.	2619150.
LEVL C	4	43702.	35787.	45644.	3979119.	1595840.	3567168.
LEVL C	5	7769.	18334.	11204.	1217601.	79143.	793284.
LEVL D	1	27566.	52195.	38693.	4250984.	445585.	2956820.
LEVL D	2	25668.	29340.	25579.	3138955.	438307.	2659415.
LEVL D	3	40009.	34114.	23038.	2997718.	1636713.	3530553.
LEVL D	4	47174.	37078.	50204.	4841312.	1639636.	4278456.
LEVL D	5	19580.	21954.	24199.	3081990.	434325.	2516540.
LEVL D	6	18259.	19245.	22095.	2905703.	435329.	2411809.

APPENDIX B-2-3 SUMMARY LOAD ON ANCHORS GLOBAL COORDIANATES
(COMBINED RESULTS)

NODE/name		LEVEL A	LEVEL B	LEVEL C	LEVEL D
101. A01	FX	3999.	6538.	5674.	8182.
	FY	8001.	20366.	19812.	21925.
	FZ	2271.	5756.	2956.	9170.
	MX	36468.	276180.	101977.	502351.
	MY	12429.	177745.	52419.	338482.
	MZ	91773.	246322.	187985.	352328.
049. A02	FX	448.	33275.	43702.	47174.
	FY	11112.	49288.	51391.	52195.
	FZ	1362.	33837.	45644.	50204.
	MX	205146.	3486589.	3979119.	4841312.
	MY	65307.	1603762.	1595840.	1639636.
	MZ	60858.	2760623.	3567168.	4278456.

APPENDIX B-3-1: SUMMARY OF LOAD AND PIPE DISPLACEMENTS AT SUPPORTS
STR PIPE NODE=303, GH1A

		FORCE	DISP. X	DISP. Y	DISP. Z
TE1	CASE 1	4352.	-0.106	-0.233	0.108
WT1	CASE 1	592.	-0.011	0.000	0.004
OBE1	CASE 1	1190.	0.065	0.001	0.126
OBE1	CASE 2	1562.	0.087	0.001	0.169
OBE1	CASE 3	1311.	0.020	0.001	0.012
RV1	CASE 1	7717.	0.086	0.002	0.065
RV21	CASE 1	1119.	0.012	0.000	0.010
RV21	CASE 2	1480.	0.019	0.000	0.008
RV21	CASE 3	1626.	0.025	0.001	0.015
CHUG1	CASE 1	186.	0.003	0.000	0.004
CHUG1	CASE 2	358.	0.005	0.000	0.004
CHUG1	CASE 3	44.	0.000	0.000	0.000
CONDR	CASE 1	59.	0.001	0.000	0.002
CONDL	CASE 1	106.	0.004	0.000	0.008
CHUGW	CASE 1	0.	0.000	0.000	0.000
CHUGR	CASE 1	204.	0.002	0.000	0.002
API	CASE 1	289.	0.004	0.000	0.005
API	CASE 4	482.	0.006	0.000	0.005
ADJQ	CASE 1	231.	0.003	0.000	0.002
ADJQ	CASE 2	584.	0.008	0.000	0.009
ADJQ	CASE 3	864.	0.009	0.000	0.007
SSE1	CASE 1	2380.	0.130	0.001	0.252
SSE1	CASE 2	3125.	0.174	0.001	0.338
SSE1	CASE 3	2622.	0.040	0.001	0.024
SSD	CASE 1	10.	0.360	-0.000	-0.001
SSD	CASE 2	-37.	0.001	0.000	0.359
COND1	CASE 3	1416.	0.021	0.001	0.016
PSWLY	CASE 1	237.	0.003	0.000	0.001
OBED	CASE 1	-19.	0.261	-0.000	-0.001
OBED	CASE 2	-51.	0.001	0.000	0.259
ATRBB	CASE 1	195.	0.003	0.000	0.004
AIRC	CASE 1	77.	-0.001	-0.000	-0.000

STR PIPE NODE=303, GH1A #004876

SERVICE	COMB NO.	SUM
LEVL A	1	4944.
LEVL B	1	13015.
LEVL B	2	8467.
LEVL B	3	7307.
LEVL C	1	12674.
LEVL C	2	7597.
LEVL C	3	5404.
LEVL C	4	8394.
LEVL C	5	5251.
LEVL C	1	14003.
LEVL D	2	10361.
LEVL D	3	9689.
LEVL D	4	10793.
LEVL D	5	9677.
LEVL D	6	9700.

APPENDIX B-3-2: SUMMARY OF LOAD AND PIPE DISPLACEMENTS AT SUPPORTS
STR PIPE NODE=107. GH1V

		FORCE	DISP. X	DISP. Y	DISP. Z
TE1	CASE 1	6214.	-0.485	0.122	-0.080
WT1	CASE 1	3390.	-0.014	-0.006	-0.007
OBE1	CASE 1	2947.	0.020	0.005	0.010
OBE1	CASE 2	2716.	0.025	0.005	0.012
OBE1	CASE 3	3947.	0.027	0.007	0.013
RV1	CASE 1	11930.	0.143	0.021	0.067
RV21	CASE 1	715.	0.020	0.001	0.009
RV21	CASE 2	1094.	0.027	0.002	0.013
RV21	CASE 3	5042.	0.035	0.009	0.016
CHUG1	CASE 1	145.	0.003	0.000	0.002
CHUG1	CASE 2	625.	0.006	0.001	0.003
CHUG1	CASE 3	59.	0.001	0.000	0.000
CONDK	CASE 1	124.	0.001	0.000	0.001
CONDL	CASE 1	315.	0.002	0.001	0.001
CHUGW	CASE 1	1.	0.000	0.000	0.000
CHUGR	CASE 1	574.	0.004	0.001	0.002
API	CASE 1	257.	0.005	0.000	0.002
API	CASE 4	521.	0.009	0.001	0.004
ADJQ	CASE 1	524.	0.005	0.001	0.002
ADJQ	CASE 2	734.	0.010	0.001	0.005
ADJQ	CASE 3	1432.	0.016	0.003	0.008
SSE1	CASE 1	5895.	0.040	0.011	0.020
SSE1	CASE 2	5432.	0.049	0.010	0.025
SSE1	CASE 3	7893.	0.054	0.014	0.026
SSED	CASE 1	-517.	0.360	0.001	0.000
SSED	CASE 2	89.	0.001	-0.000	0.360
CONDI	CASE 3	3928.	0.029	0.007	0.014
PSWLY	CASE 1	879.	0.005	0.002	0.002
OBED	CASE 1	-262.	0.261	0.000	0.000
OBED	CASE 2	205.	0.001	-0.000	0.260
AIRBB	CASE 1	204.	0.003	0.000	0.002
AIRC	CASE 1	-18.	-0.001	0.000	-0.001

STR PIPE NODE=107. GH1V

SERVICE	COMB NO.	SUM
LEVL A	1	9604.
LEVL B	1	22798.
LEVL B	2	17410.
LEVL B	3	15239.
LEVL C	1	21565.
LEVL C	2	15074.
LEVL C	3	10468.
LEVL C	4	14071.
LEVL C	5	10507.
LEVL D	1	26033.
LEVL D	2	22124.
LEVL D	3	20899.
LEVL D	4	21720.
LEVL D	5	20902.
LEVL D	6	20881.

APPENDIX B-3-3: SUMMARY OF LOAD AND PIPE DISPLACEMENTS AT SUPPORTS
 STR PIPE NODE=107. GH1P 0.

		FORCE	DISP. X	DISP. Y	DISP. Z
TE1	CASE 1	82.	-0.485	0.122	-0.080
WT1	CASE 1	222.	-0.014	-0.006	-0.007
OBE1	CASE 1	4201.	0.020	0.005	0.010
OBE1	CASE 2	5653.	0.025	0.005	0.012
OBFI	CASE 3	378.	0.027	0.007	0.013
RV1	CASE 1	1398.	0.143	0.021	0.067
RV21	CASE 1	393.	0.020	0.001	0.009
RV21	CASE 2	314.	0.027	0.002	0.013
RV21	CASE 3	417.	0.035	0.009	0.016
CHUG1	CASE 1	356.	0.003	0.000	0.002
CHUG1	CASE 2	296.	0.006	0.001	0.003
CHUG1	CASE 3	19.	0.001	0.000	0.000
CONDH	CASE 1	54.	0.001	0.000	0.001
CONDL	CASE 1	217.	0.002	0.001	0.001
CHUGW	CASE 1	0.	0.000	0.000	0.000
CHUGR	CASE 1	46.	0.004	0.001	0.002
API	CASE 1	400.	0.005	0.000	0.002
API	CASE 4	333.	0.009	0.001	0.004
ADJQ	CASE 1	58.	0.005	0.001	0.002
ADJQ	CASE 2	202.	0.010	0.001	0.005
ADJQ	CASE 3	179.	0.016	0.003	0.008
SSE1	CASE 1	8402.	0.040	0.011	0.020
SSE1	CASE 2	11306.	0.049	0.010	0.025
SSE1	CASE 3	756.	0.054	0.014	0.026
SSED	CASE 1	-44.	0.360	0.001	0.000
SSED	CASE 2	-9.	0.001	-0.000	0.360
CONDI	CASE 3	463.	0.029	0.007	0.014
PSWLY	CASE 1	151.	0.005	0.002	0.002
QBED	CASE 1	-40.	0.261	0.000	0.000
QBED	CASE 2	-48.	0.001	-0.000	0.260
AIRBB	CASE 1	160.	0.003	0.000	0.002
AIRC	CASE 1	-19.	-0.001	0.000	-0.001

STR PIPE NODE=107, GH1P

SERVICE	COMB NO.	SUM
LEVL A	1	304.
LEVL B	1	7494.
LEVL B	2	7390.
LEVL B	3	7357.
LEVL C	1	1777.
LEVL C	2	1131.
LEVL C	3	770.
LEVL C	4	1971.
LEVL C	5	524.
LEVL D	1	14486.
LEVL D	2	14434.
LEVL D	3	14417.
LEVL D	4	14508.
LEVL D	5	14411.
LEVL D	6	14419.

APPENDIX B-3-4: SUMMARY OF LOAD AND PIPE DISPLACEMENTS AT SUPPORTS
STR PIPE NODE=120, GH3R

		FORCE	DISP. X	DISP. Y	DISP. Z
TE1	CASE 1	-813.	-0.048	1.283	0.087
WT1	CASE 1	-811.	-0.001	-0.020	0.002
OBE1	CASE 1	1957.	0.002	0.029	0.005
OBE1	CASE 2	2059.	0.003	0.027	0.006
OBE1	CASE 3	703.	0.001	0.018	0.002
RV1	CASE 1	6069.	0.006	0.111	0.017
RV21	CASE 1	1030.	0.001	0.022	0.003
RV21	CASE 2	926.	0.001	0.016	0.003
RV21	CASE 3	923.	0.001	0.022	0.003
CHUG1	CASE 1	398.	0.001	0.004	0.001
CHUG1	CASE 2	890.	0.001	0.005	0.002
CHUG1	CASE 3	121.	0.000	0.001	0.000
CONDH	CASE 1	155.	0.000	0.005	0.000
CONDL	CASE 1	456.	0.001	0.022	0.001
CHUGW	CASE 1	486.	0.001	0.003	0.001
CHUGR	CASE 1	484.	0.001	0.012	0.001
API	CASE 1	576.	0.001	0.006	0.001
API	CASE 4	741.	0.001	0.005	0.002
ADJQ	CASE 1	432.	0.001	0.021	0.001
ADJQ	CASE 2	887.	0.001	0.029	0.003
ADJQ	CASE 3	1926.	0.002	0.036	0.005
SSE1	CASE 1	3913.	0.005	0.057	0.011
SSE1	CASE 2	4119.	0.006	0.053	0.011
SSE1	CASE 3	1407.	0.002	0.036	0.004
SSED	CASE 1	-122.	0.240	-0.019	0.000
SSED	CASE 2	279.	0.000	-0.090	0.239
CONDI	CASE 3	2608.	0.003	0.021	0.007
PSWLY	CASE 1	3412.	0.005	0.045	0.009
OBED	CASE 1	-98.	0.200	-0.016	0.000
OBED	CASE 2	270.	0.000	-0.075	0.199
AIRBB	CASE 1	908.	0.001	0.013	0.002
AIRC	CASE 1	113.	0.000	0.017	-0.000

STR PIPE MODE=120. GH3R

SERVICE	COMB NO.	SUM
LEVL A	1	1624.
LEVL B	1	8368.
LEVL B	2	5513.
LEVL B	3	4567.
LEVL C	1	7848.
LEVL C	2	4520.
LEVL C	3	3009.
LEVL C	4	5757.
LEVL C	5	5155.
LEVL D	1	10173.
LEVL D	2	8161.
LEVL D	3	7646.
LEVL D	4	8795.
LEVL D	5	8466.
LEVL D	6	7560.

APPENDIX B-3-5: SUMMARY OF LOAD AND PIPE DISPLACEMENTS AT SUPPORTS
STR PIPE NODE=120. GN3T

TE1	CASE 1	-211.	-0.048	1.283	0.087
WT1	CASE 1	1069.	-0.001	-0.020	0.002
QBE1	CASE 1	3180.	0.002	0.029	0.005
QBE1	CASE 2	2572.	0.003	0.027	0.006
QBE1	CASE 3	858.	0.001	0.018	0.002
RV1	CASE 1	8264.	0.006	0.111	0.017
RV21	CASE 1	2585.	0.001	0.022	0.003
RV21	CASE 2	1985.	0.001	0.016	0.003
RV21	CASE 3	787.	0.001	-0.022	0.003
CHUG1	CASE 1	913.	0.001	0.004	0.001
CHUG1	CASE 2	688.	0.001	0.005	0.002
CHUG1	CASE 3	96.	0.000	0.001	0.000
CONDH	CASE 1	162.	0.000	0.005	0.000
CONDL	CASE 1	501.	0.001	0.022	0.001
CHUGW	CASE 1	1273.	0.001	0.003	0.001
CHUGR	CASE 1	535.	0.001	0.012	0.001
API	CASE 1	1106.	0.001	0.006	0.001
API	CASE 4	630.	0.001	0.005	0.002
ADJQ	CASE 1	671.	0.001	0.021	0.001
ADJQ	CASE 2	2322.	0.001	0.029	0.003
ADJQ	CASE 3	2685.	0.002	0.036	0.005
SSE1	CASE 1	6360.	0.005	0.057	0.011
SSE1	CASE 2	5144.	0.006	0.053	0.011
SSE1	CASE 3	1716.	0.002	0.036	0.004
SSSD	CASE 1	-186.	0.240	-0.019	0.000
SSSD	CASE 2	-197.	0.000	-0.090	0.239
COND1	CASE 3	2018.	0.003	0.021	0.007
PSWLY	CASE 1	4676.	0.005	0.045	0.009
OBED	CASE 1	-208.	0.200	-0.016	0.000
OBED	CASE 2	-208.	0.000	-0.075	0.199
AIRBB	CASE 1	335.	0.001	0.013	0.002
ATRC	CASE 1	461.	0.000	0.017	-0.000

STR PIPE NODE=120. GH3T

SERVICE	COMB NO.	SUM
LEVL A	1	1279.
LEVL B	1	10544.
LEVL B	2	7279.
LEVL B	3	5494.
LEVL C	1	9816.
LEVL C	2	6079.
LEVL C	3	3469.
LEVL C	4	7510.
LEVL C	5	5967.
LEVL D	1	13229.
LEVL D	2	10921.
LEVL D	3	9923.
LEVL D	4	11708.
LEVL D	5	10866.
LEVL D	6	9738.

APPENDIX B-3-6: SUMMARY OF SUPPORT LOADS

STR	NODE	LEVEL B	LEVEL C	LEVEL D
		LOAD	LOAD	LOAD
GH1A	303.	13015.	12674.	14003.
GH1V	107.	22798.	21565.	26033.
GH1P	107.	7494.	1971.	14508.
GH3R	120.	8368.	7848.	10173.
GH3T	120.	10544.	9816.	13229.

APPENDIX C-1 : DETAIL LOADS AT DIAPHRAGM FLOOR AND BASEMAT ANCHOR FOR INTERFACE
 NODE=001. LOCAL COORDINATES

		FA	FB	FC	MA	MB	MC
TE1	CASE 1	-7865.	2108.	-3985.	5161.	77772.	53539.
WT1	CASE 1	-934.	162.	15.	5720.	-13246.	10493.
OBE1	CASE 1	2044.	2019.	1091.	97142.	113409.	216952.
OBE1	CASE 2	2225.	2725.	1478.	129582.	152724.	292198.
OBE1	CASE 3	2064.	180.	104.	13287.	25549.	19042.
RV1	CASE 1	400.	-410.	408.	-19988.	-95587.	-81294.
RV21	CASE 1	665.	234.	160.	4383.	17773.	16071.
RV21	CASE 2	935.	194.	234.	4602.	27859.	13203.
RV21	CASE 3	2594.	185.	105.	17160.	28580.	21213.
CHUG1	CASE 1	116.	246.	122.	2445.	6350.	12145.
CHUG1	CASE 2	313.	216.	138.	2742.	9358.	11033.
CHUG1	CASE 3	33.	14.	8.	263.	732.	894.
CONDH	CASE 1	17.	-14.	-5.	-1165.	376.	-2089.
CONDL	CASE 1	-211.	129.	62.	5273.	-6736.	12763.
CHUGW	CASE 1	-1.	-0.	0.	-7.	-1.	-0.
CHUGR	CASE 1	23.	-3.	10.	-993.	-2252.	-2108.
API	CASE 1	197.	273.	136.	3335.	7797.	13878.
API	CASE 4	337.	229.	139.	3388.	10795.	12090.
ADJQ	CASE 1	-242.	20.	-9.	1969.	-302.	2924.
ADJQ	CASE 2	-168.	49.	-18.	5547.	4270.	10583.
ADJQ	CASE 3	280.	-54.	65.	-2244.	-10616.	-8652.
SSE1	CASE 1	4087.	4037.	2182.	194285.	226818.	433903.
SSE1	CASE 2	4449.	5449.	2956.	259165.	305448.	584397.
SSE1	CASE 3	4128.	361.	208.	26573.	51098.	38085.
SSD	CASE 1	391.	-53.	-2.	230.	564.	-2964.
SSD	CASE 2	-66.	24.	4.	-2192.	1068.	-228.
COND1	CASE 3	2043.	235.	146.	15512.	25209.	23480.
PSWLY	CASE 1	1017.	118.	-129.	-1089.	6432.	4323.
OBED	CASE 1	183.	-44.	-12.	-413.	1565.	-2946.
OBED	CASE 2	-163.	3.	-13.	-1754.	2002.	-1150.
AIRBB	CASE 1	-125.	-38.	-43.	-3059.	4937.	-4506.
AIRC	CASE 1	63.	1.	7.	29.	-1305.	-346.

COMBINED LOADS FOR NODE=001.

		FA	FB	FC	MA	MB	MC
LEVL A	1	8799.	2271.	3999.	10881.	91018.	64032.
LEVL B	1	12487.	5691.	5884.	174611.	305453.	437434.
LEVL B	2	13443.	5686.	5866.	174429.	288165.	429788.
LEVL B	3	12466.	5667.	5840.	173387.	282974.	428477.
LEVL C	1	9321.	2795.	4447.	31230.	187301.	146996.
LEVL C	2	11669.	2757.	4360.	29709.	137440.	99130.
LEVL C	3	9141.	2598.	4184.	14698.	102647.	80603.
LEVL C	4	11322.	2776.	4404.	47772.	149005.	134453.
LEVL C	5	9823.	2395.	4135.	14128.	99126.	70276.
LEVL D	1	16146.	9083.	7707.	336516.	486780.	797608.
LEVL D	2	16669.	9080.	7697.	336425.	477686.	793746.
LEVL D	3	16135.	9070.	7685.	335902.	475066.	793090.
LEVL D	4	16549.	9081.	7702.	337967.	479245.	796295.
LEVL D	5	16198.	9064.	7682.	335896.	474975.	792928.
LEVL D	6	16137.	9072.	7685.	335914.	475120.	793134.

APPENDIX C-2: DETAIL LOADS AT DIAPHRAGM FLOOR AND BASEMAT ANCHOR FOR INTERFACE
 NODE=049, LOCAL COORDINATES

		FA	FB	FC	MA	MB	MC
TE1	CASE 1	-1652.	478.	317.	63174.	48067.	-94966.
WT1	CASE 1	-9460.	884.	-131.	-2134.	-12791.	-110181.
OBE1	CASE 1	1866.	7093.	6542.	111990.	860847.	920918.
OBE1	CASE 2	1398.	7217.	5735.	144045.	773851.	962177.
OBE1	CASE 3	3206.	1805.	1392.	23943.	177579.	190347.
RV1	CASE 1	-14425.	30797.	-3310.	-74218.	-476494.	-2991578.
RV21	CASE 1	1932.	4489.	3860.	25553.	390180.	468773.
RV21	CASE 2	1250.	3650.	2808.	16753.	313855.	368412.
RV21	CASE 3	1719.	1562.	1397.	28391.	195779.	168787.
CHUG1	CASE 1	469.	896.	1553.	22791.	103361.	89341.
CHUG1	CASE 2	730.	2215.	651.	13669.	68430.	130602.
CHUG1	CASE 3	112.	221.	107.	987.	8632.	15375.
CONDH	CASE 1	-1226.	3382.	2451.	1183.	194575.	-256870.
CONDL	CASE 1	6869.	-10110.	-12907.	-2488.	-936978.	1283952.
CHUGW	CASE 1	-7987.	-183.	-14857.	3477.	-724913.	131536.
CHUGR	CASE 1	2994.	1537.	131.	2121.	18268.	-246359.
API	CASE 1	651.	1301.	1999.	26101.	150794.	138474.
API	CASE 4	589.	1884.	894.	15881.	101522.	150563.
ADJO	CASE 1	-8282.	8765.	-4014.	-1498.	-309661.	-672889.
ADJO	CASE 2	6024.	-8343.	4956.	6723.	494953.	749803.
ADJO	CASE 3	7303.	-10266.	2779.	2423.	227082.	896659.
SSE1	CASE 1	3732.	14186.	13084.	223980.	1721694.	1841836.
SSE1	CASE 2	2796.	14434.	11469.	288090.	1547703.	1924354.
SSE1	CASE 3	6413.	3610.	2784.	47886.	355158.	380693.
SSED	CASE 1	-126.	2.	248.	22450.	90252.	4517.
SSED	CASE 2	23.	-289.	19.	-4780.	5433.	103513.
COND1	CASE 3	2489.	3559.	2283.	26398.	247133.	296987.
PSWLY	CASE 1	5386.	-525.	289.	218.	48886.	256653.
OBED	CASE 1	-78.	-10.	218.	20648.	77119.	5676.
OBED	CASE 2	42.	-264.	21.	-5018.	5841.	90513.
AIRBB	CASE 1	-1108.	-9828.	-7316.	-7178.	-730793.	979385.
AIRC	CASE 1	16805.	-4969.	31614.	1527261.	2431319.	615782.

COMBINED LOADS FOR NODE=0049

		FA	FB	FC	MA	MB	MC
LEVL A	1	11112.	1362.	448.	65307.	60858.	205146.
LEVL B	1	26071.	33830.	9862.	264867.	1327533.	3486589.
LEVL B	2	19904.	17079.	10942.	255203.	1371613.	1939013.
LEVL B	3	28378.	12781.	35268.	1603762.	2760623.	1687550.
LEVL C	1	29262.	32300.	15889.	144344.	552376.	3224690.
LEVL C	2	24637.	13610.	16570.	115142.	1013968.	1369651.
LEVL C	3	31205.	7142.	35476.	1592810.	2606260.	944940.
LEVL C	4	35051.	45441.	43072.	1594078.	3529346.	3976770.
LEVL C	5	16611.	11203.	7769.	72489.	793284.	1217601.
LEVL D	1	30918.	38508.	23878.	442441.	2568592.	4250984.
LEVL D	2	26790.	25293.	24333.	437418.	2591143.	3138955.
LEVL D	3	32714.	22718.	39659.	1636692.	3521060.	2997718.
LEVL D	4	36330.	50000.	46571.	1637923.	4247066.	4839406.
LEVL D	5	20762.	24155.	19531.	434136.	2516540.	3081990.
LEVL D	6	19090.	22048.	18206.	435329.	2411809.	2905703.

APPENDIX C-4: SUMMARY LOADS AT DIAPHRAGM FLOOR AND BASEMAT ANCHOR
LOCAL COORDINATE

	LEVEL B	LEVEL C	LEVEL D
001, 002,	561372.	240135.	993165.
049, 148,	3740161.	5550868.	6643810.

Appendix D Pipe Thermal Displacements by Node due to
Relief Valve Discharge Condition

Node	Dx(in.)	Dy(in.)	Dz(in.)
101	-0.051	0.107	0.126
1	-0.050	0.155	0.126
2	-0.046	0.011	0.130
3	-0.084	-0.190	0.117
203	-0.098	-0.219	0.111
303	-0.107	-0.233	0.107
4	-0.128	-0.263	0.098
6	-0.412	-0.114	-0.041
106	-0.470	0.075	-0.072
107	-0.485	0.122	-0.080
8	-0.813	1.096	-0.244
10	-1.079	1.198	-0.355
110	-1.154	1.094	-0.383
11	-1.207	0.808	-0.371
12	-1.201	0.777	-0.362
13	-1.189	0.728	-0.346
15	-0.962	0.729	-0.239
16	-0.694	1.054	-0.192
17	-0.424	1.398	-0.146
19	-0.150	1.438	-0.011
20	-0.074	1.325	0.062
120	-0.048	1.283	0.087
121	-0.034	1.257	0.102
21	-0.007	1.210	0.129
22	0.051	1.088	0.192
24	0.065	1.011	0.204
25	0.057	0.885	0.180
125	0.035	0.718	0.134
26	0.019	0.637	0.112
126	-0.002	0.543	0.081
27	-0.024	0.453	0.044
29	-0.029	0.405	0.036
129	-0.029	0.364	0.038
30	-0.030	0.323	0.039
130	-0.030	0.279	0.041
230	-0.031	0.235	0.041
31	-0.031	0.210	0.042
32	-0.036	0.210	0.013
33	-0.041	0.210	-0.014
34	-0.048	0.209	-0.057
35	-0.056	0.208	-0.101
36	-0.026	0.211	0.071
37	-0.021	0.211	0.097
38	-0.014	0.212	0.141
39	-0.006	0.212	0.184
40	-0.000	0.211	0.047

Appendix D Pipe Thermal Displacements by Node due to
Relief Valve Discharge Condition (continue)

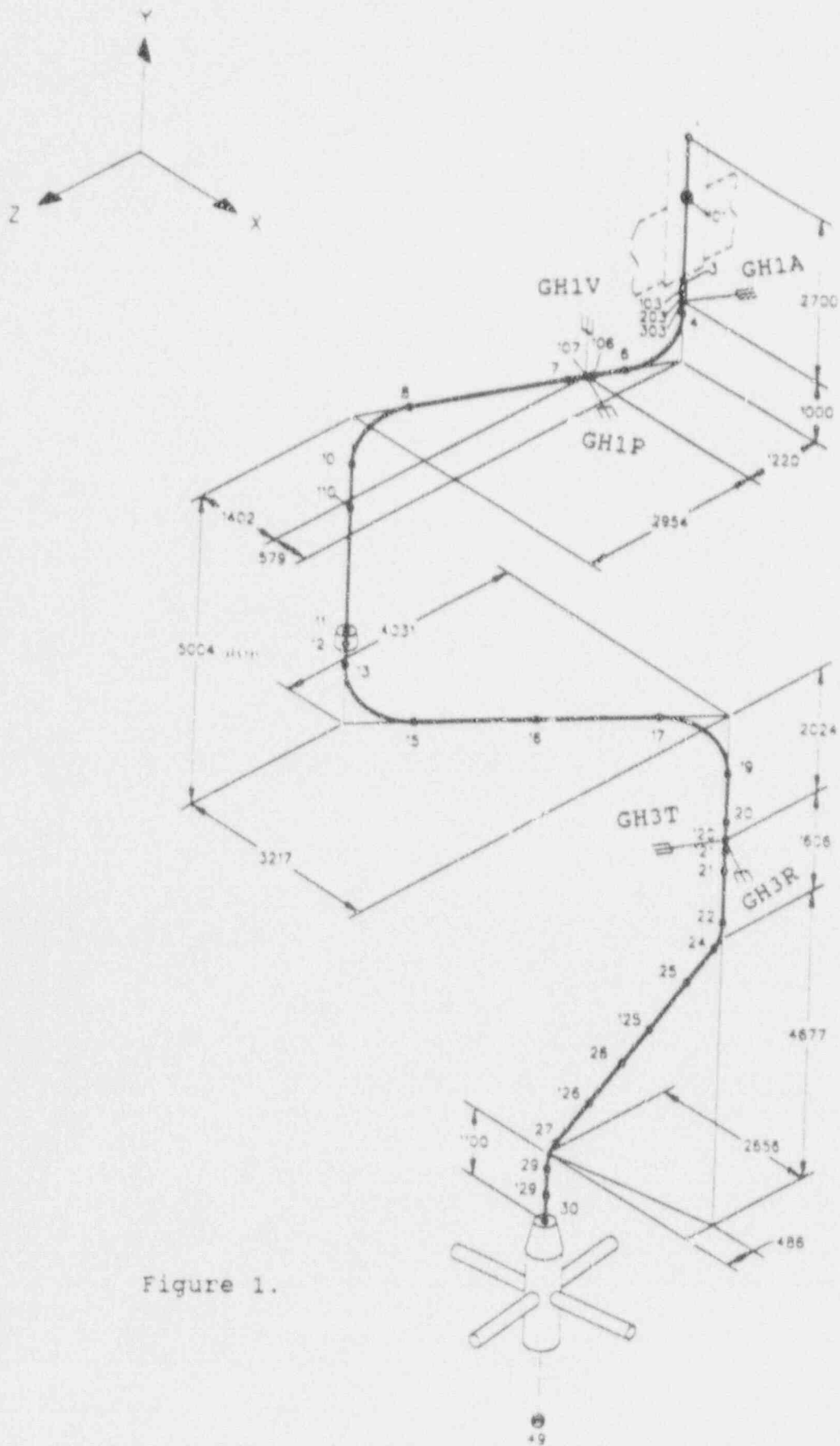
Node	Dx(in.)	Dy(in.)	Dz(in.)
41	-0.086	0.211	0.051
42	-0.130	0.211	0.059
43	-0.173	0.212	0.067
44	-0.002	0.210	0.037
45	0.024	0.210	0.032
46	0.068	0.209	0.025
47	0.111	0.209	0.017
48	-0.031	0.133	0.043
148	-0.032	0.086	0.044
49	-0.032	0.069	0.044

Appendix E Piping System Geometry

NODE	X	Y	Z	BEND RADIUS
101	- 252.95	289.37	438.52	
1	- 252.95	328.74	438.13	
2	- 252.95	289.37	438.13	
003	- 252.95	234.25	438.13	
103	- 252.95	230.31	438.13	
203	- 252.95	226.38	438.13	
303	- 252.95	222.44	438.13	
004	- 252.95	214.34	438.13	
005	- 252.95	183.07	438.13	31.6
006	- 281.20	182.76	424.72	
106	- 297.05	182.58	417.20	
107	- 300.97	182.54	415.34	
007	- 309.68	182.44	411.20	
008	- 389.00	181.57	373.56	
009	- 417.24	181.25	360.15	31.6
010	- 417.24	149.99	360.15	
110	- 417.24	122.05	360.15	
011	- 417.24	43.31	360.15	
012	- 417.24	34.96	360.15	
013	- 417.24	21.50	360.15	
014	- 417.24	- 15.75	360.15	37.6
015	- 388.13	- 16.12	383.38	
016	- 337.90	- 16.76	423.46	
017	- 287.67	- 17.41	463.55	
018	- 258.56	- 17.78	486.78	37.6
019	- 258.56	- 55.02	486.78	
020	- 258.56	- 85.87	486.78	
120	- 258.56	- 97.44	486.78	
121	- 258.56	- 104.33	486.78	
021	- 258.56	- 117.37	486.78	
022	- 258.56	- 150.60	486.78	
023	- 258.56	- 160.68	486.78	37.6
024	- 259.46	- 169.41	481.82	
025	- 262.45	- 198.18	465.48	
125	- 266.61	- 238.19	442.75	
026	- 269.62	- 267.12	426.32	
126	- 273.20	- 301.59	406.75	
027	- 276.79	- 336.06	387.17	
028	- 277.69	- 344.79	382.21	37.6
029	- 277.69	- 354.87	382.21	
129	- 277.69	- 371.49	382.21	
030	- 277.69	- 388.10	382.21	
130	- 277.69	- 406.05	382.21	
230	- 277.69	- 424.00	382.21	
031	- 277.69	- 433.86	382.21	
032	- 279.57	- 433.86	370.36	

Appendix E Piping System Geometry (continue)

	NODE	X	Y	Z	BEND RADIUS
	033	- 281.25	- 433.86	359.74	
	034	- 284.07	- 433.86	341.96	
	035	- 286.84	- 433.86	324.49	
	036	- 275.82	- 433.86	394.07	
	037	- 276.13	- 433.86	404.68	
	038	- 271.32	- 433.86	422.46	
	039	- 268.55	- 433.86	439.93	
	040	- 289.55	- 433.86	384.09	
	041	- 300.16	- 433.86	385.77	
	042	- 317.94	- 433.86	388.59	
	043	- 335.42	- 433.86	391.35	
	044	- 265.84	- 433.86	380.34	
	045	- 255.22	- 433.86	378.65	
	046	- 237.45	- 433.86	375.84	
	047	- 219.97	- 433.86	373.07	
	048	- 277.69	- 465.36	382.21	
	148	- 277.69	- 504.12	382.21	
	049	- 277.69	- 517.72	382.21	
STR303	-	- 218.86	222.44	457.81	IDN=GH1A,
STR107	-	- 300.97	221.91	415.34	IDN=GH1V,
STR107	-	- 317.85	182.54	450.90	IDN=GH1P,
STR120	-	- 277.04	- 97.44	521.54	IDN=GH3R,
STR120	-	- 293.31	- 97.44	468.29	IDN=GH3T,



REVISION STATUS SHEET

DOC TITLE MAIN STEAM LINE "A" AND SAFETY RELIEF VALVE
DISCHARGE PIPING STRESS ANALYSIS

LEGEND OR DESCRIPTION OF GROUPS

TYPE: DESIGN REPORT

FMF: ABWR

MPL NO: _____

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1. INTRODUCTION

1.1 Purpose. The purpose of this Engineering Report is to show compliance with Article NB-3600 requirements of the ASME Boiler and Pressure Vessel Code Section III (hereinafter referred to as ASME III) of the Main Steam Line A and Safety Relief Valve (SRV) discharge line piping system design configuration in the Advanced Boiling Water Reactor Power Plant, and application of the piping analysis methodology.

1.2 Documentation

1.2.1 This document: (a) provides a summary of the most severe stress intensities throughout the piping system for the design and operating conditions as defined in the Design Criteria and Analysis Methods Document (Reference 6.1); (b) shows that all pipe and fittings in the piping system satisfy the pressure design requirements of Article NB-3600 of ASME III for the conditions specified in Reference 6.1; (c) summarizes the loads acting on the component supports, the vessel nozzles, main steam and SRV penetrations, and all pipe mounted equipment; and (d) compares the total loading on equipment to the allowable loads, where applicable.

1.3 Scope. This Engineering Report covers Main Steam Line A and attached SRV discharge line piping, the welds used for attaching this piping to the Reactor Pressure Vessel (RPV), pipe suspension, SRV piping penetration at the diaphragm floor, Main Steam line penetration at the containment wall and pipe mounted equipment.

1.3.1 The main steam piping consists of four lines designated as Line A, B, C, and D. Only Line A was analyzed and the Line A analysis results are presented in this Engineering Report.

2. SUMMARY

2.1 Model. The mathematical model of the piping system used in the analysis includes all of the Main Steam Piping from the Reactor Pressure Vessel nozzle to the first anchor outside the containment, the SRV discharge lines to the diaphragm floor anchor, the Main Steam Isolation Valve, Safety Relief Valves, vacuum breakers and piping suspension system. Smaller branch lines, such as the drains and instrument lines, have negligible effect on the steam pipe and are not modeled.

2.2 Analysis. GE's proprietary computer program, PISYS, was used to calculate the response of the piping system to all of the static and dynamic loads defined in the Design Specification. The output from the PISYS program was evaluated by another GE proprietary computer program, ANSI7, to solve the stress intensity equations of ASME III Subarticle NB-3650 and to calculate combined loads on all equipment mounted on or interfacing with the piping per load combinations for each service level as defined in Reference 6.1.

2.3 Results

2.3.1 ASME III Code Compliance. All of the piping satisfies the requirements of Article NB-2600 of ASME III. A summary of the results obtained by solution of the Subarticle NB-3650 equations for all significant joints in the piping system is contained in Appendix B.

2.3.2 Design Requirements Compliance. This report documents compliance with allowable loads on equipment identified in the Design Criteria and Analysis Methods Document as shown in Appendices A through C of this report.

3. REQUIREMENTS AND BASIS

The input requirements used in the analysis are defined in the Design Criteria and Analysis Methods Document, drawings and other documents referenced in this Report. The input documents used are addressed below.

3.1 Configuration

3.1.1 The configuration of the piping and suspension is defined by the main steam and SRV discharge line piping and suspension drawings. (References 6.2, 6.3, 6.4, 6.5 and 6.6). The snubber sizes used in the analysis are given in Appendix C1.

3.1.2 All data needed for modeling GE supplied pipe mounted equipment were obtained from verified equipment data sheets provided by the responsible GE Design Engineer. These data sheets provide information such as weights, dimensions, center of gravity, and stiffness.

3.1.3 The properties of the materials used are shown in Tables 1A, 1B, 2A and 2B, and the properties of the piping are shown in Table 3.

3.1.4 An isometric joint diagram and list of the joint coordinates of the complete piping mathematical model are shown in Appendix E.

3.2 Loads. All static and dynamic loads applied in the piping analysis are listed in Table 5 and described in Reference 6.1.

3.2.1 Static Loads and Pressure-Temperature Duty Cycles. The pressure, thermal, and dead weight loads acting on the piping system are defined in Reference 6.1. The definition of thermal expansion cases is presented in Table 4.

3.2.2 Dynamic Loads. Vibratory building loads acting on the piping system are caused by the response of the reactor building structure and reactor pressure vessel to dynamic loads. The analysis of the reactor building and pressure vessel is performed by Others and the results of this analysis provide amplified response spectra and modal displacements at or near all points to which the pipe or pipe supports are attached to the structure. The input response spectra for applicable attachment points are specified in Reference 6.1.

3.3 Load Combinations. Many of the static and dynamic loads acting on the piping system act concurrently. The load combinations used for pipe, suspension, and pipe mounted equipment, and the acceptance criteria (allowable stress, allowable acceleration, allowable force or moment) for each combination are defined in Reference 6.1.

4. METHODS

4.1 Equipment Modeling. The piping system is mathematically modeled to realistically reflect the static and dynamic reactions of the piping. The piping and equipment are represented in the model as a series of mass points (nodes) and interconnecting weightless springs. The mass points are generally selected so that their location coincides with the location of large masses. Mass points are spaced so that the elements between them will be of no greater length than a simple supported beam with uniformly distributed mass having a natural frequency equal to the cut-off frequency of the analysis.

4.1.1 Snubbers. Each snubber is modeled as a linear spring with an equivalent stiffness based on vendor supplied data.

4.1.2 Pipe Mounted Equipment. The model of all pipe mounted equipment is verified to realistically represent weight, stiffness, and dynamic properties of the equipment per information supplied by the responsible valve engineer. The weight and center of gravity (CG) location of valve operators are considered in applicable valve models.

4.1.3 RPV Nozzles. The RPV nozzles are very stiff compared with the piping system and are therefore modeled as rigid anchors.

4.1.4 Spring Hangers. Variable spring hangers are modeled as upward forces in the dead weight analyses. Since their stiffness in comparison with snubbers and nozzles is very small, spring hangers are not included in any of the dynamic analyses.

4.1.5 Anchors. Other than the RPV nozzles, the only anchors in the piping system are at the main steam piping containment penetration and SRV piping diaphragm floor penetrations. These penetration anchors are modeled as boundary elements with stiffnesses equivalent to rigid.

4.1.6 Guides. The guide near the inboard isolation valve is modeled as a boundary element with both translational and rotational stiffnesses.

4.2 Dynamic Analysis. The dynamic analysis was performed using two methods. The inertia effects of each of the governing dynamic loads are evaluated using the Independent Support Motion (ISM) Method of analysis. Since the piping system is supported at several points and the excitation at each point is different, the ISM permits applying different excitation at each of the separate points, thereby eliminating the conservatism of the Uniform Support Motion (USM) Method. The inertia effects of the non-governing loads are evaluated using the USM Method.

The dynamic loads are listed in Table 5. Earthquake, was analyzed using the ISM method. Annulus Pressurization, Condensation Oscillation, chugging and safety relief valve basemat acceleration for all valves were analyzed using the USM method.

4.2.1 Some other important dynamic criteria used in the analysis are:

<u>ITEM</u>	<u>CRITERIA</u>
Damping: Seismic OBE/SSE	Reg. Guide 1.61
Dynamic Loads	Reg. Guide 1.61
Cutoff Frequencies Acceleration	Seismic - 33 Hz
Response Spectra (ARS)	Other dynamic loads - 60 Hz
Combination of 3 Direction Components	Square Root of the Sum of the Squares (SRSS).
Combination of Primary and Secondary Loads and Stresses	SRSS
Response Spectrum Peak Broadening	Plus or minus 10%
Modal Combination	Double Sum Method which accounts for effects of any closely spaced modes per Reg. Guide 1.92.
High Frequency Rigid Modes	USNRC SRP Section 3.7.2, Rev. 0

4.3 Thermal Analysis. Thermal gradients are conservatively calculated using the ANSI7 computer program by assuming an infinite heat transfer film coefficient with a linear process fluid temperature change equal to the step change defined for the load set. The radial gradients are computed idealizing

the pipe wall as a flat plate. Longitudinal gradients are computed by separately analyzing two sections and selecting the greatest temperature difference that occurs during the transient.

4.4 Computer Programs. The computer programs used in the piping stress analysis are described below. All of these programs were written by and meet the Quality Control Standards of GE. All programs have been approved for production use after independent review and verification. Any changes to these programs required verification and approval in accordance with the NRC approved GE Quality Assurance Program.

4.4.1 PISYS. PISYS performs static and dynamic analysis of piping systems. The analysis modules of PISYS were derived directly from the SAP4G program.

4.4.2 ANSI7. The ANSI7 program calculates stresses and cumulative usage factors for Class 1, 2, and 3 piping components in accordance with Article NB-3600 and Subarticle NC-3652 of ASME III. This program also calculates combined loads on piping equipment in accordance with the equipment load combinations given in Reference 6.1 and compares them with the allowable loads stress limits where applicable.

5. RESULTS

5.1 Design for Pressure (NB-3640)

5.1.1 Straight Pipe and Pipe Bends. Membrane protection for these items is provided by meeting the minimum wall requirements of Paragraphs NB-3641 and NB-3642 of ASME III. The comparison of minimum wall calculations with the values specified on the piping Drawing (Reference 6.2 and 6.4) are contained in Table 3.

5.1.2 Elbows. Long radius elbows are manufactured in accordance with ANSI B16.9 Standard. The minimum wall requirements for long radius elbows are the same as for straight pipe; therefore, the minimum wall thickness tabulated in Table 3 for straight pipe applies to elbows.

5.1.3 Contour Nozzles. All contour nozzles shall meet ASME III requirements for pressure design of intersections by compliance with the burst test requirements of ANSI B16.9. In addition to this, these nozzles shall be reinforced to fully meet area replacement requirements of ASME III.

5.1.4 Extruded Outlets. All extruded outlets shall meet ASME III requirements for pressure design of intersections by compliance with the first test requirement of ANSI B16.9.

5.1.5 Tees. All tees shall be specified in the Purchase Specification to comply with the test requirements of ANSI B16.9.

5.1.6 Flanges. All flanges shall be purchased to meet the requirements of ANSI B16.5 and thus meet the ASME III requirements for design.

5.2 Structural Analysis. The forces, moments and deflections of the pipe at each joint in the piping system identified on the stress analysis diagram for the thermal, dead weight and dynamic loading are calculated. The summary of calculated data for applicable load combinations by service level is presented in Appendix B.

5.3 Piping Component Analysis

5.3.1 ASME Code Evaluation. The piping components were analyzed in accordance with the requirements of ASME III, Subarticle NB-3650 by the ANSI7 computer program. The analysis showed that all of the requirements of Subarticle NB-3650 of ASME III have been met.

5.3.2 Summary of Analytical Evaluation. A summary of the analytical evaluation of the piping components is given in Appendix B. The summary consists of stresses, usage factors, and ratios to ASME III Code allowable stresses.

5.4 Piping System Equipment Loads, Appendices A through C. The loads acting on equipment and supports interfacing with the piping are presented in Appendices A through C of this report. Appendix A provides the load combinations, Appendix B contains a summary of results, and Appendix C provides the detailed interface loads for the pipe mounted equipment.

5.4.1 Reactor Pressure Vessel (RPV) Nozzles. The calculated forces, moments and stresses at the Reactor Pressure Vessel nozzles are presented in Appendix B, Table B3.

5.4.2 Valve Equipment. The calculated interface loads for the valve equipment components are presented in Appendix B. The main steam isolation valve (MSIV) inlet and outlet piping connection calculated stresses and ratios to allowable stresses are provided in Table B4. The MSIV bonnet flange calculated moments and ratios to allowables are provided in Table B5. The calculated MSIV accelerations are provided in Table B6.

The SRV inlet flange and center of gravity calculated accelerations and ratios to allowable accelerations are provided in Table B7. The SRV inlet and outlet flange calculated moments and ratios to allowables are provided in Table B11.

The SRV discharge line vacuum breaker calculated accelerations are provided in Table B8.

5.4.3 Suspension and Structural Attachments. These appendices give the loading criteria and calculated loads for the piping suspension. This includes snubbers, guides, anchors, and penetrations. The location of, and coordinates for the suspension are given in Appendix E. The calculated loads for each support component are compared with their allowable loads for all service levels.

5.5 Thermal Displacements, Appendix D. Appendix D presents the thermal displacements for the normal operating condition for all significant nodes in the piping system.

6. REFERENCES

- 6.1. GE, "ABWR Main Steam, Feedwater and SRVDL Piping Systems Design Criteria and Analysis Methods", GE Document No. NEDC-XXXX.
- 6.2. GE, "Main Steam Piping", K7, Drawing No. 103E1189.
- 6.3. GE, "Feedwater and Main Steam Penetrations", K7, Drawing No. 103E1422.
- 6.4. GE, "Safety Relief Valve Discharge Lines - Drywell", K7, Drawing No. 103E1470.
- 6.5. GE, "Safety Relief Valve Discharge Lines Penetration", K7, Drawing No. 103E1481.
- 6.6. Main Steam Line A/Associated SRVDL Piping Suspension Design (K7MSA921.WK1) Dated Jan. 13, 1992.

TABLE 1A PROPERTIES OF MATERIALS: MAIN STEAM LINE PIPING

Material	Material Type	Temperature (*F)	S _m (psi)	S _y (psi)	Modulus of Elasticity (psi)
ASME SA-333 Gr. 6 Carbon Steel Piping and ASME SA-420	1	552 (3) 575 (4)	18068 17700	27052 26500	29.5E6 (1) 27.0E6 (2)
ASME SA-350 LF2 Carbon Steel Forged Fittings	2	552 (3) 575 (4)	18568 18200	27800 27225	29.5E6 (1) 27.0E6 (2)

- (1) E_c = Modulus of Elasticity at 70°F
(2) E_h = Modulus of Elasticity at 552°F
(3) Piping (Reactor) Operating Temperature
(4) Piping Design Temperature

TABLE 1B MATERIAL ALLOWABLES: MAIN STEAM LINE PIPING

Material Type	Level: Lesser of:	Design 1.5 S _m	Level B 1.8 S _m 1.5 S _y	Level C 2.25 S _m 1.8 S _y	Level D 3.0 S _m 2.0 S _y	Eq. 12 & 13 3.0 S _m
1	Allow psi	26550	31860	39825	53100	53100
2	Allow psi	27300	32760	40950	54600	54600

TABLE 2A PROPERTIES OF MATERIALS: SAFETY RELIEF VALVE DISCHARGE LINE PIPING

Material	Material Type	Temperature (°F)	Sh (psi)	S _y (psi)	Modulus of Elasticity (psi)
ASME SA-333	1	135 (3)	15000		29.5E6 (1)
Gr. 6 Carbon Steel Piping and ASME SA-420		480 (4)	15000	28640	29.15E6 (2)
ASME SA-350	2	135 (3)	17500		29.5E6 (1)
LF2 Carbon Steel Forged Fittings		480 (4)	17500	29440	29.15E6 (2)

- (1) E_c = Modulus of Elasticity at 70°F
 (2) E_h = Modulus of Elasticity at 135°F
 (3) Piping Operating Temperature
 (4) Piping Design Temperature

TABLE 2B MATERIAL ALLOWABLES: SAFETY RELIEF VALVE DISCHARGE LINE PIPING

MATERIAL TYPE	LEVEL: LESSER OF:	LEVEL A 1.5 Sh	LEVEL B 1.8 Sh 1.5 Sy	LEVEL C 2.25 Sh 1.85 Sy	LEVEL D 3.0 Sh 2.0 Sy	LEVEL A EQ 10 S _a	LEVEL A EQ. 11 S _a + Sh
1 & 2	ALLOW psi	22500	27000	33750	45000	22500	37500

TABLE 3 PIPING DIMENSIONAL PROPERTIES

	Main Steam Line A Piping	SRV Piping
Nom. Pipe Size (in)	28.00	10.00
Nom. Pipe OD (in)	28.00	10.528
Nom. Pipe ID (in)	25.188	9.340
Min Wall t_{mc} (2)	1.080	0.305
Nom. Wall t_{nom} (in)	1.406	0.594
Material Type (1)	1	1
Weight-1 (lb/ft) (3)	429.80	62.0
Weight-2 (lb/ft) (4)	645.70	92.70

- Notes: (1) Refer to Table 1
(2) Minimum Wall Requirements Calculated per ASME III, Section NB-3640
(3) Weight equals pipe weight plus insulation weight
(4) Weight equals pipe weight plus water weight plus insulation weight.

TABLE 4 DEFINITION OF THERMAL EXPANSION CASES*

	Temperature (degrees F)		
	Case 1	Case 2	Case 3
Main Steam Piping	552	570	149
RPV Upper Section A	552	552	552
RPV Upper Section B	528	528	528
RPV Skirt Section D	247	247	247
SRVDL Piping	131	450	131

Case 1 is normal operating conditions.
Case 2 is SRV blow-down conditions.
Case 3 is shut down conditions.

*These thermal cases envelope all thermal conditions shown in Pressure/Temperature Cycles referenced in Design Criteria and Analysis Methods Document (Reference 6.1).

TABLE 5 NOMENCLATURE OF LOADS

Load Type	Case	Ident	Dir**	Description
		PO		Operating Pressure
		PD		Design Pressure
		PP		Peak Pressure
Thermal	1	TE1		Normal Operating Condition
Thermal	2	TE2		SRV Blow-Down Condition
Thermal	3	TE3		Shut-Down Condition
Thermal		TEMAX		Greatest of Thermal 1, 2 or 3
Weight	1	WT1		Dead Weight of Pipe and Insulation
Weight	2	WTZ		Hydrotest Case Weight of Pipe, Water and Insulation
Seismic	1	OBEI	X	Operating Basis Earthquake - Inertia Effect
Seismic	2	OBEI	Y	Operating Basis Earthquake - Inertia Effect
Seismic	3	OBEI	Z	Operating Basis Earthquake - Inertia Effect
OBE D	1	OBED*	X	Operating Basis Earthquake - Anchor Displacement
OBE D	2	OBED*	Y	Operating Basis Earthquake - Anchor Displacement
OBE D	3	OBED*	Z	Operating Basis Earthquake - Anchor Displacement
SSEI	1	SSEI	X	Safe Shutdown Earthquake - Inertia Effect
SSEI	2	SSEI	Y	Safe Shutdown Earthquake - Inertia Effect
SSEI	3	SSEI	Z	Safe Shutdown Earthquake - Inertia Effect
SSD	1	SSD*	X	Safe Shutdown Earthquake - Anchor Displacement
SSD	2	SSD*	Y	Safe Shutdown Earthquake - Anchor Displacement
SSD	3	SSD*	Z	Safe Shutdown Earthquake - Anchor Displacement
A.P.I.	1,7	API	HOR	Annulus Pressurization Inertia Effect - Envelope of Recirculation, Feedwater and Main Steam Pipe Break
A.P.D.	1,7	APD		Annulus Pressurization Anchor Displacement-Maximum of Recirculation, Feedwater and Main Steam Pipe Break

TABLE 5 NOMENCLATURE OF LOADS (Continued)

Load Type	Case	Ident	Dir**	Description
CHUG. I	1,3	CHUGI	HOR	Chugging Load - Inertia Effect
CHUG. I	2	CHUGI	Y	Chugging Load - Inertia Effect
COND. I	2	CONDI	Y	Condensation Oscillation - Inertia Effect
RV2 SV1I	1,3		X,Z	Single Safety Relief Valve - Inertia Effect
RV2 SV1I	2		Y	Single Safety Relief Valve - Inertia Effect
RV2 I	1,3	RV2 I	X,Z	All Safety Relief Valves Basemat Acceleration - Inertia Effect
RV2 I	2	RV2 I	Y	All Safety Relief Valves Basemat Acceleration - Inertia Effect
EXT. FOR	1	RV1		Safety Relief Valve Blowdown
EXT. FOR	2	TSV		Turbine Stop Valve Closure

* OBED cases 1, 2 and 3 were combined using the SRSS method.

SSD cases 1, 2 and 3 were combined using the SRSS method.

** The X-direction is east/west, the Z-direction is north/south, and Y is vertical.

TABLE 6 NOMENCLATURE FOR APPENDICES

AAH	=	Allowable horizontal acceleration (g)
AAV	=	Allowable vertical acceleration (g)
AH	=	Calculated horizontal acceleration (g)
ALLOW	=	Allowable force (lb) or moment (in-lb)
ANC	=	Anchor identification in structural analysis
AV	=	Calculated vertical acceleration (g)
AX, AY, AZ	=	Acceleration in X, Y, Z directions (lb)
COMB	=	Service level equation number as shown on load combination table
FA, FB, FC*	=	Local force in A, B, C directions (lb)
F/M	=	Force (lb) and moment (in-lb)
FX, FY, FZ	=	Global force in X, Y, Z directions (lb)
GGD	=	Global guide identification in structural analysis
GUD	=	Guide identification in structural analysis
LOAD	=	Calculated load (lb)
MA, MB, MC*	=	Local moment in A, B, C directions (in-lb)
MX, MY, MZ	=	Global moment in X, Y, Z directions (in-lb)
NELM	=	Guide or anchor identification in structural analysis
RATIO	=	Calculated load or stress divided by allowable load or stress
SNB	=	Snubber identification in structural analysis

* There are two types of elements that the PISYS computer program uses to form the pipe model. One is the straight or tangent element and the other is a planar bend element. Each element has local coordinate axes that orient the element in the global coordinate system and identify force and moment components at a joint with respect to element axes. Moreover, joint displacement and rotation require a knowledge of the local axes. The convention for the orientation of these local axes is as follows:

- (1) Tangent elements parallel to the global Y-axis (vertical axis) have their local B-axis diverted to and in the same direction as the global Z-axis.
- (2) Tangent elements not parallel to the global Y-axis have their local B-axis contained in a vertical (global) plane such that local B-axis projects positively on the positive global Y-axis.
- (3) For bend elements, the local B-axis is directed positively toward and intersects the center of curvature of the bend (i.e., radius vector).
- (4) The local A-axis is tangent to the arc of the bend or straight element and is directed positively from the FROM joint to the TO joint.

TABLE A1 LOAD COMBINATIONS CLASS 1 PIPING

ABWR K-7 MAIN STEAM A

THE LOADING COMBINATION USED FOR THE ANALYSIS ** 1** ARE AS FOLLO

DESIGN 1	PD + WT1				
LEVEL B 1	PP + WT1	* SORT(RV1)	1**2	* (OBE1	1**2)
LEVEL B 2	PP + WT1	* SORT(RV21)	1**2	* (OBE1	1**2)
LEVEL B 3	PP + WT1	* SORT(TSV)	1**2	* (OBE1	1**2)
LEVEL C 1	PP + WT1	* SORT(CHUG1)	1**2	* (RV1	1**2)
LEVEL C 2	PP + WT1	* SORT(CHUG1)	1**2	* (RV21	1**2)
LEVEL D 1	PP + WT1	* SORT(SSE1)	1**2	* (CHUG1	1**2)
LEVEL D 2	PP + WT1	* SORT(SSE1)	1**2	* (CHUG1	1**2)
LEVEL D 3	PP + WT1	* SORT(SSE1)	1**2	* (CONDI	1**2)
LEVEL D 4	PP + WT1	* SORT(SSE1)	1**2	* (CONDI	1**2)
LEVEL D 5	PP + WT1	* SORT(SSE1)	1**2	* (TSV	1**2)
LEVEL D 6	PP + WT1	* SORT(SSE1)	1**2	* (API	1**2)
LEVEL D 7	PP + WT1	* SORT(RV1)	1**2	* (TSV	1**2)
LEVEL D 8	PP + WT1	* SORT(RV21)	1**2	* (TSV	1**2)

NOTE ALL UNITS ARE IN POUNDS. INCHES EXCEPT NOTED

NOTE IF NO USER INPUT PRESSURE FOR EACH LOAD COMBINATION, PEAK PRESSURE WILL BE USED FOR LEVEL B,C AND D

TABLE A2 LOAD COMBINATIONS: CLASS 3 PIPING

ABNR K-7 MAIN STEAM A		SRV LINES	
THE LOADING COMBINATION USED FOR THE ANALYSIS ** 1*** ARE AS FOLLOW			
SUSTAN 1	PD + WT1		
OCCASN 1	PP + WT1	* SORT(RV1) **2	* (OBE1) **2)
OCCASN 2	PP + WT1	* SORT(RV21) **2	* (OBE1) **2)
OCCASN 3	PP + WT1	* SORT(TSV) **2	* (OBE1) **2)
T+OBED 1	TEMAX	* OBED	
T+SUST 1	PP + WT1	* TEMAX + OBED	
LEVL C 1	PP + WT1	* SORT(CHUG) **2	* (RV1) **2)
LEVL C 2	PP + WT1	* SORT(CHUG) **2	* (RV21) **2)
LEVL D 1	PP + WT1	* SORT(SSE1) **2	* (CHUG1) **2 * (RV1) **2)
LEVL D 2	PP + WT1	* SORT(SSE1) **2	* (CHUG1) **2 * (RV21) **2)
LEVL D 3	PP + WT1	* SORT(SSE1) **2	* (COND1) **2 * (RV1) **2)
LEVL D 4	PP + WT1	* SORT(SSE1) **2	* (COND1) **2 * (RV21) **2)
LEVL D 5	PP + WT1	* SORT(SSE1) **2	* (TSV) **2)
LEVL D 6	PP + WT1	* SORT(SSE1) **2	* (API) **2)
LEVL D 7	PP + WT1	* SORT(RV1) **2	* (TSV) **2)
LEVL D 8	PP + WT1	* SORT(RV21) **2	* (TSV) **2)

NOTE ALL UNITS ARE IN POUNDS, INCHES EXCEPT NOTED

NOTE IF NO USER INPUT PRESSURE FOR EACH LOAD COMBINATION, PEAK PRESSURE WILL BE USED FOR LEVEL B,C AND D

TABLE A3 LOAD COMBINATIONS: SNUBBERS

SNUBBER LOADS

LOADING COMBINATION FOR **SNB ** ARE AS FOLLOW

LEVL B 1	Sort((OBE1) ***2	+ (OBE1) ***2	+ (RV1) ***2	
LEVL B 2	Sort((OBE1) ***2	+ (OBE1) ***2	+ (RV21) ***2	
LEVL B 3	Sort((OBE1) ***2	+ (OBE1) ***2	+ (TSV) ***2	
LEVL C 1	Sort((CHUG1) ***2	+ (RV1) ***2		
LEVL C 2	Sort((CHUG1) ***2	+ (RV21) ***2		
LEVL D 1	Sort((SSED) ***2	+ (SSE1) ***2	+ (CHUG1) ***2	+ (RV1) ***2
LEVL D 2	Sort((SSED) ***2	+ (SSE1) ***2	+ (CHUG1) ***2	+ (RV21) ***2
LEVL D 3	Sort((SSED) ***2	+ (SSE1) ***2	+ (COND1) ***2	+ (RV1) ***2
LEVL D 4	Sort((SSED) ***2	+ (SSE1) ***2	+ (COND1) ***2	+ (RV21) ***2
LEVL D 5	Sort((SSED) ***2	+ (SSE1) ***2	+ (TSV) ***2	
LEVL D 6	Sort((SSED) ***2	+ (SSE1) ***2	+ (APD) ***2	+ (API) ***2
LEVL D 7	Sort((RV1) ***2	+ (TSV) ***2		
LEVL D 8	Sort((RV21) ***2	+ (TSV) ***2		

TABLE A4. LOAD COMBINATIONS: RPV NOZZLES

NOZZLE LOADS

LOADING COMBINATION FOR NOZL ** ARE AS FOLLOW

[illegible]

TABLE A5 LOAD COMBINATIONS: MSIV END CONNECTION AND BONNET FLANGE

MSIV END STRESSES AND BONNET FLANGE MOMENTS

LOADING COMBINATION FOR **MSIV ** ARE AS FOLLOW

LEVL A 1	WT1	+	TEMAX						
LEVL B 1	WT1	+	TEMAX	+	SOPT(OBED)**2	+	(OBE1)**2	+	(RV1)**2)
LEVL B 2	WT1	+	TEMAX	+	SOPT(OBED)**2	+	(OBE1)**2	+	(RV21)**2)
LEVL B 3	WT1	+	TEMAX	+	SOPT(OBED)**2	+	(OBE1)**2	+	(TSV)**2)
LEVL C 1	WT1	+	TEMAX	+	SOPT(CHUG1)**2	+	(RV1)**2		
LEVL C 2	WT1	+	TEMAX	+	SOPT(CHUG1)**2	+	(RV21)**2		
LEVL D 1	WT1	+	TEMAX	+	SOPT(SSED)**2	+	(SSE1)**2	+	(CHUG1)**2 + (RV1)**2
LEVL D 2	WT1	+	TEMAX	+	SOPT(SSED)**2	+	(SSE1)**2	+	(CHUG1)**2 + (RV21)**2
LEVL D 3	WT1	+	TEMAX	+	SOPT(SSEG)**2	+	(SSE1)**2	+	(CONDI)**2 + (RV1)**2
LEVL D 4	WT1	+	TEMAX	+	SOPT(SSED)**2	+	(SSE1)**2	+	(CONDI)**2 + (RV21)**2
LEVL D 5	WT1	+	TEMAX	+	SOPT(SSED)**2	+	(SSE1)**2	+	(TSV)**2)
LEVL D 6	WT1	+	TEMAX	+	SOPT(SSED)**2	+	(SSE1)**2	+	(APD)**2 + (API)**2
LEVL D 7	WT1	+	TEMAX	+	SOPT(RV1)**2	+	(TSV)**2		
LEVL D 8	WT1	+	TEMAX	+	SOPT(RV21)**2	+	(TSV)**2		

NOTE: PRESSURE STRESSES ARE INCLUDED IN THE CALCULATED
MSIV END STRESSES

TABLE A6 LOAD COMBINATIONS: VALVE ACCELERATIONS

MSIV, SRV AND VACUUM BREAKER ACCELERATION

LOADING COMBINATION FOR **VACC ** ARE AS FOLLO

LEVEL B 1	SOFT(LOBE1)	**2	* (RV1)	**2)
LEVEL B 2	SOFT(LOBE1)	**2	* (RV21)	**2)
LEVEL B 3	SOFT(LOBE1)	**2	* (TSV)	**2)
LEVEL C 1	SOFT(CHUG1)	**2	* (RV1)	**2)
LEVEL C 2	SOFT(CHUG1)	**2	* (RV21)	**2)
LEVEL D 1	SOFT(SSE1)	**2	* (CHUG1)	**2	* (RV1)
LEVEL D 2	SOFT(SSE1)	**2	* (CHUG1)	**2	* (RV21)
LEVEL D 3	SOFT(SSE1)	**2	* (COND1)	**2	* (RV1)
LEVEL D 4	SOFT(SSE1)	**2	* (COND1)	**2	* (RV21)
LEVEL D 5	SOFT(SSE1)	**2	* (TSV)	**2)
LEVEL D 6	SOFT(SSE1)	**2	* (API)	**2)
LEVEL D 7	SOFT(RV1)	**2	* (TSV)	**2)
LEVEL D 8	SOFT(RV21)	**2	* (TSV)	**2)

TABLE A7 LOAD COMBINATIONS: GUIDE

GLOBAL GUIDE LOADS

LOADING COMBINATION FOR **GGD ** ARE AS FOLLOW

LEVL A 1	WT1	+	TEMAX						
LEVL B 1	WT1	+	TEMAX	+	SQRT((TSV 1**2	+	(OBE1 1**2	+	(OBED 1**2)
LEVL B 2	WT1	+	TEMAX	+	SQRT((RV1 1**2	+	(OBE1 1**2	+	(OBED 1**2)
LEVL B 3	WT1	+	TEMAX	+	SQRT((RV21 1**2	+	(OBE1 1**2	+	(OBED 1**2)
LEVL C 1	WT1	+	TEMAX	+	SQRT((CHUG1 1**2	+	(RV1 1**2)		
LEVL C 2	WT1	+	TEMAX	+	SQRT((CHUG1 1**2	+	(RV21 1**2)		
LEVL D 1	WT1	+	TEMAX	+	SQRT((SSED 1**2	+	(SSE1 1**2	+	(CHUG1 1**2 + (RV1 1**2
LEVL D 2	WT1	+	TEMAX	+	SQRT((SSED 1**2	+	(SSE1 1**2	+	(CHUG1 1**2 + (RV21 1**2
LEVL D 3	WT1	+	TEMAX	+	SQRT((SSED 1**2	+	(SSE1 1**2	+	(COND1 1**2 + (RV1 1**2
LEVL D 4	WT1	+	TEMAX	+	SQRT((SSED 1**2	+	(SSE1 1**2	+	(COND1 1**2 + (RV21 1**2
LEVL D 5	WT1	+	TEMAX	+	SQRT((SSED 1**2	+	(SSE1 1**2	+	(TSV 1**2)
LEVL D 6	WT1	+	TEMAX	+	SQRT((SSED 1**2	+	(APB 1**2	+	(SSE1 1**2 + (API 1**2
LEVL D 7	WT1	+	TEMAX	+	SQRT((RV1 1**2	+	(TSV 1**2)		
LEVL D 8	WT1	+	TEMAX	+	SQRT((RV21 1**2	+	(TSV 1**2)		
LEVL D 9	WT1	+	TEMAX	+	SQRT((SSE1 1**2	+	(GSED 1**2	+	(JETIMP1**2)

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TABLE AS LOAD \bar{X} , ATIONS ANCHORS

SOMERSET COUNTY

[illegible]

TABLE A9 LOAD COMBINATIONS: FLANGE MOMENTS

FLANGE MOMENTS

LOADING COMBINATION FOR **FLGM ** ARE AS FOLLOW

LEVEL A 1	WT1	+	TEMAX						
LEVEL B 1	WT1	+	TEMAX	+	SORT((OBE1)**2	+	(OBE1)**2	+	(RV1)**2)
LEVEL B 2	WT1	+	TEMAX	+	SORT((OBE1)**2	+	(OBE1)**2	+	(RV21)**2)
LEVEL B 3	WT1	+	TEMAX	+	SORT((OBE1)**2	+	(OBE1)**2	+	(TSV)**2)
LEVEL C 1	WT1	+	TEMAX	+	SORT((CHUG1)**2	+	(RV1)**2		
LEVEL C 2	WT1	+	TEMAX	+	SORT((CHUG1)**2	+	(RV21)**2		
LEVEL D 1	WT1	+	TEMAX	+	SORT((SSE1)**2	+	(SSE1)**2	+	(CHUG1)**2 + (RV1)**2
LEVEL D 2	WT1	+	TEMAX	+	SORT((SSE1)**2	+	(SSE1)**2	+	(CHUG1)**2 + (RV21)**2
LEVEL D 3	WT1	+	TEMAX	+	SORT((SSE1)**2	+	(SSE1)**2	+	(CONDI)**2 + (RV1)**2
LEVEL D 4	WT1	+	TEMAX	+	SORT((SSE1)**2	+	(SSE1)**2	+	(CONDI)**2 + (RV21)**2
LEVEL D 5	WT1	+	TEMAX	+	SORT((SSE1)**2	+	(SSE1)**2	+	(TSV)**2)
LEVEL D 6	WT1	+	TEMAX	+	SORT((SSE1)**2	+	(SSE1)**2	+	(APD)**2 + (AP1)**2
LEVEL D 7	WT1	+	TEMAX	+	SORT((RV1)**2	+	(TSV)**2		
LEVEL D 8	WT1	+	TEMAX	+	SORT((RV21)**2	+	(TSV)**2		

TABLE A10 LOAD COMBINATIONS: HEAD FITTING FLANGE MOMENTS

HEAD FITTING FLANGE MOMENTS

LOADING COMBINATION FOR **FLGM ** ARE AS FOLLOW

LEVEL B 1	WT1	+	Sort((OBE1) ***2	+	(RV21) ***2)				
LEVEL B 2	WT1	+	Sort((OBE1) ***2	+	(RV1) ***2)				
LEVEL B 3	WT1	+	Sort((OBE1) ***2	+	(TSV) ***2)				
LEVEL B 4	WT1	+	TEMAX	+	Sort((OBE1) ***2	+	(OBE1) ***2	+	(RV21) ***2)
LEVEL B 5	WT1	+	TEMAX	+	Sort((OBE1) ***2	+	(OBE1) ***2	+	(RV1) ***2)
LEVEL B 6	WT1	+	TEMAX	+	Sort((OBE1) ***2	+	(OBE1) ***2	+	(TSV) ***2)
LEVEL B 7	Sort((OBE1)	+	OBE1) ***2	+	(OBE1) ***2	+	(OBE1) ***2	+	(RV21) ***2)
LEVEL B 8	Sort((OBE1)	+	OBE1) ***2	+	(OBE1) ***2	+	(RV1) ***2	+	(RV1) ***2)
LEVEL B 9	Sort((OBE1)	+	OBE1) ***2	+	(OBE1) ***2	+	(TSV) ***2	+	(TSV) ***2)
LEVEL C 1	WT1	+	Sort((CHUG1) ***2	+	(RV21) ***2)				
LEVEL C 2	WT1	+	Sort((CHUG1) ***2	+	(RV1) ***2)				
LEVEL C 3	WT1	+	Sort((CHUG1) ***2	+	(TSV) ***2)				
LEVEL D 1	WT1	+	Sort((SSE1) ***2	+	(CHUG1) ***2	+	(RV21) ***2)		
LEVEL D 2	WT1	+	Sort((SSE1) ***2	+	(CHUG1) ***2	+	(RV1) ***2)		
LEVEL D 3	WT1	+	Sort((SSE1) ***2	+	(COND1) ***2	+	(RV21) ***2)		
LEVEL D 4	WT1	+	Sort((SSE1) ***2	+	(COND1) ***2	+	(RV1) ***2)		
LEVEL D 5	WT1	+	Sort((SSE1) ***2	+	(TSV) ***2)				
LEVEL D 6	WT1	+	Sort((SSE1) ***2	+	(AP1) ***2)				
LEVEL D 7	WT1	+	Sort((RV1) ***2	+	(TSV) ***2)				
LEVEL D 8	WT1	+	Sort((RV21) ***2	+	(TSV) ***2)				

TABLE B1 SUMMARY OF RESULTS: PIPE STRESSES (HIGHEST TO LOWEST STRESS)

ABWR K-7 MAIN STEAM A																				
DES'GN	EQ 9	S	R *	LEVEL B	EQ 9	S	R *	LEVEL C	EQ 9	S	R *	LEVEL D	EQ 9	S	R *	SECONDARY EQ 12	S	PR1-SEC-T EQ 13	S	FATIGUE EQ 14
033	8979	0.33	063	25127	0.77	063	18234	0.45	063	39800	0.73	005N	45396	0.85	033	28745	0.53	063	0.54	
063	8941	0.33	033	21951	0.67	033	15686	0.38	033	36887	0.68	013F	34065	0.64	063	28688	0.53	033	0.34	
025	8914	0.33	025	20599	0.63	025	15668	0.38	025	34600	0.63	005F	32182	0.61	025	28654	0.52	025	0.15	
069	8434	0.31	069	20187	0.62	069	14754	0.36	069	33634	0.62	033	32643	0.60	069	27633	0.51	069	0.15	
060	7278	0.27	060	9354	0.29	060	8352	0.21	060	12263	0.23	013N	25277	0.48	040F	19818	0.37	005M	0.09	
056	7014	0.26	044	9209	0.29	056	8021	0.20	044	12124	0.23	040N	23061	0.43	005N	19552	0.37	013F	0.02	
044	6940	0.26	056	8946	0.28	044	8012	0.20	056	11665	0.22	040F	22846	0.43	056	19214	0.36	005F	0.02	
042	6903	0.26	042	8321	0.26	042	7667	0.19	042	10229	0.19	025	21728	0.40	044	19089	0.36	013N	0.01	
015	6591	0.25	038	8255	0.26	037	7545	0.19	038	9988	0.19	016	20738	0.39	013F	19029	0.36	040N	0.01	
038	6548	0.25	037	8248	0.26	038	7522	0.19	037	9866	0.19	017	20459	0.39	040N	18939	0.36	002	0.01	
036	6474	0.24	036	8194	0.26	036	7501	0.19	036	9847	0.19	018	20131	0.38	005F	18903	0.36	004	0.01	
037	6453	0.24	036	8129	0.26	036	7499	0.19	036	9695	0.18	018	19614	0.37	013N	18705	0.35	040F	0.01	
038	6421	0.24	038	8069	0.25	038	7417	0.19	005M	9659	0.18	069	20059	0.37	018	17553	0.33	016	0.01	
035	6392	0.24	015	8039	0.25	035	7347	0.18	015	9621	0.18	026	15522	0.29	017	17510	0.33	017	0.01	
036	6362	0.24	035	8018	0.25	015	7239	0.18	035	9617	0.18	026	15210	0.29	016	17460	0.33	018	0.01	
004	4008	0.15	026	6190	0.19	018	4933	0.12	038	9615	0.18	004	14982	0.28	026	17217	0.32	018	0.01	
018	3820	0.14	018	6180	0.19	026	4910	0.12	026	9021	0.17	002	14208	0.27	018	17146	0.32	044	0.00	
017	3791	0.14	017	6050	0.19	017	4840	0.12	018	8783	0.17	063	11498	0.21	026	16974	0.32	026	0.00	
016	3758	0.14	005N	6037	0.19	004	4603	0.12	015	8544	0.16	015	9978	0.19	060	16618	0.31	026	0.00	
026	3595	0.14	016	5911	0.19	016	4741	0.12	016	8299	0.16	044	7303	0.14	042	16242	0.31	056	0.00	
018	3548	0.13	018	5641	0.18	026	4621	0.12	026	8041	0.15	025	5846	0.11	015	15931	0.30	013	0.00	
026	3432	0.13	026	5619	0.18	018	4529	0.11	018	7952	0.15	042	5826	0.11	038	15888	0.30	035	0.00	
002	2678	0.10	004	5454	0.17	005M	4226	0.11	013F	7965	0.15	056	4596	0.09	036	15814	0.30	042	0.00	
040F	2200	0.08	013F	4742	0.15	002	3703	0.09	040F	7729	0.15	036	4573	0.09	033	15793	0.30	036	0.00	
005N	2021	0.08	040F	4668	0.15	040F	3501	0.09	040N	7612	0.14	036	4438	0.08	038	15761	0.30	036	0.00	
013F	1671	0.06	002	4512	0.14	013F	3133	0.08	004	7	0.13	038	3839	0.07	035	15732	0.30	038	0.00	
040N	1611	0.06	040N	4337	0.14	040N	2955	0.07	002	0	0.12	038	3834	0.07	036	15702	0.30	038	0.00	
005F	1587	0.06	013N	3675	0.12	013M	2639	0.07	013M	5907	0.11	037	3816	0.07	002	12820	0.24	037	0	
013N	1454	0.05	005F	3025	0.09	005F	2475	0.06	005F	4692	0.09	060	2226	0.04	004	12579	0.24	060	0	

ABWR K-7 MAIN STEAM A

[illegible]

ABWR K-7 MAIN STEAM A SRV LINE B

SUSTAINED EQ 8 *	OCCASIONAL EQ 9 *	ANCH DISP EQ 10A *	FRI-SEC EQ 11 *	LEVEL C EQ 9 *	LEVEL D EQ 9 *
NO STRESS RATIO * NO STRESS RATIO *	NO STRESS RATIO * NO STRESS RATIO *	NO STRESS RATIO * NO STRESS RATIO *	NO STRESS RATIO * NO STRESS RATIO *	NO STRESS RATIO *	NO STRESS RATIO *
133 4519 0.201 149N 15903 0.589 149N 0.0581 139N 27543 0.734 149N 10063 0.298 149N 31818 0.707					
134 3999 0.178 153F 14126 0.524 153F 0.0524 139F 26077 0.695 153F 8958 0.265 153F 28066 0.624					
135N 3746 0.166 135N 12306 0.456 135N 0.0456 139F 16021 0.427 135N 8240 0.244 139F 22570 0.502					
141 3181 0.141 139F 11138 0.413 139F 0.0413 149F 15526 0.414 139F 7151 0.212 135N 22464 0.499					
144 3114 0.138 135F 10786 0.399 135F 0.0399 135F 15362 0.410 135F 7123 0.211 135F 21164 0.471					
141 2937 0.131 149F 9727 0.360 149F 0.0353 135N 13941 0.372 153N 5407 0.190 149F 19429 0.432					
144 2910 0.129 144 8165 0.302 144 0.0302 141 13918 0.371 149F 6365 0.189 144 14509 0.322					
135F 2796 0.124 133 8004 0.296 133 0.0296 149N 13882 0.370 133 6274 0.186 137 14232 0.316					
141 2786 0.124 153N 7835 0.290 134 0.0286 141 13675 0.365 134 5931 0.176 153N 13060 0.290					
144 2786 0.124 134 7722 0.286 137 0.0279 153N 11726 0.313 144 5732 0.170 141 12739 0.283					
137 2700 0.120 137 7528 0.279 141 0.0272 137 10794 0.288 141 5431 0.161 144 12423 0.276					
142 2589 0.115 141 7331 0.272 144 0.0261 144 9916 0.264 137 5387 0.160 139N 12110 0.269					
145 2589 0.115 144 7048 0.261 153N 0.0244 144 9713 0.259 144 5077 0.150 134 11930 0.265					
153F 2319 0.103 139N 6296 0.234 139N 0.0234 133 9277 0.247 141 4785 0.142 133 11831 0.263					
139F 2280 0.101 141 6274 0.232 141 0.0232 134 8594 0.232 139N 4700 0.139 141 10530 0.234					
149N 1904 0.085 144 5784 0.214 144 0.0214 141 2640 0.070 141 4648 0.138 144 9767 0.217					
139N 1758 0.079 141 5473 0.203 141 0.0193 144 2640 0.079 144 4621 0.137 141 8483 0.189					
153N 1436 0.064 145 3691 0.137 145 0.0137 142 2589 0.069 142 3337 0.099 145 5171 0.115					
149F 1214 0.054 142 3600 0.133 142 0.0130 145 2589 0.069 145 3269 0.097 142 4740 0.105					

SRV LINE C

SUSTAINED		EQ 8 *		OCCASIONAL		EQ 9 *		ANCH		DISP		EQ 10A *		FRI-SEC		EQ 11 *		NO		STRESS RATIO *		LEVEL C		EQ 9 *		NO		STRESS RATIO *		LEVEL C		EQ 9 *	
NO	STRESS	RATIO	NO	STRESS	RATIO *	NO	STRESS	RATIO *	NO	STRESS	RATIO *	NO	STRESS	RATIO *	NO	STRESS	RATIO *	NO	STRESS	RATIO *	NO	STRESS	RATIO *	NO	STRESS	RATIO *	NO	STRESS	RATIO *	NO	STRESS	RATIO *	
170	4712	0.209	176F	16690	0.618	176F	0.0.618	189F	14466	0.386	172N	10363	0.307	176F	30602	0.557	172N	10363	0.307	176F	30602	0.557	172N	10363	0.307	176F	30602	0.557	172N	10363	0.307		
171	3432	0.153	172N	16484	0.511	172N	0.0.511	172N	13518	0.360	176F	10231	0.303	172N	29473	0.535	176F	10231	0.303	172N	29473	0.535	176F	10231	0.303	172N	29473	0.535	176F	10231	0.303		
173	2786	0.124	176N	14508	0.537	176N	0.0.537	172F	13047	0.346	189N	10053	0.296	176N	25734	0.535	189N	10053	0.296	176N	25734	0.535	189N	10053	0.296	176N	25734	0.535	189N	10053	0.296		
191	2786	0.124	189N	13524	0.501	171	0.0.440	176N	11951	0.319	179	9491	0.281	189N	21588	0.480	179	9491	0.281	189N	21588	0.480	179	9491	0.281	189N	21588	0.480	179	9491	0.281		
191	2735	0.122	171	11893	0.440	170	0.0.420	189N	11676	0.311	176N	6973	0.266	171	19185	0.413	176N	6973	0.266	171	19185	0.413	176N	6973	0.266	171	19185	0.413	176N	6973	0.266		
173	2653	0.118	170	11342	0.420	189N	0.0.418	176F	10821	0.289	170	8525	0.253	189F	18597	0.413	170	8525	0.253	189F	18597	0.413	170	8525	0.253	189F	18597	0.413	170	8525	0.253		
180	2651	0.118	189F	10646	0.394	189F	0.0.374	191	10404	0.277	171	8462	0.251	172F	17614	0.391	171	8462	0.251	172F	17614	0.391	171	8462	0.251	172F	17614	0.391	171	8462	0.251		
184	2607	0.116	173	10361	0.384	172F	0.0.368	191	10190	0.272	186N	7756	0.230	170	16917	0.376	186N	7756	0.230	170	16917	0.376	186N	7756	0.230	170	16917	0.376	186N	7756	0.230		
173	2598	0.115	172F	9933	0.368	181N	0.0.303	181N	9936	0.265	191	7277	0.216	181N	14385	0.320	191	7277	0.216	181N	14385	0.320	191	7277	0.216	181N	14385	0.320	191	7277	0.216		
174	2589	0.115	186N	9399	0.348	178	0.0.279	170	8738	0.233	189F	6851	0.203	186N	13685	0.304	189F	6851	0.203	186N	13685	0.304	189F	6851	0.203	186N	13685	0.304	189F	6851	0.203		
192	2589	0.115	181N	8851	0.328	181F	0.0.275	171	8555	0.228	180	6338	0.188	179	12819	0.285	180	6338	0.188	179	12819	0.285	180	6338	0.188	179	12819	0.285	180	6338	0.188		
178	2523	0.112	186F	8002	0.296	186N	0.0.265	181F	8334	0.222	181N	6237	0.185	186F	12538	0.279	181N	6237	0.185	186F	12538	0.279	181N	6237	0.185	186F	12538	0.279	181N	6237	0.185		
191	2522	0.112	178	7455	0.291	191	0.0.264	173	8131	0.217	184	5183	0.183	181F	12363	0.275	184	5183	0.183	181F	12363	0.275	184	5183	0.183	181F	12363	0.275	184	5183	0.183		
179	2468	0.110	181F	7426	0.275	173	0.0.260	185F	8111	0.216	172F	6154	0.177	185F	11963	0.266	172F	6154	0.177	185F	11963	0.266	172F	6154	0.177	185F	11963	0.266	172F	6154	0.177		
172N	1607	0.071	180	7265	0.269	186F	0.0.255	173	8076	0.215	186F	5986	0.177	180	11080	0.246	173	8076	0.215	186F	5986	0.177	180	11080	0.246	173	8076	0.215	186F	5986	0.177		
181F	933	0.041	191	7261	0.269	179	0.0.254	178	6940	0.185	178	5983	0.177	191	10822	0.240	178	6940	0.185	178	5983	0.177	191	10822	0.240	178	6940	0.185	178	5983	0.177		
172F	839	0.037	191	7250	0.269	191	0.0.254	180	6854	0.183	191	5421	0.161	173	10689	0.238	191	5421	0.161	173	10689	0.238	191	5421	0.161	173	10689	0.238	191	5421	0.161		
176N	764	0.034	191	7100	0.263	173	0.0.244	179	6558	0.175	191	5337	0.158	173	9781	0.218	179	6558	0.175	191	5337	0.158	173	9781	0.218	179	6558	0.175	191	5337	0.158		
186N	757	0.034	173	7031	0.260	180	0.0.227	186N	6503	0.171	173	5213	0.154	180	9486	0.218	186N	6503	0.171	173	5213	0.154	180	9486	0.218	186N	6503	0.171	173	5213	0.154		
176F	617	0.027	184	6978	0.259	184	0.0.213	184	4644	0.124	173	5138	0.134	184	9115	0.203	184	6978	0.259	184	4644	0.124	173	5138	0.134	184	9115	0.203	184	4644	0.124		
189N	568	0.025	173	592	0.244	173	0.0.208	173	2640	0.070	173	5008	0.148	173	8253	0.183	173	592	0.244	173	2640	0.070	173	5008	0.148	173	8253	0.183	173	592	0.244		
189F	557	0.025	173	6054	0.224	174	0.0.135	191	2640	0.070	181F	4942	0.146	191	7458	0.191	181F	4942	0.146	191	7458	0.191	181F	4942	0.146	191	7458	0.191	181F	4942	0.146		
186F	513	0.023	192	4230	0.159	191	0.0.128	174	2589	0.069	192	4236	0.127	174	4606	0.192	192	4230	0.159	191	2589	0.069	192	4236	0.127	174	4606	0.192	192	4230	0.159		
181N	447	0.020	174	3794	0.141	192	0.0.106	192	2589	0.069	174	3480	0.119	192	4361	0.192	192	447	0.020	174	3794	0.141	192	4361	0.119	192	447	0.020	174	3794	0.141		

ABWR K-7 MAIN STEAM A		SRV LINE D		EQ 10A		EQ 9		EQ 11		EQ 9		EQ 9	
SUSTAINED	ED 8 *	OCCASIONAL	ED 9 *	ANCH DISP	EQ 10A *	PRI-SEC	EQ 11 *	LEVEL C	EQ 9 *	NO	STRESS	LEVEL D	EQ 9 *
NO	STRESS	NO	STRESS	NO	STRESS	NO	STRESS	NO	STRESS	NO	STRESS	NO	STRESS
213	5950	0.264	217F	9650	0.357	213	18258	0.487	213	7511	0.223	228N	19796
214	3659	0.163	213	9184	0.340	217F	18053	0.481	217F	6951	0.206	232F	19565
215	3043	0.135	228N	9181	0.340	217N	16206	0.432	214	6270	0.186	217F	16746
215	3024	0.134	232F	9025	0.334	228F	14125	0.377	215	6186	0.183	228F	16109
222	2896	0.129	232N	8782	0.325	232N	10390	0.277	232N	6066	0.180	232N	15243
219	2852	0.127	217	8070	0.299	219	9974	0.266	222	5232	0.155	217N	13375
219	2786	0.124	217	7549	0.280	219	9802	0.261	219	5102	0.151	213	12962
222	2756	0.124	217	7171	0.270	232F	9758	0.260	225	4994	0.142	214	12429
222	2650	0.118	217	7136	0.266	215	9570	0.255	222	4729	0.140	225	11792
225	2635	0.117	217	7136	0.264	214	8794	0.234	222	4706	0.139	222	11340
220	2589	0.115	217	6556	0.244	215	8793	0.234	219	4574	0.136	215	10387
223	2589	0.115	219	6268	0.232	219	7192	0.192	219	4555	0.135	222	9650
217F	2096	0.093	222	6250	0.231	222	6947	0.185	217N	3499	0.104	219	9283
217N	769	0.034	219	5617	0.208	219	5950	0.159	228N	3486	0.103	219	8120
232N	531	0.028	222	5470	0.203	222	2640	0.070	232F	3415	0.101	222	7567
228F	624	0.028	219	4763	0.176	219	2540	0.070	223	3270	0.097	219	6222
228N	543	0.024	223	3567	0.132	223	2519	0.069	220	3242	0.096	223	4375
232F	525	0.024	220	3314	0.123	223	2589	0.069	228F	3099	0.092	220	3869

TABLE B2 SUMMARY OF RESULTS: SNUBBER LOADS

SNUBBER LOADS

SNB	LEVEL B LOAD	RATIO	COMB	LEVEL C LOAD	RATIO	COMB	LEVEL D LOAD	RATIO	COMB
S001	035	25072	0.501	11786	0.177	1	50982	0.680	6
S002	037	29417	0.588	15552	0.234	2	55933	0.746	6
AS002	090	10959	0.548	5056	0.190	2	21922	0.731	6
AS003	092	4516	0.301	2777	0.139	2	9550	0.424	4
AS004	097	12090	0.806	10738	0.538	1	16167	0.719	3
ASC05	097	7524	0.502	6482	0.325	1	11673	0.519	3
AS007	109	5062	0.253	2364	0.089	2	10489	0.350	6
BS001	134	5694	0.380	4005	0.201	1	10942	0.486	6
BS003	137	9763	0.488	5430	0.204	2	23258	0.775	6
CS002	171	15158	0.758	9251	0.348	2	28213	0.940	4
CS003	178	6131	0.409	3516	0.176	2	11791	0.524	4
CS004	179	8853	0.443	7997	0.201	1	11534	0.384	3
CS006	184	16745	0.837	13188	0.496	1	26003	0.867	3
DS002	214	7186	0.479	2807	0.141	2	15993	0.711	6
DS003	215	10409	0.520	9391	0.353	1	15527	0.518	3
DS004	225	7043	0.470	4944	0.248	1	11867	0.527	3

TABLE #3 SUMMARY OF RESULTS: RPV NOZZLE LOADS

NOZZLE LOADS

NODE		FORCE	RATIO	NO. COMB	MOMENT	RATIO	NO. COMB
002	PRIMARY	37378	0.0907	2	3311078	0.5493	1
	SECOND	107895	0.1037	1	9766491	0.4192	1
	PRIMARY	27694	0.0399	2	2295094	0.2054	2
	PRIMARY	60807	0.0876	6	5511975	0.4934	6
003	PRIMARY	36681	0.0876	2	2905850	0.4788	1
	SECOND	106518	0.1024	1	8824482	0.3788	1
	PRIMARY	26119	0.0376	2	1988512	0.1780	2
	PRIMARY	58063	0.0937	6	4839873	0.4332	6
004	PRIMARY	34358	0.0834	2	2114234	0.3558	1
	SECOND	105419	0.1014	1	7126801	0.3063	1
	PRIMARY	24398	0.0342	2	1394653	0.1238	2
	PRIMARY	55720	0.0138	6	3574289	0.3143	6

Nozzle stresses will be provided later

TABLE B4 SUMMARY OF RESULTS MSIV END CONNECTION STRESSES

MSIV END STRESSES

	LEVEL A			LEVEL B			LEVEL C			LEVEL D		
	STRESS	RATIO	COMB	STRESS	RATIO	COMB	STRESS	RATIO	COMB	STRESS	RATIO	COMB
044 043												
SFA	6900	0.5318	1	7194	0.2079	3	7017	0.2028	2	7376	0.2132	6
STOR	364	0.0281	1	670	0.0194	2	515	0.0149	2	1082	0.0313	6
SMOM	4366	0.3365	1	6600	0.1908	2	5408	0.1563	2	9418	0.2722	6
056 057												
SFA	6902	0.5319	1	7203	0.2082	3	7056	0.2039	2	7578	0.2190	6
STOR	364	0.0281	1	791	0.0229	2	593	0.0171	2	1296	0.0375	6
SMOM	3067	0.2364	1	4950	0.1431	2	4101	0.1185	2	7523	0.2174	6

TABLE B5 SUMMARY OF RESULTS: MSIV BONNET FLANGE MOMENTS

MSIV BONNET FLANGE MOMENTS

	MOMENT	LEVEL A		MOMENT	LEVEL B		MOMENT	LEVEL C		MOMENT	LEVEL D	
		RATIO	COMB		RATIO	COMB		RATIO	COMB		RATIO	COMB
047 046												
FA	3524	0.0897	1	9497	0.0907	2	6899	0.0659	2	18149	0.1733	6
TOR	0	0.0000	1	64221	0.0180	2	38207	0.0107	2	161278	0.0453	6
MOM	108568	0.0813	1	711124	0.1998	2	441313	0.1240	2	1622815	0.4561	6

TABLE B6 SUMMARY OF RESULTS MSIV ACCELERATIONS

MSIV ACCELERATIONS

		LEVEL B		LEVEL C		LEVEL D		
		ACCEL	RATIOCOMB	ACCEL	RATIOCOMB	ACCEL	RATIOCOMB	
046	AH	1.1443	0.	0.7637	0.	3.0422	0.	6
	AV	1.5368	0.	0.8209	0.	3.4135	0.	6
047	AH	1.4180	0.	0.7440	0.	3.4402	0.	6
	AV	1.5425	0.	0.8139	0.	3.4014	0.	6
049	AH	2.2705	0.	1.1726	0.	5.4364	0.	6
	AV	1.8636	0.	0.9779	0.	4.1055	0.	6
050	AH	2.4733	0.	1.3100	0.	5.9648	0.	6
	AV	1.9422	0.	1.0230	0.	4.2911	0.	6

ALL MODE ACCELERATION HAVE BEEN PROCESSED

END OF MSIV

TOP OF BUNKER FLANGE

TOP WELLS

END OF OPERATION

TABLE B7 SUMMARY OF RESULTS SRV ACCELERATIONS

SRV ACCELERATIONS

			LEVEL B		LEVEL C		LEVEL D		
			ACCEL	RATIOCOMB	ACCEL	RATIOCOMB	ACCEL	RATIOCOMB	
020	AH	2.2926	0.2293	2	1.3432	0.1343	2	4.7206	0.4721
	AV	1.6234	0.2952	2	0.9921	0.1804	2	3.1990	0.5816
028	AH	1.8851	0.1885	2	1.0787	0.1079	2	4.0884	0.4088
	AV	1.5180	0.2760	2	0.9060	0.1647	2	2.9532	0.5370
064	AH	1.7856	0.1787	1	1.1316	0.1132	1	3.8318	0.3832
	AV	1.2156	0.2210	2	0.7541	0.1371	2	2.5511	0.4638
070	AH	1.6169	0.1617	1	0.9894	0.0989	1	3.6325	0.3632
	AV	1.0043	0.1826	2	0.7363	0.1339	2	2.3812	0.4329
021	AH	2.6171	0.2617	2	1.4654	0.1465	2	5.4120	0.5412
	AV	1.6280	0.2960	2	0.9967	0.1812	2	3.2121	0.5840
025	AH	2.2897	0.2290	1	1.2278	0.1228	1	4.9420	0.4942
	AV	1.5220	0.2767	2	0.9091	0.1653	2	2.9617	0.5385
065	AH	2.3932	0.2393	1	1.5472	0.1547	1	4.7032	0.4703
	AV	1.2203	0.2219	2	0.7582	0.1379	2	2.5633	0.4661
071	AH	2.1091	0.2109	2	1.1693	0.1169	2	4.6205	0.4621
	AV	1.0111	0.1838	2	0.7437	0.1352	2	2.3994	0.4363

ALL NODE ACCELERATION HAVE BEEN PROCESSED

TABLE 88 SUMMARY OF RESULTS VACUUM BREAKER ACCELERATIONS

VAC BNR ACCELERATIONS

		LEVEL B		LEVEL C		LEVEL D					
		ACCEL	RATIOCOMB	ACCEL	RATIOCOMB	ACCEL	RATIOCOMB				
119.	AH	6.7516	0.	1	4.6703	0.	1	12.7291	0.	6	SRVDL A
	AV	6.0450	0.	1	6.0783	0.	1	7.0656	0.	3	
122.	AH	3.4336	0.	1	3.5404	0.	1	5.4635	0.	6	SRVDL A
	AV	2.7271	0.	1	2.7514	0.	1	3.1884	0.	3	
159.	AH	5.1433	0.	2	3.5625	0.	2	12.7354	0.	6	SRVDL B
	AV	5.6171	0.	1	4.3521	0.	1	9.7054	0.	6	
162.	AH	6.6151	0.	2	4.1056	0.	2	16.1965	0.	6	SRVDL B
	AV	6.1341	0.	1	4.4391	0.	1	11.0703	0.	6	
198.	AH	6.2662	0.	1	4.6838	0.	1	10.8600	0.	3	SRVDL C
	AV	5.5054	0.	1	3.8851	0.	1	8.9840	0.	3	
201.	AH	10.3030	0.	1	10.3270	0.	1	10.5479	0.	3	SRVDL C
	AV	3.6742	0.	1	3.6896	0.	1	3.9225	0.	3	
238.	AH	3.7898	0.	1	2.3743	0.	1	8.6798	0.	6	SRVDL D
	AV	4.4944	0.	1	4.1618	0.	1	6.6767	0.	3	
241.	AH	5.3318	0.	1	2.9366	0.	1	11.1037	0.	6	SRVDL D
	AV	5.1483	0.	1	4.8549	0.	1	7.0772	0.	3	

ALL NODE ACCELERATION HAVE BEEN PROCESSED

TABLE 89 SUMMARY OF RESULTS: GUIDE LOADS

GLOBAL GUIDE LOADS

NODE/NELE	LEVEL A			LEVEL B			LEVEL C			LEVEL D		
	MOMENT FORCE	ALLOW	RATIO	MOMENT FORCE	ALLOW	RATIO	MOMENT FORCE	ALLOW	RATIO	MOMENT FORCE	ALLOW	RATIO
042, 6003	FX	1	0.0	1	0.0	0.0	1	0.0	0.0	1	0.0	0.0
	FY	37799	0.0	64825	0.0	0.0	53572	0.0	0.0	89221	0.0	0.0
	FZ	35166	0.0	75558	0.0	0.0	56771	0.0	0.0	106484	0.0	0.0
	MX	0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
	MY	0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0
	MZ	0	0.0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0

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TABLE B10 SUMMARY OF RESULTS ANCHOR LOADS

NODE/RELN	ANCHOR LOADS	LEVEL A			LEVEL B			LEVEL C			LEVEL D		
		MOMENT	ALLOW	RATIO	MOMENT	ALLOW	RATIO	MOMENT	ALLOW	RATIO	MOMENT	ALLOW	RATIO
001 A001	FX	81685	0	0	92564	0	0	88040	0	0	111018	0	0
	FY	33540	0	0	55901	0	0	46569	0	0	76641	0	0
	FZ	31358	0	0	48086	0	0	38592	0	0	69260	0	0
	MX	6567478	0	0	9187583	0	0	8038702	0	0	11596204	0	0
	MY	7237581	0	0	8130963	0	0	7803135	0	0	9130687	0	0
	MZ	8441605	0	0	9585136	0	0	9049736	0	0	10681538	0	0
062 A062	FX	79507	0	0	117678	0	0	102229	0	0	188033	0	0
	FY	20509	0	0	34009	0	0	30194	0	0	54803	0	0
	FZ	14154	0	0	24971	0	0	21849	0	0	51030	0	0
	MX	543500	0	0	1180293	0	0	864259	0	0	1934685	0	0
	MY	642167	0	0	1046029	0	0	916273	0	0	2033201	0	0
	MZ	341232	0	0	864336	0	0	721226	0	0	1699235	0	0
117 A117	FX	862	0	0	3654	0	0	2550	0	0	8230	0	0
	FY	3332	0	0	13133	0	0	12575	0	0	17042	0	0
	FZ	3766	0	0	10982	0	0	10117	0	0	14860	0	0
	MX	558217	0	0	1055798	0	0	1093354	0	0	1318736	0	0
	MY	92876	0	0	166068	0	0	132876	0	0	231328	0	0
	MZ	105537	0	0	323956	0	0	227106	0	0	595110	0	0
157 A157	FX	1818	0	0	7342	0	0	5631	0	0	11066	0	0
	FY	7407	0	0	20331	0	0	18659	0	0	26778	0	0
	FZ	7918	0	0	13895	0	0	13505	0	0	15703	0	0
	MX	833940	0	0	1205179	0	0	1205414	0	0	1402996	0	0
	MY	155347	0	0	221975	0	0	197128	0	0	325349	0	0
	MZ	157758	0	0	558359	0	0	466805	0	0	891536	0	0
196 A196	FX	1045	0	0	5509	0	0	4735	0	0	9016	0	0
	FY	2814	0	0	10969	0	0	10899	0	0	13503	0	0
	FZ	2976	0	0	17526	0	0	14196	0	0	25838	0	0
	MX	423521	0	0	1513240	0	0	1245992	0	0	2168288	0	0
	MY	9582	0	0	241025	0	0	190747	0	0	354657	0	0
	MZ	109625	0	0	471258	0	0	398444	0	0	679271	0	0
236 A236	FX	2723	0	0	7168	0	0	6648	0	0	9535	0	0
	FY	5345	0	0	13481	0	0	13462	0	0	15022	0	0
	FZ	5847	0	0	13390	0	0	11976	0	0	17066	0	0
	MX	43967	0	0	1001058	0	0	889162	0	0	1273508	0	0
	MY	135378	0	0	283241	0	0	183909	0	0	466066	0	0
	MZ	193808	0	0	519531	0	0	477141	0	0	634295	0	0

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

NEEC-XXXX SH. NO. 42
REV. NO. 0

TABLE 811 SUMMARY OF RESULTS: FLANGE MOMENTS

SRV

FLANGE MOMENTS

		F/M	LEVEL B RATIO	COMB	F/M	LEVEL C RATIO	COMB	F/M	LEVEL D RATIO	COMB	
020. 021	812012	0.955	2	633803	0.4695	2	1322035	0.9793	6	SRV A INLET FLANGE	
028. 029	959222	0	2	747263	0	2	1486707	0	6	SRV B INLET FLANGE	
064. 065	890645	0	2	627987	0	2	1426197	0	6	SRV C INLET FLANGE	
070. 071	760819	0.951	2	580200	0.4298	2	1212580	0.882	6	SRV D INLET FLANGE	
084. 021	441093	0.801	2	400333	0.3807	2	559313	0.5039	5	SRV A OUTLET FLANGE	
131. 029	458887	0.8243	2	385504	0.3473	2	652493	0.5878	6	SRV B OUTLET FLANGE	
168. 065	524219	0.7132	2	387712	0.3493	2	792644	0.3141	4	SRV C OUTLET FLANGE	
211. 071	354986	0.4830	2	268355	0.2418	2	550307	0.4958	6	SRV D OUTLET FLANGE	

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

MEDC-XXXX SH. NO. 43
REV. NO. 0

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TABLE B12 SUMMARY OF RESULTS: HEAD FITTING FLANGE MOMENTS

HEAD FITTING FLANGE MOMENTS

NODE	ELEM	LEVEL A	LEVEL B	LEVEL C	LEVEL D
060	059	3455696.	1583535.	4492518.	
116	115	684779.	230361.	390245.	
156	155	840749.	241268.	654824.	
195	194	1156845.	418763.	949696.	
235	234	702046.	283291.	543745.	

TABLE C1 DETAILED EQUIPMENT INTERFACE: SNUBBER LOADS

SNUBBER LOAD

SNB PIPE NODE=035. S001 50000.

		FORCE	DISP X	DISP Y	DISP Z
THERMAL	CASE 1	0.	-0.736	3.627	0.998
THERMAL	CASE 2	0.	-0.759	0.649	1.048
THERMAL	CASE 3	0.	0.050	0.704	0.176
WEIGHT	CASE 1	0.	0.010	-0.019	-0.007
EXT. FOR	CASE 1	11660	0.019	0.016	0.018
EXT. FOR	CASE 2	2286	0.007	0.008	0.015
RV2 I	CASE 1	3351	0.005	0.007	0.005
RV2 SV11	CASE 1	1340	0.002	0.003	0.002
RV2 I	CASE 2	9000	0.027	0.033	0.018
RV2 SV11	CASE 2	3600	0.011	0.013	0.007
RV2 I	CASE 3	2808	0.005	0.005	0.007
RV2 SV11	CASE 3	1123	0.002	0.002	0.003
CHUG I	CASE 1	1015	0.002	0.002	0.001
CHUG I	CASE 2	966	0.001	0.002	0.001
CHUG I	CASE 3	996	0.002	0.001	0.002
A P I	CASE 1	17178	0.035	0.038	0.027
A P I	CASE 7	18005	0.034	0.029	0.035
A P D	CASE 1	3040	0.004	-0.004	0.001
A P D	CASE 3	1473	0.001	-0.001	0.002
SSEI	CASE 1	30130	0.068	0.065	0.052
SEISMIC	CASE 1	15065	0.034	0.033	0.026
SSEI	CASE 2	10930	0.022	0.026	0.019
SEISMIC	CASE 2	5415	0.011	0.013	0.010
SSEI	CASE 3	30678	0.067	0.062	0.056
SEISMIC	CASE 3	15339	0.033	0.031	0.028
COND. I	CASE 2	15392	0.035	0.045	0.026
OBE D	CASE 1	-851	0.246	-0.004	0.008
SSED	CASE 1	-1702	0.492	-0.008	0.016
OBE D	CASE 2	-454	0.004	0.019	0.003
SSED	CASE 2	-908	0.008	0.038	0.006
OBE D	CASE 3	-435	0.005	-0.000	0.198
SSED	CASE 3	-870	0.010	-0.000	0.396

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

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SHUBBER LOAD
SNB PIPE NODE=035 S001

SERVICE	COMB NO	SUM	ALLOW	RATIO
LEVL B	1	25072	50000	0.5014
LEVL B	2	24347	50000	0.4869
LEVL B	3	22314	50000	0.4463
LEVL C	1	11786	66500	0.1772
LEVL C	2	10152	66500	0.1527
LEVL D	1	45930	75000	0.6124
LEVL D	2	45538	75000	0.6072
LEVL D	3	48410	75000	0.6455
LEVL D	4	48039	75000	0.6405
LEVL D	5	44451	75000	0.5927
LEVL D	6	50982	75000	0.6798
LEVL D	7	11882	75000	0.1584
LEVL D	8	10263	75000	0.1368

SNUBBER LOAD

SNB PIPE NODE-037 S002 50000

	FORCE	DISP X	DISP Y	DISP Z
THERMAL	0	-0.952	0.529	0.741
THERMAL	0	-0.892	0.545	0.772
THERMAL	0	0.069	0.603	0.137
WEIGHT	0	-0.006	-0.013	-0.005
EXT. FOR	9630	0.014	0.011	0.017
EXT. FOR	3588	0.005	0.004	0.016
RV2 I	3356	0.004	0.006	0.004
RV2 SV11	1346	0.002	0.002	0.002
RV2 I	14880	0.015	0.020	0.013
RV2 SV11	5952	0.006	0.008	0.005
RV2 I	2575	0.004	0.004	0.007
RV2 SV11	1030	0.001	0.001	0.003
CHUG I	988	0.001	0.002	0.001
CHUG I	810	0.001	0.001	0.001
CASE 1	930	0.002	0.001	0.002
CASE 2	18736	0.023	0.027	0.023
CASE 3	16530	0.025	0.018	0.033
A P I	-512	0.002	0.002	-0.000
A P D	322	0.000	0.000	0.001
A P D	34363	0.045	0.041	0.042
SSEI	17182	0.023	0.021	0.021
SEISMIC	13137	0.015	0.018	0.017
SSEI	6569	0.007	0.009	0.009
SEISMIC	33753	0.045	0.039	0.048
SSEI	16876	0.023	0.020	0.024
COND I	19154	0.020	0.026	0.021
DBE D	651	0.242	-0.004	0.006
SSED	1302	0.484	-0.008	0.012
DBE D	-1181	0.003	0.021	0.002
SSED	-2362	0.006	0.042	0.005
DBE D	1008	0.003	-0.000	0.197
SSED	2017	0.006	-0.001	0.394

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

REDC-XXXX SH NO 47
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SNB SNUBBER LOAD
PIPE NODE-037 S002

SERVICE	COMB NO	SUM	ALLOW	RATIO
LEVEL B	1	26809	50000	0.5362
LEVEL B	2	29417	50000	0.5883
LEVEL B	3	25276	50000	0.5055
LEVEL C	1	9759	66500	0.1468
LEVEL C	2	15552	66500	0.2339
LEVEL D	1	50983	75000	0.6798
LEVEL D	2	52401	75000	0.6987
LEVEL D	3	54439	75000	0.7259
LEVEL D	4	55770	75000	0.7436
LEVEL D	5	50169	75000	0.6689
LEVEL D	6	55933	75000	0.7458
LEVEL D	7	10277	75000	0.1370
LEVEL D	8	15882	75000	0.2118

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

INDEC-XXXX SH NO 48
REV NO 0

SNURBER LOAD

SNB PIPE MODE=090 AS002 20000

	FORCE	DISP. X	DISP. Y	DISP. Z
THERMAL	CASE 1	-0.209	0.479	1.135
THERMAL	CASE 2	-0.069	0.669	1.304
THERMAL	CASE 3	0.233	0.554	0.230
WEIGHT	CASE 1	-0.024	0.037	-0.005
EXT. FOR	CASE 1	0.013	0.008	0.049
EXT. FOR	CASE 2	0.001	0.002	0.005
RV2 I	CASE 1	0.003	0.006	0.006
RV2 SV11	CASE 1	0.001	0.003	0.002
RV2 I	CASE 2	0.014	0.013	0.017
RV2 SV11	CASE 2	0.005	0.005	0.007
RV2 I	CASE 3	0.003	0.005	0.010
RV2 SV11	CASE 3	0.001	0.002	0.004
CHUG. I	CASE 1	0.001	0.003	0.002
CHUG. I	CASE 2	0.001	0.003	0.002
CHUG. I	CASE 3	0.001	0.002	0.004
A P I	CASE 1	0.020	0.025	0.032
A P I	CASE 7	0.018	0.020	0.047
A P D	CASE 1	0.002	-0.000	0.003
A P D	CASE 3	0.002	-0.000	0.003
SSEI	CASE 1	0.038	0.025	0.055
SEISMIC	CASE 1	0.019	0.013	0.028
SSEI	CASE 2	0.015	0.013	0.024
SEISMIC	CASE 2	0.008	0.007	0.012
SSEI	CASE 3	0.034	0.024	0.050
SEISMIC	CASE 3	0.017	0.012	0.025
COND. I	CASE 2	0.023	0.028	0.035
OBE D	CASE 1	0.255	0.000	0.001
SSD	CASE 1	0.510	0.000	0.002
OBE D	CASE 2	0.001	0.024	0.005
SSD	CASE 2	0.003	0.048	0.010
OBE D	CASE 3	-0.001	0.000	0.203
SSD	CASE 3	-0.002	0.000	0.406

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

NEDC-XXXX SH NO 49
REV. NO. 0

SMB PIPE LOAD
SMB PIPE NODE-030 AS002

SERVICE	COMB NO	SUM	ALLOW	RATIO
LEVL B	1	10693	20000	0.5346
LEVL B	2	10959	20000	0.5480
LEVL B	3	9758	20000	0.4879
LEVL C	1	4449	26500	0.1673
LEVL C	2	5056	26500	0.1901
LEVL D	1	19990	30000	0.6663
LEVL D	2	20134	30000	0.6711
LEVL D	3	21634	30000	0.7211
LEVL D	4	21767	30000	0.7256
LEVL D	5	19495	30000	0.6498
LEVL D	6	21922	30000	0.7307
LEVL D	7	4434	30000	0.1478
LEVL D	8	5044	30000	0.1681

SNUBBER LOAD

SNB PIPE NOOE-092 AS003 15000

	FORCE	DISP. X	DISP. Y	DISP. Z
THERMAL	0	-0.183	0.410	1.141
THERMAL	0	-0.040	0.620	1.337
THERMAL	0	0.227	0.315	0.234
WEIGHT	0	-0.023	0.033	-0.005
EXT. FOR	1659	0.009	0.006	0.049
EXT. FOR	372	0.003	0.001	0.005
RV2 I	1103	0.004	0.004	0.006
RV2 SV11	441	0.002	0.002	0.002
RV2 I	2261	0.014	0.008	0.017
RV2 SV11	904	0.006	0.003	0.007
RV2 I	797	0.004	0.003	0.010
RV2 SV11	319	0.001	0.001	0.004
CHUG I	523	0.001	0.002	0.002
CHUG I	611	0.002	0.002	0.002
CASE 1	319	0.001	0.001	0.005
CASE 2	4466	0.023	0.015	0.032
CASE 3	3666	0.022	0.013	0.048
A P I	23	0.001	0.000	0.002
A P D	61	0.001	0.000	0.003
A P D	5262	0.046	0.018	0.055
A P D	2631	0.023	0.009	0.028
SSEI	2445	0.019	0.008	0.024
SEISMIC	1222	0.010	0.004	0.012
SEISMIC	4412	0.033	0.015	0.050
SEISMIC	2206	0.016	0.008	0.025
COND I	5523	0.036	0.019	0.036
OBE D	308	0.255	0.001	0.001
SSED	616	0.509	0.002	0.002
OBE D	-178	0.001	0.024	0.005
SSED	-356	0.002	0.049	0.009
OBE D	-164	-0.004	-0.001	0.203
SSED	-329	-0.008	-0.001	0.406

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

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SNURRER LOAD
SNB PIPE NODE=092 AS003

SERVICE	COMB NO.	SUM	ALLOW	RATIO
LEVL B	1	4024	15000	0.2682
LEVL B	2	4516	15000	0.3011
LEVL B	3	3684	15000	0.2456
LEVL C	1	1871	19950	0.0938
LEVL C	2	2777	19950	0.1392
LEVL D	1	7566	22500	0.3363
LEVL D	2	7839	22500	0.3484
LEVL D	3	9327	22500	0.4145
LEVL D	4	9550	22500	0.4245
LEVL D	5	7340	22500	0.3262
LEVL D	6	9334	22500	0.4148
LEVL D	7	1701	22500	0.0756
LEVL D	8	2665	22500	0.1184

SNUBBER LOAD

SNB PIPE MODE-097 AS004 15000

		FORCE	DISP. X	DISP. Y	DISP. Z
THERMAL	CASE 1	0	-0.128	0.025	1.107
THERMAL	CASE 2	0	-0.045	0.304	1.434
THERMAL	CASE 3	0	0.184	0.352	0.220
WEIGHT	CASE 1	0	-0.012	0.006	-0.001
EXT. FOR	CASE 1	10700	0.049	0.030	0.041
EXT. FOR	CASE 2	606	0.009	0.002	0.007
RV2 I	CASE 1	900	0.015	0.004	0.010
RV2 SV11	CASE 1	360	0.006	0.001	0.004
RV2 I	CASE 2	3022	0.076	0.017	0.046
RV2 SV11	CASE 2	1209	0.031	0.007	0.018
RV2 I	CASE 3	1433	0.014	0.005	0.011
RV2 SV11	CASE 3	573	0.006	0.002	0.004
CHUG. I	CASE 1	391	0.004	0.001	0.003
CHUG. I	CASE 2	343	0.007	0.002	0.005
CHUG. I	CASE 3	730	0.004	0.003	0.004
A P I	CASE 1	4631	0.105	0.022	0.068
A P I	CASE 7	6913	0.101	0.026	0.070
A P D	CASE 1	-500	-0.004	-0.001	-0.001
A P D	CASE 3	-524	-0.003	-0.001	-0.000
SSEI	CASE 1	7560	0.221	0.042	0.141
SEISMIC	CASE 1	3780	0.110	0.021	0.070
SSEI	CASE 2	2934	0.087	0.017	0.058
SEISMIC	CASE 2	1467	0.044	0.008	0.029
SSEI	CASE 3	7756	0.168	0.033	0.103
SEISMIC	CASE 3	3978	0.084	0.017	0.052
COND I	CASE 2	4495	0.162	0.035	0.106
OBE D	CASE 1	-163	0.253	0.003	0.001
SSED	CASE 1	-326	0.507	0.007	0.002
OBE D	CASE 2	144	-0.002	0.024	0.003
SSED	CASE 2	289	-0.004	0.048	0.006
OBE D	CASE 3	375	-0.022	-0.008	0.191
SSED	CASE 3	750	-0.043	-0.017	0.382

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

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SMUBBER LOAD
SNB PIPE NOOE-097 AS004

SERVICE	COMB NO.	SUM	ALLOW	RATIO
LEVL B	1	12090.	15000.	0.8060
LEVL B	2	6607	15000.	0.4405
LEVL B	3	5660	15000.	0.3773
LEVL C	1	10738	19950.	0.5382
LEVL C	2	3577.	19950.	0.1793
LEVL D	1	15555.	22500.	0.6913
LEVL D	2	11809	22500.	0.5249
LEVL D	3	16167	22500.	0.7185
LEVL D	4	12604	22500.	0.5602
LEVL D	5	11271	22500.	0.5009
LEVL D	6	14006	22500.	0.6225
LEVL D	7	10717	22500.	0.4763
LEVL D	8	3516	22500.	0.1562

SNUBBER LOAD

SNB PIPE NODE=097 AS005 15000

	FORCE	DISP. X	DISP. Y	DISP. Z
THERMAL	0	-0.128	0.025	1.107
THERMAL	0	-0.049	0.304	1.434
THERMAL	0	0.184	0.352	0.220
WEIGHT	0	-0.012	0.006	-0.001
EXT. FOR	6419	0.049	0.030	0.041
EXT. FOR	290	0.009	0.002	0.007
RV2 I	666	0.015	0.004	0.010
RV2 SV11	266	0.006	0.001	0.004
RV2 I	2642	0.076	0.017	0.046
RV2 SV11	1057	0.031	0.007	0.018
RV2 I	1111	0.014	0.005	0.011
RV2 SV11	445	0.006	0.002	0.004
CHUG I	326	0.004	0.001	0.003
CHUG I	452	0.007	0.002	0.005
CHUG I	705	0.004	0.003	0.004
A P I	3543	0.105	0.022	0.068
A P I	5400	0.101	0.026	0.070
A P D	-217	-0.004	-0.001	-0.001
A P D	-172	-0.003	-0.001	-0.000
SSEI	5629	0.221	0.042	0.141
SEISMIC	2815	0.110	0.021	0.070
SSEI	2258	0.087	0.017	0.058
SEISMIC	1129	0.044	0.008	0.029
SSEI	4506	0.168	0.033	0.103
SEISMIC	2253	0.084	0.017	0.052
COND I	5784	0.162	0.035	0.106
OBE D	1022	0.253	0.003	0.001
SSED	2044	0.507	0.007	0.002
OBE D	63	-0.002	0.024	0.003
SSED	127	-0.004	0.048	0.006
OBE D	278	-0.022	-0.008	0.191
SSED	556	-0.043	-0.017	0.382

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

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SNRBER LOAD
SNB PIPE NODE=097 AS005

SERVICE	COMB NO.	SUM	ALLOW	RATIO
LEVL B	1	7524	15000	0.5016
LEVL B	2	4905	15000	0.3270
LEVL B	3	3935	15000	0.2623
LEVL C	1	6482	19950	0.3249
LEVL C	2	3077	19950	0.1542
LEVL D	1	10175	22500	0.4524
LEVL D	2	8430	22500	0.3747
LEVL D	3	11673	22500	0.5188
LEVL D	4	10184	22500	0.4526
LEVL D	5	7854	22500	0.3491
LEVL D	6	10167	22500	0.4519
LEVL D	7	6426	22500	0.2856
LEVL D	8	2957	22500	0.1314

SCUBER LOAD

SMB PIPE NODE-109 AS007 20000

	FORCE	DISP. X	DISP. Y	DISP. Z
THERMAL	0	-0.025	0.091	0.190
THERMAL	0	-0.019	0.222	0.325
THERMAL	0	0.071	0.287	9.087
WEIGHT	0	0.001	0.002	-0.004
EXT. FOR	2283	0.018	0.023	0.022
EXT. FOR	251	0.001	0.302	6.000
RV2 I	675	0.003	0.003	0.002
RV2 SV11	270	0.001	0.001	0.001
RV2 I	2062	0.011	0.016	0.012
RV2 SV11	825	0.064	0.006	0.005
RV2 I	768	0.002	0.005	0.007
RV2 SV11	307	0.001	0.002	0.003
CHUG I	324	0.001	0.001	0.001
CHUG I	239	0.001	0.002	0.002
CHUG I	363	0.001	0.003	0.005
A P I	3623	0.016	0.020	0.010
A P I	3946	0.015	0.025	6.031
A P D	-27	-0.000	-0.001	0.000
A P D	-24	-0.003	-0.001	0.000
SSEI	6019	0.031	0.040	0.005
SEISMIC	3010	0.015	0.020	0.003
SSEI	2406	0.012	0.016	0.002
SEISMIC	1203	0.006	0.008	0.001
SSEI	4449	0.023	0.031	0.005
SEISMIC	2225	0.011	0.015	0.002
COND I	4521	0.023	0.033	0.026
OBE D	-2199	0.224	0.001	-0.010
SSED	-4399	0.449	0.002	-0.021
OBE D	36	-0.001	0.022	0.000
SSED	72	-0.001	0.045	0.000
OBE D	184	-0.011	-0.005	0.146
SSED	367	-0.023	-0.010	0.293

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

NEBC-XXXX SH NO 57
REV NO 0

SNB PIPE LOAD
SNB PIPE NODE=109, AS007

SERVICE	COMB NO.	SUM	ALLOW	RATIO
LEVEL B	1	5053	20000	0.2527
LEVEL B	2	5062	20000	0.2531
LEVEL B	3	4515	20000	0.2258
LEVEL C	1	2346	26600	0.0882
LEVEL C	2	2364	26600	0.0889
LEVEL D	1	9317	30000	0.3106
LEVEL D	2	9322	30000	0.3107
LEVEL D	3	10342	30000	0.3447
LEVEL D	4	10346	30000	0.3449
LEVEL D	5	9020	30000	0.3007
LEVEL D	6	10489	30000	0.3496
LEVEL D	7	2297	30000	0.0766
LEVEL D	8	2315	30000	0.0772

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

NEOC-XXXX SH NO. 58
REV NO 0

SNUBBER LOAD

SNB PIPE NODE=134. BS001 15000.

	FORCE	DISP. X	DISP. Y	DISP. Z
THERMAL				
CASE 1	0	-0.272	0.687	0.915
CASE 2	0	-0.200	0.897	0.973
THERMAL				
CASE 3	0	0.239	0.594	0.169
WEIGHT				
CASE 1	0	-0.028	0.031	-0.002
EXT. FOR				
CASE 1	3926	0.025	0.051	0.046
EXT. FOR				
CASE 2	999	0.004	0.012	0.011
RV2 I				
CASE 1	1072	0.006	0.020	0.010
RV2 SV11				
CASE 1	429	0.002	0.008	0.004
RV2 I				
CASE 2	2363	0.031	0.050	0.027
RV2 SV11				
CASE 2	945	0.012	0.020	0.011
RV2 I				
CASE 3	1169	0.006	0.015	0.009
RV2 SV11				
CASE 3	467	0.002	0.006	0.004
CHUG I				
CASE 1	568	0.002	0.005	0.003
CHUG I				
CASE 2	305	0.001	0.004	0.002
CHUG I				
CASE 3	459	0.002	0.004	0.003
A P I				
CASE 1	4238	0.042	0.080	0.052
A P I				
CASE 7	5794	0.042	0.075	0.064
A P D				
CASE 1	133	0.004	-0.004	0.005
A P D				
CASE 3	6	0.003	-0.003	0.005
SSEI				
CASE 1	3796	0.082	0.101	0.399
SEISMIC				
CASE 1	1898	0.041	0.050	0.049
SSEI				
CASE 2	2471	0.027	0.052	0.036
SEISMIC				
CASE 2	1235	0.013	0.026	0.018
SSEI				
CASE 3	6734	0.081	0.116	0.107
SEISMIC				
CASE 3	3367	0.041	0.058	0.053
COND. I				
CASE 2	4515	0.039	0.084	0.043
OBE D				
CASE 1	-171	0.254	-0.003	0.002
SSED				
CASE 1	-342	0.508	-0.007	0.024
OBE D				
CASE 2	-513	0.004	0.017	0.001
SSED				
CASE 2	-1026	0.008	0.034	0.003
OBE D				
CASE 3	494	0.002	0.012	0.200
SSED				
CASE 3	989	0.004	0.023	0.399

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

MEDC-XXXX SH NO 59
REV NO 0

SNB SNUBSER LOAD
PIPE NODE=134 85001

SERVICE	COMB NO.	SUM	ALLOW	RATIO
LEVL B	1	5694	15000	0.3796
LEVL B	2	5610	15000	0.3340
LEVL B	3	4243	15000	0.2828
LEVL C	1	4005	19950	0.2008
LEVL C	2	2953	19950	0.1480
LEVL C	1	9168	22500	0.4075
LEVL D	2	8760	22500	0.3893
LEVL D	3	10189	22500	0.4528
LEVL D	4	9823	22500	0.4366
LEVL D	5	8307	22500	0.3692
LEVL D	6	10942	22500	0.4863
LEVL D	7	4051	22500	0.1801
LEVL D	8	3016	22500	0.1340

SNUBBER LOAD

SNB PIPE NDE-137 B5003 20000

		FORCE	DISP X	DISP Y	DISP Z
THERMAL	CASE 1	0	-0.046	0.580	0.889
THERMAL	CASE 2	0	0.031	0.993	1.055
THERMAL	CASE 3	0	0.264	0.436	0.184
WEIGHT	CASE 1	0	-0.039	0.007	-0.001
EXT. FOR	CASE 1	3818	0.008	0.077	0.047
EXT. FOR	CASE 2	435	0.001	0.009	0.010
RV2 I	CASE 1	4386	0.013	0.016	0.012
RV2 SV11	CASE 1	1754	0.003	0.006	0.005
RV2 I	CASE 2	2540	0.005	0.063	0.029
RV2 SV11	CASE 2	1016	0.002	0.025	0.012
RV2 I	CASE 3	1514	0.004	0.019	0.010
RV2 SV11	CASE 3	606	0.001	0.007	0.004
CHUG I	CASE 1	1059	0.003	0.004	0.004
CHUG I	CASE 2	412	0.001	0.005	0.002
CHUG I	CASE 3	458	0.001	0.005	0.003
A P I	CASE 1	15177	0.046	0.064	0.060
A P I	CASE 7	6423	0.015	0.123	0.071
A P D	CASE 1	-91	0.000	-0.002	0.006
A P D	CASE 3	-127	0.000	-0.002	0.005
SSEI	CASE 1	12938	0.040	0.077	0.109
SEISMIC	CASE 1	6463	0.020	0.038	0.054
SSEI	CASE 2	4285	0.012	0.055	0.040
SEISMIC	CASE 2	2142	0.004	0.028	0.020
SSEI	CASE 3	9085	0.024	0.151	0.118
SEISMIC	CASE 3	4542	0.012	0.075	0.059
COND I	CASE 2	4967	0.010	0.117	0.045
OBE D	CASE 1	350	0.253	0.004	0.001
SSED	CASE 1	701	0.506	0.007	0.003
OBE D	CASE 2	-360	-0.001	0.017	0.001
SSED	CASE 2	-721	-0.001	0.035	0.003
OBE D	CASE 3	-4	-0.002	0.016	0.000
SSED	CASE 3	-	-0.004	0.033	0.400

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

NEDC-XXXX SH NO. 61
REV. NO. 0

SNUBBER LOAD

SNB PIPE NODE=137 BS003

SERVICE	COMB NO.	SUM	ALLOW	RATIO
LEVEL B	1	9050	20000	0.4525
LEVEL B	2	9763	20000	0.4881
LEVEL B	3	8217	20000	0.4108
LEVEL C	1	4010	26600	0.1508
LEVEL C	2	5730	26600	0.2041
LEVEL D	1	16893	30000	0.5631
LEVEL D	2	17285	30000	0.5762
LEVEL D	3	17565	30000	0.5855
LEVEL D	4	17943	30000	0.5981
LEVEL D	5	16416	30000	0.5472
LEVEL D	6	23258	30000	0.7753
LEVEL D	7	3843	30000	0.1281
LEVEL D	8	5308	30000	0.1769

SNUBBER LOAD

SMB PIPE NODE+171 CS002 20000

	FORCE	DISP. X	DISP. Y	DISP. Z
THERMAL				
CASE 1	0	-0.253	0.525	0.670
CASE 2	0	-0.181	0.651	0.781
THERMAL				
CASE 3	0	0.222	0.567	0.128
HEIGHT				
CASE 1	0	-0.024	0.044	-0.004
CASE 2	8197	0.027	0.082	0.043
EXT. FOR				
CASE 1	517	0.005	0.005	0.012
EXT. FOR				
CASE 2	1320	0.004	0.007	0.006
RV2 I				
CASE 1	528	0.002	0.003	0.002
RV2 SV11				
CASE 2	9066	0.049	0.164	0.031
RV2 I				
CASE 2	3626	0.019	0.066	0.012
RV2 SV11				
CASE 3	1100	0.004	0.007	0.006
RV2 I				
CASE 3	440	0.002	0.003	0.002
CHUG I				
CASE 1	372	0.001	0.002	0.002
CHUG I				
CASE 2	411	0.001	0.002	0.001
CHUG I				
CASE 3	369	0.001	0.002	0.002
A P I				
CASE 1	8958	0.026	0.055	0.042
A P I				
CASE 7	7251	0.029	0.057	0.051
A P D				
CASE 1	-32	0.003	-0.003	0.002
A P D				
CASE 3	6	0.002	-0.002	0.002
SSEI				
CASE 1	16513	0.081	0.238	0.094
SEISMIC				
CASE 1	8257	0.040	0.119	0.047
SSEI				
CASE 2	5912	0.032	0.093	0.032
SEISMIC				
CASE 2	2956	0.016	0.049	0.016
SSEI				
CASE 3	16312	0.108	0.339	0.100
SEISMIC				
CASE 3	6156	0.054	0.170	0.050
COND I				
CASE 2	11503	0.031	0.099	0.035
ORE D				
CASE 1	599	0.255	-0.008	-0.001
SSED				
CASE 1	1197	0.510	-0.016	-0.001
ORE D				
CASE 2	72	0.000	0.017	0.004
SSED				
CASE 2	145	0.000	0.034	0.009
ORE D				
CASE 3	-915	-0.008	0.023	0.203
SSED				
CASE 3	-1829	-0.016	0.047	0.405

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

NEDC XXXX SH NO 63
REV NO 0

SNURBER LOAD
SMB PIPE MODE-171. CS002

SERVICE	COMB NO.	SUM	ALLOW	RATIO
LEVL B	1	14534	20000	0.7277
LEVL B	2	15158	20000	0.7579
LEVL B	3	12037	20000	0.6019
LEVL C	1	8224	26600	0.3092
LEVL C	2	9251	26600	0.3478
LEVL D	1	25419	30000	0.8473
LEVL D	2	25770	30000	0.8590
LEVL D	3	27893	30000	0.9298
LEVL D	4	28213	30000	0.9404
LEVL D	5	24058	30000	0.8019
LEVL D	6	26671	30000	0.8890
LEVL D	7	8213	30000	0.2738
LEVL D	8	9242	30000	0.3081

SNUBBER LOAD

SNB PIPE NODE-179 CS003 15000

	FORCE	DISP. X	DISP. Y	DISP. Z
THERMAL	0	-0.126	0.296	0.452
THERMAL	0	-0.009	0.367	0.692
THERMAL	0	0.160	0.480	0.103
WEIGHT	0	-0.017	0.040	-0.007
EXT FOR	3393	0.143	0.049	0.143
EXT FOR	593	0.009	0.005	0.007
RV2 I	725	0.017	0.005	0.018
RV2 SV11	290	0.007	0.002	0.007
RV2 I	3332	0.123	0.170	0.152
RV2 SV11	1133	0.049	0.068	0.061
RV2 I	122	0.015	0.006	0.015
RV2 SV11	289	0.006	0.032	0.006
CHUG I	257	0.004	0.002	0.005
CHUG I	279	0.004	0.002	0.005
CHUG I	259	0.004	0.002	0.005
A P I	3953	0.133	0.034	0.148
A P I	4623	0.130	0.040	0.131
A P D	-154	-0.002	-0.003	0.002
A P D	-125	-0.001	-0.002	0.001
SSEI	6435	0.268	0.237	0.310
SEISMIC	3217	0.134	0.119	0.155
SSEI	2645	0.091	0.101	0.106
SEISMIC	1322	0.045	0.050	0.053
SSEI	7246	0.269	0.352	0.321
SEISMIC	3623	0.135	0.176	0.161
COND I	5011	0.156	0.089	0.174
OBE D	-354	0.233	-0.008	-0.006
SSED	-709	0.471	-0.017	-0.012
OBE D	-188	-0.005	0.013	0.000
SSED	-377	-0.010	0.026	0.001
OBE D	-231	0.008	0.023	0.198
SSED	-462	0.016	0.047	0.396

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

:MEDC-XXXX : SH NO 65
:REV NO 0 :

SNUBBER LOAD

SNB PIPE NODE=178 CS003

SERVICE	COMB NO.	SUM	ALLOW	RATIO
LEVL B	1	6079	15000	0.4052
LEVL B	2	6131	15000	0.4087
LEVL B	3	5078	15000	0.3386
LEVL C	1	3424	19950	0.1717
LEVL C	2	3516	19950	0.1762
LEVL D	1	10653	22500	0.4734
LEVL D	2	10683	22500	0.4748
LEVL D	3	11763	22500	0.5228
LEVL D	4	11791	22500	0.5240
LEVL D	5	10105	22500	0.4491
LEVL D	6	11780	22500	0.5236
LEVL D	7	3444	22500	0.1531
LEVL D	8	3536	22500	0.1572

SNUBBER LOAD

SNB PIPE MODE=179 CS00# 20000

	FORCE	DISP. X	DISP. Y	DISP. Z
THERMAL				
THERMAL	0	-0.099	0.043	0.500
THERMAL	0	-0.100	0.145	0.830
THERMAL	0	0.145	0.424	0.121
WEIGHT	0	-0.011	0.021	-0.003
EXT. FOR	7977	0.176	0.022	0.131
EXT. FOR	119	0.014	0.000	0.004
RV2 I	705	0.027	0.002	0.012
RV2 SV11	262	0.011	0.001	0.005
RV2 I	2587	0.199	0.007	0.084
RV2 SV11	1075	0.079	0.003	0.034
RV2 I	541	0.024	0.002	0.011
RV2 SV11	256	0.009	0.001	0.004
CHUG I	252	0.007	0.001	0.003
CHUG I	387	0.007	0.001	0.003
CHUG I	324	0.007	0.001	0.004
A P I	2957	0.214	0.008	0.087
A P I	2603	0.201	0.007	0.082
A P D	47	-0.003	-0.000	0.001
A P D	35	-0.002	-0.000	0.001
SSEI	3753	0.427	0.010	0.178
SEISMIC	1882	0.213	0.005	0.089
SSEI	2975	0.144	0.008	0.064
SEISMIC	1488	0.072	0.004	0.032
SSEI	5633	0.422	0.016	0.184
SEISMIC	2817	0.211	0.008	0.092
COND I	3232	0.253	0.009	0.098
OBE D	-142	0.236	0.000	-0.005
SSD	-284	0.473	0.001	-0.010
OBE D	-183	-0.004	0.010	0.001
SSD	-366	-0.009	0.019	0.002
OBE D	999	0.017	-0.003	0.205
SSD	1998	0.934	-0.006	0.410

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

REC'D XXXX SH NO 67
REV NO 0

SMURDER LOAD
SNB PIPE NODE=179 CS004

SERVICE	COMB NO	SUM	ALLOW	RATIO
LEVEL B	1	8853	20000	0.4427
LEVEL B	2	4782	20000	0.2391
LEVEL B	3	3841	20000	0.1920
LEVEL C	1	7997	26500	0.3006
LEVEL C	2	2907	26500	0.1093
LEVEL D	1	11086	30000	0.3695
LEVEL D	2	8210	30000	0.2737
LEVEL D	3	11534	30000	0.3845
LEVEL D	4	8805	30000	0.2935
LEVEL D	5	7679	30000	0.2560
LEVEL D	6	8630	30000	0.2877
LEVEL D	7	7978	30000	0.2659
LEVEL D	8	2854	30000	0.0951

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

MEDC-XXXX SH NO 58
REV NO 0

SNUBBER LOAD

SNB PIPE NODE-184 CS006 20000

	FORCE	DISP X	DISP Y	DISP Z
THERMAL				
CASE 1	0	-0.092	-0.242	0.284
CASE 2	0	-0.217	-0.220	0.646
THERMAL				
CASE 3	0	0.117	0.363	0.119
WEIGHT				
CASE 1	0	0.005	0.003	0.000
EXT FOR				
CASE 1	13157	0.266	0.141	0.037
EXT FOR				
CASE 2	596	0.017	0.005	0.001
CASE 3	1324	0.034	0.014	0.004
RV2 I				
CASE 1	529	0.014	0.006	0.001
RV2 SV11				
CASE 2	6609	0.231	0.122	0.024
RV2 SV11				
CASE 2	2644	0.092	0.049	0.009
RV2 I				
CASE 3	1414	0.030	0.011	0.004
RV2 SV11				
CASE 3	566	0.012	0.004	0.001
CHUG I				
CASE 1	425	0.009	0.004	0.001
CHUG I				
CASE 2	524	0.008	0.004	0.001
CHUG I				
CASE 3	588	0.008	0.003	0.002
A P I				
CASE 1	7544	0.254	0.064	0.026
A P D				
CASE 7	7766	0.245	0.050	0.026
A P D				
CASE 1	-89	-0.003	0.001	0.000
A P D				
CASE 3	-61	-0.002	0.001	0.000
SSEI				
CASE 1	13424	0.502	0.175	0.052
SEISMIC				
CASE 1	6712	0.251	0.087	0.026
SSEI				
CASE 2	5690	0.173	0.088	0.018
SEISMIC				
CASE 2	2848	0.087	0.044	0.009
SST				
CASE 3	14192	0.500	0.252	0.052
SEISMIC				
CASE 3	7096	0.250	0.126	0.026
COND I				
CASE 2	8593	0.296	0.080	0.030
OBE D				
CASE 1	-143	0.226	0.012	0.001
SSED				
CASE 1	-286	0.452	0.024	0.002
OBE D				
CASE 2	73	-0.004	0.003	0.001
SSED				
CASE 2	145	-0.008	0.017	0.002
OBE D				
CASE 3	-1943	0.045	-0.047	0.180
SSED				
CASE 3	-3885	0.090	-0.094	0.359

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

NEDC-XXX SH. NO. 59
REV. NO. 0

SNUBBER LOAD
SNB PIPE NODE=184 CS006

SERVICE	COMB NO	SUM	ALLOW	RATIO
LEVEL B	1	16745	20000	0.8373
LEVEL B	2	12439	20000	0.6219
LEVEL B	3	10375	20000	0.5188
LEVEL C	1	13188	26500	0.4958
LEVEL C	2	6945	26500	0.2611
LEVEL D	1	24558	30000	0.8186
LEVEL D	2	21850	30000	0.7283
LEVEL D	3	26003	30000	0.8668
LEVEL D	4	23461	30000	0.7820
LEVEL D	5	20725	30000	0.6908
LEVEL D	6	23376	30000	0.7792
LEVEL D	7	13171	30000	0.4390
LEVEL D	8	6912	30000	0.2304

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

NEDC-XXXX SH NO 70
REV NO 0

SNUBBER LOAD

SNB PIPE NODE-214 DS002 15000

		FORCE	DISP. X	DISP. Y	DISP. Z
THERMAL	CASE 1	0	-0.385	0.442	0.437
THERMAL	CASE 2	0	-0.344	0.733	0.538
THERMAL	CASE 3	0	0.210	0.444	0.084
WEIGHT	CASE 1	0	-0.012	0.014	-0.005
EXT. FOR	CASE 1	1356	0.019	0.019	0.031
EXT. FOR	CASE 2	568	0.008	0.002	0.014
RV2 I	CASE 1	984	0.005	0.004	0.006
RV2 SVII	CASE 1	393	0.002	0.001	0.002
RV2 I	CASE 2	2168	0.012	0.008	0.020
RV2 SVII	CASE 1	867	0.005	0.003	0.008
RV2 I	CASE 2	1313	0.005	0.003	0.007
RV2 SVII	CASE 3	525	0.002	0.001	0.003
CHUG I	CASE 1	398	0.002	0.001	0.002
CHUG I	CASE 2	418	0.002	0.001	0.002
CHUG I	CASE 3	397	0.001	0.001	0.002
A P I	CASE 1	4465	0.027	0.016	0.032
A P I	CASE 7	7673	0.029	0.013	0.046
A P D	CASE 1	-31	0.001	-0.000	0.001
A P D	CASE 3	8	0.001	-0.000	0.002
SSEI	CASE 1	7514	0.047	0.012	0.062
SEISMIC	CASE 1	3757	0.023	0.006	0.031
SSEI	CASE 2	3571	0.019	0.009	0.026
SEISMIC	CASE 2	1786	0.009	0.005	0.013
SSEI	CASE 3	10260	0.049	0.016	0.071
SEISMIC	CASE 3	5130	0.024	0.008	0.036
COND I	CASE 2	4752	0.021	0.018	0.033
ORE D	CASE 1	208	0.252	0.003	-0.002
SSED	CASE 1	416	0.504	0.006	-0.005
ORE D	CASE 2	-42	-0.001	0.024	0.003
SSED	CASE 2	-84	-0.002	0.048	0.007
ORE D	CASE 3	-759	-0.002	0.001	0.199
SSED	CASE 3	-1517	-0.005	0.001	0.399

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

MEC-XXX
REV. NO. 0 SH. NO. 71

SNUBBER LOAD
SMB PIPE NODE=214 DS002

SERVICE	COMB NO.	SUM	ALLOW	RATIO
LEVL B	1	6788	15000	0.4525
LEVL B	2	7186	15000	0.4790
LEVL B	3	6676	15000	0.4450
LEVL C	1	1526	19950	0.0765
LEVL C	2	2807	19950	0.1407
LEVL D	1	13390	22500	0.5951
LEVL D	2	13596	22500	0.6043
LEVL D	3	14191	22500	0.6307
LEVL D	4	14385	22500	0.6393
LEVL D	5	13315	22500	0.5918
LEVL D	6	15993	22500	0.7108
LEVL D	7	1470	22500	0.0653
LEVL D	8	2777	22500	0.1234

SNURBER LOAD

SNB PIPE MODE-215 DS003 20000

	FORCE	DISP. X	DISP. Y	DISP. Z
THERMAL	0	-0.331	0.416	0.408
THERMAL	0	-0.271	0.740	0.529
THERMAL	0	0.218	0.423	0.085
WEIGHT	0	-0.012	0.009	-0.005
EXT. FOR	9345	0.018	0.027	0.031
EXT. FOR	469	0.009	0.001	0.013
RV2 I	1699	0.006	0.005	0.006
RV2 SV11	679	0.002	0.002	0.002
RV2 I	2753	0.012	0.008	0.021
RV2 SV11	1101	0.005	0.003	0.008
RV2 I	981	0.005	0.003	0.007
RV2 SV11	392	0.002	0.001	0.003
CHUG I	579	0.002	0.002	0.002
CHUG I	629	0.002	0.002	0.002
CHUG I	353	0.002	0.001	0.002
A P I	7511	0.029	0.020	0.033
A P I	4599	0.035	0.014	0.051
A P D	-85	0.001	-0.000	0.002
A P D	-47	0.001	-0.000	0.002
SSEI	4782	0.050	0.012	0.065
SEISMIC	2391	0.025	0.006	0.032
SSEI	4283	0.020	0.012	0.027
SEISMIC	2142	0.010	0.006	0.013
SSEI	6326	0.055	0.017	0.076
SEISMIC	3163	0.027	0.009	0.038
COND I	8342	0.024	0.023	0.035
OBE D	382	0.253	0.004	-0.003
SSED	764	0.506	0.009	-0.006
OBE D	-98	-0.001	0.024	0.003
SSED	-196	-0.002	0.048	0.007
OBE D	743	-0.002	0.001	0.199
SSED	1487	-0.005	0.002	0.399

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

MECC-XXX SH NO 73
REV NO 0

SNUBBER LOAD
SMB PIPE NODE-215 DS003

SERVICE	COMB NO.	SUM	ALLOW	RATIO
LEVEL B	1	10409	20000	0.5205
LEVEL B	2	5696	20000	0.2848
LEVEL B	3	4608	20000	0.2304
LEVEL C	1	9391	26500	0.3530
LEVEL C	2	3505	26500	0.1317
LEVEL D	1	13125	30000	0.4375
LEVEL D	2	9816	30000	0.3272
LEVEL D	3	15527	30000	0.5176
LEVEL D	4	12852	30000	0.4284
LEVEL D	5	9181	30000	0.3060
LEVEL D	6	12713	30000	0.4238
LEVEL D	7	9357	30000	0.3119
LEVEL D	8	3413	30000	0.1138

SNUBBER LOAD

SNB PIPE NODE+225 DS004 15000

		FORCE	DISP X	DISP Y	DISP Z
THERMAL	CASE 1	0	-0.198	0.333	0.273
THERMAL	CASE 2	0	-0.211	0.549	0.230
THERMAL	CASE 3	0	0.135	0.349	0.088
WEIGHT	CASE 1	0	-0.012	-0.003	-0.005
EXT. FOR	CASE 1	4917	0.028	0.059	0.031
EXT. FOR	CASE 2	685	0.007	0.005	0.007
RV2 I	CASE 1	873	0.014	0.010	0.010
RV2 SV11	CASE 1	349	0.006	0.004	0.004
RV2 I	CASE 2	1489	0.043	0.016	0.034
RV2 SV11	CASE 2	595	0.017	0.006	0.014
RV2 I	CASE 3	757	0.026	0.006	0.019
RV2 SV11	CASE 3	303	0.010	0.002	0.008
CHUG I	CASE 1	322	0.004	0.003	0.003
CHUG I	CASE 2	271	0.004	0.004	0.003
CHUG I	CASE 3	299	0.007	0.002	0.005
A P I	CASE 1	4086	0.086	0.044	0.063
A P I	CASE 7	4110	0.175	0.027	0.134
A P D	CASE 1	94	-0.000	-0.000	0.001
A P D	CASE 3	86	-0.000	-0.001	0.001
SSEI	CASE 1	5197	0.179	0.029	0.135
SEISMIC	CASE 1	2599	0.090	0.014	0.068
SSEI	CASE 2	2360	0.073	0.026	0.055
SEISMIC	CASE 2	1180	0.036	0.013	0.028
SSEI	CASE 3	5861	0.244	0.039	0.186
SEISMIC	CASE 3	2931	0.122	0.020	0.093
COND I	CASE 2	3863	0.097	0.050	0.075
OBE D	CASE 1	-1552	0.232	0.006	-0.006
SSED	CASE 1	-3103	0.464	0.012	-0.013
OBE D	CASE 2	146	-0.001	0.024	0.002
SSED	CASE 2	292	-0.003	0.048	0.004
OBE D	CASE 3	-2503	0.011	0.002	0.173
SSED	CASE 3	-5007	0.021	0.005	0.346

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

WEDC-XXXX SH NO 75
REV NO 0

SNB PIPE LOAD
SNB PIPE NODE-225 DS004

SERVICE	COMB NO	SUM	ALLOW	RATIO
LEVEL B	1	7043	15000	0.4695
LEVEL B	2	5383	15000	0.3589
LEVEL B	3	5089	15000	0.3393
LEVEL C	1	4944	19950	0.2478
LEVEL C	2	1954	19950	0.0979
LEVEL D	1	11232	22500	0.4992
LEVEL D	2	10273	22500	0.4566
LEVEL D	3	11867	22500	0.5274
LEVEL D	4	10963	22500	0.4873
LEVEL D	5	10109	22500	0.4493
LEVEL D	6	11633	22500	0.5170
LEVEL D	7	4964	22500	0.2206
LEVEL D	8	2005	22500	0.0891

TABLE C2 DETAILED EQUIPMENT INTERFACE RPV NOZZLE LOADS

NOZZLE LOAD

NOZL	MODE=002	FA	FB	FC	MA	MB	MC
THERMAL	CASE 1	6674	6650	78490	-8730402	-4075881	1132560
THERMAL	CASE 2	2505	15854	86599	-9131754	-4371079	1938905
THERMAL	CASE 3	-7809	-16278	-10366	-381013	1411533	-2071462
WEIGHT	CASE 1	688	-14451	327	-51372	-63625	-993689
EXT FOR	CASE 1	-2725	-6267	1605	-104883	-184656	-711104
EXT FOR	CASE 2	-13429	14507	387	-81177	37856	1092094
RV2 SV11	CASE 1	2539	4100	2614	44612	147823	253051
RV2 SV11	CASE 1	1016	1640	1046	17845	59129	101221
RV2 SV11	CASE 2	4527	10628	3051	149629	367474	1140067
RV2 SV11	CASE 2	1811	4251	1220	59852	146989	456027
RV2 SV11	CASE 3	3934	3975	1700	42904	129218	231311
RV2 SV11	CASE 3	1574	1590	680	17162	51687	92524
CHUG I	CASE 1	1507	1957	1714	18666	67512	108429
CHUG I	CASE 2	713	3076	1047	10191	67412	76877
CHUG I	CASE 3	3037	1870	1061	15557	71936	113281
A P I	CASE 1	13472	18559	13162	248902	610390	1472013
A P I	CASE 7	25107	18261	8697	260369	627360	1370013
A P D	CASE 1	-1032	1981	3959	-342412	-284524	88320
A P D	CASE 3	-2383	-25	-1027	93517	175080	-212556
SSEI	CASE 1	12357	22557	9556	432745	713341	2503320
SEISMIC	CASE 1	5179	11278	4778	216372	356671	1251660
SSEI	CASE 2	6026	10252	3322	154731	320811	888182
SEISMIC	CASE 2	3013	5126	1661	77365	160405	444091
SSEI	CASE 3	18256	23231	7474	445547	699857	2425657
SEISMIC	CASE 3	9128	11616	3737	222774	349928	1212829
COND I	CASE 2	7778	20805	7243	193908	675544	1569576
OBE D	CASE 1	478	318	1523	-147669	-106174	75017
SSED	CASE 1	955	637	3040	-295339	-212347	150034
OBE D	CASE 2	300	551	158	17339	-16509	76332
SSED	CASE 2	600	1101	316	34678	-33018	152665
OBE D	CASE 3	-763	-430	-773	67513	107353	-92401
SSED	CASE 3	-1526	-859	-1546	135026	214706	-184802

NOZZLE LOAD
MODE=002

	FA	FB	FC	MA	MB	MC	MR/HR	FLOW	RATIO
PRIMARY	1	13841	35282	7981	410031	733684	3311878	6023622	0.5493
PRIMARY	2	18321	36786	6628	381554	589768	36174	412000	0.0878
PRIMARY	3	12436	32553	6818	388167	619948	3249830	5985814	0.5419
SECOND	1	21684	51575	94770	9577227	5121763	37378	412000	0.0907
SECOND	2	20283	48847	93640	9557420	5011389	3062730	4109025	0.5013
SECOND	3	26156	53077	93457	9551481	4982333	33259	412000	0.0807
SECOND	4	26373	41692	15687	788201	1374117	9766491	23298000	0.4192
SECOND	5	23571	36236	13427	748587	1153369	107895	1040000	0.1037
SECOND	6	35317	44697	13050	736709	1095257	9564134	23298000	0.4105
PRIMARY	1	5132	21939	3109	159514	283576	105615	1040000	0.1016
PRIMARY	2	8087	27193	5246	215428	497056	9664442	23298000	0.4148
PRIMARY	1	23970	49231	13209	700539	1135984	107477	1040000	0.1033
PRIMARY	2	24709	50727	13833	712157	1199159	4691810	23298000	0.2014
PRIMARY	3	24983	54771	14930	728368	1325384	44545	1040000	0.0428
PRIMARY	4	25692	56068	15483	739516	1379498	4189236	23298000	0.1798
PRIMARY	5	27195	51384	12911	696595	1113867	38644	1040000	0.0372
PRIMARY	6	37214	57247	20503	785856	1430542	4551628	23298000	0.1954
PRIMARY	7	14391	30254	1979	184000	252131	1776494	11172000	0.1590
PRIMARY	8	15614	33319	4707	232506	481978	22158	694000	0.0319
							27694	694000	0.0399
							4937156	11172000	0.4419
							50972	694000	0.0734
							5074454	11172000	0.4582
							52579	694000	0.0758
							5296654	11172000	0.4741
							56769	694000	0.0811
							5422987	11172000	0.4854
							58166	694000	0.0838
							5032201	11172000	0.4504
							52981	694000	0.0763
							5511975	11172000	0.4934
							60807	694000	0.0876
							2381123	11172000	0.2131
							30319	694000	0.0437
							2730877	11172000	0.2444
							33650	694000	0.0485

NOZZLE LOAD

NOZL	MODE=003	FA	FB	FC	MA	MB	MC
THERMAL	CASE 1	6677	6650	78490	-8730352	-3136469	1053335
THERMAL	CASE 2	2509	15854	86599	-9131667	-3334606	1749565
THERMAL	CASE 3	-7810	-16278	-10365	-381106	1287476	-1876618
WEIGHT	CASE 1	688	-13408	327	-51417	-59707	-826974
EXT FOR	CASE 1	-2726	-6170	1690	-104468	-174396	-634548
EXT FOR	CASE 2	-13430	1483	385	-81128	42469	918758
RV2 I	CASE 1	2388	4007	2181	44613	124905	210107
RV2 SVII	CASE 1	955	1503	872	17845	49962	84043
RV2 I	CASE 2	4525	10427	2982	149674	337151	1021027
RV2 SVII	CASE 2	1810	4171	1193	59869	134861	408411
RV2 I	CASE 3	3268	3896	1577	42902	111881	190052
RV2 SVII	CASE 3	1307	1558	631	17161	44752	76021
CHUG I	CASE 1	1404	1899	1206	18665	55883	87009
CHUG I	CASE 2	712	1970	989	10191	56061	60902
CHUG I	CASE 3	2298	1822	927	15556	61573	92572
A P I	CASE 1	11949	18215	9046	248932	531559	1277203
A P I	CASE 7	19473	17945	7709	260392	545014	1178964
A P D	CASE 1	-1032	1981	3955	-342408	-237188	64622
A P D	CASE 3	-2383	-25	-1027	93507	162786	-212260
SSEI	CASE 1	11946	22395	7563	432843	642681	2244196
SEISMIC	CASE 1	5973	11197	3782	216421	321340	1122098
SSEI	CASE 2	6024	10092	3283	154755	287369	782956
SEISMIC	CASE 2	3012	5046	1642	77378	143684	391478
SSEI	CASE 3	15904	23026	7116	445635	629784	2168792
SEISMIC	CASE 3	7952	11513	3558	222817	314892	1084396
COND I	CASE 2	7775	18243	6974	193956	602846	1380681
ORE D	CASE 1	478	318	1523	-147666	-87946	71214
SSED	CASE 1	955	637	3046	-295332	-175893	142428
ORE D	CASE 2	300	551	158	17342	-14617	59741
SSED	CASE 2	500	1101	316	34685	-29234	139482
ORE D	CASE 3	763	-430	-773	67509	98104	-87262
SSED	CASE 3	-1526	-859	-1546	135017	196207	-174525

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

NEDE-XXXX SH NO 79
REV. NO. 0

NOZZLE LOAD
NOZZLE MODE=003

NOZZLE	FA	FB	FC	MA	MB	MC	MR/HR	ALLOW	RATIO
PRIMARY	1	12723	33983	7094	410173	2753378	2905850	6069353	0.4788
PRIMARY	2	17669	35614	5786	381651	2673644	34715	412090	0.0843
PRIMARY	3	11431	31337	6029	388146	2556403	2827306	5012141	0.4687
SECOND	1	20570	50275	93907	9577254	4634546	36081	412000	0.0876
SECOND	2	19283	47631	92880	9557317	4438088	2584852	5145731	0.4369
SECOND	3	25505	51906	92649	9551484	4560993	31911	412000	0.0775
SECOND	4	24144	41179	13962	788339	3861908	8627482	23295000	0.3788
SECOND	5	21570	35891	11908	748465	3468991	106318	1040000	0.1024
SECOND	6	34014	44440	11444	736799	3714802	106198	1040000	0.1004
PRIMARY	1	4586	20398	2806	159157	1476974	43482	1040000	0.1805
PRIMARY	2	7368	25686	4735	215512	1895903	3759381	23298000	0.1614
PRIMARY	1	21833	47794	11497	700647	4109593	37815	1040000	0.0364
PRIMARY	2	22518	49245	12076	712340	4217505	4034817	23298000	0.1732
PRIMARY	3	23045	52195	13370	728488	4385347	45990	1040000	0.0441
PRIMARY	4	23693	53487	13869	739708	4487133	1525300	11172000	0.365
PRIMARY	5	25433	50059	11225	696765	4173197	20591	694000	0.0297
PRIMARY	6	31573	55685	16448	786035	4484062	1988512	11172000	0.1780
PRIMARY	7	14392	29150	2060	183687	1943561	26119	694000	0.0376
PRIMARY	8	15427	32108	4363	232566	2229427	49158	11172000	0.3907

NOZZLE LOAD

NOZL	MODE-004	FA	FB	FC	MA	MB	MC
THERMAL	CASE 1	6673	6650	78490	-8730413	-1115483	881609
THERMAL	CASE 2	2504	15854	86599	-9131769	-1104818	1340823
THERMAL	CASE 3	-7809	-16278	-10365	-380597	1020577	-1457507
WEIGHT	CASE 1	688	-11969	327	-51369	-51279	-500274
EXT. FOR	CASE 1	-2726	-6104	1664	-104431	-131547	-477396
EXT. FOR	CASE 2	-13434	14270	435	-80922	47454	548739
RV2 I	CASE 1	2303	3907	1976	44612	80745	135686
RV2 SV11	CASE 1	921	1563	791	17845	32298	54274
RV2 I	CASE 2	4524	10292	2907	149622	277036	773135
RV2 SV11	CASE 2	1810	4117	1163	59849	110815	309254
RV2 I	CASE 3	2895	3811	1498	42904	77081	118912
RV2 SV11	CASE 3	1158	1524	599	17162	30833	47565
CHUG I	CASE 1	1284	1837	994	18666	34161	47137
CHUG I	CASE 2	712	1473	926	10191	33986	39054
CHUG I	CASE 3	1842	1769	851	15557	40973	52504
A P I	CASE 1	11056	17844	7435	248896	381309	906456
A P I	CASE 2	16100	17603	7193	260364	380654	815600
A P D	CASE 1	-1032	1981	3955	-342412	-135353	13587
A P D	CASE 3	-2383	-25	-1027	93520	136334	-211610
SSEI	CASE 1	11733	22213	5806	432728	505083	1703026
SEISMIC	CASE 1	5867	11106	3403	216364	252541	851513
SSEI	CASE 2	5022	9975	3240	154726	219718	583055
SEISMIC	CASE 2	3011	4987	1620	77363	109459	291528
SSEI	CASE 3	14643	22800	5942	445532	488978	1646032
SEISMIC	CASE 3	7322	11400	3471	222766	244489	823016
COND I	CASE 2	7772	17246	5581	193899	462350	1007938
ORE D	CASE 1	477	318	1523	-147670	-48733	63010
SSED	CASE 1	955	637	3046	-295340	-97467	126020
ORE D	CASE 2	300	551	158	17338	-10546	55564
SSED	CASE 2	600	1101	316	34677	-21092	111128
ORE D	CASE 3	-763	-420	-773	67514	78204	-76197
SSED	CASE 3	-1526	-859	-1546	135028	156408	-152393

NOZZLE LOAD
MODE-004

NOZZLE	FA	FB	FC	MA	MS	MC	MR/HR	ALLOW	RATIO
PRIMARY	1	12145	32314	6719	410034	1955508	2114234	5943008	0.3558
PRIMARY	2	17349	33919	5470	381477	1837634	33005	412000	0.0801
PRIMARY	3	10912	29730	5715	388013	1809978	34358	412000	0.3395
SECOND	1	19993	48606	93544	9577227	3417428	1945025	6031703	0.0834
SECOND	2	18765	46024	92580	9557296	3272387	50274	412000	0.3225
SECOND	3	25185	50211	92347	955427	3299942	7125801	23298000	0.0735
SECOND	4	22991	40718	13235	788177	2919295	105419	1040000	0.3059
SECOND	5	20535	35554	11307	748316	2629212	6998986	23298000	0.1014
SECOND	6	33375	43927	10841	736578	2684322	103389	1040000	0.3004
PRIMARY	1	4291	18746	2638	159073	924434	7032742	23298000	0.0994
PRIMARY	2	6989	23985	4471	215417	1298267	105115	1040000	0.3019
PRIMARY	1	20722	46008	10832	700440	2947055	3254323	23298000	0.1011
PRIMARY	2	21378	47425	11381	712129	3056685	3254323	23298000	0.1397
PRIMARY	3	22047	50014	12673	728270	3182347	42815	1040000	0.0412
PRIMARY	4	22664	51287	13143	739487	3256340	2914851	23298000	0.1251
PRIMARY	5	24539	48251	10584	696536	3000431	37309	1040000	0.0359
PRIMARY	6	28434	53694	14829	785829	3227575	3027079	23298000	0.1299
PRIMARY	7	14396	27490	2048	183484	1227613	45245	1040000	0.0435
PRIMARY	8	15339	30390	4173	232383	1465367	1034663	11172000	0.0926

END OF NOZZLE LOAD CALCULATION

TABLE C3 DETAILED EQUIPMENT INTERFACE MSIV END CONNECTION STRESSES

MSIV END STRESS

MODE=044

MAIN STEAM ISOLATION VALVE PIPE CONNECTION STRESSES

		FA	FB	FC	MA	MB	MC	MR	RATIO
THERMAL	CASE 1	-75195	4575	13980	-2015	-2485748	1285117		
THERMAL	CASE 2	-79313	2771	13826	303310	-2449654	958185		
THERMAL	CASE 3	7088	5380	3782	506419	-695910	1521175		
WEIGHT	CASE 1	-190	-13574	-174	-35541	31295	531353		
EXT. FOR	CASE 1	2732	1295	54	-119399	-290667	172416		
EXT. FOR	CASE 2	28150	318	628	-61251	-431307	30613		
RV2 1	CASE 1	6801	6033	2748	85323	105101	340908		
RV2 SV11	CASE 1	2720	2413	1099	34129	42040	136363		
RV2 1	CASE 2	7539	7285	7011	149930	346700	456400		
RV2 SV11	CASE 2	3016	2914	2804	59972	138680	182560		
RV2 1	CASE 3	8540	6621	5097	134879	206466	373033		
RV2 SV11	CASE 3	3416	2648	2039	53952	82587	149213		
CHUG. 1	CASE 1	2586	1378	826	22437	33795	73826		
CHUG. 1	CASE 2	1283	1200	829	19458	39154	54720		
CHUG. 1	CASE 3	2371	1469	1484	33243	56193	80355		
A P 1	CASE 1	24754	20566	12432	336811	593930	1168983		
A P 1	CASE 2	29986	22442	27459	626124	1359138	1371496		
A P D	CASE 1	-1063	129	-152	-1528	28899	23450		
A P D	CASE 2	2265	216	77	-11069	-14703	39422		
SSE1	CASE 1	17604	19142	13980	371098	953417	1272101		
SEISMIC	CASE 1	8802	9571	6990	185549	476708	626051		
SSE1	CASE 2	16490	17418	8703	255796	456844	928937		
SEISMIC	CASE 2	8245	8709	4352	127898	228422	464469		
SSE1	CASE 3	31669	27383	27162	655123	1461724	1802817		
SEISMIC	CASE 3	15835	13691	13581	327561	720862	901408		
COND. 1	CASE 2	10679	10751	14287	304318	752789	641264		
OBE D	CASE 1	-2171	-143	166	-13713	-28637	-26362		
SSED	CASE 1	-4343	-286	333	-27426	-57273	-52724		
OBE D	CASE 2	-782	-107	91	-1009	-16165	-19084		
SSED	CASE 2	-1564	-215	182	-2018	-32330	-38168		
OBE D	CASE 3	1215	-56	264	5651	-48757	-10067		
SSED	CASE 3	2430	-112	529	11301	-97513	-20133		

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

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MSIV END STRESS MAIN STEAM ISOLATION VALVE PIPE CONNECTION STRESSES
NODE:044

		STRS FA	RATIO	STRS TOR	RATIO	STRS MSC	RATIO
LEVL A	1	6900	0.532	364	0.028	4366	0.337
LEVL B	1	7073	0.204	644	0.019	6400	0.185
LEVL B	2	7105	0.205	670	0.019	6600	0.191
LEVL B	3	7194	0.208	635	0.018	6440	0.186
LEVL C	1	6930	0.201	450	0.013	4859	0.140
LEVL C	2	7617	0.203	515	0.015	5408	0.156
LEVL D	1	7244	0.209	906	0.026	8372	0.242
LEVL D	2	7261	0.210	920	0.027	8480	0.245
LEVL D	3	7255	0.210	943	0.027	8589	0.248
LEVL D	4	7271	0.210	956	0.028	8692	0.251
LEVL D	5	7318	0.211	901	0.026	8388	0.242
LEVL D	6	7376	0.213	1082	0.031	9418	0.272
LEVL D	7	7141	0.206	455	0.013	5064	0.146
LEVL D	8	7165	0.207	517	0.015	5574	0.161

MSIV END STRESS

NODE-056

MAIN STEAM ISOLATION VALVE PIPE CONNECTION STRESSES

	FA	FB	FC	MA	MB	MC	MR	RATIO
THERMAL								
THERMAL	-75195	4574	13980	-1975	-1479102	955748		
THERMAL	-79313	2770	13626	303349	-1454035	758776		
WEIGHT	7088	5380	3782	506430	-423591	113376		
EXT. FOR	-353	2764	-174	-35342	18738	586841		
EXT. FOR	1939	745	1770	-108871	-231471	117516		
CASE 1	27239	408	2276	12692	-272391	54345		
CASE 2	10589	2084	836	58242	171803	317191		
RV2 I	4236	834	335	23297	68721	126877		
RV2 SV11	8674	2582	2195	309935	350258	368994		
RV2 I	3470	1033	878	123974	140103	147598		
RV2 SV11	9106	2118	1462	121078	275353	310471		
RV2 I	3642	847	585	48431	110141	124188		
RV2 SV11	6800	619	271	15525	58055	82587		
CHUG. I	1710	389	332	20363	69408	56633		
CHUG. I	2932	457	448	29773	89366	67963		
A P I	56389	8016	4273	352537	808233	1187801		
A P I	32715	7864	8674	801194	1418475	1133021		
A P D	-1062	129	-152	-15281	17947	14182		
A P D	2265	216	77	-11069	-9183	23831		
SSEI	23641	7104	5510	519083	731616	1004549		
SEISMIC	11821	3552	2755	259541	365808	502275		
SSEI	18825	5013	2686	258864	375215	742407		
SEISMIC	9412	2507	1343	129432	187608	371203		
SSEI	33462	10215	8450	904238	1137436	1445704		
SEISMIC	16731	5107	4225	452119	568718	722852		
COND. I	13535	4379	5327	499581	979567	655189		
OBE D	-2171	-143	166	-13712	-16651	-16074		
SSD	-4343	-286	333	-27425	-33303	-32148		
OBE D	-782	-107	91	-1009	-9595	-11360		
SSD	-1564	-215	182	-2017	-19191	-22728		
OBE D	1215	-56	264	5652	-29712	-6018		
SSD	2430	-112	529	11303	-59425	-12036		

MSIV END STRESS

NODE-056

MAIN STEAM ISOLATION VALVE PIPE CONNECTION STRESSES

		STRS FA	RATIO	STRS TOR	RATIO	STRS MBC	RATIO
LEVEL A	1	6902	0.532	364	0.028	3067	0.236
LEVEL B	1	7095	0.205	733	0.021	4697	0.136
LEVEL B	2	7140	0.206	791	0.023	4930	0.143
LEVEL B	3	7203	0.208	726	0.021	4703	0.136
LEVEL C	1	6968	0.201	442	0.012	3473	0.100
LEVEL C	2	7056	0.204	593	0.017	4101	0.119
LEVEL D	1	7294	0.211	1091	0.032	6279	0.181
LEVEL D	2	7318	0.211	1122	0.032	6415	0.185
LEVEL D	3	7305	0.211	1164	0.034	6658	0.192
LEVEL D	4	7328	0.212	1193	0.034	6760	0.196
LEVEL D	5	7352	0.212	1087	0.031	6273	0.181
LEVEL D	6	7578	0.219	1296	0.037	7523	0.217
LEVEL D	7	7134	0.206	438	0.013	3522	0.102
LEVEL D	8	7172	0.207	592	0.017	4140	0.120

TABLE C-4 DETAILED EQUIPMENT INTERFACE: MSIV BONNET FLANGE MOMENTS

MSIV BONNET FLANGE MOMENT

MODE=047

MAIN STEAM ISOLATION VALVE BONNET FLANGE MOMENTS

	FA	FB	FC	MA	MB	MC	MR	RATIO
THERMAL	0	-0	0	0	0	-0		
THERMAL	0	-0	0	0	-0	-0		
THERMAL	0	0	0	0	0	0		
WEIGHT	-3524	-2606	-0	-0	0	-108568		
EXT. FOR	562	742	-1481	8867	70657	33575		
EXT. FOR	-527	-603	1539	-7769	-69034	-27640		
RV2 I	1858	2908	1816	12877	93558	141276		
RV2 SV11	743	1163	726	5151	37423	55510		
RV2 I	1888	2904	4577	27183	208983	138605		
RV2 SV11	755	1162	1831	10873	83593	55442		
RV2 I	1796	2121	3217	21604	157310	99598		
RV2 SV11	718	848	1287	8641	62924	39839		
CHUG. I	910	862	534	4330	29817	43715		
CHUG. I	365	496	599	4838	32832	24158		
CHUG. I	434	499	865	6795	45860	23638		
A P I	8581	11701	8320	58634	422798	578639		
A P I	6208	7453	17342	107523	807310	351738		
A P D	-0	-0	-0	-0	0	-0		
A P D	-0	-0	-0	-0	0	-0		
SSEI	5248	7461	8762	44399	374305	351856		
SEISMIC	2624	3731	4381	22200	187152	175928		
SSEI	4358	6715	5483	31039	239555	317343		
SEISMIC	2179	3358	2742	15519	119778	158671		
SSEI	7428	9033	16981	89870	730727	422417		
SEISMIC	3714	4516	8491	44935	365364	211209		
COND. I	3313	5215	9868	58493	493659	260173		
OBE D	-0	0	-0	-0	0	0		
SSED	-0	0	-0	-0	0	0		
OBE D	0	0	0	0	-0	0		
SSED	0	0	0	0	-0	0		
OBE D	0	0	-0	-0	0	0		
SSED	0	0	-0	-0	0	0		

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

NEDC-XXXX SH NO. 87
REV. NO 0

MSIV BONNET FLANGE MOMENT
MAIN STEAM ISOLATION VALVE BONNET FLANGE MOMENTS
NODE=047

		AXIAL F	RATIO	TORSION	RATIO	MOMENT	RATIO
LEVEL A	1	3524.	0.090	0.	0.000	108568	0.081
LEVEL B	1	8610.	0.082	53211.	0.015	608940	0.171
LEVEL B	2	9497.	0.091	54221.	0.018	711124	0.200
LEVEL B	3	8594.	0.082	53040.	0.015	608354	0.171
LEVEL C	1	4784.	0.046	12921.	0.004	197662	0.056
LEVEL C	2	5899.	0.066	38207.	0.011	441313	0.124
LEVEL D	1	13688.	0.131	105727.	0.030	1139287	0.320
LEVEL D	2	14159.	0.135	111674.	0.031	1194175	0.335
LEVEL D	3	14160.	0.135	125623.	0.035	1269974	0.357
LEVEL D	4	14612.	0.140	130668.	0.037	1319233	0.371
LEVEL D	5	13623.	0.130	105222.	0.030	1135641	0.319
LEVEL D	6	18149.	0.173	161278.	0.045	1623815	0.456
LEVEL D	7	4370.	0.042	11789.	0.003	181327	0.051
LEVEL D	8	6768.	0.065	37839.	0.011	438245	0.123

TABLE C5 DETAILED EQUIPMENT INTERFACE MSIV ACCELERATIONS

MSIV ACCELERATION

C. G. MSIV	LOAD TYPE	CASE	AX	AY	AZ
EXT. FOR	1	J 16359	0.27098	0.18996	
EXT. FOR	2	0.01949	0.13511	0.14717	
RV2 I	1	0.09821	0.43157	0.26378	
RV2 SV11	1	0.03928	0.17263	0.10631	
RV2 I	2	0.05779	0.50044	0.50910	
RV2 SV11	2	0.02311	0.20017	0.20364	
RV2 I	3	0.06459	0.45709	0.43485	
RV2 SV11	3	0.02584	0.18284	0.17394	
CHUG I	1	0.05147	0.10289	0.09510	
CHUG I	2	0.02819	0.08568	0.10436	
CHUG I	3	0.03361	0.10171	0.15067	
A P I	1	0.35879	1.51696	1.20639	
A P I	7	0.20682	1.37674	2.12944	
SSEI	1	0.10514	1.33766	0.78562	
SEISMIC	1	0.05257	0.66883	0.39331	
SSEI	2	0.09662	1.14525	0.48033	
SEISMIC	2	0.04831	0.57262	0.24017	
SSEI	3	0.12655	1.94011	1.48588	
SEISMIC	3	0.06327	0.97006	0.74294	
COND. I	2	0.17264	0.90864	1.42098	

LEVEL B	AH	AV
LEVEL B	1 0.91448	0.
LEVEL B	2 1.14434	0.
LEVEL B	3 0.89189	0.
LEVEL C	1 0.33175	0.
LEVEL C	2 0.76374	0.
LEVEL D	1 1.78991	0.
LEVEL D	2 1.91756	0.
LEVEL D	3 2.28157	0.
LEVEL D	4 2.35302	0.
LEVEL D	5 1.76515	0.
LEVEL D	6 3.04222	0.
LEVEL D	7 0.29135	0.
LEVEL D	8 0.74708	0.

1 3377*	0.	0.
1 53684	0.	0.
1 31700	0.	0.
0 31890	0.	0.
0 82091	0.	0.
2 63944	0.	0.
2 74570	0.	0.
2 78640	0.	0.
2 88725	0.	0.
2 62359	0.	0.
3 41354	0.	0.
0 30279	0.	0.
0 81479	0.	9.

FLANGE TOP

LOAD TYPE	CASE	AX	AY	AZ
EXT. FOR	1	0.17418	0.31035	0.20712
EXT. FOR	2	0.02087	0.13592	0.17428
RV2 I	1	0.15656	0.42178	0.19417
RV2 SV11	1	0.06266	0.16871	0.07767
RV2 I	2	0.11377	0.49666	0.35284
RV2 SV11	2	0.04531	0.19866	0.22114
RV2 I	3	0.07900	0.46010	0.37097
RV2 SV11	3	0.03160	0.18404	0.14877
CHUG I	1	0.07011	0.09635	0.06585
CHUG I	2	0.03894	0.08195	0.06551
CHUG I	3	0.03951	0.10120	0.11063
A. P. I	1	0.63924	1.44878	0.94411
A. P. I	7	0.27375	1.58960	2.12509
SS1	1	0.21861	1.34524	1.08132
SEISMIC	1	0.10920	0.67262	0.54066
SS1	2	0.18853	1.16231	0.52529
SEISMIC	2	0.09426	0.58116	0.31315
SS1	3	0.19143	1.95227	2.06451
SEISMIC	3	0.09572	0.97613	1.03231
COND. I	2	0.34352	0.81475	1.14863

[illegible]

MSIV ACCELERATION

TOP WORKS

MODE=049

LOAD TYPE	CASE	AX	AY	AZ
EXT FOR	1	0.20020	0.31817	0.25203
EXT TOR	2	0.03399	0.16203	0.26130
RV2 I	1	0.35715	0.51321	0.28251
RV2 SV1	1	0.14286	0.20528	0.11300
RV2 I	2	0.30592	0.59704	0.83980
RV2 SV1	2	0.12237	0.23882	0.33592
RV2 I	3	0.14515	0.54824	0.54152
RV2 SV1	3	0.05806	0.21930	0.21661
CHUG I	1	0.12495	0.11711	0.07534
CHUG I	2	0.05838	0.08904	0.08791
CHUG I	3	0.05255	0.11927	0.13406
A P I	1	1.54986	1.77218	1.34805
A P I	7	0.57402	1.67179	3.10972
SSEI	1	0.65863	1.64277	1.67072
SEISMIC	1	0.32932	0.82139	0.83536
SSEI	2	0.56991	1.46034	1.01883
SEISMIC	2	0.28496	0.73017	0.50941
SSEI	3	0.57351	2.31936	3.22832
SEISMIC	3	0.28676	1.15968	1.61416
COND I	2	0.83703	0.74104	1.66282

AH AV

LEVEL B	1	1.98452	0.	0.	0.
LEVEL B	2	2.27052	0.	0.	0.
LEVEL B	3	1.97589	0.	0.	0.
LEVEL C	1	0.39753	0.	0.	0.
LEVEL C	2	1.17259	0.	0.	0.
LEVEL D	1	3.93661	0.	0.	0.
LEVEL D	2	4.08826	0.	0.	0.
LEVEL D	3	4.34834	0.	0.	0.
LEVEL D	4	4.48609	0.	0.	0.
LEVEL D	5	3.92534	0.	0.	0.
LEVEL D	6	5.43644	0.	0.	0.
LEVEL D	7	0.41597	0.	0.	0.
LEVEL D	8	1.17897	0.	0.	0.

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

WEDC-XXXX SH NO 91
REV NO 0

MSIV ACCELERATION

C. G. OPTR. MODE=050.

LOAD TYPE	CASE	AX	AY	AZ
EXT. FOR	1	0.18690	0.31138	0.28414
EXT. FOR	2	0.04054	0.16726	0.28945
RV2 I	1	0.40280	0.54200	0.33241
RV2 SVII	1	0.16112	0.21680	0.13296
RV2 I	2	0.34844	0.62425	0.91887
RV2 SVII	2	0.13938	0.24970	0.36755
RV2 I	3	0.16585	0.56852	0.61347
RV2 SVII	3	0.06634	0.22741	0.24539
CHUG I	1	0.13837	0.12641	0.09348
CHUG I	2	0.07584	0.09270	0.10806
CHUG I	3	0.05687	0.12403	0.15846
A. P. I	1	1.75026	1.89278	1.56008
A. P. I	7	0.65669	1.94139	3.42772
SSEI	1	0.75512	1.71557	1.79011
SEISMIC	1	0.37756	0.85778	0.89505
SSEI	2	0.65670	1.53072	1.10353
SEISMIC	2	0.32835	0.76536	0.55176
SSEI	3	0.67151	2.40325	3.46783
SEISMIC	3	0.33576	1.20163	1.73391
COND. I	2	0.94317	0.76426	1.89931

	AH	AV	
LEVEL 8	1 2.14261	0	0
LEVEL 8	2 2.47335	0	0
LEVEL 8	3 2.13554	0	0
LEVEL C	1 0.43512	0	0
LEVEL C	2 1.30995	0	0
LEVEL D	1 4.25321	0	0
LEVEL D	2 4.42905	0	0
LEVEL D	3 4.74480	0	0
LEVEL D	4 4.90304	0	0
LEVEL D	5 4.24098	0	0
LEVEL D	6 5.96475	0	0
LEVEL D	7 0.44844	0	0
LEVEL D	8 1.31444	0	0

1.69187	0.	0.	0.
1.94220	0.	0.	0.
1.67136	0.	0.	0.
0.37002	0.	0.	0.
1.02305	0.	0.	0.
3.34646	0.	0.	0.
3.47973	0.	0.	0.
3.42680	0.	0.	0.
3.55706	0.	0.	0.
3.33015	0.	0.	0.
4.29110	0.	0.	0.
0.35346	0.	0.	0.
1.01718	0.	0.	0.

TABLE C6 DETAILED EQUIPMENT INTERFACE: SRV ACCELERATIONS

SRV ACCELERATION

IN FLANGE-A NDDE-020.

LOAD TYPE	CASE	AX	AY	AZ	LEVEL	COMB NO.	AH	AAH	RATIO	AV	AAV	RATIO
EXT. FOR	1	0.67487	0.44587	0.62101	LEVEL B	1	2.09525	10.00000	0.20963	1.37768	5.50000	0.25049
EXT. FOR	2	0.12906	0.18138	0.15648	LEVEL B	2	2.29263	10.00000	0.22926	1.62339	5.50000	0.29516
RV2 I	1	0.34572	0.32847	0.35398	LEVEL B	3	1.89587	10.00000	0.18959	1.31610	5.50000	0.23929
RV2 SV11	1	0.13829	0.13139	0.14159	LEVEL C	1	0.97068	10.00000	0.09707	0.49697	5.50000	0.09036
RV2 I	2	0.87212	0.86808	0.65958	LEVEL C	2	1.34317	10.00000	0.13432	0.99215	5.50000	0.18039
RV2 SV11	2	0.34885	0.34723	0.26383	LEVEL D	1	3.89292	10.00000	0.38929	2.65402	5.50000	0.48255
RV2 I	3	0.25911	0.27335	0.44203	LEVEL D	2	4.00209	10.00000	0.40021	2.78948	5.50000	0.50718
RV2 SV11	3	0.10364	0.10934	0.17681	LEVEL D	3	4.20098	10.00000	0.42010	2.96078	5.50000	0.53832
CHUG. I	1	0.14565	0.15364	0.15833	LEVEL D	4	4.30234	10.00000	0.43023	3.08279	5.50000	0.56051
CHUG. I	2	0.08725	0.09384	0.08909	LEVEL D	5	3.77542	10.00000	0.37754	2.61338	5.50000	0.47516
CHUG. I	3	0.11912	0.12559	0.15840	LEVEL D	6	4.72058	10.00000	0.47205	3.19900	5.50000	0.58164
A P I	1	1.51854	1.40245	1.28027	LEVEL D	7	0.93928	10.00000	0.09393	0.48135	5.50000	0.07752
A P I	7	1.27374	1.21238	1.58232	LEVEL D	8	1.32065	10.00000	0.13207	0.98441	5.50000	0.17898
SSEI	1	1.93460	1.75830	1.39387								
SEISMIC	1	0.96730	0.87915	0.69694								
SSEI	2	0.86801	0.82430	0.91040								
SEISMIC	2	0.43401	0.41215	0.45520								
SSEI	3	1.87836	1.73947	1.84840								
SEISMIC	3	0.93918	0.86974	0.92420								
COND. I	2	1.24502	1.33063	1.02196								

SRV ACCELERATION

IN FLANGE-B MODE-028

LOAD TYPE	CASE	AX	AY	AZ
EXT FOR	1	0.53519	0.35427	0.69593
EXT FOR	2	0.09614	0.17444	0.15045
RV2 I	1	0.37099	0.28467	0.24896
RV2 SV11	1	0.14840	0.11387	0.09959
RV2 I	2	0.64979	0.80636	0.46369
RV2 SV11	2	0.25992	0.32254	0.18548
RV2 I	3	0.34038	0.24388	0.31354
RV2 SV11	3	0.13615	0.09755	0.12542
CHUG I	1	0.17360	0.09531	0.11556
CHUG I	2	0.11005	0.09476	0.11814
CHUG I	3	0.14857	0.10997	0.14491
A P I	1	1.43171	1.21823	0.96430
A P I	7	1.41407	1.08747	1.31368
SSEI	1	1.62520	1.65106	1.16445
SEISMIC	1	0.61260	0.82553	0.58222
SSEI	2	0.66748	0.86239	0.59579
SEISMIC	2	0.33374	0.43120	0.29789
SSEI	3	1.77821	1.60784	1.43182
SEISMIC	3	0.88910	0.80392	0.71591
COND I	2	1.08398	1.30098	1.03659

LEVEL	COMB NO.	AH	AAH	RATIO	AV	AAV	RATIO
LEVEL B	1	1.80922	10.00000	0.18092	1.28032	5.50000	0.23279
LEVEL B	2	1.88507	10.00000	0.18851	1.51804	5.50000	0.27601
LEVEL B	3	1.59196	10.00000	0.15920	1.24264	5.50000	0.22593
LEVEL C	1	0.93992	10.00000	0.09399	0.39454	5.50000	0.07173
LEVEL C	2	1.07873	10.00000	0.10787	0.90603	5.50000	0.16473
LEVEL D	1	3.30050	10.00000	0.33005	2.49210	5.50000	0.45311
LEVEL D	2	3.34268	10.00000	0.33427	2.62217	5.50000	0.47676
LEVEL D	3	3.60973	10.00000	0.36097	2.80587	5.50000	0.51016
LEVEL D	4	3.64834	10.00000	0.36483	2.92201	5.50000	0.53127
LEVEL D	5	3.16887	10.00000	0.31689	2.46684	5.50000	0.44852
LEVEL D	6	4.08838	10.00000	0.40884	2.95323	5.50000	0.53695
LEVEL D	7	0.89593	10.00000	0.08959	0.39489	5.50000	0.07180
LEVEL D	8	1.04063	10.00000	0.10406	0.90618	5.50000	0.16476

SRV ACCELERATION

IN FLANGE-C NODE-054

LOAD TYPE	CASE	AX	AY	AZ
EXT FOR	1	0.72592	0.29319	0.78614
EXT FOR	2	0.08469	0.12668	0.16305
RV2 I	1	0.39660	0.32787	0.27537
RV2 SV11	1	0.15864	0.13115	0.11015
RV2 I	2	0.48382	0.60564	0.45322
RV2 SV11	2	0.19353	0.24225	0.18129
RV2 I	3	0.34989	0.22953	0.31002
RV2 SV11	3	0.13596	0.09181	0.12401
CHUG I	1	0.19038	0.13732	0.12770
CHUG I	2	0.11559	0.10341	0.14293
CHUG I	3	0.16249	0.11019	0.15114
A P I	1	1.38564	1.31865	1.05533
A P I	7	1.32455	0.98317	1.30650
SSEI	1	1.35132	1.27430	1.11157
SEISMIC	1	0.67566	0.63715	0.55579
SSEI	2	0.75651	0.73341	0.59689
SEISMIC	2	0.37826	0.36671	0.29845
SSEI	3	1.51539	1.28090	1.37883
SEISMIC	3	0.75769	0.64045	0.68942
COND. I	2	0.87200	1.18407	1.08506

LEVEL	COMB NO.	AH	AAH	RATIO	AV	AAV	RATIO
LEVL B	1	1.78660	10.00000	0.17866	1.01812	5.50000	0.18511
LEVL B	2	1.71409	10.00000	0.17141	1.21556	5.50000	0.22101
LEVL B	3	1.44247	10.00000	0.14425	0.98319	5.50000	0.17876
LEVL C	1	1.13162	10.00000	0.11316	0.35729	5.50000	0.06496
LEVL C	2	1.01328	10.00000	0.10133	0.75410	5.50000	0.13711
LEVL D	1	3.07707	10.00000	0.30771	1.98244	5.50000	0.36044
LEVL D	2	3.03555	10.00000	0.30355	2.09072	5.50000	0.38013
LEVL D	3	3.35718	10.00000	0.33572	2.30909	5.50000	0.41820
LEVL D	4	3.31916	10.00000	0.33192	2.39404	5.50000	0.43528
LEVL D	5	2.86733	10.00000	0.28673	1.95409	5.50000	0.35529
LEVL D	6	3.83183	10.00000	0.38318	2.55106	5.50000	0.46383
LEVL D	7	1.08570	10.00000	0.10857	0.31939	5.50000	0.05807
LEVL D	8	0.56172	10.00000	0.05617	0.73690	5.50000	0.13398

SRV ACCELERATION

IN FLANGE-D NODE=070.

LOAD TYPE	CASE	AX	AY	AZ
EXT. FOR	1	0.58625	0.27658	0.71752
EXT. FOR	2	0.08240	0.09518	0.17054
RV2 I	1	0.36714	0.41760	0.29528
RV2 SV11	1	0.14686	0.16704	0.11811
RV2 I	2	0.45745	0.45435	0.46228
RV2 SV11	2	0.18238	0.18174	0.18491
RV2 I	3	0.31657	0.25819	0.30689
RV2 SV11	3	0.12663	0.10327	0.12276
CHUG. I	1	0.17358	0.20933	0.13300
CHUG. I	2	0.11183	0.17786	0.11977
CHUG. I	3	0.14483	0.13875	0.15725
A P I	1	1.25978	1.56048	1.16382
A P I	7	1.20901	0.99535	1.32958
SSEI	1	1.05992	0.93312	1.15223
SEISMIC	1	0.52996	0.46656	0.57612
SSEI	2	0.79955	0.57918	0.62730
SEISMIC	2	0.39978	0.28959	0.31365
SSEI	3	1.26472	1.01887	1.39296
SEISMIC	3	0.63236	0.50944	0.69648
COND. I	2	0.79222	1.28204	1.02623

LEVEL	COMB NO.	AH	AAH	RATIO	AV	AAV	RATIO
LEVEL B	1	1.61693	10.00000	0.16169	0.79847	5.50000	0.14518
LEVEL B	2	1.61099	10.00000	0.16110	1.00426	5.50000	0.18259
LEVEL B	3	1.33858	10.00000	0.13386	0.75506	5.50000	0.13728
LEVEL C	1	0.98939	10.00000	0.09894	0.41376	5.50000	0.07523
LEVEL C	2	0.97966	10.00000	0.09797	0.73632	5.50000	0.13388
LEVEL D	1	2.82889	10.00000	0.28289	1.55417	5.50000	0.28258
LEVEL D	2	2.82550	10.00000	0.28255	1.66926	5.50000	0.30350
LEVEL D	3	3.09241	10.00000	0.30924	1.99107	5.50000	0.36201
LEVEL D	4	3.08931	10.00000	0.30893	2.08215	5.50000	0.37857
LEVEL D	5	2.65699	10.00000	0.26570	1.50110	5.50000	0.27293
LEVEL D	6	3.63246	10.00000	0.36325	2.38119	5.50000	0.43294
LEVEL D	7	0.94572	10.00000	0.09457	0.29249	5.50000	0.05318
LEVEL D	8	0.93554	10.00000	0.09355	0.67568	5.50000	0.12285

SRV ACCELERATION

C G SRV-A NODE=021

LOAD TYPE	CASE	AX	AY	AZ
EXT FOR	1	0.86165	0.45064	0.70357
EXT FOR	2	0.14197	0.18181	0.17749
RV2 I	1	0.42502	0.33215	0.40232
RV2 SV11	1	0.17001	0.13286	0.15033
RV2 I	2	0.93326	0.86993	0.72308
RV2 SV11	2	0.37330	0.34797	0.28923
RV2 I	3	0.24123	0.27676	0.50439
RV2 SV11	3	0.09649	0.11071	0.20175
CHUG I	1	0.15005	0.15606	0.15673
CHUG I	2	0.11081	0.09512	0.10034
CHUG I	3	0.09117	0.12772	0.14397
A P I	1	1.77175	1.41265	1.52593
A P I	7	1.18155	1.22280	1.79612
SSEI	1	2.18041	1.76151	1.57094
SEISMIC	1	1.09020	0.88076	0.78547
SSEI	2	1.11183	0.82636	1.19347
SEISMIC	2	0.55591	0.41318	0.59674
SSEI	3	2.07125	1.74382	2.24227
SEISMIC	3	1.03563	0.87191	1.12114
COND I	2	1.23869	1.33618	0.97356

LEVEL	COMB NO	AH	AAH	RATIO	AV	AAV	RATIO
LEVEL B	1	2.45715	10.00000	0.24571	1.38194	5.50000	0.25126
LEVEL B	2	2.61707	10.00000	0.26171	1.52800	5.50000	0.29600
LEVEL B	3	2.20267	10.00000	0.22027	1.31899	5.50000	0.23982
LEVEL C	1	1.15582	10.00000	0.11558	0.50278	5.50000	0.09141
LEVEL C	2	1.46540	10.00000	0.14654	0.99670	5.50000	0.18122
LEVEL D	1	4.53170	10.00000	0.45317	2.66073	5.50000	0.48377
LEVEL D	2	4.62037	10.00000	0.46204	2.79545	5.50000	0.50844
LEVEL D	3	4.78749	10.00000	0.47875	2.96903	5.50000	0.53982
LEVEL D	4	4.87150	10.00000	0.48715	3.09124	5.50000	0.56204
LEVEL D	5	4.38772	10.00000	0.43877	2.61911	5.50000	0.47620
LEVEL D	6	5.41203	10.00000	0.54120	3.21209	5.50000	0.58402
LEVEL D	7	1.13539	10.00000	0.11354	0.48593	5.50000	0.08835
LEVEL D	8	1.44934	10.00000	0.14493	0.98831	5.50000	0.17969

SRV ACCELERATION

C. G. SRV-2 MODE-029

LOAD TYPE	CASE	AX	AY	AZ	LEVEL	COMB NO.	AH	AAH	RATIO	AV	AAV	RATIO
EXT. FOR	1	0.56241	0.35495	0.97927	LEVEL B	1	2.28969	10.00000	0.22897	1.28328	5.50000	0.23332
EXT. FOR	2	0.13874	0.17491	0.19254	LEVEL B	2	2.27766	10.00000	0.22777	1.52198	5.50000	0.27672
RV2 I	1	0.42780	0.28602	0.29214	LEVEL B	3	1.97515	10.00000	0.19752	1.24556	5.50000	0.22647
RV2 SV11	1	0.17112	0.11441	0.11686	LEVEL C	1	1.22781	10.00000	0.12278	0.39603	5.50000	0.07201
RV2 I	2	0.72102	0.50843	0.53603	LEVEL C	2	1.20523	10.00000	0.12052	0.90909	5.50000	0.16529
RV2 SV11	2	0.28841	0.32337	0.21441	LEVEL D	1	4.10940	10.00000	0.41094	2.49803	5.50000	0.45419
RV2 I	3	0.39909	0.24541	0.32863	LEVEL D	2	4.10271	10.00000	0.41027	2.62864	5.50000	0.47793
RV2 SV11	3	0.15964	0.09816	0.13145	LEVEL D	3	4.38811	10.00000	0.43881	2.81414	5.50000	0.51166
CHUG I	1	0.6573	0.09590	0.12299	LEVEL D	4	4.38185	10.00000	0.43819	2.33069	5.50000	0.53285
CHUG I	2	0.12963	0.09658	0.12483	LEVEL D	5	3.92886	10.00000	0.39289	2.47263	5.50000	0.44957
CHUG I	3	0.13801	0.11104	0.12410	LEVEL D	6	4.94196	10.00000	0.49420	2.96172	5.50000	0.53849
A. P. I.	1	1.68850	1.22255	1.21432	LEVEL D	7	1.20585	10.00000	0.12058	0.39571	5.50000	0.07195
A. P. I.	7	1.64123	1.09261	1.42270	LEVEL D	8	1.18285	10.00000	0.11829	0.90894	5.50000	0.16526
SSEI	1	1.93813	1.65496	1.42570								
SEISMIC	1	0.96906	0.82748	0.71285								
SSEI	2	0.93033	0.86514	0.80445								
SEISMIC	2	0.46517	0.43257	0.40223								
SSEI	3	2.23813	1.61120	1.75187								
SEISMIC	3	1.11907	0.80560	0.87590								
COND. I	2	1.10642	1.30769	1.11981								

SRV ACCELERATION

C. G. SRV-C MODE=065

LOAD TYPE	CASE	AX	AY	AZ
EXT. FOR	1	1.09337	0.30396	1.03891
EXT. FOR	2	0.11135	0.12723	0.20239
RV2 I	1	0.44979	0.33022	0.29317
RV2 SV11	1	0.17991	0.13209	0.11727
RV2 I	2	0.64729	0.60789	0.51361
RV2 SV11	2	0.25892	0.24316	0.20544
RV2 I	3	0.40058	0.23181	0.32676
RV2 SV11	3	0.16023	0.09272	0.13070
CHUG. I	1	0.18155	0.13871	0.11936
CHUG. I	2	0.12813	0.10458	0.14169
CHUG. I	3	0.14372	0.11157	0.12174
A P I	1	1.65524	1.32711	1.16986
A P I	7	1.54350	0.99102	1.34876
SSEI	1	1.74980	1.27753	1.33794
SEISMIC	1	0.67490	0.63882	0.66897
SSEI	2	1.19644	0.73655	0.81103
SEISMIC	2	0.59622	0.36828	0.40551
SSEI	3	2.00234	1.28539	1.69100
SEISMIC	3	1.00117	0.64269	0.84550
COND :	2	0.97927	1.19181	1.10727

LEVEL	COMB NO.	AH	AAH	RATIO	AV	AAV	RATIO
LEVEL B	1	2.39318	10.00000	0.23932	1.02425	5.50000	0.18523
LEVEL B	2	2.16582	10.00000	0.21658	1.22028	5.50000	0.22187
LEVEL B	3	1.87239	10.00000	0.18724	0.98638	5.50000	0.17934
LEVEL C	1	1.54725	10.00000	0.15472	0.36745	5.50000	0.06681
LEVEL C	2	1.16509	10.00000	0.11651	0.75825	5.50000	0.13786
LEVEL D	1	4.02542	10.00000	0.40254	1.99050	5.50000	0.36191
LEVEL D	2	3.89454	10.00000	0.38945	2.09810	5.50000	0.38147
LEVEL D	3	4.27432	10.00000	0.42743	2.31082	5.50000	0.42015
LEVEL D	4	4.15130	10.00000	0.41513	2.40412	5.50000	0.43711
LEVEL D	5	3.72335	10.00000	0.37234	1.96042	5.50000	0.35644
LEVEL D	6	4.70318	10.00000	0.47032	2.56328	5.50000	0.46505
LEVEL D	7	1.52583	10.00000	0.15258	0.32951	5.50000	0.05991
LEVEL D	8	1.13650	10.00000	0.11365	0.74061	5.50000	0.13466

SRV ACCELERATION

C.G. SRV-D NODE-071

LOAD TYPE	CASE	AX	AY	AZ
EXT FOR	1	0.70840	0.27819	0.86033
EXT FOR	2	0.10291	0.09611	0.20443
RV2 I	1	0.44746	0.42134	0.32700
RV2 SV11	1	0.17698	0.16854	0.13080
RV2 I	2	0.66448	0.45740	0.51717
RV2 SV11	2	0.26579	0.18296	0.20687
RV2 I	3	0.39232	0.26229	0.30133
RV2 SV11	3	0.15693	0.10492	0.12053
CHUG. I	1	0.17658	0.21165	0.12201
CHUG. I	2	0.12244	0.18104	0.11130
CHUG. I	3	0.13908	0.14128	0.11627
A P I	1	1.63180	1.57238	1.34823
A P I	7	1.53574	1.00867	1.32710
SSEI	1	1.46855	0.93661	1.44144
SEISMIC	1	0.73428	0.46831	0.72072
SSEI	2	1.28706	0.58237	0.81369
SEISMIC	2	0.64353	0.29118	0.40685
SSEI	3	1.80090	1.02520	1.71838
SEISMIC	3	0.90045	0.51260	0.85919
COND. I	2	0.97180	1.29609	1.06780

LEVEL	COMB NO.	AH	AAH	RATIO	AV	AAV	RATIO
LEVL B	1	2.10458	10.00000	0.21046	0.80265	5.50000	0.14594
LEVL B	2	2.10906	10.00000	0.21091	1.01114	5.50000	0.18384
LEVL B	3	1.79990	10.00000	0.17999	0.75901	5.50000	0.13800
LEVL C	1	1.16116	10.00000	0.11612	0.41824	5.50000	0.07604
LEVL C	2	1.16926	10.00000	0.11693	0.74369	5.50000	0.13522
LEVL D	1	3.75465	10.00000	0.37546	1.56280	5.50000	0.28415
LEVL D	2	3.75716	10.00000	0.37572	1.67543	5.50000	0.30535
LEVL D	3	4.00945	10.00000	0.40094	2.00616	5.50000	0.36476
LEVL D	4	4.01180	10.00000	0.40118	2.09829	5.50000	0.38151
LEVL D	5	3.57791	10.00000	0.35779	1.50886	5.50000	0.27434
LEVL D	6	4.62052	10.00000	0.46205	2.39942	5.50000	0.43626
LEVL D	7	1.13771	10.00000	0.11377	0.29433	5.50000	0.05351
LEVL D	8	1.14597	10.00000	0.11460	0.68175	5.50000	0.12395

TABLE C7 DETAILED EQUIPMENT INTERFACE VACUUM BREAKER ACCELERATIONS

VAC BRKR ACCE

VB SRVCL-A NODE=119

LOAD TYPE	CASE	AX	AY	AZ
EXT. FOR	1	2.61570	6.02481	3.76387
EXT. FOR	2	0.27224	0.05075	0.12067
RV2 I	1	0.56492	0.45603	0.76612
RV2 SV11	1	0.26597	0.18241	0.30645
RV2 I	2	2.31507	1.60793	1.11860
RV2 SV11	2	0.92603	0.64317	0.44744
RV2 I	3	0.91341	0.91573	0.91941
RV2 SV11	3	0.36536	0.36629	0.36777
CHUG. I	1	0.24994	0.28024	0.41126
CHUG. I	2	0.24750	0.36422	0.28023
CHUG. I	3	0.42339	0.66074	0.50251
A P. I	1	3.80295	1.77219	3.18784
A P. I	7	4.66785	4.00554	4.16069
SSEI	1	7.13729	0.68978	2.86198
SEISMIC	1	3.56865	0.34489	1.43099
SSEI	2	2.89298	0.26287	1.11627
SEISMIC	2	1.44649	0.13144	0.55813
SSEI	3	5.00501	0.65526	2.12300
SEISMIC	3	2.50250	0.32763	1.06150
COND. I	2	5.41186	3.55853	2.70298

	AH	AV	
LEVEL B	1 6.75165	0	0
LEVEL B	2 5.82199	0	0
LEVEL B	3 4.96637	0	0
LEVEL C	1 4.67031	0	0
LEVEL C	2 3.18161	0	0
LEVEL D	1 10.95976	0	0
LEVEL D	2 10.41284	0	0
LEVEL D	3 12.48629	0	0
LEVEL D	4 12.00909	0	0
LEVEL D	5 9.91933	0	0
LEVEL D	6 12.72908	0	0
LEVEL D	7 4.59318	0	0
LEVEL D	8 3.06727	0	0
		6.04499	0
		1.96864	0
		0.49613	0
		6.07833	0
		2.06875	0
		6.15795	0
		2.29216	0
		7.06657	0
		4.1557	0
		0.98835	0
		4.48991	0
		6.02502	0
		1.90645	0

VAC BRKR ACCE

VB SRVDL-A NODE=122

LOAD TYPE	CASE	AX	AY	AZ
EXT. FOR	1	2.02023	2.72169	2.73960
EXT. FOR	2	0.03879	0.02219	0.02973
RV2 I	1	1.19828	0.19259	0.29713
RV2 SV11	1	0.47931	0.07704	0.11885
RV2 I	2	0.43445	0.74399	0.92286
RV2 SV11	2	0.17378	0.29759	0.36915
RV2 I	3	0.54443	0.46932	0.58319
RV2 SV11	3	0.21777	0.18773	0.23328
CHUG I	1	0.56838	0.11941	0.17977
CHUG I	2	0.37628	0.16521	0.21190
CHUG I	3	0.30479	0.34804	0.43495
A.P. I	1	4.19351	0.78118	1.05516
A.P. I	7	2.04509	2.01730	2.48127
SSEI	1	0.56821	0.24818	0.39900
SEISMIC	1	0.28411	0.12409	0.19950
SSEI	2	0.14130	0.09470	0.17303
SEISMIC	2	0.07065	0.04735	0.08652
SSEI	3	0.43381	0.21535	0.30232
SEISMIC	3	0.21690	0.10768	0.15116
COND I	2	1.78304	1.62333	2.03063

	AH	AV	
LEVL B	1 3.43360	0	0
LEVL B	2 1.84499	0	0
LEVL B	3 0.45308	0	0
LEVL C	1 3.54039	0	0
LEVL C	2 2.03684	0	0
LEVL D	1 3.65320	0	0
LEVL D	2 2.2717	0	0
LEVL D	3 4.43858	0	0
LEVL D	4 3.36383	0	0
LEVL D	5 0.90219	0	0
LEVL D	6 5.46348	0	0
LEVL D	7 3.40428	0	0
LEVL D	8 1.78983	0	0
		2.72705	0
		0.51637	0
		0.17241	0
		2.75141	0
		0.98669	0
		2.77258	0
		1.04427	0
		3.18845	0
		1.88931	0
		0.34268	0
		2.19013	0
		2.72178	0
		0.90076	0

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

NEEC-XXXX SH. NO. 102
REV. NO. 0

VAC BRKR ACCE

VB SRVDL-B MODE=159.

LOAD TYPE	CASE	AX	AY	AZ
EXT. FOR	1	1.82742	4.31122	1.86899
EXT. FOR	2	0.13051	0.17630	0.31123
RV2 I	1	2.22408	0.66319	1.17994
RV2 SV11	1	0.88963	0.26527	0.47198
RV2 I	2	1.08383	2.20874	0.84483
RV2 SV11	2	0.43353	0.83350	0.33793
RV2 I	3	1.09183	0.97881	1.01436
RV2 SV11	3	0.43673	0.39152	0.40575
CHUG I	1	0.80226	0.35292	0.63945
CHUG I	2	0.69082	0.29990	0.27470
CHUG I	3	0.58611	0.37394	0.54231
A P I	1	7.62229	2.75234	3.85518
A P I	7	3.52864	5.89564	3.57126
SSEI	1	5.79046	2.64100	2.53852
SEISMIC	1	2.89523	1.32050	1.31926
SSEI	2	1.70789	2.00328	1.25744
SEISMIC	2	0.85395	1.00164	0.64872
SSEI	3	3.06681	6.39325	3.08648
SEISMIC	3	1.53340	3.19662	1.54324
COND. I	2	3.40015	4.47601	1.78644

	AH	AV	
LEVL B	1	4.77895	0.
LEVL B	2	5.14335	0.
LEVL B	3	4.01493	0.
LEVL C	1	3.01255	0.
LEVL C	2	3.56245	0.
LEVL D	1	8.54977	0.
LEVL D	2	8.75867	0.
LEVL D	3	9.25247	0.
LEVL D	4	9.44583	0.
LEVL D	5	8.00856	0.
LEVL D	6	12.73539	0.
LEVL D	7	2.63562	0.
LEVL D	8	3.24994	0.
		5.61712	0.
		4.38655	0.
		3.60506	0.
		4.35211	0.
		2.57502	0.
		8.41442	0.
		7.64803	0.
		9.51225	0.
		8.84153	0.
		7.20366	0.
		9.70544	0.
		4.31482	0.
		2.51147	0.

VAC BRKR ACCE

VB SRVDL-B MODE=162

LOAD TYPE	CASE	AX	AY	AZ
EXT. FOR	1	2.27239	4.41554	1.89045
EXT. FOR	2	0.17402	0.17519	0.34231
RV2 I	1	2.91716	0.71949	1.12161
RV2 SV11	1	1.16686	0.28780	0.44856
RV2 I	2	1.36344	2.61088	0.90770
RV2 SV11	2	0.54538	1.04435	0.36308
RV2 I	3	1.10364	0.92299	1.02194
RV2 SV11	3	0.44146	0.32120	0.41118
CHUG I	1	0.92539	0.29715	0.55853
CHUG I	2	0.51822	0.23093	0.34069
CHUG I	3	0.55880	0.25953	0.51522
A.P. I	1	10.01731	2.97241	3.92566
A.P. I	7	3.68365	6.41836	4.10618
SSEI	1	8.22342	3.40364	2.83979
SEISMIC	1	4.11171	1.70182	1.41990
SSEI	2	2.40732	2.37829	1.41862
SEISMIC	2	1.20366	1.18915	0.70931
SSEI	3	4.40093	7.43509	3.64326
SEISMIC	3	2.20047	3.71154	1.82163
COND. I	2	3.02002	5.16582	2.14284

	AH	AV
LEVEL B	1 6.14590	0
LEVEL B	2 6.61514	0
LEVEL B	3 5.40204	0
LEVEL C	1 3.29669	0
LEVEL C	2 4.10562	0
LEVEL D	1 11.26972	0
LEVEL D	2 11.53232	0
LEVEL D	3 11.77235	0
LEVEL D	4 12.02398	0
LEVEL D	5 10.78359	0
LEVEL D	6 16.19647	0
LEVEL D	7 2.98077	0
LEVEL D	8 3.85655	0

6.13412	0
5.13179	0
4.26158	0
4.43914	0
2.90066	0
9.60352	0
8.99641	0
10.89515	0
10.36398	0
8.51776	0
11.07032	0
4.41901	0
2.86976	0

VAC BRKR ACCE

VB SRVDL-C MODE=198

LOAD TYPE	CASE	AX	AY	AZ
EXT FOR	1	3.36296	3.87547	3.12029
EXT FOR	2	0.16994	0.17127	0.09873
RV2 I	1	0.62697	0.35694	0.52454
RV2 SV11	1	0.25079	0.14278	0.20982
RV2 I	2	1.94718	2.93483	2.36026
RV2 SV11	2	0.77887	1.17393	0.94410
RV2 I	3	0.91096	0.32408	0.54144
RV2 SV11	3	0.36438	0.12963	0.21658
CHUG. I	1	0.32339	0.14453	0.24800
CHUG. I	2	0.72031	0.17497	0.31647
CHUG. I	3	0.51161	0.15192	0.29051
A.P. I	1	2.58218	1.60954	2.72738
A.P. I	7	3.43777	1.77866	2.66591
SSEI	1	3.25023	4.24152	4.76013
SEISMIC	1	1.66512	2.12076	2.38007
SSEI	2	1.25877	1.98856	1.63288
SEISMIC	2	0.62939	0.99928	0.81644
SSEI	3	3.47666	6.25906	4.77406
SEISMIC	3	1.73833	3.12953	2.38703
COND. I	2	3.63443	2.12876	3.28733

	AH	AV	
LEVL 8	1	5.26621	0.
LEVL B	2	5.41971	0.
LEVL B	3	4.27298	0.
LEVL C	1	4.68383	0.
LEVL C	2	3.47076	0.
LEVL D	1	9.73741	0.
LEVL D	2	9.21548	0.
LEVL D	3	10.86003	0.
LEVL D	4	10.39462	0.
LEVL D	5	8.53918	0.
LEVL D	6	10.28995	0.
LEVL D	7	4.59177	0.
LEVL D	8	3.34547	0.
		5.50340	0.
		4.91282	0.
		3.91401	0.
		3.88508	0.
		2.98668	0.
		8.73238	0.
		8.37143	0.
		8.98395	0.
		8.63353	0.
		7.82240	0.
		8.18015	0.
		3.87925	0.
		2.97909	0.

VAC BRKR ACCE

VB SRVDI-C MODE=201

LOAD TYPE	CASE	AX	AY	AZ
EXT. FOR	1	2.42742	3.55635	9.99755
EXT. FOR	2	0.02479	0.02484	0.02735
RV2 I	1	0.73967	0.48023	0.55152
RV2 SV11	1	0.29587	0.19209	0.26061
RV2 I	2	0.35316	0.36523	0.44675
RV2 SV11	2	0.14126	0.14609	0.17870
RV2 I	3	0.51656	0.57980	0.82612
RV2 SV11	3	0.20663	0.23152	0.33045
CHUG. I	1	0.42486	0.27304	0.37089
CHUG. I	2	0.19865	0.24869	0.37381
CHUG. I	3	0.29438	0.32815	0.46751
A.P. I	1	2.18613	1.48112	2.00377
A.P. I	7	1.61872	1.88202	2.67760
SSEI	1	0.43925	3.45768	0.49373
SEISMIC	1	0.21962	0.22884	0.24667
SSEI	2	0.21912	0.24866	0.35958
SEISMIC	2	0.10956	0.12433	0.17979
SSEI	3	0.47560	0.50114	0.63002
SEISMIC	3	0.3780	0.25057	0.31501
COND. I	2	1.03386	1.22265	1.76338

	AH	AV	
LEVL 8	1 10.30304	0	0
LEVL B	2 1.59828	0	0
LEVL B	3 0.55736	0	0
LEVL C	1 10.32695	0	0
LEVL C	2 1.74577	0	0
LEVL D	1 10.38668	0	0
LEVL D	2 2.06999	0	0
LEVL D	3 10.54794	0	0
LEVL D	4 2.76780	0	0
LEVL D	5 1.11282	0	0
LEVL D	6 4.45480	0	0
LEVL D	7 10.28809	0	0
LEVL D	8 1.49886	0	0
		3.67417	0
		0.91148	0
		0.36225	0
		3.68958	0
		0.97173	0
		3.75972	0
		1.21108	0
		3.92253	0
		1.64848	0
		0.72323	0
		2.50163	0
		3.65644	0
		0.83714	0

VAC BRKR ACCE

V8 SRVDL-D MODE=238

LOAD TYPE	CASE	AX	AY	AZ
EXT. FDR	1	1.09593	4.13666	1.77566
EXT. FDR	2	0.13803	0.05869	0.11130
RV2 I	1	1.14708	0.77019	0.40350
RV2 SV11	1	0.45883	0.30808	0.16140
RV2 I	2	1.02199	1.13643	0.86007
RV2 SV11	2	0.40880	0.45457	0.34803
RV2 I	3	0.75037	0.47832	0.48566
RV2 SV11	3	0.30015	0.19133	0.19426
CHUG. I	1	0.63927	0.28367	0.16152
CHUG. I	2	0.80107	0.29903	0.16381
CHUG. I	3	0.39108	0.19777	0.16493
A P I	1	3.73883	3.33401	1.84926
A P I	7	3.14987	2.05094	2.82570
SSEI	1	2.71668	1.51723	2.47914
SEISMIC	1	1.35834	0.75861	1.23957
SSEI	2	1.16294	1.79191	1.19245
SEISMIC	2	0.58147	0.89596	0.59622
SSEI	3	3.36394	2.61500	3.52387
SEISMIC	3	1.68197	1.30750	1.76193
COND. I	2	3.96553	3.88788	2.12041

	AH	AV	
LEVEL B	1	3.78981	0
LEVEL B	2	3.75105	0
LEVEL B	3	3.16861	0
LEVEL C	1	2.37434	0
LEVEL C	2	2.31196	0
LEVEL D	1	6.75811	0
LEVEL D	2	6.73645	0
LEVEL D	3	8.03805	0
LEVEL D	4	8.01984	0
LEVEL D	5	6.32977	0
LEVEL D	6	8.67983	0
LEVEL D	7	2.09415	0
LEVEL D	8	2.02315	0
		4.49441	0
		2.28062	0
		1.75819	0
		4.16184	0
		1.52396	0
		5.44721	0
		3.83061	0
		6.67672	0
		5.43877	0
		3.51491	0
		5.26053	0
		4.13707	0
		1.45496	0

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VAC BRKR ACCE

VB SRVDL-D MODE=241

LOAD TYPE	CASE	AX	AY	AZ
EXT FOR	1	2.12481	4.83784	1.90340
EXT FOR	2	0.19027	0.17295	0.13477
RV2 I	1	0.62199	0.74581	0.54146
RV2 SV11	1	0.24879	0.29832	0.21639
RV2 I	2	1.10391	1.16150	0.96522
RV2 SV11	2	0.44157	0.46460	0.38609
RV2 I	3	0.76724	0.42597	0.59191
RV2 SV11	3	0.30689	0.17039	0.23676
CHUG I	1	0.27964	0.25732	0.26129
CHUG I	2	0.33874	0.27685	0.30730
CHUG I	3	0.28809	0.15149	0.21700
A.P.I.	1	2.72873	3.29182	2.23419
A.P.I.	7	4.26923	1.92877	3.38611
SSEI	1	4.15794	1.64643	3.08029
SEISMIC	1	2.07897	0.82321	1.54014
SSEI	2	1.78000	1.83295	1.40294
SEISMIC	2	0.89000	0.91648	0.70147
SSEI	3	5.53387	2.51580	4.31569
SEISMIC	3	2.76694	1.25790	2.15785
COND. I	2	2.75371	3.77928	2.56699

	AH	AV	
LEVL B	1	5.33182	0
LEVL B	2	4.90509	0
LEVL B	3	4.51053	0
LEVL C	1	2.93657	0
LEVL C	2	2.06278	0
LEVL D	1	9.47553	0
LEVL D	2	9.24215	0
LEVL D	3	10.17213	0
LEVL D	4	9.95509	0
LEVL D	5	9.01202	0
LEVL D	6	11.10369	0
LEVL D	7	2.86218	0
LEVL D	8	1.95543	0
		5.14827	0
		2.27343	0
		1.76913	0
		4.85495	0
		1.50086	0
		5.99752	0
		3.82783	0
		7.07724	0
		5.36371	0
		3.52556	0
		5.19190	0
		4.84093	0
		1.45488	0

TABLE C8 DETAILED EQUIPMENT INTERFACE GUIDE LOADS

GLOBAL GUIDE LOAD

GGD	NODE-042		FX	FY	FZ	MX	MY	MZ
THERMAL	CASE 1		1	2788	24105	-0	-0	0
THERMAL	CASE 2		1	2371	35030	0	-0	0
THERMAL	CASE 3		-0	-15421	-16811	0	-0	0
WEIGHT	CASE 1		0	22378	136	-0	0	0
EXT. FOR	CASE 1		0	4133	9261	0	0	0
EXT. FOR	CASE 2		0	3031	24473	0	0	0
RV2 I	CASE 1		0	7198	8861	0	0	0
RV2 SV11	CASE 1		0	2879	3544	0	0	0
RV2 I	CASE 2		0	19107	13362	0	0	0
RV2 SV11	CASE 2		0	4043	5345	0	0	0
RV2 I	CASE 3		0	8778	13432	0	0	0
RV2 SV11	CASE 3		0	3311	5373	0	0	0
CHUG I	CASE 1		0	2119	3047	0	0	0
CHUG I	CASE 2		0	2883	1730	0	0	0
CHUG I	CASE 3		0	2223	4121	0	0	0
A P I	CASE 1		0	25610	33033	0	0	0
A P I	CASE 7		0	30091	52585	0	0	0
A P D	CASE 1		-0	-537	2160	-0	-0	0
A P D	CASE 3		0	-979	-1263	-0	-0	0
SSEI	CASE 1		0	20321	26119	0	0	0
SEISMIC	CASE 1		0	10160	13060	0	0	0
SSEI	CASE 2		0	21638	21277	0	0	0
SEISMIC	CASE 2		0	10819	10638	0	0	0
SSEI	CASE 3		0	33346	54526	0	0	0
SEISMIC	CASE 3		0	16673	27263	0	0	0
COND I	CASE 2		0	20388	22772	0	0	0
OBE D	CASE 1		-0	1048	1442	-0	-0	-0
SSED	CASE 1		-0	2096	2883	-0	-0	-0
OBE D	CASE 2		-0	-122	194	-0	-0	-0
SSED	CASE 2		-0	-244	388	-0	-0	-0
OBE D	CASE 3		0	8	-1852	0	-0	-0
SSED	CASE 3		0	8	-3703	0	-0	-0

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GLOBAL GUIDE LOAD

GSD MODE=042

LEVEL A	1	37799	35166	0	0	0	0	0	51628
LEVEL B	1	60351	75558	0	0	0	0	0	96702
LEVEL B	2	60525	68608	0	0	0	0	0	91489
LEVEL B	3	64825	73507	0	0	0	0	0	98008
LEVEL C	1	43701	45892	0	0	0	0	0	63370
LEVEL C	2	53572	56771	0	0	0	0	0	78057
LEVEL D	1	82881	100322	0	0	0	0	0	130130
LEVEL D	2	85195	102967	0	0	0	0	0	133642
LEVEL D	3	87097	103374	0	0	0	0	0	135634
LEVEL D	4	89221	106484	0	0	0	0	0	138922
LEVEL D	5	82596	103935	0	0	0	0	0	132757
LEVEL D	6	82504	99445	0	0	0	0	0	129214
LEVEL D	7	42925	61333	0	0	0	0	0	74861
LEVEL D	8	50298	67359	0	0	0	0	0	45895

TABLE C9 DETAILED EQUIPMENT INTERFACE ANCHOR LOADS

ANCHOR LOAD CALCULATION

ANC	NODE-001	FX	FY	FZ	HX	HY	HZ
THERMAL	CASE 1	2586	-5550	-30602	3978917	6606720	7886859
THERMAL	CASE 2	81587	-15854	-29143	5152055	7163401	7927690
THERMAL	CASE 3	-7445	16278	10630	-2351522	-1745762	1164678
WEIGHT	CASE 1	99	17261	-756	-1415423	74180	513915
EXT. FOR	CASE 1	4977	6278	4308	836082	321081	381940
EXT. FOR	CASE 2	4596	14511	12680	1508609	77672	404823
RV2 I	CASE 1	3348	4100	2223	359679	219621	124820
RV2 SV11	CASE 1	1339	1640	889	143872	87848	49928
RV2 I	CASE 2	4115	10768	3581	1358806	454436	577851
RV2 SV11	CASE 2	1646	4307	1432	543522	181774	231141
RV2 I	CASE 3	1946	3975	4385	337115	179329	110033
RV2 SV11	CASE 3	778	1590	1754	134846	71732	44013
CHUG I	CASE 1	2493	1957	1303	161849	110787	54123
CHUG I	CASE 2	1045	4062	721	147417	100287	51813
CHUG I	CASE 3	1069	1870	3621	164931	103033	51086
A P I	CASE 1	20091	18559	10067	1902419	915138	751669
A P I	CASE 7	9717	18261	29309	1802753	873183	706066
A P D	CASE 1	4080	-1981	-241	250567	412051	278619
A P D	CASE 3	-241	25	2584	-231820	-208205	-23006
SSEI	CASE 1	14453	22557	9238	2945637	944529	1355311
SEISMIC	CASE 1	7227	11278	4619	1472818	472265	677655
SSEI	CASE 2	4769	10345	4857	1107467	414674	462896
SEISMIC	CASE 2	2385	5173	2421	553734	207337	231448
SSEI	CASE 3	10306	23231	18961	2881129	901401	1326908
SEISMIC	CASE 3	5153	11616	9483	1440565	450701	663454
COND I	CASE 2	8599	23481	6265	1999200	887327	784275
OBE D	CASE 1	1301	-318	-925	126738	155279	114089
SSED	CASE 1	2602	-637	-1849	253477	310558	228178
OBE D	CASE 2	58	-551	-334	8424	21607	-45565
SSED	CASE 2	115	-1101	-669	168249	43214	-91130
OBE D	CASE 3	-499	430	965	-121916	-132273	-31374
SSED	CASE 3	-998	859	1923	-243832	-264545	-62749

ANCHOR LOAD CALCULATION

ANC	MODE=001	FX	FY	FZ	MX	MY	MZ
LEVEL A	1	81685	33540	31358	6567478	7237581	8441605
LEVEL B	1	92055	53901	48086	9187583	7956790	9505990
LEVEL C	2	92230	51675	43088	8867060	8021367	9497499
LEVEL D	3	92554	54468	43850	9151741	8130963	9595136
LEVEL E	1	87400	41492	37179	7447343	7606417	8834163
LEVEL F	2	88000	46669	38592	8038702	7803135	9049736
LEVEL G	1	101150	68484	53943	10941303	8714386	10449149
LEVEL H	2	101333	70012	54347	11097454	8775360	10502177
LEVEL I	3	102765	75356	54466	11368729	8950868	10594997
LEVEL J	4	102934	76641	54862	11511399	9003697	10644517
LEVEL K	5	100837	70532	56596	11109733	8663693	10451584
LEVEL L	6	111018	76431	69260	11596204	9190687	10681538
LEVEL M	7	88460	49351	44750	8292278	7567923	8998166
LEVEL N	8	88569	52490	45422	8656802	7778818	9166506

ANCHOR LOAD CALCULATION

ANC NODE=052

		FX	FY	FZ	MX	MY	MZ
THERMAL	CASE 1	-75146	5327	13980	4360	634891	263896
THERMAL	CASE 2	-79281	3563	13826	309688	533739	339839
THERMAL	CASE 3	7141	5309	3782	507883	143203	320192
WEIGHT	CASE 1	-326	15183	-174	-35616	-7275	-1393
EXT. FOR	CASE 1	6420	3070	2321	109839	86269	105248
EXT. FOR	CASE 2	28967	1220	2532	39926	94137	43786
RV2 I	CASE 1	14514	3641	2088	58062	62304	131446
RV2 SVII	CASE 1	5806	1457	835	23225	24922	52578
RV2 I	CASE 2	8783	5640	4113	310609	141596	221660
RV2 SVII	CASE 2	3513	2256	1645	124244	55638	88664
RV2 I	CASE 3	9277	3682	4949	121343	178402	140916
RV2 SVII	CASE 3	3711	1473	1980	48537	71361	56366
CHUG I	CASE 1	11190	913	719	15424	20956	30212
CHUG I	CASE 2	1775	5803	849	20269	25088	237255
CHUG I	CASE 3	3085	809	3493	29909	135305	30406
A P I	CASE 1	90494	13388	9727	352538	299924	463160
A P I	CASE 7	33537	13209	31309	804458	1189795	504400
A P D	CASE 1	-1061	139	-152	-15331	-4899	-5285
A P D	CASE 3	2267	194	77	-11044	2520	-8845
SSEI	CASE 1	30043	11349	7843	520741	300761	442813
SEISMIC	CASE 1	15022	5674	3922	260371	150380	221496
SSEI	CASE 2	19057	9493	4126	259801	155296	3113
SEISMIC	CASE 2	9529	4747	2063	19900	77648	16572
SSEI	CASE 3	33883	16596	14352	907844	560378	643365
SEISMIC	CASE 3	16942	8298	7176	453922	280189	321583
COND I	CASE 2	13813	24959	11748	500190	369677	1004204
OBE D	CASE 1	-2173	-121	166	-13627	8656	5526
SSED	CASE 1	-4345	-242	333	-27253	17311	11052
OBE D	CASE 2	-783	-99	91	-967	4211	4859
SSED	CASE 2	-1566	-199	182	-1933	8421	9719
OBE D	CASE 3	1214	-68	264	5754	10225	2487
SSED	CASE 3	2429	-137	529	11508	20449	4973

ANCHOR LOAD CALCULATION

ANC	NODE=062	FX	FY	FZ	MX	MY	MZ
LEVEL A	1	79607	20509	14154	543500	642167	341232
LEVEL B	1	117678	31695	22966	1084356	983060	776303
LEVEL B	2	105131	32044	22908	1093351	980972	786706
LEVEL B	3	110978	34009	24971	1180293	1046029	864336
LEVEL C	1	92989	27187	18493	660152	805930	604299
LEVEL C	2	102229	30194	21849	884259	916273	721226
LEVEL D	1	130794	43727	31583	1628550	1317595	1246043
LEVEL D	2	133947	44764	32706	1674801	1352463	1286582
LEVEL D	3	131309	54078	34851	1737644	1399457	1671263
LEVEL D	4	134432	54803	35804	1779821	1430713	1699235
LEVEL D	5	136880	42780	31223	1623000	1304169	1208063
LEVEL D	6	188033	49634	51030	1934585	2033201	1445063
LEVEL D	7	109277	23813	17589	660370	769855	455224
LEVEL D	8	114435	28262	21378	884333	896372	638192
							1411672

ANCHOR LOAD CALCULATION

ANC	ANC	FX	FY	FZ	MX	MY	MZ
	NODE=117						
THERMAL	CASE 1	724	-1030	-2779	-389084	64514	-97365
THERMAL	CASE 2	842	331	-3576	-532563	88406	-87148
THERMAL	CASE 3	-442	-1768	22	46079	-18749	44714
WEIGHT	CASE 1	20	1564	190	23635	-4470	-8171
EXT FOR	CASE 1	1483	9117	6244	438153	38294	111836
EXT FOR	CASE 2	99	279	239	15805	1699	8096
RV2 I	CASE 1	990	413	538	38019	13485	59906
RV2 SV11	CASE 1	396	165	215	15208	5394	23963
RV2 I	CASE 2	758	2157	2570	165342	12749	57694
RV2 SV11	CASE 2	302	863	1028	74137	5100	23077
RV2 I	CASE 3	649	571	1366	94039	8345	48495
RV2 SV11	CASE 3	259	229	547	37616	3338	19798
CHUG I	CASE 1	669	140	262	19671	7449	34019
CHUG I	CASE 2	272	1460	462	33247	4346	19133
CHUG I	CASE 3	361	350	1032	68380	4408	27355
A P I	CASE 1	4911	2687	3010	205854	48374	230273
A P I	CASE 7	2790	3195	7091	431055	35585	214135
A P D	CASE 1	-25	69	46	2257	394	2083
A P D	CASE 3	-26	56	36	1719	415	2238
SSEI	CASE 1	2143	3452	5445	356777	35362	151073
SEISMIC	CASE 1	1071	2326	2723	178388	17681	75536
SSEI	CASE 2	718	2336	2204	144999	13972	55372
SEISMIC	CASE 2	359	1168	1102	72500	6986	27686
SSEI	CASE 3	1477	4078	4179	265925	25993	113489
SEISMIC	CASE 3	739	2039	2089	132962	12997	56745
COND I	CASE 2	1921	7272	5635	404940	32577	143158
DBE D	CASE 1	-1938	-11	132	13261	-56497	159171
SSED	CASE 1	-3875	-23	265	26521	-112994	318342
DBE D	CASE 2	-5	-74	-56	-2734	913	116
SSED	CASE 2	-10	-149	-111	-3469	1825	232
DBE D	CASE 3	143	-171	-272	-25835	12944	-13115
SSED	CASE 3	266	-342	-543	-51670	25888	-26231

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ANCHOR LOAD CALCULATION

ARC	MODE-117	FX	FY	FZ	MX	MY	MZ
LEVL A	1	862	3332	3766	558217	92876	105537
LEVL B	1	3230	6944	7392	794561	155274	293327
LEVL B	2	3654	13135	10982	1055798	166068	323956
LEVL B	3	3613	7591	8440	874838	158485	316645
LEVL C	1	2550	12573	10117	1003354	132376	227106
LEVL C	2	2481	6057	6945	783625	115411	213420
LEVL D	1	5886	15052	13393	1206739	223730	499970
LEVL D	2	5863	11038	11669	1080943	219644	495969
LEVL D	3	6180	17042	14860	1318736	227376	522430
LEVL D	4	6158	13820	13403	1214762	223404	518646
LEVL D	5	5595	10544	11005	1030111	217637	480855
LEVL D	6	8230	11663	14335	1229502	231328	595110
LEVL D	7	2348	12452	10014	996655	131208	217666
LEVL D	8	2269	5613	6735	770091	113294	202659

ANCHOR LOAD CALCULATION

ANC MODE=157

		FX	FY	FZ	MX	MY	MZ
THERMAL	CASE 1	-241	972	-3291	-411474	-121980	45544
THERMAL	CASE 2	-1748	4940	-7654	-808026	-146228	135569
THERMAL	CASE 3	301	-2237	1393	62858	6994	49209
WEIGHT	CASE 1	-70	2463	54	25915	9059	-22189
EXT. FOR	CASE 1	4751	11187	5537	369103	26277	305768
EXT. FOR	CASE 2	107	349	364	27371	7630	11826
RV2 I	CASE 1	1697	1270	836	55231	26675	131765
RV2 SV11	CASE 1	679	508	334	22092	10670	52066
RV2 I	CASE 2	739	4184	962	71367	16884	89628
RV2 SV11	CASE 2	296	1674	385	28547	6754	35851
RV2 I	CASE 3	571	1347	906	58877	22469	46129
RV2 SV11	CASE 3	228	539	362	23551	8988	18452
CHUG I	CASE 1	708	336	381	26974	11215	38929
CHUG I	CASE 2	157	1107	224	16816	3645	17650
CHUG I	CASE 3	262	331	608	27304	10252	12435
A P I	CASE 1	7004	4914	3579	250318	95417	475072
A P I	CASE 7	2161	9474	5246	309304	89693	20995
A P D	CASE 1	-5	79	-75	-6401	-29	-1815
A P D	CASE 3	-5	87	-72	-5779	-188	-1688
SSEI	CASE 1	4751	5569	2657	226732	66322	406203
SEISMIC	CASE 1	2376	2785	1328	113366	33161	203102
SSEI	CASE 2	1371	3739	1351	110792	30907	128972
SEISMIC	CASE 2	686	1869	676	55296	15453	64486
SSEI	CASE 3	2655	11055	3275	306509	78248	285318
SEISMIC	CASE 3	1328	5527	1638	153254	39124	142659
COND I	CASE 2	1198	9087	1918	150886	34874	154097
ORE D	CASE 1	-261	127	-133	-9610	7414	34770
SSED	CASE 1	-521	253	-265	-19220	14828	69541
ORE D	CASE 2	14	89	-51	-3202	318	-4225
SSED	CASE 2	28	177	-101	-6404	637	-8450
ORE D	CASE 3	-60	214	-381	-41174	-3694	386
SSED	CASE 3	-120	428	-762	-82349	-7388	773

GE NUCLEAR ENERGY
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ANCHOR LOAD CALCULATION

ANC	MODE=157	FX	FY	FZ	MX	MY	MZ
LEVEL A	1	1818	7407	7918	833840	155347	157758
LEVEL B	1	4639	13888	10198	1038768	210083	416847
LEVEL B	2	7342	20331	13895	1253179	215582	558359
LEVEL B	3	5239	15332	10659	1063757	221975	465184
LEVEL C	1	6631	18559	13505	1253414	185919	466805
LEVEL C	2	3903	12138	9053	949552	197128	329626
LEVEL D	1	9231	24556	15394	1384226	267979	760634
LEVEL D	2	7830	21185	12743	1256063	271524	703183
LEVEL D	3	9288	26778	15308	1402396	272215	778394
LEVEL D	4	7899	23869	13056	1280256	275634	722752
LEVEL D	5	7458	20354	12435	1240844	264019	675531
LEVEL D	6	11066	24182	15703	1402703	325349	891536
LEVEL D	7	6570	18500	13457	1204057	182709	463755
LEVEL D	8	3758	11196	9523	945113	194840	324080
							862830
							1138831
							1390581
							1182052
							1305946
							1024286
							1602917
							1464884
							1627390
							1495795
							1437269
							1693595
							1303151
							1017953

ANCHOR LOAD CALCULATION

ANC NODE=126

		FX	FY	FZ	MX	MY	MZ
THERMAL	CASE 1	756	-8	-2131	-292673	45753	-76115
THERMAL	CASE 2	1015	670	-2856	-419612	75380	-97980
THERMAL	CASE 3	-194	-625	-48	28783	-15725	27748
WEIGHT	CASE 1	-30	2144	120	3909	-4202	-11645
EXT. FOR	CASE 1	3590	7944	11183	820471	110840	284144
EXT. FOR	CASE 2	154	79	527	39999	5961	12512
RV2 I	CASE 1	1046	317	1165	87425	13153	68900
RV2 SV11	CASE 1	418	127	466	34970	5261	27560
RV2 I	CASE 2	1709	1565	5829	446493	72018	145694
RV2 SV11	CASE 2	683	626	2332	178597	28807	58277
RV2 I	CASE 3	638	482	1270	86883	13734	50958
RV2 SV11	CASE 3	255	193	508	34753	5494	20383
CHUG I	CASE 1	726	183	428	31266	5028	39224
CHUG I	CASE 2	287	1465	432	31583	4135	20159
CHUG I	CASE 3	338	280	686	35226	5456	27092
A P I	CASE 1	5346	1380	6412	497394	80614	267385
A P I	CASE 2	2605	1958	7700	513032	85622	212640
A P D	CASE 1	22	-23	-84	-6210	1165	-1719
A P D	CASE 2	17	-18	-58	-4260	950	-1254
SSEI	CASE 1	3554	1988	11711	911036	154410	360538
SEISMIC	CASE 1	1777	994	5855	455515	77205	150279
SSEI	CASE 2	1384	1212	4887	370483	55885	14337
SEISMIC	CASE 2	692	606	2444	185241	27843	57168
SSEI	CASE 3	3674	2659	12842	975510	160910	307715
SEISMIC	CASE 3	1837	1330	6421	487755	80435	153857
COND I	CASE 2	2471	6133	7146	560154	90926	208795
OBE D	CASE 1	-166	-19	26	4616	-13789	22094
SSED	CASE 1	-332	-38	52	9233	-27579	44188
OBE D	CASE 2	18	84	160	8557	1780	-1619
SSED	CASE 2	36	167	320	17113	3561	-3237
OBE D	CASE 3	-13	-501	-2264	-185763	-19394	-5108
SSED	CASE 3	-26	-1002	-4527	-371525	-38788	-10217

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

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ANCHOR LOAD CALCULATION

ANC	NODE-196	FX	FY	FZ	MX	MY	MZ
LEVEL A	1	1045	2814	2076	423521	79582	109625
LEVEL B	1	3703	4655	12339	1141793	197114	333673
LEVEL B	2	3509	10969	17526	1513240	241025	471258
LEVEL B	3	4430	5297	14093	1277255	218602	390002
LEVEL C	1	4735	10293	14196	1245992	190747	398444
LEVEL C	2	3313	5060	9124	890248	154552	286400
LEVEL D	1	7509	11697	24712	2076918	339333	642147
LEVEL D	2	6816	7124	22581	1931863	326024	590677
LEVEL D	3	7912	13503	25838	2168286	354657	679271
LEVEL D	4	7265	10158	23822	2031495	342126	631477
LEVEL D	5	6354	6493	21599	1858394	314420	557197
LEVEL D	6	9016	7204	24117	2025988	342155	672544
LEVEL D	7	4639	10759	14171	1244966	190582	394044
LEVEL D	8	3153	4484	9078	888437	154307	279116

ANCHOR LOAD CALCULATION

ANC NODE=236

		FX	FY	FZ	MX	MY	MZ
THERMAL	CASE 1	1319	-1395	718	-6589	-131652	-78242
THERMAL	CASE 2	-2416	3978	-5418	-400958	-122805	168623
THERMAL	CASE 3	639	-1533	1027	29633	-14852	11000
WEIGHT	CASE 1	307	1367	429	35009	-3726	-25185
EXT FOR	CASE 1	3872	8037	6093	451775	30749	281856
EXT FOR	CASE 2	152	93	249	20637	8713	11116
RV2 I	CASE 1	727	189	608	46511	13044	33819
RV2 SV11	CASE 1	281	75	243	18604	5218	13528
RV2 I	CASE 2	524	821	1078	82066	39406	40257
RV2 SV11	CASE 2	210	328	431	32826	15762	16103
RV2 I	CASE 3	467	154	997	63488	23757	35258
RV2 SV11	CASE 3	187	62	399	25395	9503	14107
CHUG I	CASE 1	595	65	261	19934	3629	21801
CHUG I	CASE 2	111	1134	166	12652	3969	8890
CHUG I	CASE 3	220	52	507	26984	6241	16748
A P I	CASE 1	4722	882	2852	219124	77455	169030
A P I	CASE 7	2242	936	6211	366202	158273	169804
A P D	CASE 1	20	5	20	1616	-180	-1754
A P D	CASE 3	18	10	20	1906	-386	-1469
SSEI	CASE 1	2098	936	4658	360233	158289	141598
SEISMIC	CASE 1	1048	453	2329	180116	79144	70794
SSEI	CASE 2	774	857	1906	146361	65711	58043
SEISMIC	CASE 2	387	429	953	73180	32855	29022
SSEI	CASE 3	2451	1271	6153	466053	218254	186481
SEISMIC	CASE 3	1231	635	3077	233026	109127	93241
COND I	CASE 2	1169	4758	2526	190949	87877	89307
OBE D	CASE 1	-908	483	-1018	-73305	17006	78845
SSED	CASE 1	-1816	565	-2036	-146610	34011	157689
OBE D	CASE 2	53	-41	64	3409	-369	-4011
SSED	CASE 2	105	-82	129	6818	-739	-8023
OBE D	CASE 3	-1088	760	-1716	-133209	5900	76630
SSED	CASE 3	-2176	1521	-3433	-266418	11800	153260

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

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ANCHOR LOAD CALCULATION

ANC	NODE-236	FX	FY	FZ	MX	MY	MZ
LEVL A	1	2723	5345	5847	435967	135378	193808
LEVL B	1	4913	6615	10303	776046	275564	357442
LEVL B	2	7168	13481	12390	1001058	278632	519531
LEVL B	3	5130	6874	10571	733957	283241	368910
LEVL C	1	6648	13462	11976	889162	167212	477141
LEVL C	2	3921	6769	7577	555190	183909	263399
LEVL D	1	8596	13848	16550	1252238	417013	626114
LEVL D	2	7254	8251	14910	1125262	419385	527654
LEVL D	3	8677	15022	16921	1273508	430289	634295
LEVL D	4	7357	10803	15231	1150322	432555	538183
LEVL D	5	7095	7881	14747	1115186	415343	520510
LEVL D	6	9535	8187	17066	1237862	466066	598799
LEVL D	7	6597	13382	11943	888212	167338	475893
LEVL D	8	3745	6206	7156	551529	183992	258086
							495939
							897746
							1161751
							920156
							1022855
							641434
							1460828
							1311685
							1486372
							1341636
							1298877
							451923
							1021464
							636117

TABLE C10 DETAILED EQUIPMENT INTERFACE FLANGE MOMENTS

FLANGE MOMENT

NODE-020	021	IN FLANGE-A FLANGE MOMENT	FA	FB	FC	MA	MB	MC
THERMAL	CASE 1	-1031	-2779	724	125469	38128	217682	
THERMAL	CASE 2	330	-3576	842	150223	74602	126398	
THERMAL	CASE 3	-1770	22	-442	-51285	-44631	171990	
WEIGHT	CASE 1	-651	190	20	-3517	144642	-32121	
EXT. FOR	CASE 1	388	-856	-967	112181	3265	55873	
EXT. FOR	CASE 2	-6	590	-723	18947	23441	26431	
RV2 I	CASE 1	1865	2398	2572	20060	85828	75774	
RV2 SV11	CASE 1	746	959	1029	8024	34331	30710	
RV2 I	CASE 2	3085	3747	3906	40812	157540	129616	
RV2 SV11	CASE 2	1234	1499	1562	16325	63016	51846	
RV2 I	CASE 3	1410	2690	1858	25777	66069	85132	
RV2 SV11	CASE 3	564	1076	743	10311	26428	34053	
CHUG I	CASE 1	988	703	818	7598	25415	22184	
CHUG I	CASE 2	761	646	897	5985	25384	19410	
CHUG I	CASE 3	708	648	595	11287	22267	20099	
A P I	CASE 1	6734	9252	10203	86887	351356	296332	
A P I	CASE 7	5661	9409	7809	110802	278089	295332	
A P D	CASE 1	122	-469	-569	2876	13684	-10038	
A P D	CASE 3	119	-493	-572	2927	12553	-11532	
SSEI	CASE 1	6088	7183	8846	115766	304113	253502	
SEISMIC	CASE 1	3044	3591	442	57883	152056	126751	
SSEI	CASE 2	2672	7399	6126	61149	204792	234127	
SEISMIC	CASE 2	1336	3699	3063	30575	102396	117064	
SSEI	CASE 3	6168	11744	8682	108302	306576	381363	
SEISMIC	CASE 3	3084	5872	4341	54151	153288	190681	
COND I	CASE 2	6078	5802	9001	87139	321903	186749	
OBE D	CASE 1	34	-356	-110	11983	639	-5082	
SSD	CASE 1	68	-713	-220	23967	1278	-10165	
OBE D	CASE 2	88	101	142	-2670	2917	-2974	
SSD	CASE 2	176	201	283	-5339	5834	-5948	
OBE D	CASE 3	108	154	273	-8925	2640	-250	
SSD	CASE 3	216	308	546	-17850	5280	-500	

FLANGE MOMENT
NODE=020 021

IN FLANGE-A FLANGE MOMENT

	FA	FB	FC	HA	HB	HC	HR
LEVEL A	1	2420	3755	163741	219244	243803	370514
LEVEL B	1	6973	11638	305277	458263	513025	752591
LEVEL B	2	8384	13161	264639	525595	559813	812012
LEVEL B	3	6957	11613	252097	459387	508381	730996
LEVEL C	1	3906	5202	276902	261632	316096	495018
LEVEL C	2	6548	9091	218086	415041	426480	633803
LEVEL D	1	11614	19482	370132	699112	768503	1102884
LEVEL D	2	12388	20297	344697	735783	793743	1135879
LEVEL D	3	13349	20478	387279	795533	799942	1192797
LEVEL D	4	14006	21247	364034	826408	823800	1222341
LEVEL D	5	11493	19427	337381	697811	764928	1088981
LEVEL D	6	15059	24243	386512	874544	912994	1322035
LEVEL D	7	2808	4806	277510	242911	311612	482825
LEVEL D	8	6291	8998	219342	411857	424848	631057

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

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FLANGE MOMENT
NODE=028 029

IN FLANGE-B FLANGE MOMENT

		FA	FB	FC	MA	NB	MC	NR
LEVL A	1	6069	7918	1818	175854	339895	334211	508085
LEVL B	1	10549	17351	12337	312012	646815	578298	922036
LEVL B	2	11673	17903	13593	329833	683595	586527	959222
LEVL B	3	10568	16703	1212	310804	635657	549025	895593
LEVL C	1	7252	11592	4256	209654	429406	458034	661921
LEVL C	2	9637	12838	7644	255309	518618	473555	747263
LEVL D	1	15097	25852	22580	443513	938106	776489	1296026
LEVL D	2	15704	26053	23243	453004	957784	781083	1316303
LEVL D	3	16832	27172	23251	453781	963009	812889	1339437
LEVL D	4	17403	27448	23894	462933	981924	817136	1358747
LEVL D	5	15031	25438	22456	442473	931383	760067	1280999
LEVL D	6	17473	29517	27948	505794	1086748	879458	1486707
LEVL D	7	6577	11522	3913	214594	422069	459050	659485
LEVL D	8	9473	12786	7309	257533	515059	474459	746137

FLANGE MOMENT

NODE=064		065	IN FLANGE-C FLANGE MOMENT				
		FA	FB	FC	HA	HB	HC
THERMAL	CASE 1	-9	-2131	756	71592	67746	113032
THERMAL	CASE 2	659	-2856	1015	110127	83141	67136
THERMAL	CASE 3	-626	-48	-194	-32814	1722	90226
WEIGHT	CASE 1	1497	120	-30	-4596	86226	-120720
EXT. FOR	CASE 1	1165	6142	10105	-25337	-304479	118359
EXT. FOR	CASE 2	259	788	-101	20946	17228	15164
RV2 I	CASE 1	1438	1654	2359	20442	55919	51748
RV2 SV11	CASE 1	575	662	943	8177	26368	20699
RV2 I	CASE 2	3268	3948	7073	81900	230425	166836
RV2 SV11	CASE 2	1307	1579	2829	32760	92170	66734
RV2 I	CASE 3	1201	1820	2225	19945	68609	58992
RV2 SV11	CASE 3	481	728	850	7978	27443	23597
CHUG. I	CASE 1	643	520	644	7094	19081	15367
CHUG. I	CASE 2	697	515	668	5574	20164	15228
CHUG. I	CASE 3	609	489	546	5179	17647	15641
A P I	CASE 1	5773	7400	10854	91116	296035	197407
A P I	CASE 7	4677	7671	10141	81426	317288	218137
A P D	CASE 1	69	-68	-102	-4944	2378	-5597
A P D	CASE 3	61	-74	-60	-2007	1997	-4979
SSEI	CASE 1	5561	9793	16537	140861	498364	261239
SEISMIC	CASE 1	2780	4897	8268	70430	249182	130620
SSEI	CASE 2	3393	5930	9341	72517	293267	190376
SEISMIC	CASE 2	1696	2965	4670	36258	146633	95188
SSEI	CASE 3	6472	11674	17228	165564	578288	401501
SEISMIC	CASE 3	3236	5837	8614	82782	289144	200750
COND. I	CASE 2	6070	5943	8957	91076	250265	154613
OBE D	CASE 1	115	-366	74	9493	-9397	-6078
SSD	CASE 1	230	-732	149	18986	-18794	-12156
OBE D	CASE 2	-16	-60	-76	-4495	-4127	2853
SSD	CASE 2	-33	-121	-152	-8990	-8254	5706
OBE D	CASE 3	340	15	-575	-22865	28606	-17798
SSD	CASE 3	680	29	-1150	-45730	57112	-35597

FLANGE MOMENT
NODE-064, 065

1N FLANGE-C FLANGE MOMENT

	FA	FB	FC	MA	MB	MC	MR
LEVL A	2156	2976	1045	114723	169367	233752	310623
LEVL B	5907	13209	17380	234736	680081	517994	885526
LEVL B	8106	12390	16054	260615	642231	551206	890645
LEVL B	6769	11198	13880	233866	579755	492624	795925
LEVL C	3778	9181	11208	142112	475619	355084	610323
LEVL C	6088	7710	8900	202082	420824	420044	627987
LEVL D	11509	20481	28552	350931	1044738	76465	1341391
LEVL C	12171	20015	27889	365074	1027105	783155	1342220
LEVL D	13249	21441	30049	367668	1079215	786068	1384842
LEVL D	13813	21000	29323	380923	1062264	803871	1385538
LEVL D	11371	19363	26714	350271	989599	750829	1290636
LEVL D	13990	22509	30702	379300	1097159	828499	1426197
LEVL D	3350	9169	11151	147597	474334	353078	609450
LEVL D	5932	7694	8927	203954	419258	418744	626674

FLANGE MOMENT

NODE=070		071	IN FLANGE-D FLANGE MOMENT				
		FA	FB	FC	MA	MB	MC
THERMAL	CASE 1	-1395	718	1319	43380	3696	133899
THERMAL	CASE 2	3977	-5418	-2416	51101	190033	-162640
THERMAL	CASE 3	-1533	1027	639	-11851	-52594	139002
WEIGHT	CASE 1	2138	429	307	5459	61858	-105139
EXT. FOR	CASE 1	-2235	-2996	-4437	37239	117586	-35819
EXT. FOR	CASE 2	-444	-1408	-31	7954	-6221	-29623
RV2 I	CASE 1	1774	2148	2555	18470	67936	56100
RV2 SV11	CASE 1	710	859	1022	7388	27175	22440
RV2 I	CASE 2	2093	3204	4707	42270	134760	85504
RV2 SV11	CASE 2	837	1282	1883	16908	53904	34202
RV2 I	CASE 3	1466	1707	2336	18504	64975	51218
RV2 SV11	CASE 3	586	683	934	7402	25990	20487
CHUG. I	CASE 1	895	725	737	6388	19893	19159
CHUG. I	CASE 2	854	642	736	5748	20132	17514
CHUG. I	CASE 3	813	516	587	4773	16518	16920
A.P.I.	CASE 1	6667	9024	10054	79733	271519	234746
A.P.I.	CASE 7	5668	7537	10208	80064	278529	210211
A.P.D.	CASE 1	84	-28	-79	-4294	3837	-5583
A.P.D.	CASE 3	57	-46	-38	-835	2575	-4102
SSEI	CASE 1	4542	8327	10063	105614	295914	188532
SEISMIC	CASE 1	2271	4164	5031	52807	147957	94266
SSEI	CASE 2	3128	5309	9258	63363	266282	130036
SEISMIC	CASE 2	1564	2655	4629	31682	133141	69018
SSEI	CASE 3	5519	10184	13019	118857	376553	259155
SEISMIC	CASE 3	2759	5092	6510	59428	188276	129577
COMPI I	CASE 2	6030	7064	6808	60234	192778	197878
OBE D	CASE 1	142	25	319	10050	-1802	-12597
SSED	CASE 1	285	51	638	20100	-3604	-25193
OBE D	CASE 2	48	-16	-90	-5390	1172	-1872
SSED	CASE 2	97	-33	-181	-10779	2344	-3744
OBE D	CASE 3	-104	532	-1	-12203	8381	11558
SSED	CASE 3	-208	1065	-1	-24406	16763	23116

FLANGE MOMENT
NODE=070 071

IN FLANGE-D FLANGE MOMENT

	FA	FB	FC	MA	MB	MC	MR
LEVL A	6115	5647	2723	56559	251891	267779	371959
LEVL B	10615	13566	13159	151373	550165	446716	724673
LEVL C	11107	14117	13830	156925	571482	477104	760819
LEVL D	10045	13099	12169	144117	526080	445580	704323
LEVL E	8796	9038	7318	95073	373958	315140	498193
LEVL F	9559	10206	8687	107224	419436	386276	580200
LEVL G	14373	20427	22166	235152	613552	621595	1050497
LEVL H	1465	20727	22534	238160	825157	637893	1069818
LEVL I	16232	22011	23288	244780	844810	671983	1106880
LEVL J	16461	22282	23637	247636	855815	686324	1124625
LEVL K	13938	20143	21615	231131	800162	619660	1038104
LEVL L	17845	24304	26433	264401	924110	739222	1212580
LEVL M	8394	9158	7160	94638	369642	314260	494318
LEVL N	9257	10295	8566	106893	416318	385927	577656

FLANGE MOMENT

MODE=084.

021

OUT FLNG-A FLANGE MOMENT

	FA	FB	FC	MA	MB	MC
THERMAL						
THERMAL	-320	-1931	-2854	244756	80525	-29300
THERMAL	-495	330	-3640	180279	102900	14316
THERMAL	-405	-1770	179	142831	-48472	-79381
WEIGHT	87	2921	170	16829	-833	91095
EXT. FOR	-2896	148	-3042	-10275	45982	13583
EXT. FOR	-184	20	-207	-2689	10463	3882
RV2 1	651	712	315	11874	8241	26206
RV2 SV11	260	285	126	4749	3296	10483
RV2 1	2710	605	1335	34096	26248	45922
RV2 SV11	1084	242	534	13638	10499	18369
RV2 1	590	392	509	9713	9458	16003
RV2 SV11	235	157	203	3885	3783	5401
CHUG 1	202	403	140	4397	3520	12360
CHUG 1	202	448	104	5071	3096	14443
CHUG 1	217	217	261	3052	5152	7056
A P 1	3995	2207	1580	53103	40087	98723
A P 1	4020	1306	2659	45504	43730	74025
A P D	-699	122	-234	-2182	-811	7627
A P D	-710	119	-255	-3771	-1093	7036
SSE1	7920	723	3716	59327	59143	84699
SEISMIC	3960	362	1858	29663	29572	42349
SSE1	2960	463	1291	37695	27330	55666
SEISMIC	1480	232	646	18847	13665	27833
SSE1	7350	986	3399	67944	41522	89852
SEISMIC	3675	493	1699	33972	20761	44926
COMO 1	4277	2135	2195	60033	51676	105722
ORE D	-230	34	-293	-1651	7363	-371
SSED	-461	68	-587	-3302	14726	-742
ORE D	168	88	43	-2152	-1931	4049
SSED	337	176	86	-4304	-3982	8098
ORE D	310	108	46	263	-8200	3882
SSED	621	216	92	526	-16399	7764

FLANGE MOMENT
NODE-084 021

OUT FLNGE-A FLANGE MOMENT

		FA	FB	FC	MA	MB	MC	MR
LEVEL A	1	582	4691	3811	261583	103733	170476	329013
LEVEL B	1	6902	5376	7823	311608	164823	239777	426332
LEVEL B	2	6881	5905	6803	323185	153371	258053	441093
LEVEL B	3	6203	5361	6435	310615	145291	238543	417725
LEVEL C	1	3500	5348	6869	274232	150240	194882	368449
LEVEL C	2	3454	5890	5306	299694	133647	229322	400333
LEVEL D	1	12190	6183	3872	360310	196649	308563	513523
LEVEL D	2	12178	6488	9253	366652	189554	318582	521401
LEVEL D	3	12948	7216	10249	376895	209824	343201	551237
LEVEL D	4	12937	7408	9671	382368	203669	351311	537769
LEVEL D	5	11819	6030	9048	359534	184850	306445	507289
LEVEL D	6	13189	7587	10028	381966	203688	354182	559313
LEVEL D	7	3484	4838	6859	272206	150891	184603	361859
LEVEL D	8	3437	5704	5288	299570	134649	225855	398225

FLANGE MOMENT

MODE=131	029	OUT FLNGE-B FLANGE MOMENT	FA	FB	FC	MA	MB	MC
THERMAL	CASE 1	-2420	971	-2242	95948	68270	390	
THERMAL	CASE 2	-5541	4944	-4560	-3784	95072	191297	
THERMAL	CASE 3	1174	-2237	818	104936	-37788	-165764	
WEIGHT	CASE 1	-14	4697	88	34789	-7596	57587	
EXT. FOR	CASE 1	-574	276	-232	17084	38619	-28457	
EXT. FOR	CASE 2	-388	-223	-558	7181	9836	-14813	
RV2 I	CASE 1	2354	729	915	11774	16251	27314	
RV2 SV11	CASE 1	941	291	366	4710	6500	10926	
RV2 I	CASE 2	1201	565	789	28883	48799	38477	
RV2 SV11	CASE 2	480	226	316	11553	19519	15391	
RV2 I	CASE 3	1332	624	586	10366	12972	28634	
RV2 SV11	CASE 3	533	250	235	4146	5189	11453	
CHUG I	CASE 1	818	326	256	4061	5565	11001	
CHUG I	CASE 2	257	248	131	3522	3567	6949	
CHUG I	CASE 3	569	313	188	3699	4234	12168	
A P I	CASE 1	8171	2670	3280	54376	77913	111217	
A P I	CASE 7	4951	2400	2275	60903	71970	135660	
A P D	CASE 1	-125	120	125	-1938	-8303	7214	
A P D	CASE 3	-151	68	33	-2310	-6063	5528	
SSEI	CASE 1	6558	1564	2611	71587	122262	59465	
SEISMIC	CASE 1	3279	782	1305	35794	61131	49733	
SSEI	CASE 2	2623	755	1551	35295	48023	43305	
SEISMIC	CASE 2	1311	377	776	17648	24011	21653	
SSEI	CASE 3	6129	1553	2750	81267	124931	135394	
SEISMIC	CASE 3	3064	777	1375	40633	62465	67697	
COND. I	CASE 2	2309	1370	1242	50575	63183	66758	
ORE D	CASE 1	-10	115	-287	-11784	3722	197	
SSED	CASE 1	-20	230	-575	-23567	7443	394	
ORE D	CASE 2	-303	-191	-292	-1442	626	-6215	
SSED	CASE 2	-607	-382	-584	-2884	1252	-12430	
ORE D	CASE 3	-307	422	213	-523	-8971	15022	
SSED	CASE 3	-514	844	425	-1045	-17941	30043	

FLANGE MOMENT
NODE-131 029

OUT FLNGE-B FLANGE MOMENT

	FA	FB	FC	HA	HB	HC	HR
LEVL A	5655	9641	4647	139724	102668	248884	303327
LEVL B	11386	10930	6760	200360	201671	341616	444429
LEVL B	12205	11322	7140	206547	208138	352979	458887
LEVL B	11367	10919	6920	198346	194358	338376	437738
LEVL C	7833	10225	5062	158012	142077	282458	353463
LEVL C	9788	10868	6034	173234	156290	306883	385504
LEVL D	16120	12226	8867	257512	289199	428564	577593
LEVL D	16555	12442	9070	260813	292710	434683	585365
LEVL D	16343	12521	9033	267745	299453	439735	595589
LEVL D	16768	12716	9228	270788	302784	445507	602894
LEVL D	15054	12169	8884	256305	285254	426020	573197
LEVL D	20053	14027	10443	281883	313760	497847	652499
LEVL D	7348	9996	5252	158256	142521	280966	352560
LEVL D	9639	10777	6102	173368	156617	306032	385020

FLANGE MOMENT

NODE-168		065	OUT FLNGE-C FLANGE MOMENT				
		FA	FR	FC	HA	HB	HC
THERMAL	CASE 1	-1326	-9	-1832	137812	42738	-67434
THERMAL	CASE 2	-1776	669	-2456	130539	71445	-35981
THERMAL	CASE 3	-150	-626	133	51319	-30723	-64926
WEIGHT	CASE 1	82	5059	93	1583	-3133	58634
EXT. FOR	CASE 1	-2946	1730	1539	69657	17947	87571
EXT. FOR	CASE 2	-181	336	-266	-164	13624	20996
RV2 I	CASE 1	629	329	377	13436	8525	23676
RV2 SV11	CASE 1	252	132	151	5374	3410	9471
RV2 I	CASE 2	4371	2059	2726	76021	57903	159733
RV2 SV11	CASE 2	1748	824	1090	31208	23161	63893
RV2 I	CASE 3	609	384	257	13530	8576	23966
RV2 SV11	CASE 3	244	153	103	5412	3431	9587
CHUG. I	CASE 1	193	135	115	3645	3773	7074
CHUG. I	CASE 2	259	167	115	3698	2580	6825
CHUG. I	CASE 3	212	134	84	3825	3218	7694
A P I	CASE 1	4593	1546	2643	80972	49936	112556
A P I	CASE 7	4544	2387	1789	77979	57331	147002
A P D	CASE 1	-114	69	45	-1660	-4231	3766
A P D	CASE 3	-95	61	7	-1253	-1889	3339
SSEI	CASE 1	9044	3350	4621	148567	118957	246700
SEISMIC	CASE 1	4522	1675	2310	74283	59478	123350
SSEI	CASE 2	3127	1548	1602	59386	43581	113380
SEISMIC	CASE 2	1563	774	801	29693	21791	56630
SSEI	CASE 3	9241	4852	4310	158043	143149	350959
SEISMIC	CASE 3	4620	2426	2155	79022	71575	175480
COND. I	CASE 2	5614	2164	3548	95436	46866	150882
ORE D	CASE 1	-259	115	-269	-8561	5258	-4659
SSED	CASE 1	-518	230	-538	-17121	10516	-9339
ORE D	CASE 2	-93	-16	28	-2056	-4049	-5337
SSED	CASE 2	-185	-33	57	-4111	-8099	-10673
ORE D	CASE 3	-314	340	482	8750	-15275	22461
SSED	CASE 3	-629	680	964	17500	-30553	44922

FLANGE MOMENT
NODE-168. 065.

OUT FLNGE-C FLANGE MOMENT

	FA	FB	FC	MA	MB	MC	MR
LEVEL A	1	1858	2549	139395	74578	126069	202203
LEVEL B	1	9144	6196	272249	173244	355746	487753
LEVEL B	2	9875	6859	278135	188208	402522	524219
LEVEL B	3	8525	5866	252524	172549	350151	464924
LEVEL C	1	4828	4059	209349	93375	214524	313953
LEVEL C	2	6322	5320	219970	133993	289793	387712
LEVEL D	1	15514	9341	376220	269526	580966	742770
LEVEL D	2	15918	9718	379572	277510	601372	763370
LEVEL D	3	16618	10209	394645	275002	605173	773050
LEVEL D	4	16992	10546	397758	282777	624589	792644
LEVEL D	5	15188	9167	365653	269095	572776	730881
LEVEL D	6	16670	9892	392046	283024	603184	777758
LEVEL D	7	4809	4111	209052	57110	216120	315976
LEVEL D	8	6319	5326	219712	135278	290660	388660

FLANGE MOMENT

NODE=211	071	OUT FLNGE-D FLANGE MOMENT				
		FA	FB	FC	MA	MB
THERMAL	CASE 1	1314	-1325	-727	82102	31926
THERMAL	CASE 2	-5868	3977	-871	81518	37389
THERMAL	CASE 3	1209	-1533	12	30132	-11662
WEIGHT	CASE 1	527	5710	-29	-3979	5006
EXT FOR	CASE 1	-926	-1196	-70	-6338	16179
EXT FOR	CASE 2	-137	326	-187	-240	11743
RV2 I	CASE 1	652	417	215	12007	7580
RV2 SV11	CASE 1	261	167	86	4833	3032
RV2 I	CASE 2	864	1119	594	24462	26442
RV2 SV11	CASE 2	346	447	238	9785	10577
RV2 I	CASE 3	481	329	302	15110	8623
RV2 SV11	CASE 3	192	132	121	6044	3449
CHUG I	CASE 1	322	133	84	3333	3198
CHUG I	CASE 2	318	132	90	3417	2113
CHUG I	CASE 3	220	100	92	3855	2921
A P I	CASE 1	2443	1516	1090	51846	43011
A P I	CASE 7	2451	1983	1772	76807	53758
A P D	CASE 1	-66	84	51	-260	-3486
A P D	CASE 3	-60	57	7	-101	-719
SSEI	CASE 1	2102	2527	1867	78507	78876
SEISMIC	CASE 1	1051	1263	933	39253	39438
SSEI	CASE 2	1254	1363	815	48202	27030
SEISMIC	CASE 2	627	682	407	24101	13515
SSEI	CASE 3	2846	2966	2415	103789	85828
SEISMIC	CASE 3	1423	1483	1208	51895	42914
COND I	CASE 2	-246	1930	1239	44791	38109
OBE J	CASE 1	193	142	-255	-5709	6029
SSED	CASE 1	385	285	-511	-11578	12057
OBE D	CASE 2	-62	48	68	-676	-4326
SSED	CASE 2	-125	97	135	-1352	-8651
OBE D	CASE 3	449	-104	286	10481	-7695
SSED	CASE 3	898	-208	573	20961	-15389
						1537

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

MEBC-XXXX SH NO. 137
REV NO. 0

FLANGE MOMENT		OUT FLNGE-D FLANGE MOMENT						
NODE-211		FA	FB	FC	MA	MB	MC	MR
LEVL A	1	6395	9687	899	86081	42395	145619	174391
LEVL B	1	8545	12080	2528	156783	105229	285569	342368
LEVL B	2	8668	2101	2671	163084	109662	295623	354986
LEVL B	3	8340	11785	2537	156499	104296	271189	330020
LEVL C	1	7449	10902	1068	94903	59277	210743	238606
LEVL C	2	7682	10943	1616	117838	71622	230215	268355
LEVL D	1	10417	14006	4158	227191	165116	403221	491393
LEVL D	2	10484	14018	4232	230451	167414	408819	498265
LEVL D	3	10974	14412	4382	234002	170806	434676	522375
LEVL D	4	11033	14423	4451	237115	173004	439676	528648
LEVL D	5	10278	13844	4159	226916	164515	395331	484606
LEVL D	6	11595	14665	4762	254668	182136	452557	550307
LEVL D	7	7331	10927	1099	92424	62386	211154	238785
LEVL D	8	7587	10968	1624	117240	73522	230532	268879

FLANGE MOMENT

NODE=044	045	IN MSIV	FLANGE MOMENT	FA	FB	FC	HA	NB	MC
THERMAL	CASE 1	-75195	4575	13980	-2003	-2485748	1285117		
THERMAL	CASE 2	-79313	2770	13826	303322	-2449653	958185		
THERMAL	CASE 3	7088	5380	3782	506422	-595908	1521175		
WEIGHT	CASE 1	-190	-13574	-174	-35541	31295	531353		
EXT. FOR	CASE 1	2553	1306	174	-119398	-290667	172416		
EXT. FOR	CASE 2	28158	323	659	-61249	-431307	30613		
RV2 I	CASE 1	5892	5817	2636	85323	103101	340908		
RV2 SV11	CASE 1	2757	2327	1054	34129	42040	136363		
RV2 I	CASE 2	7561	7032	5831	149930	346700	456400		
RV2 SV11	CASE 2	3025	2813	2732	59972	138680	182560		
RV2 I	CASE 3	8573	6376	4925	134879	206467	373033		
RV2 SV11	CASE 3	3429	2550	1970	53952	82587	149213		
CHUG. I	CASE 1	2720	1330	778	22437	33795	73826		
CHUG. I	CASE 2	1295	1175	778	19458	39154	54720		
CHUG. I	CASE 3	2393	1416	1423	33242	56193	80355		
A P I	CASE 1	25608	19841	11931	336811	593930	1168983		
A P I	CASE 7	30111	21606	26654	626125	1359140	1371496		
A P D	CASE 1	-1063	129	-152	-15281	28899	23450		
A P D	CASE 3	2265	216	77	-11069	-14703	39422		
SSEI	CASE 1	17711	18447	13699	371095	953418	1272101		
SEISMIC	CASE 1	8855	9224	6849	185547	476709	636051		
SSEI	CASE 2	16537	16822	8538	255795	456845	928937		
SEISMIC	CASE 2	3259	8411	4269	127898	228422	464469		
SSEI	CASE 3	31755	26352	26630	655118	1461726	1802817		
SEISMIC	CASE 3	15877	13176	13315	327559	730863	901408		
COND. I	CASE 2	10725	10343	13699	304317	752790	641264		
ORE D	CASE 1	-2171	-143	166	-13713	-28637	-26362		
SSED	CASE 1	-4343	-266	333	-27425	-57273	-52724		
ORE D	CASE 2	-782	-107	31	-1009	-16165	-19084		
SSED	CASE 2	-1564	-215	182	-2017	-32330	-38168		
ORE D	CASE 3	1215	-56	264	5651	-48757	-10067		
SSED	CASE 3	2430	-112	529	11302	-97513	-20133		

FLANGE MOMENT
NODE=044 045

IN MSIV FLANGE MOMENT

	FA	FB	FC	MA	MB	MC	MR	ALLOW	RATIO
LEVL A	1	79503	14154	541964	2517043	2052520	3292735	21266000	0 1548
LEVL B	1	99820	29728	957364	3466535	3262369	4855560	21266000	0 2283
LEVL B	2	103666	40247	996114	3512494	3430085	5003525	21266000	0 2356
LEVL B	3	114123	29741	944522	3518579	3250412	4882386	21266000	0 2296
LEVL C	1	84182	15961	669411	2817576	2263783	3675808	30705500	0 1197
LEVL C	2	93394	23159	765433	2940963	2744313	4094684	30705500	0 1334
LEVL D	1	120057	45353	1347848	4349667	4456813	6371772	33852000	0 1882
LEVL D	2	122114	46577	1368489	4373895	4545424	6454812	33852000	0 1907
LEVL D	3	121274	56723	1402237	4496783	4537866	6540608	33852000	0 1932
LEVL D	4	123274	49306	1421503	4519232	4623685	6619885	33852000	0 1956
LEVL D	5	128651	55257	1340060	4375596	4447709	6381514	33852000	0 1885
LEVL D	6	135986	56627	1609110	4855508	5050032	7188047	33852000	0 2123
LEVL D	7	107786	20300	676155	3037152	2227640	3826730	33852000	0 1130
LEVL D	8	110664	23002	769346	3116961	2734151	4216980	33852000	0 1246

FLANGE MOMENT

NODE=056		045	OUT MSIV				FLANGE MOMENT							
			FA	FB	FC	FD	EA	EB	EC	ED	FA	FB	FC	FD
THERMAL	CASE 1	-75195	4572	13880	-1921	-1479102	955748							
THERMAL	CASE 2	-79313	2767	13826	303402	-1454024	758776							
THERMAL	CASE 3	7088	5380	3782	506445	-423573	1133762							
WEIGHT	CASE 1	-353	2764	-174	-35542	18737	586841							
EXT. FOR	CASE 1	1960	699	487	-108862	-231475	117516							
EXT. FOR	CASE 2	27232	363	2206	12702	-272390	54345							
RV2 I	CASE 1	10344	1724	582	46240	171804	317191							
RV2 SV11	CASE 1	4138	690	233	23256	68721	126877							
RV2 I	CASE 2	8647	2206	1819	309939	350254	368994							
RV2 SV11	CASE 2	3459	882	728	123976	140102	147598							
RV2 I	CASE 3	9062	1725	1102	121079	275353	310471							
RV2 SV11	CASE 3	3625	690	441	48432	110141	124188							
CHUG I	CASE 1	6518	602	186	15524	58056	82587							
CHUG I	CASE 2	1695	293	224	20362	69409	56633							
CHUG I	CASE 3	2898	374	327	29773	89366	67963							
A P I	CASE 1	54262	7023	3212	352533	808235	1187801							
A P I	CASE 7	32517	6547	7115	801212	1418465	1133021							
A P D	CASE 1	-1063	129	-152	-15282	17947	14182							
A P D	CASE 3	2265	216	77	-11068	-9183	23851							
SSEI	CASE 1	23284	6034	4957	519094	731609	1004549							
SEISMIC	CASE 1	11642	3017	2478	259547	365804	502275							
SSEI	CASE 2	18770	4058	2364	258870	375211	742407							
SEISMIC	CASE 2	9385	2029	1182	129435	187606	371203							
SSEI	CASE 3	33358	8606	7512	904263	1137416	1445704							
SEISMIC	CASE 3	16679	4303	3756	452132	568708	722852							
COND. I	CASE 2	13465	3584	4030	499582	979567	695189							
OB. D	CASE 1	-2171	-143	166	-13712	-16652	-16074							
SEL	CASE 1	-4343	-286	333	-27424	-33304	-32148							
OBE I	CASE 2	-782	-107	91	-1008	-9535	-11360							
SSEI	CASE 2	-1564	-215	182	-2016	-19191	-22720							
OBE D	CASE 3	1215	-56	264	5653	-29712	-6018							
SSEI	CASE 3	2430	-112	529	11305	-59424	-12036							

FLANGE MOMENT
NODE-056 045

OUT MSIV FLANGE MOMENT

	FA	FB	FC	MA	MB	MC	MR	ALLOW	RATIO
LEVEL A	79667	8145	14154	541988	1497839	1720603	2344727	21266000	0.1103
LEVEL B	102304	13824	19060	1090270	2237616	2683318	3660029	21266000	0.1721
LEVEL B	107460	14670	19313	1176713	2347370	2836322	3865608	21266000	0.1818
LEVEL B	115025	13793	19313	1079504	2251421	2677663	3661161	21266000	0.1722
LEVEL C	87256	9182	15800	657716	1761951	1889294	2665801	30705500	0.0868
LEVEL C	97489	11521	16403	882070	1991992	2310354	3175502	30705500	0.1034
LEVEL D	125405	19465	23626	1622933	2927704	3639065	4944508	33852000	0.1461
LEVEL D	128165	19912	23749	1669243	2987452	3720565	5055081	33852000	0.1493
LEVEL D	126775	19994	24438	1732148	3226391	3757546	5246817	33852000	0.1550
LEVEL D	129463	20422	24552	1774361	3276132	3834483	5346462	33852000	0.1579
LEVEL D	132355	19424	23739	1616795	2929257	3632407	4938517	33852000	0.1459
LEVEL D	157392	22954	26318	1928131	3551935	4239971	5918756	33852000	0.1748
LEVEL D	106969	8935	16871	651588	1855298	1850076	2699903	33852000	0.0798
LEVEL D	111376	11453	17274	880034	2047575	2300355	3202914	33852000	0.0946

TABLE C11 DETAILED EQUIPMENT INTERFACE: HEAD FITTING FLANGE MOMENTS

HEAD FITTING FLGM

MODE-060	DS9	HF MS-A	FLANGE MOMENT			MA	MB	MC
		FA	FB	FC				
THERMAL	CASE 1	-75195	4576	13980	-1970	1457122	-5198	
THERMAL	CASE 2	-79313	2771	13826	303355	1450009	176891	
THERMAL	CASE 3	7088	5380	3782	506431	370689	3763	
WEIGHT	CASE 1	-428	10287	-174	-35542	-17887	-783749	
EXT FOR	CASE 2	4925	-2997	-829	85449	-84055	276937	
EXT FOR	CASE 3	26213	768	2534	13917	243193	-74658	
RV2 SV11	CASE 1	12676	3627	2091	58242	184008	343065	
RV2 SV11	CASE 2	5070	4351	836	23297	73603	137226	
RV2 SV11	CASE 3	8780	4373	4118	309936	382668	404594	
RV2 SV11	CASE 1	3512	1749	1647	123974	153067	161838	
RV2 SV11	CASE 2	9279	3625	3582	121679	300430	353465	
RV2 SV11	CASE 3	3711	1450	1433	48431	120172	141386	
CHUG 1	CASE 1	9179	908	720	15525	62975	82852	
CHUG 1	CASE 2	1766	2034	850	20363	74830	62767	
CHUG 1	CASE 3	3072	796	1606	29773	99580	77005	
A P 1	CASE 1	74739	13322	9737	352537	867846	1238501	
A P 1	CASE 2	33511	13027	19199	801197	1555973	1267976	
A P 1	CASE 3	-1063	129	-152	-15281	-13997	-12857	
A P 1	CASE 1	2265	216	77	-11069	6918	-21561	
SSEI	CASE 1	26911	11418	7853	519085	762326	1111871	
SEISMIC	CASE 2	13455	5709	3927	259542	381163	555935	
SSEI	CASE 3	19038	8826	4131	258865	396177	853153	
SEISMIC	CASE 1	9519	4413	2065	129432	198089	426576	
SSEI	CASE 2	33868	16481	12802	904243	1227064	1609975	
SEISMIC	CASE 3	16934	8241	6401	452121	613532	804987	
CONO 1	CASE 1	13799	11169	11762	99582	1057729	725817	
OBE D	CASE 2	-2171	-143	166	-13712	18309	13927	
SSED	CASE 3	-4343	-286	333	-27425	36617	27854	
OBE D	CASE 1	-782	-107	91	-1008	9567	11168	
SSED	CASE 2	-1564	-214	182	-2017	19133	22335	
OBE D	CASE 3	1215	-56	264	5652	25837	5795	
SSED	CASE 1	2430	-113	529	1303	51674	11589	

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

KEDC-XXXX SH. NO. 143
REV NO. 0

HEAD FITTING FLGM		HF	MS-A	FB	FC	MA	MB	MC	MR	ALLOW	RATIO
MODE=060		FA									
LEVL B	1	30131	23147		9912	670082	929752	2026875	2328448		
LEVL B	2	24567	21643		8007	579445	771552	1886350	2118812		
LEVL B	3	35720	21267		8364	572871	805344	1853613	2100629		
LEVL B	4	109559	28529		23897	1176687	2387474	2203908	3455696		
LEVL B	5	104020	27024		21993	1086079	2229400	2063401	3226052		
LEVL B	6	115129	26648		22350	1079507	2263161	2030669	3226585		
LEVL B	7	53635	25724		19485	1269428	1824930	2486536	3335368		
LEVL B	8	48558	22715		15678	1088212	1508782	2205523	2885300		
LEVL B	9	70776	21964		16393	1075069	1576304	2140058	2867116		
LEVL C	1	20939	17429		6337	375622	556434	1434180	1583535		
LEVL C	2	11431	14105		2298	129582	180819	1089409	1111889		
LEVL C	3	28427	12773		3374	77205	298288	933106	982661		
LEVL D	1	51543	33328		16926	1162382	1609684	3015162	3610182		
LEVL D	2	48954	32524		15895	1113947	1524649	2940035	3494172		
LEVL D	3	52849	35783		20549	1267536	1923963	3126670	3883857		
LEVL D	4	49909	35058		19710	1223396	1853545	3055235	3777140		
LEVL D	5	54472	32207		15956	1109929	1535427	2919547	3480423		
LEVL D	6	94993	39046		26746	1421295	2345545	3558238	4492518		
LEVL D	7	27100	13381		2840	122116	275197	1070573	1112102		
LEVL D	8	32224	17070		5544	373634	592077	1413544	1588185		

HEAD FITTING FLGM

MODE-116	115	HF SRVDL-A	FLANGE MOMENT	FA	FB	FC	HA	HB	HC
THERMAL	CASE 1	1030	-2779	-724	-64514	-69921	283774		
THERMAL	CASE 2	-331	-3576	-842	-88406	-55243	397059		
THERMAL	CASE 3	1768	22	442	18749	27977	-45251		
WEIGHT	CASE 1	-533	190	-20	4470	-7408	-18443		
EXT. FOR	CASE 1	-3649	5732	-924	-25757	-28538	-201757		
EXT. FOR	CASE 2	-143	180	80	-1532	3500	-5832		
RV2 I	CASE 1	413	530	803	13485	27260	17876		
RV2 SV11	CASE 1	165	212	321	5394	10904	7150		
RV2 I	CASE 2	1985	2538	775	12749	29315	890P5		
RV2 SV11	CASE 2	794	1015	299	5100	11728	35602		
RV2 I	CASE 3	571	1208	635	8345	25038	46612		
RV2 SV11	CASE 3	228	483	254	3338	10015	18645		
CHUG I	CASE 1	140	257	444	7449	14931	9837		
CHUG I	CASE 2	676	452	262	4346	8936	16316		
CHUG I	CASE 3	349	865	352	4408	13791	34002		
A P I	CASE 1	2686	2985	2930	48374	100023	92824		
A P I	CASE 7	3194	5571	2736	35585	109001	207674		
A P D	CASE 1	-69	46	25	-394	1122	-525		
A P D	CASE 3	-56	36	26	-415	1250	-351		
SSEI	CASE 1	5451	5424	1938	35362	75997	150516		
SEISMIC	CASE 1	2726	2712	969	17681	37999	75258		
SSEI	CASE 2	2214	2195	714	13972	28207	51576		
SEISMIC	CASE 2	1107	1097	357	6986	14103	30788		
SSEI	CASE 3	4077	4047	1467	25993	57606	111346		
SEISMIC	CASE 3	2039	2023	734	12997	28803	55673		
COND I	CASE 2	4966	5561	1883	32577	71073	191114		
OBE D	CASE 1	11	132	1938	56497	85742	1245		
SSED	CASE 1	23	265	3875	112994	171484	-6190		
OBE P	CASE 2	74	-56	5	-913	-70	430		
SSED	CASE 2	145	-111	10	-1425	-139	1260		
OBE D	CASE 3	171	-272	-143	-12064	-7693	15537		
SSED	CASE 3	342	-543	-286	-25188	-15386	31075		

HEAD FITTING FLGM

MODE-116

HF SRVCL-A FLANGE MOMENT

115

	FA	FB	FC	MA	PB	MC	MR	ALLOW	RATIO
LEVEL B	4686	4755	1811	35200	75977	160307	180859		
LEVEL B	5644	6936	1588	39021	64739	242981	254467		
LEVEL B	4115	3752	1289	27550	57255	117161	133281		
LEVEL B	6459	6341	3503	158485	187387	558454	610002		
LEVEL B	7416	10519	3359	160359	180759	640728	684779		
LEVEL B	5888	7341	3183	155269	176806	515777	566916		
LEVEL B	8315	9150	5285	131219	220114	285904	383940		
LEVEL B	10230	13506	4991	134967	206859	450452	513726		
LEVEL B	7174	7150	4642	124787	198952	200549	308826		
LEVEL C	2777	3223	1432	27005	55584	127683	143466		
LEVEL C	4263	6010	1135	31988	43566	223930	230361		
LEVEL C	1319	1215	649	14276	29886	57853	66663		
LEVEL C	8035	7924	2920	55745	119711	243783	277252		
LEVEL D	8605	9382	2788	58122	113224	303171	328801		
LEVEL D	9496	9663	3421	64442	138444	313298	348533		
LEVEL D	9979	10886	3309	66486	132929	360873	390245		
LEVEL D	7693	7307	2555	50553	106916	215620	245924		
LEVEL D	8819	9706	4762	80152	185665	319424	378058		
LEVEL D	4195	5925	947	30273	36160	220284	225276		
LEVEL D	2644	3056	1289	24875	54754	120660	134817		

HEAD FITTING FLGM

MODE=156	155	HF SRVDL-B	FLANGE MOMENT	FA	FB	FC	HA	HB	HC
THERMAL	CASE 1	-972	-3291	241	121980	36409	286779		
THERMAL	CASE 2	-4944	-7864	1748	146288	69341	510040		
THERMAL	CASE 3	2237	1399	-301	-6994	60610	-9839		
WEIGHT	CASE 1	-1432	54	70	-9059	-24850	-23854		
EXT. FOR	CASE 1	-4309	-5282	4475	-13867	125747	159296		
EXT. FOR	CASE 2	127	341	8	-7483	-649	-14338		
RV2 I	CASE 1	1269	820	1582	26675	70858	31076		
RV2 SV11	CASE 1	508	328	633	10670	28347	12430		
RV2 I	CASE 2	4129	957	734	16884	71317	67383		
RV2 SV11	CASE 2	1652	383	294	6754	28527	26953		
RV2 I	CASE 3	1347	699	359	22469	28216	36451		
RV2 SV11	CASE 3	539	280	224	8988	11286	14580		
CHUG I	CASE 1	336	369	477	11215	18919	13417		
CHUG I	CASE 2	406	216	151	3545	7438	9376		
CHUG I	CASE 3	331	325	253	10252	9258	13015		
A P I	CASE 1	4912	3497	5618	95417	253108	139795		
A P I	CASE 7	9472	3274	2112	89693	158073	218613		
A P D	CASE 1	-79	-75	5	29	-2004	3553		
A P D	CASE 3	-87	-72	5	188	-1886	3046		
SSEI	CASE 1	5568	2643	4621	56322	233517	154368		
SEISMIC	CASE 1	2784	1321	2311	33161	116759	77184		
SSEI	CASE 2	3691	1343	1362	30907	84197	81429		
SEISMIC	CASE 2	1845	672	681	15453	42098	40714		
SSEI	CASE 3	11053	3114	2638	78248	209716	249737		
SEISMIC	CASE 3	5526	1557	1319	39124	104858	124860		
COND I	CASE 2	8041	1895	1178	34874	129088	137764		
OBE D	CASE 1	-127	-133	261	-7414	24891	4587		
SSED	CASE 1	-253	-265	521	-14828	49742	9174		
OBE D	CASE 2	-89	-51	-14	-318	-3696	1284		
SSED	CASE 2	-177	-101	-28	-637	-7393	2567		
OBE D	CASE 3	-214	-381	60	3694	-1882	26733		
SSED	CASE 3	-428	-762	120	7388	-3765	53465		

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

NEDC-XXXX SH. NO. 147
REV. NO. 0

HEAD FITTING FLGM		HF SRVCL-B FLANGE MOMENT					HEAD FITTING FLGM			
NODE=156		FA	FB	FC	HA	HB	HC	HR	ALLOW	RATIO
LEVEL B	1	9317	2643	3371	75170	217994	197181	303401		
LEVEL B	2	9195	3757	5321	64389	230307	244269	341840		
LEVEL B	3	7891	2231	2817	63143	187333	176867	265259		
LEVEL B	4	14266	10538	5130	221975	288977	703334	797456		
LEVEL B	5	14144	13635	7075	211295	301192	755974	840749		
LEVEL B	6	12840	10132	4577	210063	258622	589297	765599		
LEVEL B	7	15778	5240	6624	133257	389571	350881	540962		
LEVEL B	8	15535	11434	10515	111896	414001	444161	617411		
LEVEL B	9	12328	4429	5519	109432	328860	310806	465537		
LEVEL C	1	5999	1592	1986	50840	131637	109131	178389		
LEVEL C	2	5785	5364	4580	29951	152366	184517	241288		
LEVEL C	3	2067	691	631	26384	47198	49210	73112		
LEVEL D	1	15130	4621	5887	124047	366908	340242	515533		
LEVEL D	2	15061	6886	7177	118206	374009	368298	538051		
LEVEL D	3	17304	4969	5979	128198	389773	368300	551364		
LEVEL D	4	17244	7124	7252	122571	396436	394237	572371		
LEVEL D	5	14347	4368	5563	116449	349813	328870	494049		
LEVEL D	6	18184	6492	8206	178251	465043	424058	654824		
LEVEL D	7	5743	5347	4545	24817	150599	183794	238906		
LEVEL D	8	5959	1535	1902	48524	129277	107761	175156		

HEAD FITTING FLGM

NODE=195	194	HF SRVDL-C	FLANGE MOMENT	FA	FB	FC	HA	HB	HC
THERMAL	CASE 1	8	-2131	-756	-45753	-47453	211909		
THERMAL	CASE 2	-670	-2856	-1015	-75380	-59516	311391		
THERMAL	CASE 3	625	-48	194	15725	20377	-30609		
WEIGHT	CASE 1	-1113	120	30	4202	-12780	650		
EXT. FOR	CASE 1	-1180	11042	2257	61676	94553	-396712		
EXT. FOR	CASE 2	-79	525	154	5961	6667	-20026		
RV2 I	CASE 1	316	1151	829	13153	35255	43405		
RV2 SV11	CASE 1	127	460	332	5261	14102	17352		
RV2 I	CASE 2	1316	5812	1701	72018	83845	227093		
RV2 SV11	CASE 2	527	2325	680	28807	33538	90837		
RV2 I	CASE 3	482	1123	618	13734	27191	42856		
RV2 SV11	CASE 3	193	449	247	5494	10877	17142		
CHUG. I	CASE 1	182	418	463	5028	19156	15108		
CHUG. I	CASE 2	680	421	277	4135	10232	15418		
CHUG. I	CASE 3	280	452	326	5456	14476	17036		
A P I	CASE 1	1378	6373	3026	80614	132677	254963		
A P I	CASE 7	1955	6518	2555	85622	116125	257349		
A P D	CASE 1	23	-84	-22	-1165	-923	3032		
A P D	CASE 3	18	-58	-17	-950	-601	2057		
SSEI	CASE 1	1988	11677	3394	154410	173332	468768		
SEISMIC	CASE 1	994	5839	1697	77205	86656	234384		
SSEI	CASE 2	956	4866	1378	55685	63391	186053		
SEISMIC	CASE 2	478	2433	689	27843	31746	93027		
SSEI	CASE 3	2659	12770	3663	160910	174134	-12675		
SEISMIC	CASE 3	1329	6385	1831	80455	87067	246338		
COND. I	CASE 2	3039	7112	2439	90926	118373	290178		
OBE D	CASE 1	19	26	166	13789	15810	-3630		
SSED	CASE 1	38	52	332	27579	31620	-7261		
OBE D	CASE 2	-84	160	-18	-1780	-937	-2488		
SSED	CASE 2	-167	320	-36	-3561	-1874	-4976		
OBE D	CASE 3	501	-2264	13	19394	-5602	99981		
SSED	CASE 3	1002	-4527	26	38788	-11203	199961		

AE NUCLEAR ENERGY
CAN JOSC, CALIFORNIA

WEDC-XXXX SH. NO 149
REV. NO 0

HEAD FITTING FLGM		HF SRVCL-C FLANGE MOMENT						
MODE-195		FA	FB	FC	MA	MB	MC	MR
		ALLOW						
		RATIO						
LEVEL B	1	3360	10944	3296	141159	171247	424399	478922
LEVEL B	2	3205	14358	3465	134635	171019	531359	574210
LEVEL B	3	2843	9123	2625	119286	139839	353740	398643
LEVEL B	4	4087	14035	4316	218602	231651	747447	812482
LEVEL B	5	3936	17393	4484	212180	231425	852104	908107
LEVEL B	6	3586	12261	3645	197114	200460	679040	734938
LEVEL B	7	4607	22117	5542	278040	318710	870814	968090
LEVEL B	8	4305	28834	6879	265196	318257	1080126	1156845
LEVEL B	9	3605	18569	5200	235064	256329	733999	812228
LEVEL C	1	2738	6196	2118	79172	111236	237394	273856
LEVEL C	2	2515	11187	2373	66460	110869	393314	418763
LEVEL C	3	1875	1032	679	14579	39718	34668	54698
LEVEL D	1	4931	19095	5615	245978	204977	744381	834158
LEVEL D	2	4842	21229	5716	242344	284845	810110	892269
LEVEL D	3	5934	20370	6092	262371	308453	798511	895322
LEVEL D	4	5864	22383	6184	258970	308331	860110	949696
LEVEL D	5	4569	18103	5212	234139	266635	705979	790140
LEVEL D	6	5315	20275	6550	262398	321758	793318	895407
LEVEL D	7	2296	11175	2292	66165	107567	397867	417429
LEVEL D	8	2552	6173	2026	78927	107947	236643	271812

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

NEEC-XXXX SH NO 150
REV NO 0

HEAD FITTING FLGM

NODE-235	234	HF SRVDL-D	FLANGE MOMENT	FA	FB	FC	MA	MB	MC
THERMAL	CASE 1	1395	718	-1319	131652	-28255	33806		
THERMAL	CASE 2	-3976	-5418	2416	122805	77083	135535		
THERMAL	CASE 3	1533	1027	-639	14852	35213	9267		
WEIGHT	CASE 1	-336	429	-307	3726	-13547	-18747		
EXT. FOR	CASE 1	-710	-6006	3784	-5792	135148	220964		
EXT. FOR	CASE 2	-93	210	-111	1334	-4986	-12121		
RV2 I	CASE 1	189	532	385	13044	15012	23821		
RV2 SV11	CASE 1	75	237	154	5218	6005	9528		
RV2 I	CASE 2	419	1073	521	39406	20701	41775		
RV2 SV11	CASE 2	168	429	208	15762	8280	16710		
RV2 I	CASE 3	154	803	451	23757	17802	31178		
RV2 SV11	CASE 3	62	321	181	9503	7121	12471		
CHUG I	CASE 1	65	251	218	3629	8115	10125		
CHUG I	CASE 2	338	162	107	3969	4744	6576		
CHUG I	CASE 3	52	312	210	6241	8467	12040		
A P I	CASE 1	881	2804	1687	77455	61156	112501		
A P I	CASE 7	936	4614	2194	158273	85822	177843		
A P D	CASE 1	-5	20	-20	180	-1014	-875		
A P D	CASE 3	-10	20	-18	386	-800	-1167		
SSEI	CASE 1	906	4637	1819	158289	70499	184079		
SEISMIC	CASE 1	453	2319	909	79144	35250	92040		
SSEI	CASE 2	591	1896	771	65711	29003	74799		
SEISMIC	CASE 2	295	948	385	32855	14502	37400		
SSEI	CASE 3	1270	6051	2451	218254	94176	235714		
SEISMIC	CASE 3	635	3026	1225	109127	47088	117857		
COND I	CASE 2	1698	2511	1158	87877	45602	97616		
OBE D	CASE 1	-483	-1018	908	-17006	44443	34728		
SSED	CASE 1	-965	-2036	1816	-34011	88886	69456		
OBE D	CASE 2	41	64	-53	369	-2022	-969		
SSED	CASE 2	82	129	-105	739	-4044	-1938		
OBE D	CASE 3	-760	-1716	1088	-5900	35402	68171		
SSED	CASE 3	-1521	-3433	2176	-11800	70804	136342		

HEAD FITTING FLGH

234

HF SRVBL-D FLANGE MOMENT

MODE-235

	FA	FB	FC	HA	HE	HC	HR	ALLOW	RATIO
LEVL B	1301	4622	206N	150469	81672	183201	250758		
LEVL B	1432	7605	4406	142598	161652	288164	359867		
LEVL B	1176	4363	1825	142484	74334	173367	236397		
LEVL B	5634	10491	4984	283241	179363	395763	518677		
LEVL B	5733	13296	7060	275413	249274	494453	618444		
LEVL B	5546	10259	4844	275300	173862	386497	505675		
LEVL B	2641	9287	4522	295726	177465	362763	500544		
LEVL B	2838	14898	8674	280069	317287	560142	702046		
LEVL B	2463	8823	4243	279843	165464	343031	474414		
LEVL C	933	1957	1160	52256	47175	78541	105475		
LEVL C	1127	6450	4105	13796	149286	240368	283291		
LEVL C	696	909	647	12081	27145	39667	49561		
LEVL D	2108	8432	3568	285441	139290	332780	460023		
LEVL D	2183	10327	5240	281412	195496	398428	525595		
LEVL D	2766	8806	3753	298713	146704	347160	480907		
LEVL D	2821	10632	5364	294868	200697	410404	543745		
LEVL D	2007	8288	3457	281232	134813	327273	452077		
LEVL D	2442	9962	4498	332447	174127	391869	542588		
LEVL D	1053	6438	4093	9683	148787	240043	282582		
LEVL D	830	1909	1105	51572	45101	77327	103311		

TABLE D1 PIPE DISPLACEMENTS BY NODE DUE TO THERMAL OPERATING CONDITIONS

NODE	X-		Y-		Z-	
	TRANSLATION		TRANSLATION		TRANSLATION	
001	1.95000E-01		1.84500E 00		5.99000E-01	
002	2.18591E-01		1.84779E 00		7.08664E-01	
003	2.23849E-01		1.85001E 00		7.50551E-01	
004	2.29494E-01		1.85695E 00		8.43026E-01	
005N	2.29930E-01		1.86191E 00		8.93083E-01	
005F	-8.90873E-02		1.72189E 00		1.28504E 00	
010	-3.76445E-01		1.56506E 00		1.44933E 00	
012	-5.44748E-01		1.50690E 00		1.54380E 00	
013N	-5.47826E-01		1.50547E 00		1.54552E 00	
013F	-7.21420E-01		1.07311E 00		1.59348E 00	
014	-7.20446E-01		1.07090E 00		1.59196E 00	
015	-6.89443E-01		1.00101E 00		1.54155E 00	
016	-6.67842E-01		9.52680E-01		1.50386E 00	
017	-6.53485E-01		9.18903E-01		1.47509E 00	
018	-6.42215E-01		8.86463E-01		1.44422E 00	
025	-5.77325E-01		9.35673E-01		1.42612E 00	
020	-5.10710E-01		9.85693E-01		1.41067E 00	
021	-4.66053E-01		1.02208E 00		1.40304E 00	
024	-3.96418E-01		1.07905E 00		1.39254E 00	
022	-3.24275E-01		1.14219E 00		1.38167E 00	
023	-4.03055E-01		1.22754E 00		1.45171E 00	
084	-3.87948E-01		9.56856E-01		1.36253E 00	
019	-6.19106E-01		7.68043E-01		1.30330E 00	
026	-6.42649E-01		6.75787E-01		1.14890E 00	
033	-5.90024E-01		7.25007E-01		1.13794E 00	
028	-5.37074E-01		7.75064E-01		1.12627E 00	
029	-5.02376E-01		8.11500E-01		1.11836E 00	
032	-4.48292E-01		8.68469E-01		1.10579E 00	
030	-3.92260E-01		9.31609E-01		1.09481E 00	
031	-5.11120E-01		9.70816E-01		1.11232E 00	
131	-4.04241E-01		7.79523E-01		1.09850E 00	
027	-6.75644E-01		6.42171E-01		1.07603E 00	
035	-6.96683E-01		6.16086E-01		1.01913E 00	
036	-7.60531E-01		5.63658E-01		8.87156E-01	
037	-8.26079E-01		5.16692E-01		7.54576E-01	
038	-8.91935E-01		4.74417E-01		6.21992E-01	
039	-9.68902E-01		4.28734E-01		4.63092E-01	
040N	-1.05965E 00		3.76129E-01		2.60558E-01	
040F	-9.86684E-01		2.95630E-01		3.25432E-02	
042	-9.26125E-01		2.83803E-01		1.41147E-02	
043	-8.16508E-01		2.58768E-01		-1.11825E-02	
044	-6.83407E-01		2.34640E-01		-2.72438E-02	
056	-4.34634E-01		2.00576E-01		-3.34400E-02	
046	-5.82603E-01		2.73316E-01		-3.26032E-02	
047	-6.39132E-01		3.72467E-01		-3.14768E-02	
048	-6.61021E-01		4.00827E-01		-3.10924E-02	

TABLE D1 PIPE DISPLACEMENTS BY NODE DUE TO THERMAL OPERATING CONDITIONS

NODE	X- TRANSLATION	Y- TRANSLATION	Z- TRANSLATION
049	-7.01598E-01	4.53383E-01	-3.03798E-02
050	-7.10264E-01	4.64605E-01	-3.02277E-02
051	-7.76499E-01	5.50387E-01	-2.90647E-02
052	-5.95716E-01	4.49155E-01	-3.15152E-02
053	-6.01780E-01	4.56952E-01	-3.14157E-02
054	-6.38115E-01	5.03350E-01	-3.08219E-02
055	-6.48652E-01	5.16701E-01	-3.06505E-02
057	-2.66429E-01	1.84769E-01	-2.51929E-02
058	-1.83248E-01	1.79224E-01	-1.82265E-02
059	2.77790E-01	1.65896E-01	1.88136E-02
060	2.97701E-01	1.65690E-01	1.92601E-02
062	2.10000E-01	1.67000E-01	1.90000E-02
063	-7.16166E-01	6.12052E-01	8.79792E-01
064	-6.69777E-01	6.62900E-01	8.73446E-01
065	-6.39709E-01	6.99312E-01	8.70581E-01
068	-5.93037E-01	7.56280E-01	8.66975E-01
066	-5.44684E-01	8.19421E-01	8.63240E-01
067	-6.69411E-01	8.48544E-01	8.58153E-01
168	-5.36350E-01	6.72816E-01	8.70194E-01
069	-8.53777E-01	5.23626E-01	6.16914E-01
070	-8.14191E-01	5.73640E-01	6.13912E-01
071	-7.87377E-01	6.10024E-01	6.13633E-01
074	-7.45680E-01	6.66992E-01	6.13542E-01
072	-7.02482E-01	7.30133E-01	6.13448E-01
073	-8.25736E-01	7.57749E-01	6.02984E-01
211	-6.85899E-01	5.83872E-01	6.18433E-01
085	-3.79317E-01	9.37186E-01	1.34443E-00
086	-3.10429E-01	7.78899E-01	1.19849E-00
087N	-2.95800E-01	7.45067E-01	1.16808E-00
087F	-2.35876E-01	6.46987E-01	1.13437E-00
089	-1.84006E-01	5.48085E-01	1.14506E-00
090	-1.52084E-01	4.71450E-01	1.15162E-00
091	-1.40633E-01	4.40443E-01	1.15425E-00
093M	-7.38866E-02	1.92244E-01	1.17233E-00
093F	-7.00287E-02	1.06417E-01	1.16526E-00
095	-7.22777E-02	9.17381E-02	1.15795E-00
096	-7.68269E-02	6.27886E-02	1.14318E-00
097	-8.43224E-02	1.74147E-02	1.11728E-00
099N	-8.88578E-02	-1.05604E-02	1.10287E-00
099F	-9.81127E-02	-7.20171E-02	9.54990E-01
101	-9.57416E-02	-7.57355E-02	8.62533E-01
102	-9.31988E-02	-7.89854E-02	7.81756E-01
104	-9.02772E-02	-8.22372E-02	7.01377E-01
103	-9.69286E-02	-1.33915E-01	7.90058E-01
105	-7.95571E-02	-9.11943E-02	4.60615E-01
107N	-7.29254E-02	-9.76863E-02	3.33365E-01

TABLE D1 PIPE DISPLACEMENTS BY NODE DUE TO THERMAL OPERATING CONDITIONS

NODE	X- TRANSLATION	Y- TRANSLATION	Z- TRANSLATION
107F	-4.45338E-02	-5.46750E-03	2.03900E-01
108	-3.38414E-02	3.47333E-02	1.97619E-01
109	-1.82407E-02	8.99879E-02	1.88793E-01
110N	1.83690E-02	2.09730E-01	1.68183E-01
110F	3.85105E-02	2.48179E-01	1.22062E-01
112	4.06995E-02	2.44943E-01	1.10506E-01
114	4.24772E-02	2.41691E-01	1.01156E-01
113	4.0859E-02	2.54375E-01	1.06519E-01
115	4.44924E-02	2.35501E-01	9.06144E-02
117	4.50000E-02	2.19000E-01	8.80000E-02
118	-1.02302E-01	-2.13048E-01	8.02017E-01
119	-1.03673E-01	-2.11401E-01	8.42964E-01
120	-1.07675E-01	-2.92180E-01	8.13977E-01
121	4.65239E-02	2.67961E-01	1.00776E-01
122	4.55309E-02	2.69609E-01	1.06016E-01
123	4.99618E-02	2.81548E-01	9.50330E-02
132	-3.86382E-01	7.70004E-01	1.08176E-00
133	-2.89836E-01	7.18103E-01	9.90855E-01
134	-2.21095E-01	6.79377E-01	9.26464E-01
135N	-1.90208E-01	6.60920E-01	8.97590E-01
135F	-1.27268E-01	6.34706E-01	8.77601E-01
136	-6.82582E-02	6.15677E-01	8.87542E-01
137	3.13391E-03	5.85498E-01	8.99698E-01
139N	1.49068E-01	4.92866E-01	9.25364E-01
139F	1.63591E-01	4.25335E-01	8.56358E-01
141	1.43110E-01	4.22128E-01	8.01617E-01
142	1.19573E-01	4.18913E-01	7.45288E-01
144	1.03108E-01	4.15697E-01	7.84294E-01
146	8.37182E-02	4.12481E-01	6.87841E-01
145	1.29261E-01	3.56029E-01	6.29607E-01
149N	-5.21325E-03	3.96474E-01	6.76474E-01
149F	9.73194E-03	3.11688E-01	3.39506E-01
151	3.90836E-02	2.60721E-01	2.25900E-01
153N	6.69236E-02	2.13350E-01	2.10640E-01
153F	8.59150E-02	1.63701E-01	1.96482E-01
155	8.04393E-02	1.51447E-01	1.47712E-01
156	8.02443E-02	1.49399E-01	1.16821E-01
157	8.00000E-02	1.35000E-01	1.15606E-01
158	8.56658E-02	5.14330E-01	1.14000E-01
159	9.60247E-02	5.15977E-01	7.59340E-01
160	5.17590E-02	5.68752E-01	7.87544E-01
161	1.66935E-01	2.70074E-01	7.34387E-01
162	1.76905E-01	2.71721E-01	6.60102E-01
163	2.04605E-01	1.84126E-01	6.89445E-01
169	-5.14532E-01	6.64199E-01	6.43729E-01
			8.57183E-01

TABLE D1 PIPE DISPLACEMENTS BY NODE DUE TO THERMAL OPERATING CONDITIONS

NODE	X- TRANSLATION	Y- TRANSLATION	Z- TRANSLATION
170.	-3.92279E-01	6.11434E-01	7.83931E-01
171	-2.11780E-01	5.17010E-01	6.76496E-01
172N	-1.32060E-01	4.66440E-01	6.29605E-01
172F	-9.68284E-02	4.12529E-01	5.47812E-01
173	-1.06626E-01	4.09307E-01	5.14285E-01
174	-8.33692E-02	3.78522E-01	4.95604E-01
176N	-1.15882E-01	4.06058E-01	4.79535E-01
178	-8.99943E-02	2.91021E-01	4.56852E-01
179	-6.69494E-02	4.29500E-02	5.02206E-01
180	-6.98514E-02	-7.52742E-02	5.11677E-01
181N	-7.40124E-02	-1.47177E-01	5.15505E-01
181F	-7.75945E-02	-2.27231E-01	4.21865E-01
183	-7.33100E-02	-2.31705E-01	3.49898E-01
184	-6.90453E-02	-2.35809E-01	2.84510E-01
186N	-6.74342E-02	-2.37308E-01	2.60857E-01
186F	-4.88452E-02	-1.63305E-01	1.68813E-01
189N	4.29321E-02	2.28424E-01	1.31465E-01
189F	5.55686E-02	2.57098E-01	9.92253E-02
191	5.69672E-02	2.53864E-01	9.06519E-02
193	5.81507E-02	2.50630E-01	8.37452E-02
192	5.31215E-02	2.49527E-01	9.00563E-02
194	5.95785E-02	2.44474E-01	7.59445E-02
195	5.97536E-02	2.42415E-01	7.50971E-02
196	6.00000E-02	2.28000E-01	7.40000E-02
197	-4.98734E-02	3.34182E-01	4.68691E-01
198	-4.49984E-02	3.35829E-01	4.85993E-01
199	-1.63741E-02	2.89839E-01	4.41778E-01
200	4.75829E-02	2.43282E-01	8.91980E-02
201	4.69488E-02	2.44929E-01	9.30648E-02
212	-6.64236E-01	5.75392E-01	6.06652E-01
213	-5.41501E-01	5.23798E-01	5.39685E-01
214	-3.57432E-01	4.40292E-01	4.39288E-01
215	-3.02949E-01	3.81434E-01	4.09687E-01
217N	-2.27308E-01	3.51258E-01	3.68823E-01
217F	-1.74029E-01	3.48016E-01	3.17274E-01
219	-1.76621E-01	3.48016E-01	3.08972E-01
221	-1.78379E-01	3.44762E-01	3.00673E-01
220	-2.14834E-01	3.55501E-01	2.95386E-01
222	-1.79405E-01	3.41507E-01	2.92349E-01
224	-1.79808E-01	3.38253E-01	2.83947E-01
223	-1.79451E-01	3.33992E-01	2.74241E-01
225	-1.79451E-01	3.33144E-01	2.70459E-01
226	-1.78020E-01	3.27207E-01	2.54066E-01
228N	-1.76511E-01	3.22435E-01	2.40162E-01
228F	-1.23228E-01	2.95364E-01	1.95238E-01
230	-1.77047E-02	2.37793E-01	1.49966E-01

TABLE D1 PIPE DISPLACEMENTS BY NODE DUE TO THERMAL OPERATING CONDITIONS

NODE	X- TRANSLATION	Y- TRANSLATION	Z- TRANSLATION
232N	7.13091E-02	1.83315E-01	1.13791E-01
232F	9.75723E-02	1.61904E-01	9.38965E-02
234	9.86055E-02	1.49505E-01	8.91152E-02
235	9.87467E-02	1.47432E-01	8.90348E-02
236	9.90000E-02	1.33000E-01	8.90000E-02
238	-2.68730E-01	3.67931E-01	2.80070E-01
239	-3.24330E-01	3.77067E-01	2.56242E-01
240	-9.52512E-02	3.23165E-01	2.48155E-01
241	-9.48466E-02	3.24812E-01	2.52433E-01
242	-4.55795E-02	3.12338E-01	2.22063E-01

MAXIMUM DISPLACEMENT, 1.86191E-01, OCCURED AT JOINT, 305N
MAXIMUM ROTATION, 9.48742E-03, OCCURED AT JOINT, 101.

TABLE E1 LIST OF GLOBAL COORDINATES BY NODE

JOINT IDEN.	GLOBAL -- COORDINATES (INCHES)		
	X	Y	Z
001	48.13	611.97	148.13
002	58.09	611.97	178.79
003	61.79	611.97	190.17
004	69.75	611.97	214.66
005N	73.94	611.97	227.56
005F	91.24	555.97	280.82
010	91.24	517.01	280.82
012	91.24	494.76	280.82
013N	91.24	494.35	280.82
013F	130.80	452.35	267.97
014	131.19	452.35	267.84
015	143.66	452.22	263.79
016	152.57	452.13	260.89
017	159.00	452.06	250.79
018	165.11	452.00	255.97
025	165.11	466.00	255.97
020	165.11	480.45	255.97
021	165.11	490.22	255.97
024	165.11	505.49	255.97
022	165.11	521.32	255.97
023	146.24	521.32	254.99
084	179.82	490.22	261.61
019	188.44	451.71	241.41
026	207.51	451.42	221.64
033	207.51	465.42	221.64
028	207.51	479.87	221.64
029	207.51	489.64	221.64
032	207.51	504.91	221.64
030	207.51	520.74	221.64
011	193.68	520.74	208.76
131	219.03	489.64	232.38
027	214.23	451.29	209.99
035	219.96	451.18	201.73
036	231.83	450.94	181.13
037	243.66	450.71	160.67
038	255.46	450.47	140.22
039	269.73	450.18	115.50
040N	288.44	449.81	83.10
040F	336.93	449.16	55.12
042	354.33	448.99	55.12
043	385.83	448.67	55.12
044	424.05	448.29	55.12
056	496.05	447.57	55.12
046	451.48	463.37	55.12
047	432.07	489.61	55.12
048	424.94	496.89	55.12

TABLE E1 LIST OF GLOBAL COORDINATES BY NODE

JOINT IDEN	GLOBAL -- COORDINATES (INCHES)		
	X	Y	Z
049	411.71	510.39	55.12
050	408.88	513.27	55.12
051	387.29	535.30	55.12
052	439.72	511.39	55.12
053	437.88	513.27	55.12
054	426.85	524.52	55.12
055	423.67	527.76	55.12
057	544.32	447.09	55.12
058	568.18	446.85	55.12
059	700.37	445.53	55.12
060	706.08	445.47	55.12
061	708.25	445.45	55.12
062	647.27	446.06	55.12
063	231.83	464.71	181.13
064	231.83	479.39	181.13
065	231.83	489.16	181.13
068	231.83	504.43	181.13
066	231.83	520.26	181.13
067	221.10	520.26	165.58
158	240.77	489.16	194.10
069	255.46	464.47	140.22
070	255.46	478.92	140.22
071	255.46	488.69	140.22
074	255.46	503.96	140.22
072	255.46	519.79	140.22
073	245.31	519.79	124.28
211	263.91	488.69	153.50
085	184.15	490.17	263.28
086	218.39	489.69	276.46
087N	225.69	489.66	279.25
087F	235.80	489.49	295.31
089	234.18	489.29	314.87
090	233.03	489.06	328.58
091	232.60	489.01	333.86
092	232.05	488.94	340.35
093N	229.40	488.69	372.42
093F	221.82	486.75	384.80
095	218.37	485.80	386.87
096	211.80	484.01	390.13
097	201.93	481.10	396.73
099N	196.10	479.58	400.24
099F	185.52	464.16	406.62
101	185.52	454.45	406.62
102	185.52	445.95	406.62
104	185.52	437.45	406.62
103	191.53	445.95	412.63

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

NEDC-XXXX SH NO 159
REV NO 0

TABLE E1 LIST OF GLOBAL COORDINATES BY NODE

JOINT IDEN	GLOBAL -- COORDINATES (INCHES)		
	X	Y	Z
105	185.52	411.42	406.62
107N	185.52	397.06	406.62
107F	182.05	381.26	391.46
108	180.24	381.14	383.58
109	177.60	381.02	372.09
110N	171.20	380.82	344.02
110F	167.89	365.82	329.50
112	167.89	357.36	329.50
114	167.89	348.86	329.50
113	165.59	357.36	321.29
115	167.89	332.68	329.50
116	167.89	327.26	329.50
117	167.89	289.37	329.50
118	200.19	445.95	421.29
119	200.19	450.28	421.29
120	208.85	445.95	429.95
121	162.52	357.36	309.46
122	162.52	351.69	309.46
123	159.35	357.36	297.63
132	222.42	489.59	235.55
133	240.63	489.25	252.52
134	253.58	489.09	264.61
135N	259.49	489.05	270.11
135F	264.47	488.93	282.98
136	263.32	488.79	296.92
137	261.85	488.54	314.57
139N	258.69	488.21	352.82
139F	257.46	473.21	367.64
141	257.46	464.73	367.64
143	257.46	456.23	367.64
142	261.71	464.73	360.28
144	257.46	447.73	367.64
146	257.46	439.23	367.64
145	261.71	447.73	375.00
147	257.46	426.58	367.64
149N	257.46	396.92	367.64
149F	266.43	381.12	380.46
151	273.82	380.99	391.03
153N	281.21	380.87	401.60
153F	290.18	365.07	414.41
155	290.18	332.68	414.41
156	290.18	327.26	414.41
157	290.18	289.37	414.41
158	267.83	464.73	349.68
159	267.83	469.06	349.68
160	273.96	464.73	339.07

GE NUCLEAR ENERGY
SAN JOSE, CALIFORNIA

NEDC-XXXX SH. NO. 160
REV. NO. 0

TABLE E1 LIST OF GLOBAL COORDINATES BY NODE

JOINT IDEN	GLOBAL -- COORDINATES (INCHES)		
	X	Y	Z
161.	267.83	447.73	385.61
162.	267.83	452.06	385.61
163.	273.56	447.73	396.21
169.	243.41	489.11	197.92
170.	258.15	488.78	219.29
171.	280.47	489.39	251.69
172N	291.01	488.24	266.99
172F	299.45	473.24	279.24
173.	299.45	464.77	279.24
174.	305.46	464.77	285.26
176N	299.45	456.23	279.24
176F	290.25	441.23	290.85
178.	279.88	441.02	303.94
179.	240.75	440.39	353.27
180.	223.62	440.12	374.88
181N	213.51	440.00	387.62
181F	203.76	424.20	399.90
183.	203.76	412.44	399.90
184.	203.76	401.65	399.90
186N	203.76	397.71	399.90
186F	204.98	381.91	384.31
189N	213.16	380.86	279.46
189F	211.32	365.86	264.66
191.	214.32	357.36	264.66
193.	214.32	348.86	264.66
192.	206.61	357.36	268.25
195.	214.32	332.68	264.66
196.	214.32	327.26	264.66
197.	314.12	289.37	264.66
198.	314.12	464.77	293.91
199.	322.78	469.10	293.91
200.	195.51	464.77	302.57
201.	195.51	357.36	273.42
202.	184.42	361.69	273.42
212.	266.40	357.36	278.60
213.	280.47	488.64	157.42
214.	301.61	468.31	179.53
215.	307.95	487.91	212.72
217N	316.86	487.80	222.68
217F	324.84	487.67	236.70
219.	324.84	472.67	249.26
221.	324.84	464.20	249.26
220.	327.04	455.70	249.26
222.	324.84	464.20	241.05
224.	324.84	447.20	249.26
		438.70	249.26

TABLE E1 LIST OF GLOBAL COORDINATES BY NODE

JOINT IDEN	GLOBAL -- COORDINATES (INCHES)		
	X	Y	Z
223	329.40	447.20	256.43
225	324.84	425.35	249.26
226	324.84	409.84	249.26
228N	324.84	397.38	249.26
228F	332.61	381.58	262.83
230	350.40	381.22	293.89
232N	368.19	360.87	324.94
232F	375.96	365.07	338.52
234	375.96	332.68	338.52
235	375.96	327.26	338.52
236	375.96	289.37	338.52
237	330.21	464.20	229.22
238	330.21	468.53	229.22
239	333.38	464.20	217.39
240	335.97	447.20	266.76
241	335.97	451.53	266.76
242	342.55	447.20	277.09
7001 X	49.13	611.97	148.13
A001 Y	48.13	612.97	148.13
A001 Z	48.13	611.97	149.13
A062 X	648.27	446.06	55.12
A062 Y	647.27	447.06	55.12
A062 Z	647.27	446.06	56.12
A117 X	168.89	289.37	329.50
A117 Y	167.89	290.37	329.50
A117 Z	167.89	289.37	330.50
A157 X	291.18	289.37	414.41
A157 Y	290.18	290.37	414.41
A157 Z	290.18	289.37	415.41
A196 X	215.32	289.37	264.66
A196 Y	214.32	290.37	264.66
A196 Z	214.32	289.37	265.66
A236 X	376.96	289.37	338.52
A236 Y	375.96	290.37	338.52
A236 Z	375.96	289.37	339.52
G003 X	355.33	448.99	55.12
G003 Y	354.33	449.99	55.12
G003 Z	354.33	448.99	56.12
AH001	218.39	490.69	276.46
AH006	180.24	382.14	383.58
BH002	240.63	490.25	252.52
CH001	258.15	489.78	219.29
CH005	223.62	441.12	374.88
DH001	280.47	483.31	179.53
S001	190.43	470.87	184.69
S002	229.25	415.04	152.36

TABLE E1 LIST OF GLOBAL COORDINATES BY NODE

JOINT IDEN	GLOBAL -- COORDINATES (INCHES)		
	X	Y	Z
AS002	194.41	495.91	325.43
AS003	232.05	449.57	340.35
AS004	182.36	470.91	429.33
AS005	189.02	518.07	400.87
AS007	140.87	392.52	380.39
BS001	229.25	505.75	290.71
BS003	300.51	495.39	317.83
CS002	311.85	498.58	230.20
CS003	308.94	427.56	326.81
CS004	240.75	479.76	353.27
CS006	196.93	401.65	361.14
DS002	334.33	494.76	191.97
DS003	313.74	449.02	219.02
DS004	299.53	425.35	219.09

FIGURE E2 STRESS ISOMETRIC (NODE) DIAGRAM

