~~Job No. 23438-300~~ ~~Bechtel Calculation: RC5035-P-200 R1~~ 1/2 [initials] 10-5-01

31017697	0PGP04-ZE-0309	Rev. ~~7~~8	Page of
	Design Change Package		Z3103
Form 5	Document Change Notice (DCN)		Page 1 of 1

DCP No.: 98-19444-2 Supp.: 0 Page ____ of ____

DCN No.: 0000065 Page 1 of 135

DOC No. RC5035 SHT. ____ REV. 5

PRIORITY 1 DOC ?: YES ☐ NO ☒

DESCRIPTION OF CHANGE: AFFECTED UNIT ☐ 0 ☐ 1 ☒ 2 ☐ BOTH

Bechtel Calculation No RC5035-P-200 Rev 1

The existing feedwater line for loop B inside containment has been redesigned & reanalyzed in conjunction with the replacement of steam generator "B" for unit-2.

Supplement the existing calculation 2C159RC5035 Rev. 5 with the DCN 0000065, analyzed for the unit-2 system.

[initials] 5-15-00 Add pages ~~1~~ 2 thru 135 of this DCN to the existing calculation.

There is only one outstanding amendment (DCN SC00163) against the design calculation RC5035. There is no impact due to this DCN which was issued only to incorporate the current revision of documents.

Additionally, DCN 9800858 directing the use of water hammer results of Calc. # CCO6436 Rev. 0 applies to the existing (Pre-SGR) configurations of units 1 & 2.

DO NOT INCORPORATE

STATE OF TEXAS
ANESTIS PAPADOPOULOS
83146
REGISTERED PROFESSIONAL ENGINEER

[signature] 7/19/01

[signature] 10/23/00

[signature]	5-15-00	[signature]	5/17/00
DESIGN ENG.	DATE	REVIEWER	DATE

Calculation No. 2C159RC5035 Rev. 5

Page 1A

List of Effective Pages

Page No.	Latest Rev.	Page No.	Latest Rev.	Page No.	Latest Rev.	Page No.	Latest Rev.	Page No.	Latest Rev.	Page No.	Latest Rev.	Page No.	Latest Rev.
1	5												
1A*	5												
2,3	4												
4	3												
5-9	4												
10	2												
11	4												
12-22	2												
23	4												
24-134	2												
134A-G	4												
135,136	2												
137-142	4												
143-149	2												
150,151	4												
152-177	2												
177A-C	4												
178	4												
179	2												
180,181	4												
182-192	2												
194	2												
A1-10	3												
A11	4												
A12,A13	3												
B1-B8	4												
C1-61	5												

* affected by DCN 0000065

Total Number of Calculation Pages: 435

CALCULATION SHEET

PROJECT STP-SGR
JOB NO 23438-300

SUBJECT EVALUATION OF MFW PIPING SYSTEM DUE TO SGR (UNIT 2 LOOP B)

CALC NO RC5035
ORIGINATOR C.BASAVARAJU DATE _____ SHEET NO _____
SHEET REV 5

TABLE OF CONTENTS

1.0 OBJECTIVE/SCOPE

The purpose of this attachment is to review the latest design drawings, all open amendments, piping and support deviations - especially unit-2 support stiffnesses, and routing change due to the relocation of the steam generator main feedwater nozzle resulting from unit-2 RSG, against unit-1 RSG analysis and to reanalyze or reconcile the results for unit-2.

2.0 DESIGN INPUT

Most of the input data for unit-1 RSG is also applicable to unit-2 RSG and hence is not repeated here for simplicity. Only unit-2 specific pipe support stiffness data is listed here. Major design input data such as Input LOCA time history functions, response spectra & SAM movements, thermal movements of the RSG nozzle, and Water hammer input forcing functions for unit-2 are the same as for unit-1. (Refer to U1 DCN # 9704761)

2.1 PIPE SUPPORT DATA SUMMARY

Node	Tag# ***	Support Type	DIRECTION COSINES W/X	W/Y	W/Z	Stiffness Kips/in	Sup Comp Wt. (LB)	
001	SGR CL	Anchor				*	---	
007	HL5016	Rigid	0.927	0.000	-0.375	1859	0	New
009	HL5015	Spring	0.000	1.000	0.000	-	50	New
011	HL5014	Rigid	-1.000	0.000	0.000	662	902	New
011	HL5014	Rigid	-0.242	0.000	-0.970	1470		New
014	HL5013	Rigid	-0.975	0.000	-0.223	3208	1133	New
014	HL5013	Rigid	-0.540	0.000	-0.842	1444		New
027	HL5012	Snubber	-0.469	0.000	-0.883	757	150	
040	SH0001	Spring	0.000	1.000	0.000	--	120	
042	HL5009	Snubber	0.000	1.000	0.000	898		
13	HL5008	Spring	0.000	1.000	0.000	-	120	
050	HL5001	Snubber	1.000	0.000	0.000	872	900	
055	HL5002	Snubber	0.464	0.000	-0.882	1148	491	
080	HL5003	Snubber	0.000	0.000	1.000	1100	850	
085	HL5006	Rigid	0.000	0.997	-0.073	560		
095	SH0004	Spring	0.000	1.000	0.000	-	150	
95B	HL5004	Rigid	1.000	0.000	0.000	853		
10A	HL5011	Rigid	0.000	0.000	1.000	1554	250	
110	PEN M7	Anchor				**	--	

Notes: * SGR CL modeled as rigid anchor (SG center line)

** Fluedhead Penetration M7 modeled as anchor with the following translational & rotational stiffnesses. (Ref. 5.1)
AA=6.4E6 lb/in; AB=6.4E6 lb/in; AC=6.4E6 lb/in
ARA=7.45E9 in-lb/rad; ARB=7.45E9 in-lb/rad; ARC=7.45E9 in-lb/rad

*** Prefix for pipe support tag# : FW-2014-

3.0 METHOD OF ANALYSIS

The stress methodology used for unit-2 RSG is the same as that of unit-1. (Refer to U1 DCN # 9704761)

4.0 SUMMARY OF RESULTS

The rerouted main feedwater piping system due to steam generator replacement was stress analyzed and meets the ASME Code and other requirements and is acceptable.

5.0 REFERENCES

5.1 STRESS ANALYSIS FOR FEEDWATER "FW" SYSTEM FROM STEAM GENERATOR 1B THRU FW-1014-GA2 TO PENETRATION M-7, CALC NO. 2C159RC5035 REV. 5

5.2 HYDRAULIC TRANSIENT ANALYSIS OF FEEDWATER LINE BREAK IN CONJUNCTION WITH CHECK VALVE SLAM, CALC.# 5S139MC5668 REV. 0 (DCN# 0000071)

5.3 ME101 Linear Elastic Analysis of Piping---------- Version N5

5.4A ASME B&PV CODE , SECTION III, DIV. 1, 1974 INCLUDING W75 ADDENDA
5.4B ASME B&PV CODE ,SECTION III, DIV.1, 1980 INCLUDING W81 ADDENDA
5.4C ASME B&PV CODE ,SECTION XI, 1980 INCLUDING S83 ADDENDA.

5.5 RE-EVALUATION OF PENETRATIONS M5 THRU M8, CALC. NO. 2L469RC9962 REV. 2
5.6 RCB Digitized Response Spectrum, Bechtel Calc. # RC1425 Rev. 2
5.7 Seismic Analysis of RCB, Brown & Root Calc. # C040-9A

5.8 Westinghouse Input Information
a) Feedwater Nozzle Design Loads (MFW nozzle)
Westinghouse Design Specification #414A21 Rev. 0 p. 99 of 273
b) RCS LOOP Bnalysis -Displacements for D.W., Thermal, seismic, LOCA
Westinghouse letter #WP-BEC-SGR-97-051 from S.A.Palm to R. Beck, Dt. June 27, 1997
c) TGX RCL LOCA Time History Displacements,
Westinghouse letter #WP-BEC-SGR-97-067 from S.A.Palm to R. Beck, Dt. July 18, 1997
d) STP2 SGR- Confirmation of Stress Calculation Input; Westinghouse letter (dated June 28,2000)#WP-BEC-STP2-SGR-00-011 from S.A.Palm to R.A.Beck.
e) Unit 2 RSG Subcompartment Pressurization Analysis, Letter # ST-NOC-WN-000018, Dt. November 29, 1999 from M.E.Kanavos to S.Palm.

5.9 Bechtel Calc. No. CC06415 Rev. 0, DT. 07/25/97 - Reconciliation of reactor Building Seismic Analysis Due to Steam Generator Replacement.

5.10 Piping Isometrics (See Att # 4)
Design Iso (existing portion) 2C369PFW433 -01 -7
ABR Iso (existing portion)
Stress Iso (new piping) & DCN No. 0001945 (DCP No. 98-19444-2)

5.11 Piping Stress Analysis Criteria, 5L010RQ1002 Rev. 8
Guidelines for Pipe Stress Analysis and Support Design, PED-023 Rev. 4
5.12 Unit-1 SGR Stress calculation DCN #9704761
5.13 DCN No. 0003459, CALC. MC5324 Rev.7, HAZARDS ANALYSIS, PROBLEM NO. FW-02

6.0 ASSUMPTIONS /OPEN ITEMS

NONE

7.0 CALCULATIONS

None

8.0 CALCULATION RESULTS AND CONCLUSIONS

8.1 ME101 Input Listing:
Attachment #1 contains the input listings for the me101 analysis.

8.2 Piping Stresses:
All stresses are within the code allowables. (See Section 8.14).

8.3 Fluedhead Penetration loads:
The revised loadings on fluedhead penetration M-7 are summarized in section 8.15.
These loadings are not significantly different from unit-1 SGR results (any increases are less than 10%) and hence are judged acceptable without any further evaluation. (Refer to U1 DCN # 9704761)

8.4 Equipment Nozzle Loads
The loads imposed by the piping on the replacement steam generator feedwater nozzle are summarized and compared with the allowable nozzle loads. (see section 8.16).
These loadings are not significantly different from unit-1 SGR results (any increases are less than 10%) and hence are judged acceptable without any further evaluation.
The nozzle loadings are submitted to Westinghouse for acceptance. (See Attachment# 8).

8.5 Floor and Wall penetrations:
The displacements at floor and wall penetrations are summarized, These displacements are considered to be acceptable as the differences between Unit-1 SGR & unit-2 SGR results are not significant(See section 8.18). (Refer to U1 DCN # 9704761)

8.6 Branch connections:
The piping movements for the small pipe connections are summarized (See section 8.17).

8.7 Valve Acceleration and End Loads:
There are no valves within the boundaries of this stress problem.

8.0 CALCULATION RESULTS AND CONCLUSIONS (cont'd.)

8.8 Support Information:
Pipe support loads and other information were provided to the pipe support group for design, evaluation, and any modification. (Attach.#2)

4 new supports were added on the new section of the pipe (3 rigids, & 1 spring hanger).

8.9 Welded Attachments:
The local stresses at welded attachments are judged acceptable. The general piping stresses and support loadings at the welded attachments are not significantly different from unit-1 SGR results (any increases are less than 10%) and hence are judged acceptable without any further evaluation. (Refer to U1 DCN # 9704761) Similarly, the impact of revised loads on the generic IWA calculation is judged to be not significant.

8.10 Flanges:
There are no flanges in this stress problem.

8.11 HELB Criteria:
The combined eq. 9-B and eq. 10 stresses meet the high energy piping criteria. No intermediate pipe break locations are identified. (See Attachment #3)

8.12 Functional Capability:
Per reference # 5.11, this system is not an essential system and therefore does not require functional capability evaluation.

8.13 Conclusion:
As shown by the stress analysis evaluation, the revised feedwater piping system due to the steam generator replacement is acceptable.

8.14 Pipe Stress Summary

STRESS SUMMARY

MFID : G02108/G01414/G02938 / G02213
ASME-SEC 111-74

NODE POINT	STRESS EQUATION	CALCULATED STRESS (PSI)	ALLOWABLE STRESS (PSI)	STRESS RATIO	REMARKS
95B	EQUATION 8	6620.	15000.	.441	O.K.
95B	EQUATION 9B (UPSET)	8440.	18000.	.469	O.K.
95B	EQUATION 9D (FAULTED w/SSE)	9816.	36000.	.273	O.K.
008 B	EQUATION 9D (FAULTED w/wat.hammer)	35608.	36000.	.989	O.K.
95B	EQUATION 9D (FAULTED JET):	10417.	36000.	.289	O.K.
007	EQUATION 9D (FAULTED LOCA):	11583.	36000.	.322	O.K.
100 E	EQUATION 10/11	19839.	22500.	.882	O.K.

8.15 Penetration Load Summary

SECTION 8.15 PENETRATION LOAD SUMMARY

NODE NUMBER : 110
EQUIPMENT ID: PEN M-7
COSAX, COSAY, COSAZ : 1.000 0.000 0.000
COSBX, COSBY, COSBZ : 0.000 1.000 0.000
COSCX, COSCY, COSCZ : 0.000 0.000 1.000

LOAD CASE	NOZZLE FORCE (LBS) FA	FB	FC	NOZZLE MOMENT (FT-LBS) MA	MB	MC
WT1	447	-2280	18	2083	-28	-5053
THRM1	-39185	1094	19154	-6508	-50469	21209
THRM2	-28163	127	13793	-11026	-35853	13873
THRM3	-12949	-1208	6393	-17266	-15677	3745
THRM4	-3657	-2024	1873	-21085	-3354	-2441
THRM5	-40608	1219	19846	-5928	-52355	22156
THRM6	-25482	-108	12488	-12122	-32297	12088
THRM7	2472	-2562	-1108	-23594	4774	-6521
THRM8	18509	-806	-5531	-7400	-2287	-14412
THRMP	2472	1219	19846	0.	4774	22156
THRMN	-40608	-2562	-1108	-23594.	-52355	-6521
SAM1	3372	58	3034	867	24110	814
SAM2	6045	108	5213	1771	41359	1515
SEISA1	2671	2220	654	4268	992	22484
SEISA2	4816	3271	1233	8278	1865	32929
TIME1	259184	8282	18765	78992.	33663	59819
JET	3143	98	310	1023	822	145
LOCA	985	423	504	3842	815	2838

SECTION 8.16 EQUIPMENT NOZZLE LOAD SUMMARY

NODE NUMBER : N02
EQUIPMENT ID. : FW NOZZLE
COSAX, COSAY, COSAZ : -0.875 0.000 -0.485
COSBX, COSBY, COSBZ : 0.000 -1.000 0.000
COSCX, COSCY, COSCZ : -0.485 0.000 0.875

LOAD CASE	NOZZLE FORCE (LBS) FA	FB	FC	NOZZLE MOMENT (FT-LBS) MA	MB	MC
WT1	47.	118.	-55.	-178.	432.	1461.
THRMP	9433.	0.	0.	0.	49462.	0.
THRMN	0.	-4949.	-13563.	-108710.	-11371.	-116580.
C5	4101.	6218.	5724.	29297.	27733.	28591.
C6	6498.	12329.	9117.	46693.	44249.	52941.
TIME1	19721.	142282.	21646.	45948.	99584.	478088.
JET	153.	325.	159.	203.	696.	1244.
LOCA	13598	18831.	23699.	21574.	82764.	52616.

LOAD CASE	ALLOWABLE FORCE (LBS) FA	FB	FC	ALLOWABLE MOMENT (FT-LBS) MA	MB	MC
WT1	6000.	16800.	16800.	30000.	57000.	57000.
THRMP	11000.	50000.	14000.	125000.	159083.	291667.
THRMN	11000.	50000.	14000.	125000.	159083.	291667.
C5	48000.	36000.	36000.	110000.	144000.	144000.
C6	92400.	84000.	84000.	170000.	200000.	200000.
TIME1	506000.	358000.	358000.	1094000.	644900.	644900.
RUPTURE	35000.	26000.	44000.	118750.	298417.	298417.

LOAD CASE	FORCE RATIOS FA	FB	FC	MOMENT RATIOS MA	MB	MC	REMARKS
WT1	0.008	0.007	0.003	0.006	0.008	0.026	OK
THRMP	0.858	0.000	0.000	0.000	0.312	0.000	OK
THRMN	0.000	0.099	0.969	0.870	0.071	0.400	OK
C5	0.085	0.173	0.159	0.266	0.193	0.199	OK
C6	0.070	0.147	0.109	0.275	0.221	0.265	OK
TIME1	0.039	0.397	0.060	0.042	0.154	0.741	OK
RUPTURE	0.393	0.737	0.542	0.183	0.280	0.180	OK

NOTES: C5 - SRSS OF OBEI & OBESAM; C6 - SRSS OF SSEI & SSESAM
TIME1 - WATER HAMMER ; RUPTURE - JET+LOCA

SECTION 8.17 MOVEMENTS FOR SMALL PIPE CONNECTIONS & PENETRATIONS

ISO. NO.	NODE NO.	LOAD CASE	BRANCH NO./ PENET. NO.	DX (IN)	DY (IN)	DZ (IN)	RX (RAD)	RY (RAD)	RZ (RAD)
	060A	WT1		-0.007	-0.009	0.005	-0.00011	-0.00005	0.00005
	060A	THRMP		0.000	0.617	0.147	0.00021	0.00000	0.00504
	060A	THRMN		-0.234	-0.038	-0.769	-0.00310	-0.00263	-0.00033
	060A	C5		0.052	0.064	0.029	0.00048	0.00027	0.00040
	060A	C6		0.093	0.126	0.057	0.00091	0.00053	0.00080
	065	WT1	SLEEVE#245	-0.007	-0.009	0.005	-0.00011	-0.00005	0.00004
	065	THRMP	SLEEVE#245	0.000	0.579	0.144	0.00017	0.00000	0.00504
	065	THRMN	SLEEVE#245	-0.262	-0.036	-0.789	-0.00304	-0.00260	-0.00024
	065	C5	SLEEVE#245	0.052	0.060	0.027	0.00047	0.00027	0.00042
	065	C6	SLEEVE#245	0.093	0.120	0.053	0.00090	0.00053	0.00083
	070	WT1		-0.007	-0.010	0.002	-0.00013	-0.00004	-0.00002
	070	THRMP		0.000	0.310	0.120	0.00000	0.00000	0.00484
	070	THRMN		-0.461	-0.039	-0.920	-0.00262	-0.00210	0.00000
	070	C5		0.052	0.035	0.013	0.00046	0.00024	0.00051
	070	C6		0.093	0.070	0.025	0.00086	0.00047	0.00101
	086A	WT1		-0.007	-0.005	-0.001	-0.00016	-0.00001	-0.00004
	086A	THRMP		0.000	0.000	0.065	0.00000	0.00037	0.00378
	086A	THRMN		-0.853	-0.154	-1.033	-0.00181	-0.00045	0.00000
	086A	C5		0.052	0.023	0.008	0.00045	0.00013	0.00053
	086A	C6		0.093	0.045	0.014	0.00079	0.00023	0.00105
	087	WT1	SLEEVE#243	-0.007	-0.005	-0.001	-0.00017	0.00000	-0.00004
	087	THRMP	SLEEVE#243	0.000	0.000	0.059	0.00000	0.00083	0.00365
	087	THRMN	SLEEVE#243	-0.903	-0.204	-1.026	-0.00171	-0.00042	0.00000
	087	C5	SLEEVE#243	0.052	0.030	0.009	0.00045	0.00013	0.00052
	087	C6	SLEEVE#243	0.093	0.059	0.017	0.00078	0.00023	0.00102
	090 B	WT1		-0.007	-0.004	-0.001	-0.00017	0.00000	-0.00004
	090 B	THRMP		0.000	0.000	0.056	0.00000	0.00115	0.00356
	090 B	THRMN		-0.936	-0.237	-1.017	-0.00164	-0.00039	0.00000
	090 B	C5		0.052	0.035	0.010	0.00045	0.00013	0.00051
	090 B	C6		0.093	0.068	0.019	0.00078	0.00023	0.00101
	035	WT1	1.5FW1073GA2	0.010	-0.001	0.007	-0.00013	0.00005	-0.00004
	035	THRMP	1.5FW1073GA2	0.421	1.744	0.000	0.00320	0.00158	0.00562
	035	THRMN	1.5FW1073GA2	0.000	-0.351	-0.317	0.00000	-0.00192	0.00000
	035	C5	1.5FW1073GA2	0.028	0.025	0.018	0.00039	0.00016	0.00040
	035	C6	1.5FW1073GA2	0.054	0.051	0.036	0.00074	0.00033	0.00082

CALCULATION SHEET

PROJECT STP-SGR
JOB NO 23438300

SUBJECT FW-PIPING FROM S.G. 2B

ORIGINATOR C.BASAVARAJU DATE

CALC NO RC5035
SHEET NO
SHEET REV 5

SECTION 8.17 MOVEMENTS FOR SMALL PIPE CONNECTIONS & PENETRATIONS

ISO. NO.	NODE NO.	LOAD CASE	BRANCH NO./ PENET. NO.	DX (IN)	DY (IN)	DZ (IN)
	60A-070	TIME1	SLV#245	0.264	0.852	0.484
	086-090B	TIME1	SLV#243	0.264	0.622	0.109
	60A-070	LOCA	SLV#245	0.014	0.051	0.029
	086-090B	LOCA	SLV#243	0.014	0.030	0.004

9.0 COMPUTER ANALYSIS

ME101 Computer program Version N5 / PC Version was utilized. The results of ME101 are fully verified against the results of bench mark problems. In addition, the results are also benchmarked with the existing analysis (ref 5.1) results.
The ME101 PC Program software is fully controlled by an authorization code and security key for an assigned PC machine.

Program	File Name	MFID	Run Date	UNIT/ LOOP
ME101	MFWBW.FOR	-	-	2/B
	7632BK4.MFL	-	-	
	7632B15.MFL	-	-	
	7632B12.MFL	-	-	
	MFWBSU2.INP	-	-	
	MFWBWU2.INP	-	-	
	MFWBJU2.INP	-	-	
	MFWBLU2.INP	-	-	
	MFWBSU2.OUT	GO2108	10/16/00	
	MFWBWU2.OUT	GO1414	10/16/00	
	MFWBJU2.OUT	GO2938	10/16/00	
	MFWBLU2.OUT	GO2213	10/16/00	

Note: Computer input and forcing function files are provided in the attached diskettes. The water hammer (MFWBW.FOR) and LOCA (7632BK4.MFL, 7632B15.MFL, 7632B12.MFL) time history input functions are the same as those used for unit-1 SGR work.

MFWBSU2: File for unit-2 feedwater w/ load cases weight, thermal, Sam, & seismic.
MFWBWU2: File for unit-2 feedwater w/ load cases weight, & water hammer.
MFWBJU2: File for unit-2 feedwater w/ load cases weight,&jet impingement force.
MFWBLU2: File for unit-2 feedwater w/ load cases weight, & LOCA

ATTACHMENT 1.0 PIPE STRESS ME101 COMPUTER IMAGE PAGES 34

WEIGHT/ THERMAL/SEISMIC/SAM

WATER HAMMER

JET

LOCA

ME101

I N P U T C A R D I M A G E S

```
INPUT
CARD      1         11        21        31        41        51        61        71        80
 SEQ   .  +         +         +         +         +         +         +         +         +   .  LOAD CASE(S)
   1   .  ************************************************************************************  .
   2   .  ***        DATA FILE FOR UNIT-2                                                  ***  .
   3   .  ***  TEST RUN STRUT ORIENTATION AT NODE 611 76 DEG INSTEAD OF 53 DEG               ***  .
   4   .  ************************************************************************************  .
   5   .  ***    INPUT FILE FOR CALC REVISION DUE TO SGR REPLACEMENT :MPWRSU2.INP             ***  .
   6   .  ***    DATA FILE FOR UNIT-2                                                        ***  .
   7   .  ***    NOTE: ABR STIFFNESS & SUPPORT RELOCATION ARE INCORPORATED                   ***  .
   8   .  ************************************************************************************  .
   9   .  ************************************************************************************  .
  10   .  CTL                                              OUTPUT=SHORT,                        .
  11   .  NED                                              TITLE=FEEDWATER "FW" SYSTEM -        .
  12   .                                                   RSG 2B TO M7,                        .
  13   .                                                   PROJNO=23438001,                     .
  14   .                                                   PROBNO=2C159RC5035,                  .
  15   .                                                   USER=PANI,                           .
  16   .                                                   UNITS=2,                             .
  17   .                                                   COEF=CS4,                            .
  18   .                                                   PER=0.02,                            .
  19   .                                                   MODES=100,                           .
  20   .  RUN                                              LDCASE=WT1(N+7+I),                   .
  21   .  ***RUN                                              LDCASE=WTJ1(O+8),                 .
  22   .  ***RUN                                              LDCASE=WTJ2(O+9),                 .
  23   .  RUN                                              LDCASE=THRM1(A+N+7),                 .
  24   .  RUN                                              LDCASE=THRM2(B+N+7),                 .
  25   .  RUN                                              LDCASE=THRM3(C+N+7),                 .
  26   .  RUN                                              LDCASE=THRM4(D+N+7),                 .
  27   .  RUN                                              LDCASE=THRM5(E+N+7),                 .
  28   .  RUN                                              LDCASE=THRM6(F+N+7),                 .
  29   .  RUN                                              LDCASE=THRM7(G+N+7),                 .
  30   .  RUN                                              LDCASE=THRM8(H+P+7),                 .
  31   .  RUN                                              LDCASE=SAM1(N+I+Z+7),                .
  32   .  RUN                                              LDCASE=SAM2(N+Y+K+7),                .
  33   .  RUN                                              LDCASE=MRS1(N+S+Z+7),                .
  34   .  RUN                                              LDCASE=MRS2(N+T+Z+7),                .
  35   .  ***                                                                                   .
  36   .  ***    WT1    --- NORMAL OPERATING WEIGHT ANALYSIS                                    .
  37   .  ***    THRM1  --- THERMAL NORMAL OPERATING MODE (HEAT-UP,COLD DOWN) @ 567 DEGREE      .
  38   .  ***    THRM2  --- THERMAL NORMAL OPERATING MODE (LOADING,UNLOADING) @ 440 DEGREE      .
  39   .  ***    THRM3  --- THERMAL NORMAL OPERATING MODE (LOADING,UNLOADING) @ 250 DEGREE      .
  40   .  ***    THRM4  --- THERMAL NORMAL OPERATING MODE @ 120 DEGREE                          .
  41   .  ***    THRM5  --- THERMAL EMERGENCY & FAULTED OPERATING MODE @ 583 DEGREE             .
  42   .  ***    THRM6  --- THERMAL FAULTED OPERATING MODE @ 408 DEGREE                        .
  43   .  ***    THRM7  --- THERMAL MINIMUM TEMPERATURE @ 32 DEGREE                            .
  44   .  ***    THRM8  --- POST-LOCA THERMAL ANALYSIS (DESIGN BASE ACCIDENT ANALYSIS)          .
  45   .  ***    WTJ1   --- STATIC JET IMPINGEMENNT ANALYSIS                                    .
  46   .  ***    WTJ2   --- SDYNAMIC JET IMPINGEMENNT ANALYSIS                                 .
  47   .  ***    SAM1   --- OBE SEISMIC ANCHOR MOVEMENT ANALYSIS                               .
  48   .  ***    SAM2   --- SSE SEISMIC ANCHOR MOVEMENT ANALYSIS                               .
  49   .  ***    MRS1   --- OBE SEISMIC INERTIA ANALYSIS                                       .
  50   .  ***    MRS2   --- SSE SEISMIC INERTIA ANALYSIS                                       .
  51   .  ***                                                                                   .
  52   .  ***                                                                                   .
  53   .  ***                                                                                   .
  54   .  ***    CAD. ISO. 2C1699FW433 SHT. 01 REV. 4                                          .
  55   .  ***                                                                                   .
```

```
56  .  ***   UNIT-2 LOOP B   MAIN FEEDWATER                                                .
57  .  ***                                                                                 .
58  .  ***   SGR NOZZLE MATERIAL SA508 CL. 3A  SC=22.5 KSI; SH=22.5 KSI                    .
59  .  ***   MATL: SA-508 GR. 2 CL. 2 FOR STRAIGHT SPOOL OF BECHTEL PIPE @ NOZZLE         .
60  .  ***   MATL: SA-336 GR.F22 CL.1;16" SCH.80 PIPE UP TO & INCLUDING TOP ELB OF RISER  .
61  .  ***   MATL: SA-333 GR.6 AFTER TOP ELB OF RISER & REST; 16" SCH. 80/ 18" SCH. 80    .
62  .  ****                                                                               .
63  .  SAP   002              $2.719                                                       .
64  .  ***      001;001,N02 ARE NODES ON SGR CL;SGR SURFACE; FW NOZ END RESPECTIVELY       .
65  .  ***                                                                                 .
66  .        002                                                                          .
67  .        001  7.2674               4.0284                                            .
68  .                                                 OD=199.42,THI=4.71,               .
69  .                                                 TEMP=567,EXP=4.2766,        *A    .  THRM1
70  .                                                 TEMP=440,EXP=3.068,         *B    .  THRM2
71  .                                                 TEMP=250,EXP=1.40,          *C    .  THRM3
72  .                                                 TEMP=120,EXP=0.382,         *D    .  THRM4
73  .                                                 TEMP=583,EXP=4.433,         *E    .  THRM5
74  .                                                 TEMP=400,EXP=2.774,         *F    .  THRM6
75  .                                                 EXP=-0.2908,TEMP=32,        *G    .  THRM7
76  .                                                 TEMP=70,EXP=0.,             *H    .  THRM8
77  .                                                 TEMP=70.,EXP=0.,            *O    .  TAG NOT USED - CARD IGNORED
78  .                                                 SC=22500,SH=22500,                .
79  .                                                 E=27.8E6,                         .
80  .                                                 LBS/FT=1.0,                       .
81  .                                                 DPRESS=1.0,PPRESS=1.0,            .
82  .                                                 CODE=SCIW75,CLASS=2,              .
83  .  ***                                                                               .
84  .  ***   LINE NO. FW-1014-GA2                                                        .
85  .  ANC   001 -0.637    1.971      -1.956                                  *N    .  WT1    THRM1  THRM2  THRM3  THRM4
85  .                                                                                  .  THRM5  THRM6  THRM7  SAM1   SAM2
85  .                                                                                  .  MRS1   MRS2
86  .  ANC   001                                                               *H    .  THRM8
87  .                                                   COSAX=-.8746,COSAZ=-.4848,     .
88  .                                                   COSCX=.4848,COSCZ=-.8746,      .
89  .                                                   RSNAME=SGROBE,          *S    .  MRS1
90  .                                                   RSNAME=SGRSSE,          *T    .  MRS2
91  .                                                   DTITLE=CENTER  SG,             .
92  .                                                   DX=.229,DY=.0170,DZ=.2516,*X   .  SAM1
93  .                                                   DX=.359,DY=.052,DZ=.4058, *Y   .  SAM2
94  .                                                   PHASE=SG,                      .
95  .                                                   ROT-X=-0.345E-3,        *N    .  WT1    THRM1  THRM2  THRM3  THRM4
95  .                                                                                  .  THRM5  THRM6  THRM7  SAM1   SAM2
95  .                                                                                  .  MRS1   MRS2
96  .                                                   ROT-Y=-0.630E-3,        *N    .  WT1    THRM1  THRM2  THRM3  THRM4
96  .                                                                                  .  THRM5  THRM6  THRM7  SAM1   SAM2
96  .                                                                                  .  MRS1   MRS2
97  .                                                   ROT-Z=0.042E-3,         *N    .  WT1    THRM1  THRM2  THRM3  THRM4
97  .                                                                                  .  THRM5  THRM6  THRM7  SAM1   SAM2
97  .                                                                                  .  MRS1   MRS2
98  .                                                 ETI=1R122NSG201B,                .
99  .  ****************                                                                 .
100 .  ***     BEGIN     FW LINE REROUTE DUE TO SG REPLACEMENT/NEW FW NOZZLE LOCATION    .
101 .  ****************                                                                 .
102 .     002003 -0.3440              -0.1907                                          .
103 .                                                 OD=26.0,THICK=4.75,              .
104 .                                                 LBS/FT=1176.5,                   .
105 .        03A -0.5860              -0.3248                                          .
106 .                                                 OD=20.0,THICK=1.75,              .
107 .                                                 LBS/FT=439.2,                    .
108 .        N02 -0.4490              -0.2489         SIF=1.502,                       .
```

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DLD   N02 0.8746                0.4848          TFOR= 11,MULTI=-1,
      004-2-0.6                -1-1.6408        JOINT=BTWELD,
      005-1-9                  -0-11.640    L   JOINT=BTWELD,
***                                             MAT=SA336 GR.F22
                                                SC=18800,SH=17817,
                                                E=30.6E6,
                                                TEMP=567,EXP=4.3864,        *A  . THRM1
                                                TEMP=440,EXP=3.160,         *B  . THRM2
                                                TEMP=250,EXP=1.45,          *C  . THRM3
                                                TEMP=120,EXP=0.378,         *D  . THRM4
                                                TEMP=583,EXP=4.534,         *E  . THRM5
                                                TEMP=488,EXP=3.872,         *F  . THRM6
                                                EXP=-0.2892,TEMP=32,        *G  . THRM7
                                                TEMP=70,EXP=0.,             *H  . THRM8
                                                TEMP=70.,EXP=0.,            *O  . TAG NOT USED - CARD IGNORED
      007           -10-8-5/8                   SEG=2,
***                                             MAT=SA333 GR.6 (C-MN-SI)
                                                SC=15000,SH=15000,
                                                E=27.9E6,
                                                OD=16.0,THICK=.843,
                                                LBS/FT=210.66,
                                                TEMP=567,EXP=4.2766,        *A  . THRM1
                                                TEMP=440,EXP=3.068,         *B  . THRM2
                                                TEMP=250,EXP=1.40,          *C  . THRM3
                                                TEMP=120,EXP=0.382,         *D  . THRM4
                                                TEMP=583,EXP=4.433,         *E  . THRM5
                                                TEMP=488,EXP=2.774,         *F  . THRM6
                                                EXP=-0.2908,TEMP=32,        *G  . THRM7
                                                TEMP=70,EXP=0.,             *H  . THRM8
                                                TEMP=70.,EXP=0.,            *O  . TAG NOT USED - CARD IGNORED
RAD   007  0.9272               -0.3746
                                                AA=1859E3,ETI=HLS016,
                                                RSNAME=IS63OB,              *S  . MRS1
                                                RSNAME=IS63SS,              *T  . MRS2
DLD   007            1.0                        TFOR= 10,MULTI=-1,
      008           -9-0                  E .   JOINT=BTWELD,SEG=2,
      009 1-10.2                 0-9.23
                                                ADDWT=50,
SPD   009            1.0
                                                ETI=HLS015,
DLD   009-0.9232                -0.3843         TFOR=  9,MULTI=-1,
      010 1-10.2                0-9.23     S    JOINT=BTWELD,
      011           -2-10.5
                                                ADDWT=902,
RAD   011 -1.0000
                                                AA=662E3,ETI=HLS014,
                                                RSNAME=IS63OB,              *S  . MRS1
                                                RSNAME=IS63SS,              *T  . MRS2
***  TEST RUN STRUT ORIENTATION AT NODE 011 76 DEG INSTEAD OF 53 DEG
***RAD   011 -0.6018              -0.7986
RAD   011 -0.2419                 -0.9703
                                                AA=1470E3,ETI=HLS014,
                                                RSNAME=IS63OB,              *S  . MRS1
                                                RSNAME=IS63SS,              *T  . MRS2
      11A           -1-7.5                      DTI=PLATFRM,
      012           -5-4.5                      SEG=2,
      013           -1-5-3/16
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 .        014          -5-10-5/16                         SEG=2,                           .
 .                                                        UFL=1230,                   *2   .  TAG NOT USED - CARD IGNORED
 .                                                        COSFX=0.7230,               *2   .  TAG NOT USED - CARD IGNORED
 .                                                        COSFY=0.0000,               *2   .  TAG NOT USED - CARD IGNORED
 .                                                        COSFZ=-0.685,               *2   .  TAG NOT USED - CARD IGNORED
 .                                                        UFL=2460,                   *3   .  TAG NOT USED - CARD IGNORED
 .                                                        COSFX=0.7230,               *3   .  TAG NOT USED - CARD IGNORED
 .                                                        COSFY=0.0000,               *3   .  TAG NOT USED - CARD IGNORED
 .                                                        COSFZ=-0.685,               *3   .  TAG NOT USED - CARD IGNORED
 .                                                        ADDWT=1133,                      .
 .  RAD   014 -0.9748                -0.2233                                               .
 .                                                        AA=320883,ETI=HL5013,            .
 .                                                        RSNAME=INTODE,              *S   .  MRS1
 .                                                        RSNAME=INTSSE,              *T   .  MRS2
 .  RAD   014 -0.5402                -0.8415                                               .
 .                                                        AA=144483,ETI=HL5013,            .
 .                                                        RSNAME=INTODE,              *S   .  MRS1
 .                                                        RSNAME=INTSSE,              *T   .  MRS2
 .        015          -1-7-13/16                         DTI=CUT LOCN,JOINT=BTWELD,       .
 .  DLD   015           1.0                               TFOR=  8,MULTI=-1,               .
 .  ***        END OF FW LINE REROUTE DUE TO SG REPLCEMENT/NEW FW NOZZLE LOCATION          .
 .  ****************                                                                       .
 .        016          -0-7-1/2                           JOINT=RED,                       .
 .        018          -0-7-1/2                           JOINT=BTWELD,                    .
 .                                                        OD=18,THICK=.937,                .
 .                                                        LBS/FT=264.20,                   .
 .        020          -0-9                               SIF=1.0,                         .
 .                                                        ADDWT=25,                        .
 .        021          -1-0                               SIF=1.0,                         .
 .                                                        ADDWT=20,                        .
 .        022          -1-0                               SIF=1.0,                         .
 .                                                        ADDWT=50,                        .
 .        025          -4-0                    L                                           .
 .                                                        JOINT=BTWELD,                    .
 .        026 -3.73331               2.65883                                               .
 .                                                        SIF=1.0,                         .
 .                                                        ADDWT=25,                        .
 .                                                        UFL=1089,                   *8   .  TAG NOT USED - CARD IGNORED
 .                                                        UFL=2179,                   *9   .  TAG NOT USED - CARD IGNORED
 .                                                        COSFX=0.5801,               *0   .  TAG NOT USED - CARD IGNORED
 .                                                        COSFY=0.3419,               *0   .  TAG NOT USED - CARD IGNORED
 .                                                        COSFZ=0.8145,               *0   .  TAG NOT USED - CARD IGNORED
 .        027 -0-2.95271             0-3.10289                                             .
 .                                                        DTITLE=FW9014HL5012,             .
 .                                                        ADDWT=150,                       .
 .                                                        SIF=2.1,                         .
 .  SNB   027 -.4690                 -.883                                                 .
 .                                                        AA=757.0E03,                     .
 .                                                        RSNAME=INTODE,              *S   .  MRS1
 .                                                        RSNAME=INTSSE,              *T   .  MRS2
 .  DLD   027 .8145                  -.5801               TFOR=  7,MULTI=-1.,              .
 .        030 -0-6.8218              0-4.8584             SIF=1.0,                         .
 .                                                        ADDWT=30,                        .
 .        035 -0-2.44362             0-1.7403             SIF=1.0,                         .
 .                                                        ADDWT=25,                        .
 .                                                        DTITLE=1.5FW1073GA2,             .
 .        040 -1-0.2254              0-8.70167            ADDWT=120,                       .
 .                                                        DTITLE=FW9014SH0001,             .
 .  ***SPD   040            1.0                                                            .
 .  SPR   040           1.0                               FORCE=1751.,AA=1.,          *I   .  WT1
 .        042 -2.376                 1.692                                                 .
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231  .
232  .
233  .  SNB    042              1.0
234  .
235  .
236  .
237  .         13  -3.4024                  2.42316
238  .
239  .
240  .
241  .  ***SPD   13                 1.0
242  .  SPR    13                1.0
243  .         045-3.0206                  2.15123     L
244  .
245  .         050               2-7-13/16
246  .
247  .
248  .
249  .  SNB    050 1.0
250  .
251  .
252  .
253  .         055               2-6.375
254  .
255  .
256  .  SNB    055 0.464                   -0.882
257  .
258  .
259  .
260  .  DLD    055               -1.0
261  .         060               6-1.625               L
262  .
263  .         065 -3.5
264  .
265  .         070 -4.5
266  .         080 -4-2.75
267  .
268  .
269  .
270  .  SNB    080                         1.0
271  .
272  .
273  .
274  .  DLD    080 1.0
275  .         085 -1-0.25
276  .
277  .  RAD    085               0.9971    -0.0732
278  .
279  .
280  .
281  .         086 -2-6
282  .         087 -2-3
283  .
284  .
285  .         090 -3-0                              L
286  .
287  .         095                         8-11
288  .
289  .
290  .  ***SPD   095                1.0
291  .  SPR    095               1.0
```



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DTITLE-FW9014ML5009,                    .
SEGMNT-2,                               .
                                        .
AA-898.0E03,                            .
RSNAME-INTOBE,                  *S  .   MRS1
RSNAME-INTSSE,                  *T  .   MRS2
ADDWT-120,                              .
DTITLE-FW9014ML5008,                    .
SEGMNT-2,                               .
UFL-0.00,                               .
                                        .
FORCE-9157.,AA-1.,                      .
                                        .
JOINT-BTWELD,                           .
                                        .
DTITLE-FW9014ML5001,                    .
ADDWT-900,                              .
SIF-2.1,                                .
                                        .
AA-872.0E3,                             .
RSNAME-INTOBE,                  *S  .   MRS1
RSNAME-INTSSE,                  *T  .   MRS2
DTITLE-FW9014ML5002,                    .
SEGMNT-2,                               .
ADDWT-491,                              .
                                        .
AA-1148.0E3,                            .
RSNAME-INTOBE,                  *S  .   MRS1
RSNAME-INTSSE,                  *T  .   MRS2
TFOR=  6,MULTI=-1.,                     .
                                        .
JOINT-BTWELD,                           .
DTITLE-SLEEVE8245,                      .
SEGMNT-2,                               .
JOINT-BTWELD,SIF-1.8,                   .
                                        .
DTITLE-FW9014ML5003,                    .
ADDWT-850,                              .
SIF-2.1,                                .
                                        .
AA-1100E03,                             .
RSNAME-INTOBE,                  *S  .   MRS1
RSNAME-INTSSE,                  *T  .   MRS2
TFOR=  5,MULTI=-1.,                     .
                                        .
DTITLE-FW9014ML5006,                    .
                                        .
AA-560.0E03,                            .
RSNAME-INTOBE,                  *S  .   MRS1
RSNAME-INTSSE,                  *T  .   MRS2
                                        .
                                        .
DTITLE-SLEEVE8243,                      .
SEGMNT-2,                               .
                                        .
JOINT-BTWELD,                           .
ADDWT-150,                              .
DTITLE-FW9014SH0004,                    .
SEGMNT-2,                               .
                                        .
FORCE-6756.,AA-1.,                      .
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292 . DLD    095                    -1.0              TPOR=  4,MULTI=-1.,                .
293 .        95B                    1-0                                                  .
294 .                                                 DTITLE=FW9014HL5004,               .
295 .                                                 SIF=2.1,                           .
296 . RAD    95B 1.0                                                                     .
297 .                                                 AA=853.0E3,                        .
298 .                                                 RSNAME=INTOBE,               *S  .  MRS1
299 .                                                 RSNAME=INTSSE,               *T  .  MRS2
300 .        100                    S-10       L                                         .
301 .                                                 JOINT=BTWELD,                      .
302 .        10A -4-6                                 DTITLE=FW9014HL5011,               .
303 .                                                 SEGMNT=2,                          .
304 .                                                 ADDWT=250,                         .
305 . RAD    10A                    1.0                                                  .
306 .                                                 AA=1554E03,                        .
307 .                                                 RSNAME=INTOBE,               *S  .  MRS1
308 .                                                 RSNAME=INTSSE,               *T  .  MRS2
309 . DLD    10A  1.0                                 TPOR=  2,MULTI=-1.,                .
310 .        105-10-3-11/16                           SIF=1.8,                           .
311 .                                                 SEGMNT=4,                          .
312 .        110 -0-4-5/8                             SIF=1.9,DTITLE=PEN M-7,            .
313 . ANC    110 0.03901    -0.06168    0.005251                                   *N  .  WT1    THRM1  THRM2  THRM3  THRM4
313 .                                                                                  .  THRM5  THRM6  THRM7  SAM1   SAM2
313 .                                                                                  .  MRS1   MRS2
314 . ANC    110 -0.26854   0.2352      -0.036149                                  *P  .  THRM8
315 . ANC    110                                                                   *O  .  TAG NOT USED - CARD IGNORED
316 .                                                 COSAX=1.0,COSAZ=0,                 .
317 .                                                 COSCX=0,COSCZ=1.0,                 .
318 .                                                 AA=6.4E6,AB=6.4E6,AC=6.4E6,        .
319 .                                                 ARA=7.45E9,ARB=7.45E9,             .
320 .                                                 ARC=7.45E9,                        .
321 .                                                 DX=.0268,DY=.00340,DZ=.0351,*X     .  SAM1
322 .                                                 DX=.0482,DY=.00580,DZ=.0602,*Y     .  SAM2
323 .                                                 PHASE=CONT,                        .
324 .                                                 RSNAME=CNTOBE,               *S  .  MRS1
325 .                                                 RSNAME=CNTSSE,               *T  .  MRS2
326 . ********************************************************************************   .
327 . ****                                                                               .
328 . ******************************************************************************     .
329 . ****                                                                               .
330 . ******************************************************************************     .
331 . ******************************************************************************     .
332 . ****                                                                               .
333 . ********                                                                           .
334 . ***                                                                                .
335 . ********                                                                           .
336 . ACE                                             TITLE= OBE 2%D CNT SHELL EL.       .
337 . ACE                                             37'TO 68',                         .
338 . ACE                                             RSNAME=CNTOBE,                     .
339 . ACE                                             TYP=3,POI=24,                      .
340 . ACE                                             DIR=X                              .
341 .              .5000,     .0750,     .8000,     .1500,     .9000,     .2000,         .
342 .             1.0000,     .2300,    1.1000,     .3000,    1.1800,     .3300,         .
343 .             1.8700,     .3300,    2.5000,     .2000,    3.3000,     .2000,         .
344 .             3.8000,     .6700,    5.0000,     .6700,    5.8000,     .6000,         .
345 .             6.5000,     .2550,    7.4000,     .2550,    7.5000,     .2432,         .
346 .             8.2000,     .1742,    8.9000,     .1650,    9.4000,     .2321,         .
347 .            11.0000,     .5400,   13.5000,     .5400,   16.3500,     .1600,         .
348 .            20.0000,     .1050,   35.0000,     .1050,   35.0010,     .1050,         .
349 . ACE                                             DIR=Y                              .
350 .              .8500,     .1000,    1.0000,     .1000,    2.6000,     .2300,         .
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351  .              4.4700,     .2750,    8.4700,     .2750,  10.0000,     .2800,     .
352  .             11.0000,     .5250,   13.3000,     .5250,  14.0000,     .3625,     .
353  .             15.0000,     .2532,   15.5000,     .2500,  16.0000,     .1730,     .
354  .             18.4000,     .1200,   22.0000,     .1000,  35.0000,     .1000,     .
355  .             35.0010,     .1000,   35.0020,     .1000,  35.0030,     .1000,     .
356  .             35.0040,     .1000,   35.0050,     .1000,  35.0060,     .1000,     .
357  .             35.0070,     .1000,   35.0080,     .1000,  36.0090,     .1000,     .
358  .  ACE                                          DIR=Z                             .
359  .               .5000,     .0800,     .6000,     .0800,    .7900,     .1500,     .
360  .               .9000,     .2000,    1.0000,     .2500,   1.3000,     .3300,     .
361  .              1.8600,     .3300,    2.0000,     .2900,   3.0000,     .1700,     .
362  .              3.5000,     .2600,    4.6000,     .2600,   4.7000,     .2368,     .
363  .              5.0000,     .1905,    5.2000,     .1800,   7.5000,     .1800,     .
364  .              8.0000,     .1700,    8.4000,     .1700,   8.8000,     .2286,     .
365  .             10.1000,     .4316,   10.1500,     .6500,  14.0000,     .6500,     .
366  .             17.0000,     .1350,   25.0000,     .0800,  35.0000,     .0800,     .
367  .  EOA                                                                           .
368  .  ACE                                          TITLE= SSE 3RD CNT SHELL EL.     .
369  .  ACE                                          37' TO 68',                      .
370  .  ACE                                          RSNAME=CNTSSE,                   .
371  .  ACE                                          TYP=3,POI=23,                    .
372  .  ACE                                          DIR=X                            .
373  .               .3000,     .0700,     .6000,     .1950,    .7700,     .2965,     .
374  .              1.0000,     .4500,    1.2000,     .5900,   1.4500,     .5900,     .
375  .              2.5000,     .4000,    2.6000,     .4200,   3.0000,     .5000,     .
376  .              3.5000,     .6800,    4.0000,    1.7000,   5.0000,    1.7000,     .
377  .              5.5000,     .9890,    6.0000,     .3500,   7.3000,     .3500,     .
378  .              9.5000,     .3952,   10.0000,     .5467,  10.7000,     .7600,     .
379  .             13.5000,     .7600,   15.7000,     .3079,  16.6000,     .2470,     .
380  .             20.0000,     .1775,   35.0000,     .1700,                          .
381  .  ACE                                          DIR=Y                             .
382  .              1.0000,     .1800,    2.7000,     .4100,   4.8000,     .4800,     .
383  .              8.0500,     .4350,   10.8000,     .6080,  13.5000,     .6080,     .
384  .             15.8000,     .2750,   21.5000,     .1600,  35.0000,     .1600,     .
385  .             35.0010,     .1600,   35.0020,     .1600,  35.0030,     .1600,     .
386  .             35.0040,     .1600,   35.0050,     .1600,  35.0060,     .1600,     .
387  .             35.0070,     .1600,   35.0080,     .1600,  35.0090,     .1600,     .
388  .             35.0100,     .1600,   35.0110,     .1600,  35.0120,     .1600,     .
389  .             35.0130,     .1600,   35.0140,     .1600,                          .
390  .  ACE                                          DIR=Z                             .
391  .               .3000,     .0700,     .5000,     .1653,    .6000,     .2010,     .
392  .               .7700,     .3209,    1.0000,     .5000,   1.2000,     .5500,     .
393  .              1.8000,     .5500,    2.1000,     .4600,   2.4000,     .3900,     .
394  .              3.0000,     .5000,    3.9000,     .9400,   6.9000,     .9400,     .
395  .              8.0000,     .4000,   10.5000,    1.1250,  18.0000,    1.1250,     .
396  .             22.0000,     .4800,   27.0000,     .2700,  35.0000,     .2500,     .
397  .             35.0010,     .2500,   35.0020,     .2500,  35.0030,     .2500,     .
398  .             35.0040,     .2500,   35.0050,     .2500,                          .
399  .  EOA                                                                           .
400  .  ACE                                          TITLE= OBE 2ND INT STR EL 37'    .
401  .  ACE                                          TO 52',                          .
402  .  ACE                                          RSNAME=INTOBE,                   .
403  .  ACE                                          TYP=3,POI=26,                    .
404  .  ACE                                          DIR=X                            .
405  .               .4000,     .0800,     .5000,     .0800,    .7000,     .1480,     .
406  .               .9100,     .2200,    1.0000,     .2405,   1.1000,     .2700,     .
407  .              1.2000,     .2800,    1.9000,     .2800,   2.0500,     .2579,     .
408  .              3.0000,     .1975,    3.8000,     .2448,   4.0000,     .2600,     .
409  .              4.4000,     .2600,    5.0000,     .3600,   5.4000,     .3600,     .
410  .              6.1000,     .6400,    7.8000,     .6400,   7.9000,     .5400,     .
411  .              9.0000,     .5400,   11.0000,     .3200,  16.0000,     .1100,     .
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412  .              24.0000,    .1100,   25.0000,    .0975,   26.5000,    .0900,  .
413  .              35.0000,    .0900,   35.0010,    .0900,                       .
414  .  ACE                                          DIR=Y                        .
415  .               1.0000,    .0900,    2.6000,    .2125,    4.0000,    .2450,  .
416  .               4.4000,    .2500,    5.3000,    .2500,    6.8000,    .2450,  .
417  .               7.9000,    .1875,    9.9000,    .1730,   12.0000,    .1383,  .
418  .              13.0000,    .1300,   16.0000,    .1300,   16.5000,    .1600,  .
419  .              21.0000,    .1600,   22.0000,    .1170,   25.5000,    .1170,  .
420  .              27.0000,    .1100,   33.0000,    .0750,   35.0000,    .0750,  .
421  .              35.0010,    .0750,   35.0020,    .0750,   35.0030,    .0750,  .
422  .              35.0040,    .0750,   35.0050,    .0750,   35.0060,    .0750,  .
423  .              35.0070,    .0750,   35.0080,    .0750,                       .
424  .  ACE                                          DIR=Z                        .
425  .                .4000,    .0800,     .5000,    .0800,     .6000,    .1010,  .
426  .                .7000,    .1283,     .9100,    .2200,    1.1000,    .2700,  .
427  .               1.2000,    .2800,    1.9000,    .2800,    2.4000,    .2235,  .
428  .               3.0500,    .1757,    3.3000,    .1641,    3.4000,    .1687,  .
429  .               4.2000,    .2300,    4.4000,    .2587,    4.9000,    .3579,  .
430  .               5.0000,    .3800,    5.4000,    .4200,    5.5000,    .5080,  .
431  .               7.0200,    .5080,    7.7000,    .2500,    8.1000,    .3750,  .
432  .              10.0000,    .3750,   12.0000,    .1600,   15.0000,    .1350,  .
433  .              20.0000,    .1100,   35.0000,    .1100,                       .
434  .  EOA                                                                       .
435  .  ACE                                       TITLE= SSE 2ND INT STR EL 37'   .
436  .  ACE                                       TO 52',                         .
437  .  ACE                                       RSNAME=INTSSE,                  .
438  .  ACE                                       TYP=3,POI=20,                   .
439  .  ACE                                       DIR=X                           .
440  .                .5000,    .1600,    1.1000,    .5800,    1.8500,    .5800,  .
441  .               1.9000,    .5673,    3.0000,    .3957,    4.0000,    .3979,  .
442  .               4.0500,    .4000,    4.8000,    .4280,    5.0000,   1.5000,  .
443  .               5.6000,   1.6000,    6.1000,   1.3969,    7.1000,   1.9200,  .
444  .               8.3000,   1.9200,    9.0000,   1.3600,   10.0500,    .4700,  .
445  .              11.0000,    .4700,   15.0000,    .2281,   17.0000,    .1900,  .
446  .              24.0000,    .1900,   40.0000,    .1800,                       .
447  .  ACE                                          DIR=Y                        .
448  .               1.0000,    .1650,    2.6000,    .3750,    4.5000,    .4250,  .
449  .               5.6000,    .4250,    9.1000,    .3400,   12.0000,    .2400,  .
450  .              20.0000,    .2400,   35.0000,    .1108,   40.0000,    .1000,  .
451  .              40.0010,    .1000,   40.0020,    .1000,   40.0030,    .1000,  .
452  .              40.0040,    .1000,   40.0050,    .1000,   40.0060,    .1000,  .
453  .              40.0070,    .1000,   40.0080,    .1000,   40.0090,    .1000,  .
454  .              40.0100,    .1000,   40.0110,    .1000,                       .
455  .  ACE                                          DIR=Z                        .
456  .                .5000,    .1600,    1.1000,    .5800,    1.8000,    .5800,  .
457  .               4.0000,    .7700,    5.1000,   1.0500,    6.9000,   1.0500,  .
458  .               8.0000,   1.2300,   14.0000,   1.2300,   20.0000,    .3500,  .
459  .              30.0000,    .2600,   40.0000,    .2600,   40.0010,    .2600,  .
460  .              40.0020,    .2600,   40.0030,    .2600,   40.0040,    .2600,  .
461  .              40.0050,    .2600,   40.0060,    .2600,   40.0070,    .2600,  .
462  .              40.0080,    .2600,   40.0090,    .2600,                       .
463  .  EOA                                                                       .
464  .  ACE                                       TITLE= OBE 2ND INT STRUC EL.    .
465  .  ACE                                       83',                            .
466  .  ACE                                       RSNAME=IS83OB,                  .
467  .  ACE                                       TYP=3,POI=24,                   .
468  .  ACE                                       DIR=X                           .
469  .                .4100,    .1900,     .5000,    .1900,    1.1000,    .4000,  .
470  .               2.0000,    .4000,    3.4000,    .2800,    5.7000,   1.1000,  .
471  .               9.8000,   1.1000,   10.1000,    .9000,   12.0000,    .9000,  .
472  .              13.5000,    .8000,   15.0000,    .3500,   25.0000,    .3500,  .
```

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473  .                36.0000,     .1900,    50.0000,     .1900,
474  .  ACE                                                 DIR-Y
475  .                  .9000,     .0800,     2.6000,     .2200,    3.4000,     .2800,
476  .                 5.0000,     .2600,     8.0000,     .2060,   10.4000,     .1650,
477  .                11.0000,     .1980,    14.5000,     .1980,   15.0000,     .2300,
478  .                20.5000,     .2300,    22.0000,     .1900,   28.0000,     .1900,
479  .                35.0000,     .0850,    60.0000,     .0850,
480  .  ACE                                                 DIR-Z
481  .                  .4100,     .1900,     .5000,     .1900,    1.1000,     .4000,
482  .                 2.0000,     .4000,    3.4000,     .2800,    5.7000,    1.1000,
483  .                 9.8000,    1.1000,   10.1000,     .9000,   12.0000,     .9000,
484  .                13.6000,     .8000,    15.0000,     .3600,   25.0000,     .3500,
485  .                36.0000,     .1900,    50.0000,     .1900,
486  .  EOA
487  .  ACE                                                   TITLE- SSE 24D INT STRUCT EL.
488  .  ACE                                                   61',
489  .  ACE                                                   RSNAME-IS83SS,
490  .  ACE                                                   TYP-3,POI-15,
491  .  ***                          **************************
492  .  ********** NO DIGITIZED DATA AVAILABLE - READ FROM GRAPH ******
493  .  ***                          **************************
494  .  ACE                                                 DIR-X
495  .                  .4200,     .3000,     .8000,     .5000,    1.0500,     .7000,
496  .                 2.0000,     .7000,    3.0200,     .5000,    4.1000,    1.2000,
497  .                 7.0000,    2.0500,   10.0000,    2.0500,   12.0000,    1.6000,
498  .                14.0000,    1.6000,   18.0000,     .8800,   21.0000,     .6600,
499  .                26.0000,     .4200,   31.0000,     .3300,   40.0000,     .3300,
500  .  ACE                                                 DIR-Y
501  .                 1.0000,     .1750,    2.0000,     .4000,    3.3000,     .4750,
502  .                 5.0000,     .4750,    8.0000,     .3800,   12.0000,     .3000,
503  .                13.0000,     .3400,   21.0000,     .3400,   22.0000,     .2900,
504  .                27.0000,     .2900,   38.0000,     .1400,   40.0000,     .1400,
505  .                45.0000,     .1400,   50.0000,     .1400,   60.0000,     .1400,
506  .  ACE                                                 DIR-Z
507  .                  .4200,     .3000,     .8000,     .5000,    1.0500,     .7000,
508  .                 2.0000,     .7000,    3.0200,     .5000,    4.1000,    1.2000,
509  .                 7.0000,    2.0500,   10.0000,    2.0500,   12.0000,    1.6000,
510  .                14.0000,    1.6000,   18.0000,     .8800,   21.0000,     .6600,
511  .                26.0000,     .4200,   31.0000,     .3300,   40.0000,     .3300,
512  .  EOA
513  .  ACE                                                   TITLE- OBE 24D SGR SPECT EL.
514  .  ACE                                                   91.38,
515  .  ACE                                                   RSNAME-SGROBE,
516  .  ACE                                                   TYP-3,POI-15,
517  .  ACE                                                   DIR-X
518  .                 1.0000,     .2500,    2.0000,     .4000,    3.0000,     .2500,
519  .                 4.0000,     .7500,    5.0000,    4.0500,    7.0000,    4.0500,
520  .                 8.0000,     .8000,   10.0000,     .5100,   20.0000,     .4000,
521  .                30.0000,     .3500,   40.0000,     .3500,
522  .  ACE                                                 DIR-Y
523  .                 0.7000,     .0600,    1.0000,     .1000,    2.0000,     .2000,
524  .                 3.5000,     .3100,    5.0000,     .3100,    7.0000,     .3600,
525  .                 8.5000,     .3800,   10.0000,     .6800,   17.0000,     .6800,
526  .                18.0000,     .2000,   20.0000,     .1800,   30.0000,     .1200,
527  .                40.0000,     .1900,
528  .  ACE                                                 DIR-Z
529  .                 1.0000,     .2500,    2.0000,     .4000,    3.5000,     .2500,
530  .                 4.0000,     .7500,    5.0000,    3.2000,    7.0000,    3.2000,
531  .                 8.0000,    1.0000,   10.0000,     .5000,   11.0000,     .3000,
532  .                20.0000,     .3000,   30.0000,     .2500,   40.0000,     .2500,
533  .  EOA
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534  .  ACE                                          TITLE- SSR 3%D SGR SPECT EL.
535  .  ACE                                          91.38,
536  .  ACE                                          RNAME-SGRSSE,
537  .  ACE                                          TYP-3,POI-12,
538  .  ACE                                          DIR-X
539  .              1.0000,    .5000,    2.0000,     .7000,    3.0000,    .5000,
540  .              4.0000,   1.5000,    5.0000,    6.4000,    7.0000,   6.4000,
541  .              8.0000,   1.5000,   10.0000,    1.0200,   20.0000,    .8000,
542  .             30.0000,    .7000,   40.0000,     .7000,
543  .  ACE                                          DIR-Y
544  .              0.7000,    .1200,    1.0000,     .1800,    2.0000,    .3600,
545  .              1.5000,    .5000,    5.0000,     .5000,    8.0000,    .6400,
546  .              9.0000,   1.1000,   17.0000,    1.1000,   18.0000,    .4000,
547  .             20.0000,    .3600,   30.0000,     .2400,   40.0000,    .2000,
548  .  ACE                                          DIR-Z
549  .              1.0000,    .5000,    2.0000,     .8000,    3.5000,    .5000,
550  .              4.0000,   1.5000,    5.0000,    4.8000,    7.0000,   4.8000,
551  .              8.0000,   2.0000,   10.0000,     .1000,   11.0000,    .6000,
552  .             20.0000,    .6000,   30.0000,     .6000,   40.0000,    .5000,
553  .  EOA
554  .  ***
555  .  ***ADD       MPWR-X.PRN
556  .  ***
557  .  ********************************************************************
558  .  CMB                                          CO=0.*THRM1,
559  .  ***CMB                                          J1=WTJ1&WTJ2&CO,
560  .  ***CMB                                          J2=WTJ1#WTJ2#CO,
561  .  CMB                                          C1=THRM1&THRM2&THRM3&THRM4
562  .                                               &CO,
563  .  CMB                                          C2=THRM1#THRM2#THRM3#THRM4
564  .                                               #CO,
565  .  CMB                                          C3=WT1+C1,
566  .  CMB                                          C4=WT1+C2,
567  .  CMB                                          D1=C1&THRM7,
568  .  CMB                                          D2=C2#THRM7,
569  .  CMB                                          D3=WT1+D1,
570  .  CMB                                          D4=WT1+D2,
571  .  CMB                                          $EISA1=1.*MRS1,
572  .  CMB                                          $EISA2=1.*MRS2,
573  .  CMB                                          DBA=ABS(THRM8),
574  .  CMB                                          THRMP=D1&THRM5&THRM6,
575  .  CMB                                          THRMN=D2#THRM5#THRM6,
576  .  CMB                                          D5=WT1+THRMP+CO,
577  .  CMB                                          D6=WT1+THRMN+CO,
578  .  CMB                                          NORMP=C3&C1&CO,
579  .  CMB                                          NORMN=C4#C2#CO,
580  .  CMB                                          C5=$EISA1$SAM1,
581  .  CMB                                          A1=D3&WT1&CO,
582  .  CMB                                          A2=D4#WT1#CO,
583  .  CMB                                          UPSETP=A1+C5,
584  .  CMB                                          UPSETN=A2-C5,
585  .  CMB                                          C6=$EISA2$SAM2,
586  .  CMB                                          A3=D5+DBA,
587  .  CMB                                          A4=D5+C6,
588  .  CMB                                          FAULTP=A3&CO&A4,
589  .  CMB                                          A5=D6-DBA,
590  .  CMB                                          A6=D6-C6,
591  .  CMB                                          FAULTN=A5#CO#A6,
592  .  RLS                                          LIST=WT1+THRM1+THRM2+THRM3+
593  .                                               THRM4+THRM5+THRM6+THRM7+DBA+
594  .                                               $EISA1+$EISA2+$AM1+$AM2,
```

```
.  ELE                                               LIST=NORMP+NORMN+UPSETP+          .
.                                                    UPSETN+FAULTP+FAULTN,             .
.  STD                                               LIST=THRMP+THRMN+FAULTP+          .
.                                                    FAULTN+D5+D6,                     .
.  SLA                                               INCLUDE=WT1,                      .
.  TEA                                               INCLUDE=THRM1+THRM2+THRM3+        .
.                                                    THRM4+THRM5+THRM6+THRM7+SAM1      .
.                                                    +WT1,                             .
.  OLA                                               INCLUDE=WT1+SEISA1,LEVEL=B,       .
.  OLA                                               INCLUDE=WT1+SEISA2,LEVEL=D,       .
.  PBA                                               INCLUDE=WT1+THRM1+THRM2+          .
.                                                    THRM3+THRM4+THRM5+THRM6+          .
.                                                    THRM7+SAM1+SEISA1,                .
.                                                    FPB=0.8,                          .
.  END                                                                                 .
.  ******************************************************************************      .
.  ******************************************************************************      .
```

ME101

I N P U T C A R D I M A G E S

```
INPUT
CARD     1         11        21        31        41        51        61        71       80
 SEQ  .  +         +         +         +         +         +         +         +        +   .  LOAD CASE(S)
   1  .  ***************************************************************************     .
   2  .  ***       DATA FILE FOR UNIT-2                                            ***   .
   3  .  ***  TEST RUN STRUT ORIENTATION AT NODE 011 76 DEG INSTEAD OF 53 DEG            .
   4  .  ***RAD   011 -0.6018               -0.7986                                     .
   5  .  ***RAD   011 -0.2619               -0.9703                                     .
   6  .  ***************************************************************************     .
   7  .  ***   INPUT FILE FOR CALC REVISION DUE TO SGR REPLACEMENT :MFWBWU2.IMP          .
   8  .  ***   DATA FILE FOR UNIT-2                                                     .
   9  .  ***   NOTE: ASR STIFFNESS & SUPPORT RELOCATION ARE INCORPORATED                .
  10  .  ***************************************************************************     .
  11  .  ***************************************************************************     .
  12  .  CTL                                              OUTPUT=SHORT,                .
  13  .  NED                                              TITLE=FEEDWATER "FW" SYSTEM -  .
  14  .                                                   RSG 2B TO M7,                .
  15  .                                                   PROJNO=23438001,             .
  16  .                                                   PROBWO=2C159RCS035,          .
  17  .                                                   USER=PAMI,                   .
  18  .                                                   UNITS=2,                     .
  19  .                                                   INTG=MODAL,DAMP=0.03,        .
  20  .                                                   MODES=200,PER=0.005,         .
  21  .                                                   TZERO=0.,TFIN=1.0,           .
  22  .  RUN                                              LDCASE=WT1(N+7+I),           .
  23  .  RUN                                              LDCASE=THRM2(B+N+7),         .
  24  .  RUN                                              LDCASE=THRM3(C+N+7),         .
  25  .  RUN                                              LDCASE=THRM6(F+N+7),         .
  26  .  RUN                                              LDCASE=TIME1(N)              .
  27  .  ***                                                                           .
  28  .  ***                                                                           .
  29  .  ***   WT1   --- NORMAL OPERATING WEIGHT ANALYSIS                              .
  30  .  ***   THRM1 --- THERMAL NORMAL OPERATING MODE (HEAT-UP,COLD DOWN) @ 567 DEGREE .
  31  .  ***   THRM2 --- THERMAL NORMAL OPERATING MODE (LOADING,UNLOADING) @ 440 DEGREE .
  32  .  ***   THRM3 --- THERMAL NORMAL OPERATING MODE (LOADING,UNLOADING) @ 250 DEGREE .
  33  .  ***   THRM4 --- THERMAL NORMAL OPERATING MODE @ 120 DEGREE                     .
  34  .  ***   THRM5 --- THERMAL EMERGENCY & FAULTED OPERATING MODE @ 583 DEGREE        .
  35  .  ***   THRM6 --- THERMAL FAULTED OPERATING MODE @ 408 DEGREE                    .
  36  .  ***   THRM7 --- THERMAL MINIMUM TEMPERATURE @ 32 DEGREE                        .
  37  .  ***   THRM8 --- POST-LOCA THERMAL ANALYSIS (DESIGN BASE ACCIDENT ANALYSIS)     .
  38  .  ***   WTJ1  --- STATIC JET IMPINGEMENT ANALYSIS                                .
  39  .  ***   WTJ2  --- SDYNAMIC JET IMPINGEMENT ANALYSIS                             .
  40  .  ***   SAM1  --- OBE SEISMIC ANCHOR MOVEMENT ANALYSIS                          .
  41  .  ***   SAM2  --- SSE SEISMIC ANCHOR MOVEMENT ANALYSIS                          .
  42  .  ***   MRS1  --- OBE SEISMIC INERTIA ANALYSIS                                  .
  43  .  ***   MRS2  --- SSE SEISMIC INERTIA ANALYSIS                                  .
  44  .  ***                                                                           .
  45  .  ***                                                                           .
  46  .  ***                                                                           .
  47  .  ***   CAD. ISO. 2C369PPM433 SHT. 01 REV. 4                                    .
  48  .  ***                                                                           .
  49  .  ***   UNIT-2 LOOP B   MAIN FEEDWATER                                          .
  50  .  ***                                                                           .
  51  .  ***   SGR NOZZLE MATERIAL SA508 CL. 3A  SC=22.5 KSI; SH=22.5 KSI              .
  52  .  ***   MATL: SA-508 GR. 2 CL. 2 FOR STRAIGHT SPOOL OF BECHTEL PIPE @ NOZZLE    .
  53  .  ***   MATL: SA-336 GR.F22 CL.:16" SCH.80 PIPE UP TO & INCLUDING TOP ELB OF RISER .
  54  .  ***   MATL: SA-333 GR.6 AFTER TOP ELB OF RISER & REST; 16" SCH. 80/ 18" SCH. 80 .
  55  .  ****                                                                          .
```

```
 .  SAP    002                 82.719                                                    .
 .  ***       001;002,N02 ARE NODES ON SGR CL;SGR SURFACE; FW NOZ END RESPECTIVELY       .
 .  ***                                                                                  .
 .         002                                                                           .
 .         001  7.2674                  4.0284                                           .
 .                                                    OD=199.42,THI=4.71,                .
 .                                                    TEMP=567,EXP=4.2766,         *A  . TAG NOT USED - CARD IGNORED
 .                                                    TEMP=440,EXP=3.068,          *B  . THRM2
 .                                                    TEMP=250,EXP=1.40,           *C  . THRM3
 .                                                    TEMP=120,EXP=0.382,          *D  . TAG NOT USED - CARD IGNORED
 .                                                    TEMP=583,EXP=4.433,          *E  . TAG NOT USED - CARD IGNORED
 .                                                    TEMP=408,EXP=2.774,          *F  . THRM6
 .                                                    EXP=-0.2908,TEMP=32,         *G  . TAG NOT USED - CARD IGNORED
 .                                                    TEMP=70,EXP=0.,              *H  . TAG NOT USED - CARD IGNORED
 .                                                    TEMP=70.,EXP=0.,             *O  . TAG NOT USED - CARD IGNORED
 .                                                    SC=22500,SH=22500,               .
 .                                                    E=27.8E6,                        .
 .                                                    LBS/FT=1.0,                      .
 .                                                    DPRESS=1.0,PPRESS=1.0,           .
 .                                                    CODE=SC3N75,CLASS=2,             .
 .  ***                                                                                .
 .  ***    LINE NO. FW-1014-GA2                                                        .
 .  ANC    001 -0.637     1.971      -1.956                                    *N  . WT1    THRM2  THRM3  THRM6  TIME1
 .  ANC    001                                                                 *H  . TAG NOT USED - CARD IGNORED
 .                                                      COSAX=-.8746,COSAZ=-.4848, .
 .                                                      COSCX=.4848,COSCZ=-.8746,  .
 .                                                      RSNAME=SGROBE,             *S  . TAG NOT USED - CARD IGNORED
 .                                                      RSNAME=SGRSSE,             *T  . TAG NOT USED - CARD IGNORED
 .                                                      DTITLE=CENTER  SG,             .
 .                                                      DX=.229,DY=.0170,DZ=.2516,*X   . TAG NOT USED - CARD IGNORED
 .                                                      DX=.359,DY=.052,DZ=.4058, *Y   . TAG NOT USED - CARD IGNORED
 .                                                      PHASE=SG,                      .
 .                                                      ROT-X=-0.345E-3,           *N  . WT1    THRM2  THRM3  THRM6  TIME1
 .                                                      ROT-Y=-0.620E-3,           *N  . WT1    THRM2  THRM3  THRM6  TIME1
 .                                                      ROT-Z=0.042E-3,            *N  . WT1    THRM2  THRM3  THRM6  TIME1
 .                                                    ETI=1R122NSQ201B,                .
 .  ****************                                                                   .
 .  ***    BEGIN    FW LINE REROUTE DUE TO SG REPLACEMENT/NEW FW NOZZLE LOCATION       .
 .  ****************                                                                   .
 .     002003 -0.3440              -0.1907                                             .
 .                                                    OD=26.0,THICK=4.75,              .
 .                                                    LBS/FT=1176.5,                   .
 .         03A -0.5860             -0.3248                                             .
 .                                                    OD=20.0,THICK=1.75,              .
 .                                                    LBS/FT=439.2,                    .
 .         N02 -0.4490             -0.2489            SIF=1.502,                       .
 .                                                    OD=16.0,THICK=.843,              .
 .                                                    LBS/FT=210.66,                   .
 .                                                    DTITLE=FW NOZZLE,                .
 .                                                    DPRESS=1350,PPRESS=1360,         .
 .  DLD    N02 0.8746                0.4848           TFOR= 11,MULTI=-1,               .
 .         004-2-0.6               -1-1.6400          JOINT=BTWELD,                    .
 .         005-1-9                 -0-11.640    L     JOINT=BTWELD,                    .
 .  ***                                               MAT=SA336 GR.F22                 .
 .                                                    SC=18800,SH=17817,               .
 .                                                    E=30.6E6,                        .
 .                                                    TEMP=567,EXP=4.3864,         *A  . TAG NOT USED - CARD IGNORED
 .                                                    TEMP=448,EXP=3.160,          *B  . THRM2
 .                                                    TEMP=250,EXP=1.45,           *C  . THRM3
 .                                                    TEMP=120,EXP=0.378,          *D  . TAG NOT USED - CARD IGNORED
 .                                                    TEMP=583,EXP=4.534,          *E  . TAG NOT USED - CARD IGNORED
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117 .                                                  TEMP=408,EXP=2.872,         *F  .  THRM6
118 .                                                  EXP=-0.2892,TEMP=32,        *G  .  TAG NOT USED - CARD IGNORED
119 .                                                  TEMP=70,EXP=0.,             *H  .  TAG NOT USED - CARD IGNORED
120 .                                                  TEMP=70.,EXP=0.,            *O  .  TAG NOT USED - CARD IGNORED
121 .        007          -10-8-5/8                    SEG=2,                          .
122 .   ***                                            MAT=SA333 GR.6 (C-MN-SI)        .
123 .                                                  SC=15000,SH=15000,              .
124 .                                                  E=27.9E6,                       .
125 .                                                  OD=16.0,THICK=.843,             .
126 .                                                  LBS/FT=210.66,                  .
127 .                                                  TEMP=567,EXP=4.2766,        *A  .  TAG NOT USED - CARD IGNORED
128 .                                                  TEMP=440,EXP=3.068,         *B  .  THRM2
129 .                                                  TEMP=250,EXP=1.40,          *C  .  THRM3
130 .                                                  TEMP=120,EXP=0.382,         *D  .  TAG NOT USED - CARD IGNORED
131 .                                                  TEMP=583,EXP=4.433,         *E  .  TAG NOT USED - CARD IGNORED
132 .                                                  TEMP=408,EXP=2.774,         *F  .  THRM6
133 .                                                  EXP=-0.2908,TEMP=32,        *G  .  TAG NOT USED - CARD IGNORED
134 .                                                  TEMP=70,EXP=0.,             *H  .  TAG NOT USED - CARD IGNORED
135 .                                                  TEMP=70.,EXP=0.,            *O  .  TAG NOT USED - CARD IGNORED
136 .   RAD  007  0.9272               -0.3746                                         .
137 .                                                  AA=1859E3,ETI=HL5016,           .
138 .                                                  RSNAME=IS830B,              *S  .  TAG NOT USED - CARD IGNORED
139 .                                                  RSNAME=IS838S,              *T  .  TAG NOT USED - CARD IGNORED
140 .   DLD  007            1.0                        TFOR= 10,MULTI=-1,              .
141 .        008            -9-0                  S    JOINT=BTWELD,SEG=2,             .
142 .        009 1-10.2                0-9.23                                          .
143 .                                                  ADDWT=50,                       .
144 .   SPD  009            1.0                                                        .
145 .                                                  ETI=HL5015,                     .
146 .   DLD  009-0.9232                -0.3843         TFOR=  9,MULTI=-1,              .
147 .        010 1-10.2                0-9.23     S    JOINT=BTWELD,                   .
148 .        011            -2-10.5                                                    .
149 .                                                  ADDWT=902,                      .
150 .   RAD  011 -1.0000                                                               .
151 .                                                  AA=662E3,ETI=HL5014,            .
152 .                                                  RSNAME=IS830B,              *S  .  TAG NOT USED - CARD IGNORED
153 .                                                  RSNAME=IS835S,              *T  .  TAG NOT USED - CARD IGNORED
154 .   ***  TEST RUN STRUT ORIENTATION AT NODE 011 76 DEG INSTEAD OF 53 DEG               .
155 .   ***RAD  011 -0.6018               -0.7986                                      .
156 .   RAD  011 -0.2419               -0.9703                                         .
157 .                                                  AA=1470E3,ETI=HL5014,           .
158 .                                                  RSNAME=IS830B,              *S  .  TAG NOT USED - CARD IGNORED
159 .                                                  RSNAME=IS835S,              *T  .  TAG NOT USED - CARD IGNORED
160 .        11A            -1-7.5                     DTI=PLATFRM,                    .
161 .        012            -5-4.5                     SEG=2,                          .
162 .        013            -1-5-3/16                                                  .
163 .        014            -5-10-5/16                 SEG=2,                          .
164 .                                                  UFL=1230,                   *2  .  TAG NOT USED - CARD IGNORED
165 .                                                  COSFX=0.7290,               *2  .  TAG NOT USED - CARD IGNORED
166 .                                                  COSFY=0.0000,               *2  .  TAG NOT USED - CARD IGNORED
167 .                                                  COSFZ=-0.685,               *2  .  TAG NOT USED - CARD IGNORED
168 .                                                  UFL=2460,                   *3  .  TAG NOT USED - CARD IGNORED
169 .                                                  COSFX=0.7290,               *3  .  TAG NOT USED - CARD IGNORED
170 .                                                  COSFY=0.0000,               *3  .  TAG NOT USED - CARD IGNORED
171 .                                                  COSFZ=-0.685,               *3  .  TAG NOT USED - CARD IGNORED
172 .                                                  ADDWT=1133,                     .
173 .   RAD  014 -0.9748               -0.2233                                         .
174 .                                                  AA=3208E3,ETI=HL5013,           .
175 .                                                  RSNAME=INTOBE,              *S  .  TAG NOT USED - CARD IGNORED
176 .                                                  RSNAME=INTSSE,              *T  .  TAG NOT USED - CARD IGNORED
177 .   RAD  014 -0.5402               -0.8415                                         .
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178  .                                                   AA=1444E3,ETI-ML5013,                 .
179  .                                                   RSNAME=INTOBE,                  *S    .  TAG NOT USED - CARD IGNORED
180  .                                                   RSNAME=INTSSE,                  *T    .  TAG NOT USED - CARD IGNORED
181  .          015          -1-7-13/16                  DTI=CUT LOCN,JOINT=BTWELD,            .
182  .  DLD     015           1.0                        TFOR=  8,MULTI=-1,                    .
183  .  ***       END OF FW LINE REROUTE DUE TO SG REPLCEMENT/NEW FW NOZZLE LOCATION           .
184  .  ****************                                                                       .
185  .          016          -0-7-1/2                    JOINT=RED,                            .
186  .          018          -0-7-1/2                    JOINT=BTWELD,                         .
187  .                                                   OD=18,THICK=.937,                     .
188  .                                                   LBS/FT=264.20,                        .
189  .          020          -0-9                        SIF=1.0,                              .
190  .                                                   ADDWT=25,                             .
191  .          021          -1-0                        SIF=1.0,                              .
192  .                                                   ADDWT=20,                             .
193  .          022          -1-0                        SIF=1.0,                              .
194  .                                                   ADDWT=50,                             .
195  .          025          -4-0                L                                          .
196  .                                                   JOINT=BTWELD,                         .
197  .          026 -3.73331             2.65883                                             .
198  .                                                   SIF=1.0,                              .
199  .                                                   ADDWT=25,                             .
200  .                                                   UFL=1089,                       *8    .  TAG NOT USED - CARD IGNORED
201  .                                                   UFL=2179,                       *9    .  TAG NOT USED - CARD IGNORED
202  .                                                   COSFX=0,5801,                   *O    .  TAG NOT USED - CARD IGNORED
203  .                                                   COSFY=0,2419,                   *O    .  TAG NOT USED - CARD IGNORED
204  .                                                   COSFZ=0,8145,                   *O    .  TAG NOT USED - CARD IGNORED
205  .          027 -0-2.95271           0-2.10289                                          .
206  .                                                   DTITLE=FW9014ML5012,                  .
207  .                                                   ADDWT=150,                            .
208  .                                                   SIF=2.1,                              .
209  .  SNB     027 -.4690               -.883                                               .
210  .                                                   AA=757,0E03,                          .
211  .                                                   RSNAME=INTOBE,                  *S    .  TAG NOT USED - CARD IGNORED
212  .                                                   RSNAME=INTSSE,                  *T    .  TAG NOT USED - CARD IGNORED
213  .  DLD     027 .8145                -.5801          TFOR=  7,MULTI=-1.,                   .
214  .          030 -0-6.8218            0-4.8584        SIF=1.0,                              .
215  .                                                   ADDWT=20,                             .
216  .          035 -0-2.44362           0-1.7403        SIF=1.0,                              .
217  .                                                   ADDWT=25,                             .
218  .                                                   DTITLE=1.5FW1073OA2,                  .
219  .          040 -1-0.2254            0-8.70167       ADDWT=120,                            .
220  .                                                   DTITLE=FW9014SH0001,                  .
221  .  ***SPD   040            1.0                                                            .
222  .  SPR     040           1.0                        FORCE=1751.,AA=1.,              *I    .  WT1
223  .          042 -2.376               1.692                                               .
224  .                                                   DTITLE=FW9014ML5009,                  .
225  .                                                   SEGMNT=2,                             .
226  .  SNB     042           1.0                                                              .
227  .                                                   AA=898,0E03,                          .
228  .                                                   RSNAME=INTOBE,                  *S    .  TAG NOT USED - CARD IGNORED
229  .                                                   RSNAME=INTSSE,                  *T    .  TAG NOT USED - CARD IGNORED
230  .          13  -3.4024              2.42316         ADDWT=120,                            .
231  .                                                   DTITLE=FW9014ML5008,                  .
232  .                                                   SEGMNT=2,                             .
233  .                                                   UFL=0.00,                             .
234  .  ***SPD   13             1.0                                                            .
235  .  SPR     13            1.0                        FORCE=9157.,AA=1.,                    .
236  .          045-3.0206               2.35123    L                                        .
237  .                                                   JOINT=BTWELD,                         .
238  .          050            2-7-13/16                                                     .
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239  .                                                        DTITLE=FN9014HL5001,            .
240  .                                                        ADDWT=900,                      .
241  .                                                        SIF=2.1,                        .
242  .  SNB   050 1.0                                                                         .
243  .                                                        AA=872.0E3,                     .
244  .                                                        RSNAME=INTOBE,             *S   .  TAG NOT USED - CARD IGNORED
245  .                                                        RSNAME=INTSSE,             *T   .  TAG NOT USED - CARD IGNORED
246  .        055          2-6.375                            DTITLE=FN9014HL5002,            .
247  .                                                        SEGMNT=2,                       .
248  .                                                        ADDWT=491,                      .
249  .  SNB   055 0.464                 -0.882                                                .
250  .                                                        AA=1148.0E3,                    .
251  .                                                        RSNAME=INTOBE,             *S   .  TAG NOT USED - CARD IGNORED
252  .                                                        RSNAME=INTSSE,             *T   .  TAG NOT USED - CARD IGNORED
253  .  DLD   055          -1.0                               TFOR=  6,MULTI=-1.,             .
254  .        060          6-1.625                 L                                        .
255  .                                                        JOINT=BTWELD,                   .
256  .        065 -3.5                                        DTITLE=SLEEVE#245,              .
257  .                                                        SEGMNT=2,                       .
258  .        070 -4.5                                        JOINT=BTWELD,SIF=1.8,           .
259  .        080 -4-2.75                                                                    .
260  .                                                        DTITLE=FN9014HL5003,            .
261  .                                                        ADDWT=850,                      .
262  .                                                        SIF=2.1,                        .
263  .  SNB   080                       1.0                                                   .
264  .                                                        AA=1100E03,                     .
265  .                                                        RSNAME=INTOBE,             *S   .  TAG NOT USED - CARD IGNORED
266  .                                                        RSNAME=INTSSE,             *T   .  TAG NOT USED - CARD IGNORED
267  .  DLD   080 1.0                                         TFOR=  5,MULTI=-1.,             .
268  .        085 -1-0.25                                                                    .
269  .                                                        DTITLE=FN9014HL5006,            .
270  .  RAD   085          0.9973       -0.0732                                               .
271  .                                                        AA=560.0E03,                    .
272  .                                                        RSNAME=INTOBE,             *S   .  TAG NOT USED - CARD IGNORED
273  .                                                        RSNAME=INTSSE,             *T   .  TAG NOT USED - CARD IGNORED
274  .        086 -2-6                                                                       .
275  .        087 -2-3                                                                       .
276  .                                                        DTITLE=SLEEVE#243,              .
277  .                                                        SEGMNT=2,                       .
278  .        090 -3-0                                L                                      .
279  .                                                        JOINT=BTWELD,                   .
280  .        095                       8-11                 ADDWT=150,                      .
281  .                                                        DTITLE=FN9014SH0004,            .
282  .                                                        SEGMNT=2,                       .
283  .  ***SPD   095           1.0                                                           .
284  .  SPR   095          1.0                                FORCE=6756.,AA=1.,              .
285  .  DLD   095                       -1.0                 TFOR=  4,MULTI=-1.,             .
286  .        95B                       1-0                                                  .
287  .                                                        DTITLE=FN9014HL5004,            .
288  .                                                        SIF=2.1,                        .
289  .  RAD   95B 1.0                                                                        .
290  .                                                        AA=853.0E3,                     .
291  .         .                                              RSNAME=INTOBE,             *S   .  TAG NOT USED - CARD IGNORED
292  .                                                        RSNAME=INTSSE,             *T   .  TAG NOT USED - CARD IGNORED
293  .        100                       5-10          L                                      .
294  .                                                        JOINT=BTWELD,                   .
295  .        10A -4-6                                        DTITLE=FN9014HL5011,            .
296  .                                                        SEGMNT=2,                       .
297  .                                                        ADDWT=250,                      .
298  .  RAD   10A                       1.0                                                  .
299  .                                                        AA=1554E03,                     .
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INPUT CARD IMAGES                                                     ME101/NS  PREU/054    (G01414) 10/16/00 G01414  PAGE

300  .                                                                RSNAME=INTOBE,                    *S  .  TAG NOT USED - CARD IGNORED
301  .                                                                RSNAME=INTSSE,                    *T  .  TAG NOT USED - CARD IGNORED
302  .  DLD     10A  1.0                                              TFOR=  2,MULTI=-1.,                   .
303  .          105-10-3-11/16                                        SIF=1.8,                              .
304  .                                                                SEGMNT=4,                             .
305  .          110 -0-4-5/8                                          SIF=1.9,DTITLE=PEN M-7,               .
306  .  ANC     110 0.03901     -0.06168    0.005251                                                *N  .  WT1     THRM2  THRM3  THRM6  TIME1
307  .  ANC     110 -0.26854  0.2352        -0.036149                                               *P  .  TAG NOT USED - CARD IGNORED
308  .  ANC     110                                                                                 *O  .  TAG NOT USED - CARD IGNORED
309  .                                                                COSAX=1.0,COSAZ=0,                    .
310  .                                                                COSCX=0,COSCZ=1.0,                    .
311  .                                                                AA=6.4E6,AB=6.4E6,AC=6.4E6,           .
312  .                                                                ARA=7.45E9,ARB=7.45E9,                .
313  .                                                                ARC=7.45E9,                           .
314  .                                                                DX=.0268,DY=.00340,DZ=.0351,*X        .  TAG NOT USED - CARD IGNORED
315  .                                                                DX=.0482,DY=.00580,DZ=.0602,*Y        .  TAG NOT USED - CARD IGNORED
316  .                                                                PHASE=CONT,                           .
317  .                                                                RSNAME=CNTOBE,                    *S  .  TAG NOT USED - CARD IGNORED
318  .                                                                RSNAME=CNTSSE,                    *T  .  TAG NOT USED - CARD IGNORED
319  .  *******************************************************************   .
320  .  ****                                                                  .
321  .  *****************************************************************     .
322  .  ****                                                                  .
323  .  *****************************************************************     .
324  .  *****************************************************************     .
325  .  *****************************************************************     .
326  .  *****************************************************************     .
327  .  ****                                                                  .
**** .  ********                                                              .
**** .  CMB                                                           C0=0,*THRM2,                          .
**** .  CMB                                                           SEIST=1.0*TIME1,                      .
**** .  CMB                                                           C1=THRM2&THRM3&THRM6                  .
**** .                                                                &C0,                                  .
**** .  CMB                                                           C2=THRM2#THRM3#THRM6                  .
**** .                                                                #C0,                                  .
**** .  CMB                                                           C3=WT1+C1,                            .
**** .  CMB                                                           C4=WT1+C2,                            .
**** .  CMB                                                           C5=C3+TIME1,                          .
**** .  CMB                                                           C6=C4-TIME1,                          .
**** .  CMB                                                           FAULTP=C0&C5,                         .
**** .  CMB                                                           FAULTN=C0#C6,                         .
**** .  RLS                                                           LIST=WT1+THRM7+TIME1+FAULTP+          .
**** .                                                                FAULTN,                               .
**** .  STD                                                           LIST=NONE,                            .
**** .  SLA                                                           INCLUDE=WT1,                          .
**** .  OLA                                                           INCLUDE=WT1+SEIST,LEVEL=D,            .
**** .  END                                                                                                 .
**** .  *******************************************************************   .
**** .  *******************************************************************   .
**** .  ****                                                                  .
**** .  ********                                                              .
**** .  ***                                                                   .
**** .  ********                                                              .
**** .  ACE                                                           TITLE= OBE 2ND CNT SHELL EL.          .
**** .  ACE                                                           37'TO 68',                            .
**** .  ACE                                                           RSNAME=CNTOBE,                        .
**** .  ACE                                                           TYP=3,POI=24,                         .
**** .  ACE                                                           DIR=X                                 .
**** .                .5000,      .0750,      .8000,      .1500,      .9000,      .2000,                    .
**** .               1.0000,      .2300,     1.1000,      .3000,     1.1800,      .3300,                    .
**** .               1.8700,      .3300,     2.5000,      .2000,     3.3000,      .2000,                    .
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****  .                3.8000,    .6700,    5.0000,    .6700,    5.5000,    .6000,
****  .                6.5000,    .2550,    7.4000,    .2550,    7.5000,    .2432,
****  .                8.2000,    .1742,    8.9000,    .1650,    9.4000,    .2321,
****  .               11.0000,    .5400,   13.6000,    .5400,   16.1500,    .1600,
****  .               20.0000,    .1050,   35.0000,    .1050,   35.0010,    .1050,
****  .  ACE                                              DIR-Y
****  .                 .8500,    .1000,    1.0000,    .1000,    2.6000,    .2300,
****  .                4.4700,    .2750,    5.4700,    .2750,   10.0000,    .2800,
****  .               11.0000,    .5250,   13.3000,    .5250,   14.0000,    .3625,
****  .               15.0000,    .2532,   15.5000,    .2500,   16.0000,    .1730,
****  .               18.4000,    .1200,   22.0000,    .1000,   35.0000,    .1000,
****  .               35.0010,    .1000,   35.0020,    .1000,   35.0030,    .1000,
****  .               35.0040,    .1000,   35.0050,    .1000,   35.0060,    .1000,
****  .               35.0070,    .1000,   35.0080,    .1000,   35.0090,    .1000,
****  .  ACE                                              DIR-Z
****  .                 .5000,    .0800,     .6000,    .0800,     .7900,    .1500,
****  .                 .9000,    .2000,    1.0000,    .2500,    1.3000,    .3300,
****  .                1.8600,    .3300,    2.0000,    .2900,    3.0000,    .1700,
****  .                3.5000,    .2600,    4.6000,    .2600,    4.7000,    .2368,
****  .                5.0000,    .1905,    5.2000,    .1890,    7.5000,    .1800,
****  .                8.0000,    .1700,    8.4000,    .1700,    8.8000,    .2286,
****  .               10.1000,    .4316,   10.1500,    .6500,   14.0000,    .6500,
****  .               17.0000,    .1350,   25.0000,    .0800,   35.0000,    .0800,
****  .  EOA
****  .  ACE                                              TITLE- SSE 2ND CNT SHELL EL.
****  .  ACE                                              37' TO 68',
****  .  ACE                                              RSNAME=CMISSE,
****  .  ACE                                              TYP=3,POI=23,
****  .  ACE                                              DIR-Z
****  .                 .3000,    .0700,     .6000,    .1950,     .7700,    .2965,
****  .                1.0000,    .4500,    1.2000,    .5900,    1.8500,    .5900,
****  .                2.5000,    .4000,    2.6000,    .4200,    3.0000,    .5000,
****  .                3.5000,    .6800,    4.0000,   1.7000,    5.0000,   1.7000,
****  .                5.5000,    .9890,    6.0000,    .3500,    7.3000,    .3500,
****  .                9.5000,    .3952,   10.0000,    .5467,   10.7000,    .7600,
****  .               13.5000,    .7600,   15.7000,    .3079,   16.6000,    .2470,
****  .               20.0000,    .1775,   35.0000,    .1700,
****  .  ACE                                              DIR-Y
****  .                1.0000,    .1800,    2.7000,    .4100,    4.8000,    .4800,
****  .                8.0500,    .4850,   10.8000,    .6080,   13.5000,    .6080,
****  .               15.8000,    .2750,   21.5000,    .1600,   35.0000,    .1600,
****  .               35.0010,    .1600,   35.0020,    .1600,   35.0030,    .1600,
****  .               35.0040,    .1600,   35.0050,    .1600,   35.0060,    .1600,
****  .               35.0070,    .1600,   35.0080,    .1600,   35.0090,    .1600,
****  .               35.0100,    .1600,   35.0110,    .1600,   35.0120,    .1600,
****  .               35.0130,    .1600,   35.0140,    .1600,
****  .  ACE                                              DIR-Z
****  .                 .3000,    .0700,     .5000,    .1653,     .6000,    .2010,
****  .                 .7700,    .3209,    1.0000,    .5000,    1.2000,    .5500,
****  .                1.8000,    .5500,    2.1000,    .4600,    2.4000,    .3900,
****  .                3.0000,    .5000,    3.9000,    .9400,    6.9000,    .9400,
****  .                8.0000,    .4000,   10.5000,   1.1250,   18.0000,   1.1250,
****  .               22.0000,    .4800,   27.0000,    .2700,   35.0000,    .2500,
****  .               35.0010,    .2500,   35.0020,    .2500,   35.0030,    .2500,
****  .               35.0040,    .2500,   35.0050,    .2500,
****  .  EOA
****  .  ACE                                              TITLE- ONE 2ND INT STR EL 37'
****  .  ACE                                              TO 52',
****  .  ACE                                              RSNAME=INTONE,
****  .  ACE                                              TYP=3,POI=26,
****  .  ACE                                              DIR-X
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*****  .                .4000,    .0800,    .5000,    .0800,     .7000,    .1480,  .
*****  .                .9100,    .2200,   1.0000,    .2468,    1.1000,    .2700,  .
*****  .               1.2000,    .2800,   1.9000,    .2800,    2.0500,    .2579,  .
*****  .               3.0000,    .1975,   3.8000,    .2448,    4.0000,    .2600,  .
*****  .               4.4000,    .2600,   5.0000,    .3600,    5.4000,    .3600,  .
*****  .               6.1000,    .6400,   7.8000,    .6400,    7.9000,    .5400,  .
*****  .               9.0000,    .5400,  11.0000,    .2200,   16.0000,    .1100,  .
*****  .              24.0000,    .1100,  25.0000,    .0976,   26.5000,    .0900,  .
*****  .              35.0000,    .0900,  35.0010,    .0900,                       .
*****  .  ACE                                          DIR-Y                        .
*****  .               1.0000,    .0900,   2.6000,    .2125,    4.0000,    .2450,  .
*****  .               4.4000,    .2500,   5.1000,    .2500,    5.5000,    .2450,  .
*****  .               7.9000,    .1675,   9.9000,    .1730,   12.0000,    .1383,  .
*****  .              13.0000,    .1300,  16.0000,    .1300,   16.5000,    .1600,  .
*****  .              21.0000,    .1600,  22.0000,    .1170,   25.5000,    .1170,  .
*****  .              27.0000,    .1100,  33.0000,    .0750,   35.0000,    .0750,  .
*****  .              35.0010,    .0750,  35.0020,    .0750,   35.0030,    .0750,  .
*****  .              35.0040,    .0750,  35.0050,    .0750,   35.0060,    .0750,  .
*****  .              35.0070,    .0750,  35.0080,    .0750,                       .
*****  .  ACE                                          DIR-Z                        .
*****  .                .4000,    .0800,    .5000,    .0800,     .6000,    .1010,  .
*****  .                .7000,    .1283,    .9100,    .2266,    1.1000,    .2700,  .
*****  .               1.2000,    .2800,   1.9000,    .2800,    2.4000,    .2235,  .
*****  .               3.0500,    .1757,   3.3000,    .1641,    3.4000,    .1687,  .
*****  .               4.2000,    .2300,   4.4000,    .2587,    4.9000,    .3579,  .
*****  .               5.0000,    .3800,   5.4000,    .4200,    5.5000,    .5080,  .
*****  .               7.0200,    .5080,   7.7000,    .2500,    8.1000,    .3750,  .
*****  .              10.0000,    .3750,  12.0000,    .1680,   15.0000,    .1350,  .
*****  .              20.0000,    .1100,  35.0000,    .1100,                       .
*****  .  EOA                                                                      .
*****  .  ACE                                       TITLE- SSE 3%D INT STR EL 37'   .
*****  .  ACE                                       TO 53',                         .
*****  .  ACE                                       RSNAME-INTSSE,                  .
*****  .  ACE                                       TYP-3,POI-20,                   .
*****  .  ACE                                       DIR-X                           .
*****  .                .5000,    .1600,   1.1000,    .5800,    1.8500,    .5800,  .
*****  .               1.9000,    .5673,   3.0000,    .3957,    4.0000,    .3979,  .
*****  .               4.0500,    .4000,   4.8000,    .4280,    5.0000,   1.5000,  .
*****  .               5.9000,   1.5000,   6.1000,   1.3900,    7.1000,   1.9200,  .
*****  .               8.3000,   1.9200,   9.0000,   1.3600,   18.0500,    .4700,  .
*****  .              11.0000,    .4700,  15.0000,    .2281,   17.0000,    .1900,  .
*****  .              24.0000,    .1900,  40.0000,    .1800,                       .
*****  .  ACE                                          DIR-Y                        .
*****  .               1.0000,    .1650,   2.6000,    .3750,    4.5000,    .4250,  .
*****  .               5.6000,    .4250,   9.1000,    .3400,   12.0000,    .2400,  .
*****  .              20.0000,    .2400,  35.0000,    .1100,   40.0000,    .1000,  .
*****  .              40.0010,    .1000,  40.0020,    .1000,   40.0030,    .1000,  .
*****  .              40.0040,    .1000,  40.0050,    .1000,   40.0060,    .1000,  .
*****  .              40.0070,    .1000,  40.0080,    .1000,   40.0090,    .1000,  .
*****  .              40.0100,    .1000,  40.0110,    .1000,                       .
*****  .  ACE                                          DIR-Z                        .
*****  .                .5000,    .1600,   1.1000,    .5800,    1.8500,    .5800,  .
*****  .               4.0000,    .7700,   5.1000,   1.0500,    6.9000,   1.0500,  .
*****  .               8.0000,   1.2300,  14.0000,   1.2300,   20.0000,    .3500,  .
*****  .              30.0000,    .2600,  40.0000,    .2600,   40.0010,    .2600,  .
*****  .              40.0020,    .2600,  40.0030,    .2600,   40.0040,    .2600,  .
*****  .              40.0050,    .2600,  40.0060,    .2600,   40.0070,    .2600,  .
*****  .              40.0080,    .2600,  40.0090,    .2600,                       .
*****  .  EOA                                                                      .
*****  .  ACE                                       TITLE- OBE 2%D INT STRUC EL.    .
*****  .  ACE                                       83',                            .
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****  .  ACE                                          RSNAME-IS830B,
****  .  ACE                                          TYP-3,POI-24,
****  .  ACE                                          DIR-X
****  .                .4100,     .1900,     .5000,     .1900,    1.1000,     .4000,
****  .               2.0000,     .4000,    3.4000,     .2800,    5.7000,    1.1000,
****  .               9.8000,    1.1000,   10.1000,     .9000,   12.0000,     .9000,
****  .              13.5000,     .8000,   15.0000,     .3500,   25.0000,     .3500,
****  .              36.0000,     .1900,   50.0000,     .1900,
****  .  ACE                                          DIR-Y
****  .                .9000,     .0800,    2.6000,     .2200,    3.4000,     .2600,
****  .               5.0000,     .2800,    8.0000,     .2000,   10.4000,     .1650,
****  .              11.0000,     .1980,   14.5000,     .1980,   15.0000,     .2300,
****  .              20.5000,     .2300,   22.0000,     .1900,   28.0000,     .1900,
****  .              35.0000,     .0850,   60.0000,     .0850,
****  .  ACE                                          DIR-Z
****  .                .4100,     .1900,     .5000,     .1900,    1.1000,     .4000,
****  .               2.0000,     .4000,    3.4000,     .2800,    5.7000,    1.1000,
****  .               9.8000,    1.1000,   10.1000,     .9000,   12.0000,     .9000,
****  .              13.5000,     .8000,   15.0000,     .3500,   25.0000,     .3500,
****  .              36.0000,     .1900,   50.0000,     .1900,
****  .  EOA
****  .  ACE                                          TITLE- SSE 36D INT STRUCT EL.
****  .  ACE                                          83',
****  .  ACE                                          RSNAME-IS831S,
****  .  ACE                                          TYP-3,POI-15,
****  .  ***                          ***************************
****  .  ********* NO DIGITIZED DATA AVAILABLE - READ FROM GRAPH ******
****  .  ***                          ***************************
****  .  ACE                                          DIR-X
****  .                .4200,     .3000,     .8000,     .5000,    1.0500,     .7000,
****  .               2.0000,     .7000,    3.0200,     .5000,    4.1000,    1.2000,
****  .               7.0000,    2.0500,   10.0000,    2.0500,   12.0000,    1.6000,
****  .              14.0000,    1.6000,   18.0000,     .8800,   21.0000,     .6600,
****  .              26.0000,     .4200,   31.0000,     .3300,   40.0000,     .3300,
****  .  ACE                                          DIR-Y
****  .                1.0000,     .1750,    2.0000,     .4000,    3.3000,     .4750,
****  .               5.0000,     .4750,    8.0000,     .3800,   12.0000,     .3000,
****  .              13.0000,     .3400,   21.0000,     .3400,   22.0000,     .2900,
****  .              27.0000,     .2900,   38.0000,     .1400,   40.0000,     .1400,
****  .              45.0000,     .1400,   50.0000,     .1400,   60.0000,     .1400,
****  .  ACE                                          DIR-Z
****  .                .4200,     .3000,     .8000,     .5000,    1.0500,     .7000,
****  .               2.0000,     .7000,    3.0200,     .5000,    4.1000,    1.2000,
****  .               7.0000,    2.0500,   10.0000,    2.0500,   12.0000,    1.6000,
****  .              14.0000,    1.6000,   18.0000,     .8800,   21.0000,     .6600,
****  .              26.0000,     .4200,   31.0000,     .3300,   40.0000,     .3300,
****  .  EOA
****  .  ACE                                          TITLE- OBE 24D SGR SPECT EL.
****  .  ACE                                          91.38,
****  .  ACE                                          RSNAME-SGROBE,
****  .  ACE                                          TYP-3,POI-15,
****  .  ACE                                          DIR-X
****  .                1.0000,     .2500,    2.0000,     .4000,    3.0000,     .2500,
****  .               4.0000,     .7500,    5.0000,    4.0500,    7.0000,    4.0500,
****  .               8.0000,     .8000,   10.0000,     .5100,   20.0000,     .4000,
****  .              30.0000,     .3500,   40.0000,     .3500,
****  .  ACE                                          DIR-Y
****  .                0.7000,     .0600,    1.0000,     .1000,    2.0000,     .2000,
****  .               3.5000,     .3100,    5.0000,     .3100,    7.0000,     .3600,
****  .               8.5000,     .3800,   10.0000,     .6800,   17.0000,     .6800,
****  .              18.0000,     .2000,   20.0000,     .1880,   30.0000,     .1200,
```

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****  .           40.0000,    .1000,                                                  .
****  .  ACE                                            DIR=Z                         .
****  .            1.0000,    .2500,    2.0000,   .4000,    3.5000,    .2500,         .
****  .            4.0000,    .7500,    5.0000,  3.2000,    7.0000,   3.2000,         .
****  .            8.0000,   1.0000,   10.0000,   .5000,   11.0000,    .3000,         .
****  .           20.0000,    .3000,   30.0000,   .2500,   40.0000,    .2500,         .
****  .  EOA                                                                          .
****  .  ACE                                            TITLE= SSE 3%D SOR SPECT EL.  .
****  .  ACE                                            91.38,                        .
****  .  ACE                                            RSNAME=SGRSSE,                .
****  .  ACE                                            TYP=3,POI=12,                 .
****  .  ACE                                            DIR=X                         .
****  .            1.0000,    .5000,    2.0000,   .7000,    3.0000,    .5000,         .
****  .            4.0000,   1.5000,    5.0000,  6.4000,    7.0000,   6.4000,         .
****  .            8.0000,   1.6000,   10.0000,  1.0200,   20.0000,    .8000,         .
****  .           30.0000,    .7000,   40.0000,   .7000,                              .
****  .  ACE                                            DIR=Y                         .
****  .            0.7000,    .1200,    1.0000,   .1800,    2.0000,    .3600,         .
****  .            3.5000,    .8000,    5.0000,   .8000,    8.0000,    .6400,         .
****  .            9.0000,   1.1000,   17.0000,  1.1000,   18.0000,    .4000,         .
****  .           20.0000,    .3600,   30.0000,   .2400,   40.0000,    .2000,         .
****  .  ACE                                            DIR=Z                         .
****  .            1.0000,    .5000,    2.0000,   .8000,    3.5000,    .5000,         .
****  .            4.0000,   1.5000,    5.0000,  4.8000,    7.0000,   4.8000,         .
****  .            8.0000,   2.0000,   10.0000,   .1000,   11.0000,    .6000,         .
****  .           20.0000,    .6000,   30.0000,   .6000,   40.0000,    .5000,         .
****  .  EOA                                                                          .
****  .  ***                                                                          .
****  .  ***ADD        MPWB-X.PRN                                                     .
****  .  ***                                                                          .
****  .  **************************************************************************  .
****  .  CMB                                            CO=0.*THRM1,                  .
****  .  ***CMB                                            J1=WTJ1&WTJ2&CO,           .
****  .  ***CMB                                            J2=WTJ1#WTJ2#CO,           .
****  .  CMB                                            C1=THRM1&THRM2&THRM3&THRM4    .
****  .                                                 &CO,                          .
****  .  CMB                                            C2=THRM1#THRM2#THRM3#THRM4    .
****  .                                                 #CO,                          .
****  .  CMB                                            C3=WT1+C1,                    .
****  .  CMB                                            C4=WT1+C2,                    .
****  .  CMB                                            D1=C1&THRM7,                  .
****  .  CMB                                            D2=C2#THRM7,                  .
****  .  CMB                                            D3=WT1+D1,                    .
****  .  CMB                                            D4=WT1+D2,                    .
****  .  CMB                                            SEISA1=1.*MRS1,               .
****  .  CMB                                            SEISA2=1.*MRS2,               .
****  .  CMB                                            DBA=ABS(THRM8),               .
****  .  CMB                                            THRMP=D1&THRM5&THRM6,         .
****  .  CMB                                            THRMN=D2#THRM5#THRM6,         .
****  .  CMB                                            D5=WT1+THRMP+CO,              .
****  .  CMB                                            D6=WT1+THRMN+CO,              .
****  .  CMB                                            NORMP=C3&C1&CO,               .
****  .  CMB                                            NORMN=C4#C2#CO,               .
****  .  CMB                                            C5=SEISA1$SAM1,               .
****  .  CMB                                            A1=D3&WT1&CO,                 .
****  .  CMB                                            A2=D4#WT1#CO,                 .
****  .  CMB                                            UPSETP=A1+C5,                 .
****  .  CMB                                            UPSETN=A2-C5,                 .
****  .  CMB                                            C6=SEISA2$SAM2,               .
****  .  CMB                                            A3=D5+DBA,                    .
****  .  CMB                                            A4=D5+C6,                     .
```

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****  .  CMB                                               FAULTP=A3&CO&A4,                     .
****  .  CMB                                               A5=D6-DBA,                           .
****  .  CMB                                               A6=D6-C6,                            .
****  .  CMB                                               FAULTN=A5$COBA6,                     .
****  .  RLS                                               LIST=WT1+THRM1+THRM2+THRM3+          .
****  .                                                    THRM4+THRM5+THRM6+THRM7+DBA+         .
****  .                                                    SEISA1+SEISA2+SAM1+SAM2,             .
****  .  RLS                                               LIST=NORMP+NORMN+UPSETP+             .
****  .                                                    UPSETN+FAULTP+FAULTN,                .
****  .  STD                                               LIST=THRMP+THRMN+FAULTP+             .
****  .                                                    FAULTN+D5+D6,                        .
****  .  SLA                                               INCLUDE=WT1,                         .
****  .  TSA                                               INCLUDE=THRM1+THRM2+THRM3+           .
****  .                                                    THRM4+THRM5+THRM6+THRM7+SAM1         .
****  .                                                    +WT1,                                .
****  .  OLA                                               INCLUDE=WT1+SEISA1,LEVEL=B,          .
****  .  OLA                                               INCLUDE=WT1+SEISA2,LEVEL=D,          .
****  .  PBA                                               INCLUDE=WT1+THRM1+THRM2+             .
****  .                                                    THRM3+THRM4+THRM5+THRM6+             .
****  .                                                    THRM7+SAM1+SEISA1,                   .
****  .                                                    FPB=0.8,                             .
****  .  END                                                                                    .
****  .  ******************************************************************************        .
****  .  ******************************************************************************        .
      .  +         +         +         +         +         +         +         +         +    .
```

Current ME101 deck contains   1 ADD FILES

FROM	TO	FILE NAME
328	33393	C:\PAMI\stpsgr\STP2\NFNDW.FOR

DCP# 98-19444-2, SUPP.0 page of

ME101

I N P U T C A R D I M A G E S

```
INPUT
CARD    1         11        21        31        41        51        61        71       80
 SEQ  . +         +         +         +         +         +         +         +        + .  LOAD CASE(S)
   1  . ********************************************************************************* .
   2  . ***       DATA FILE FOR UNIT-2                                                ***  .
   3  . ***  TEST RUN STRUT ORIENTATION AT NODE 011 76 DEG INSTEAD OF 83 DEG            .
   4  . ***RAD   011 -0.6018               -0.7986                                       .
   5  . ***RAD   011 -0.2419               -0.9703                                       .
   6  . ********************************************************************************* .
   7  . ***    INPUT FILE FOR CALC REVISION DUE TO SGR REPLACEMENT ;MFWSJU2.INP          .
   8  . ***    DATA FILE FOR UNIT-2                                                      .
   9  . ***    NOTE: ABR STIFFNESS & SUPPORT RELOCATION ARE INCORPORATED                 .
  10  . ********************************************************************************* .
  11  . ********************************************************************************* .
  12  . CTL                                          OUTPUT=SHORT,                      .
  13  . NED                                          TITLE=FEEDWATER "FW" SYSTEM -      .
  14  .                                              REQ 2B TO M7,                      .
  15  .                                              PROJNO=234386801,                  .
  16  .                                              PRODNO=2C159RC5035,                .
  17  .                                              USER=PANI,                         .
  18  .                                              UNITS=2,                           .
  19  . RUN                                          LDCASE=WT1(N+1),                   .
  20  . RUN                                          LDCASE=THRM1(N+A),                 .
  21  . RUN                                          LDCASE=WTJ1(2+R+W),                .
  22  . RUN                                          LDCASE=WTJ2(3+R+W),                .
  23  . ***                                                                             .
  24  . ***    WT1   --- NORMAL OPERATING WEIGHT ANALYSIS                               .
  25  . ***    WTJ1  --- STATIC JET IMPINGEMENT ANALYSIS -W/O DLF & W/O SNB ACTIVE.      .
  26  . ***    WTJ2  --- EQUIV. STATIC JET IMPINGEMENT ANALYSIS -W/ DLF & W SNB ACTIVE.  .
  27  . ***    THRM1 --- THERMAL NORMAL OPERATING MODE (HEAT-UP,COLD DOWN) @ 567 DEGREE .
  28  . ***    WTJ1 & WTJ2-- INACTIVATE SPRINGS, ADDWTS, LB/FT                          .
  29  . ***                                                                             .
  30  . ***                                                                             .
  31  . ***                                                                             .
  32  . ***    CAD. ISO. 2C359PFW433 SHT. 01 REV. 4                                     .
  33  . ***                                                                             .
  34  . ***    UNIT-2 LOOP B   MAIN FEEDWATER                                           .
  35  . ***                                                                             .
  36  . ***    SGR NOZZLE MATERIAL SA508 CL. 3A  SC-22.5 KSI; SH-22.5 KSI               .
  37  . ***    MATL: SA-508 GR. 2 CL. 2 FOR STRAIGHT SPOOL OF BECHTEL PIPE @ NOZZLE     .
  38  . ***    MATL: SA-336 GR.F22 CL.;16" SCH.80 PIPE UP TO & INCLUDING TOP ELB OF RISER .
  39  . ***    MATL: SA-333 GR.6 AFTER TOP ELB OF RISER & REST, 16" SCH. 80/ 18" SCH. 80 .
  40  . ****                                                                            .
  41  . SAP    002            82.719                                                    .
  42  . ***       001;002,N02 ARE NODES ON SGR CL;SGR SURFACE, FW NOZ END RESPECTIVELY   .
  43  . ***                                                                             .
  44  .        002                                                                      .
  45  .        001  7.2674              4.0284                                         .
  46  .                                              OD=199.42,THI=4.71,                .
  47  .                                              TEMP=567,EXP=4.2766,       *A  .  THRM1
  48  .                                              TEMP=440,EXP=3.068,        *B  .  TAG NOT USED - CARD IGNORED
  49  .                                              TEMP=250,EXP=1.40,         *C  .  TAG NOT USED - CARD IGNORED
  50  .                                              TEMP=120,EXP=0.382,        *D  .  TAG NOT USED - CARD IGNORED
  51  .                                              TEMP=583,EXP=4.433,        *E  .  TAG NOT USED - CARD IGNORED
  52  .                                              TEMP=408,EXP=2.774,        *F  .  TAG NOT USED - CARD IGNORED
  53  .                                              EXP=-0.2908,TEMP=32,       *G  .  TAG NOT USED - CARD IGNORED
  54  .                                              TEMP=70,EXP=0.,            *H  .  TAG NOT USED - CARD IGNORED
  55  .                                              TEMP=70.,EXP=0.,           *O  .  TAG NOT USED - CARD IGNORED
```

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 .                                                SC=22500,SH=22500,                    .
 .                                                E=27.8E6,                             .
 .                                                LBS/FT=1.0,                      *1   .  WT1
 .                                                DPRESS=1.0,PPRESS=1.0,                .
 .                                                CODE=SC3N75,CLASS=2,                  .
 .  ***                                                                                 .
 .  ***   LINE NO. FW-1014-GA2                                                          .
 .  ANC   001 -0.637    1.971      -1.956                                          *N   .  WT1    THRM1  WTJ1   WTJ2
 .  ANC   001                                                                      *H   .  TAG NOT USED - CARD IGNORED
 .                                                  COSAX=-.8746,COSAZ=-.4848,          .
 .                                                  COSCX=.4848,COSCZ=-.8746,           .
 .                                                  RSNAME=SGROBE,                 *S   .  TAG NOT USED - CARD IGNORED
 .                                                  RSNAME=SGRSSE,                 *T   .  TAG NOT USED - CARD IGNORED
 .                                                  DTITLE=CENTER  SG,                  .
 .                                                  DX=.229,DY=.0170,DZ=.2516,*X        .  TAG NOT USED - CARD IGNORED
 .                                                  DX=.369,DY=.052,DZ=.4058, *Y        .  TAG NOT USED - CARD IGNORED
 .                                                  PHASE=SG,                           .
 .                                                  ROT-X=-0.345E-3,               *N   .  WT1    THRM1  WTJ1   WTJ2
 .                                                  ROT-Y=-0.620E-3,               *N   .  WT1    THRM1  WTJ1   WTJ2
 .                                                  ROT-Z=0.042E-3,                *N   .  WT1    THRM1  WTJ1   WTJ2
 .                                                ETI=1R122NSG201B,                     .
 .  ****************                                                                    .
 .  ***    BEGIN    FW LINE REROUTE DUE TO SG REPLACEMENT/NEW FW NOZZLE LOCATION        .
 .  ****************                                                                    .
 .     002003 -0.3440              -0.1907                                              .
 .                                                OD=26.0,THICK=4.75,                   .
 .                                                LBS/FT=1176.5,                   *1   .  WT1
 .        03A -0.5860              -0.3248                                              .
 .                                                OD=20.0,THICK=1.75,                   .
 .                                                LBS/FT=439.2,                    *1   .  WT1
 .        N02 -0.4490              -0.2489    SIF=1.502,                                .
 .                                                OD=16.0,THICK=.843,                   .
 .                                                LBS/FT=210.66,                   *1   .  WT1
 .                                                DTITLE=FW NOZZLE,                     .
 .                                                DPRESS=1350,PPRESS=1360,              .
 .  DLD   N02 0.8746                0.4848    TFOR= 11,MULTI=-1,                        .
 .        004-2-0.6                -1-1.6400  JOINT=BTWELD,                             .
 .        005-1-9                  -0-11.640     L   JOINT=BTWELD,                      .
 .  ***                                           MAT=SA336 GR.F22                      .
 .                                                SC=18800,SH=17817,                    .
 .                                                E=30.6E6,                             .
 .                                                TEMP=567,EXP=4.3864,             *A   .  THRM1
 .                                                TEMP=440,EXP=3.160,              *B   .  TAG NOT USED - CARD IGNORED
 .                                                TEMP=250,EXP=1.45,               *C   .  TAG NOT USED - CARD IGNORED
 .                                                TEMP=120,EXP=0.378,              *D   .  TAG NOT USED - CARD IGNORED
 .                                                TEMP=583,EXP=4.534,              *E   .  TAG NOT USED - CARD IGNORED
 .                                                TEMP=408,EXP=2.872,              *F   .  TAG NOT USED - CARD IGNORED
 .                                                EXP=-0.2892,TEMP=32,             *G   .  TAG NOT USED - CARD IGNORED
 .                                                TEMP=70,EXP=0.,                  *K   .  TAG NOT USED - CARD IGNORED
 .                                                TEMP=70.,EXP=0.,                 *O   .  TAG NOT USED - CARD IGNORED
 .        007             -10-8-5/8               SEG=2,                                .
 .  ***                                           MAT=SA333 GR.6 (C-MN-SI)              .
 .                                                SC=15000,SH=15000,                    .
 .                                                E=27.9E6,                             .
 .                                                OD=16.0,THICK=.843,                   .
 .                                                LBS/FT=210.66,                   *1   .  WT1
 .                                                TEMP=567,EXP=4.2766,             *A   .  THRM1
 .                                                TEMP=440,EXP=3.068,              *B   .  TAG NOT USED - CARD IGNORED
 .                                                TEMP=250,EXP=1.40,               *C   .  TAG NOT USED - CARD IGNORED
 .                                                TEMP=120,EXP=0.382,              *D   .  TAG NOT USED - CARD IGNORED
 .                                                TEMP=583,EXP=4.433,              *E   .  TAG NOT USED - CARD IGNORED
```

```
117  .                                                  TEMP=408,EXP=2.774,          *F  .  TAG NOT USED - CARD IGNORED
118  .                                                  EXP=-0.2908,TEMP=32,         *G  .  TAG NOT USED - CARD IGNORED
119  .                                                  TEMP=70,EXP=0.,              *H  .  TAG NOT USED - CARD IGNORED
120  .                                                  TEMP=70.,EXP=0.,             *O  .  TAG NOT USED - CARD IGNORED
121  .  RAD   007  0.9272              -0.3746                                            .
122  .                                                  AA-1859E3,ETI-HL5016,            .
123  .                                                  RSNAME=IS830B,               *S  .  TAG NOT USED - CARD IGNORED
124  .                                                  RSNAME=IS838S,               *T  .  TAG NOT USED - CARD IGNORED
125  .  DLD   007           1.0                         TFOR= 10,MULTI=-1,                 .
126  .        008          -9-0                    S    JOINT-BTWELD,SEG=2,                .
127  .        009 1-10.2                0-9.23                                             .
128  .                                                  ADDWT=50,                    *1  .  WT1
129  .  SPD   009           1.0                         ETI-HL5015,                  *1  .  WT1
130  .  DLD   009-0.9232               -0.3843          TFOR=  9,MULTI=-1,                 .
131  .        010 1-10.2               0-9.23      S    JOINT-BTWELD,                      .
132  .        011          -2-10.5                                                        .
133  .                                                  ADDWT=902,                   *1  .  WT1
134  .  RAD   011 -1.0000                                                                .
135  .                                                  AA-6619E3,ETI-HL5014,            .
136  .                                                  RSNAME=IS830B,               *S  .  TAG NOT USED - CARD IGNORED
137  .                                                  RSNAME=IS838S,               *T  .  TAG NOT USED - CARD IGNORED
138  .  ***RAD   011 -0.6018                 -0.7986                                     .
139  .  ***  TEST RUN STRUT ORIENTATION AT NODE 011 76 DEG INSTEAD OF 83 DEG              .
140  .  ***RAD   011 -0.6018                 -0.7986                                     .
141  .  RAD   011 -0.2419              -0.9703                                           .
142  .                                                  AA-1470E3,ETI-HL5014,            .
143  .                                                  RSNAME=IS830B,               *S  .  TAG NOT USED - CARD IGNORED
144  .                                                  RSNAME=IS838S,               *T  .  TAG NOT USED - CARD IGNORED
145  .        11A          -1-7.5                       DTI-PLATFRM,                       .
146  .        012          -5-4.5                       SEG=2,                             .
147  .        013          -1-5-3/16                                                       .
148  .        014          -5-10-5/16                   SEG=2,                             .
149  .                                                  ADDWT=1133,                  *1  .  WT1
150  .  RAD   014 -0.9748              -0.2233                                           .
151  .                                                  AA-3288E3,ETI-HL5013,            .
152  .                                                  RSNAME=INTOBE,               *S  .  TAG NOT USED - CARD IGNORED
153  .                                                  RSNAME=INTSSE,               *T  .  TAG NOT USED - CARD IGNORED
154  .  RAD   014 -0.5402              -0.8415                                           .
155  .                                                  AA-1444E3,ETI-HL5013,            .
156  .                                                  RSNAME=INTOBE,               *S  .  TAG NOT USED - CARD IGNORED
157  .                                                  RSNAME=INTSSE,               *T  .  TAG NOT USED - CARD IGNORED
158  .        015          -1-7-13/16                   DTI-CUT LOCN,JOINT-BTWELD,         .
159  .  DLD   015           1.0                         TFOR=  8,MULTI=-1,                 .
160  .  ***      END OF FW LINE REROUTE DUE TO SG REPLCEMENT/NEW FW NOZZLE LOCATION       .
161  .  ***************                                                                   .
162  .        016          -0-7-1/2                     JOINT-RED,                         .
163  .        018          -0-7-1/2                     JOINT=BTWELD,                      .
164  .                                                  OD=18,THICK=.937,                  .
165  .                                                  LBS/FT=264.20,               *1  .  WT1
166  .        020          -0-9                         SIF=1.0,                           .
167  .                                                  ADDWT=25,                    *1  .  WT1
168  .        021          -1-0                         SIF=1.0,                           .
169  .                                                  ADDWT=20,                    *1  .  WT1
170  .        022          -1-0                         SIF=1.0,                           .
171  .                                                  ADDWT=50,                    *1  .  WT1
172  .        025          -4-0                   L                                       .
173  .                                                  JOINT=BTWELD,                      .
174  .        026 -3.73331             2.65883                                           .
175  .                                                  SIF=1.0,                           .
176  .                                                  ADDWT=25,                    *1  .  WT1
177  .                                                  UFL=1889,                    *6  .  TAG NOT USED - CARD IGNORED
```

```
178  .
179  .
180  .
181  .
182  .        027 -0-2.95272              0-2.10289
183  .
184  .
185  .
186  .  SNB   027 -.4690                  -.883
187  .
188  .
189  .  RAD   027 -.4690                  -.883
190  .  DLD   027 .8145                    -.5801
191  .        030 -0-6.8218               0-4.8584
192  .
193  .        035 -0-2.44362              0-1.7403
194  .
195  .
196  .        040 -1-0.2254               0-8.70167
197  .
198  .
199  .  ***SPD   040           1.0
200  .  SPR   040          1.0
201  .        042 -2.376                  1.692
202  .
203  .
204  .  SNB   042          1.0
205  .
206  .
207  .  RAD   042          1.0
208  .        13  -3.4024                 2.42316
209  .
210  .
211  .
212  .  ***SPD   13            1.0
213  .  SPR   13           1.0
214  .        045-3.0206                  2.15123    L
215  .
216  .        050            2-7-13/16
217  .
218  .
219  .
220  .  SNB   050 1.0
221  .
222  .
223  .  RAD   050 1.0
224  .        055            2-6.375
225  .
226  .
227  .  SNB   055 0.464                   -0.882
228  .
229  .
230  .  RAD   055 0.464                   -0.882
231  .  DLD   055           -1.0
232  .        060           6-1.625                 L
233  .
234  .        065 -3.5
235  .
236  .        070 -4.5
237  .        080 -4-2.75
238  .
```

```
UYL=2179,                    *9  .  TAG NOT USED - CARD IGNORED
COSFX=0.5801,                *0  .  TAG NOT USED - CARD IGNORED
COSFY=0.2419,                *0  .  TAG NOT USED - CARD IGNORED
COSFZ=0.8145,                *0  .  TAG NOT USED - CARD IGNORED
                                 .
DTITLE=FW9014HL5012,             .
ADDWT=150,                   *1  .  WT1
SIF=2.1,                         .
AA=757.0E03,                     .
RSNAME=INTOBE,               *S  .  TAG NOT USED - CARD IGNORED
RSNAME=INTSSE,               *T  .  TAG NOT USED - CARD IGNORED
AA=757.0E03,                 *J  .  WTJ2
TFOR=  7,MULTI=-1.,              .
SIF=1.0,                         .
ADDWT=20,                    *1  .  WT1
SIF=1.0,                         .
ADDWT=25,                    *1  .  WT1
DTITLE=1.5FW1073GA2,             .
                                 .
ADDWT=120,                   *1  .  WT1
DTITLE=FW9014SW0001,             .
                                 .
FORCE=1751.,AA=1.,           *1  .  WT1
                                 .
DTITLE=FW9014HL5009,             .
SEGMNT=2,                        .
AA=898.0E03,                     .
RSNAME=INTOBE,               *S  .  TAG NOT USED - CARD IGNORED
RSNAME=INTSSE,               *T  .  TAG NOT USED - CARD IGNORED
AA=898.0E03,                 *J  .  WTJ2
                                 .
ADDWT=120                    *1  .  WT1
DTITLE=FW9014HL5008,             .
SEGMNT=2,                        .
                                 .
FORCE=9157.,AA=1.,           *1  .  WT1
                                 .
JOINT=BTWELD,                    .
                                 .
DTITLE=FW9014HL5001,             .
ADDWT=900,                   *1  .  WT1
SIF=2.1,                         .
AA=872.0E3,                      .
RSNAME=INTOBE,               *S  .  TAG NOT USED - CARD IGNORED
RSNAME=INTSSE,               *T  .  TAG NOT USED - CARD IGNORED
AA=872.0E3,                  *J  .  WTJ2
DTITLE=FW9014HL5002,             .
SEGMNT=2,                        .
ADDWT=491,                   *1  .  WT1
AA=1148.0E3,                     .
RSNAME=INTOBE,               *S  .  TAG NOT USED - CARD IGNORED
RSNAME=INTSSE,               *T  .  TAG NOT USED - CARD IGNORED
AA=1148.0E3,                 *J  .  WTJ2
TFOR=  6,MULTI=-1.,              .
                                 .
JOINT=BTWELD,                    .
DTITLE=SLEEVE#245,               .
SEGMNT=2,                        .
JOINT=BTWELD,SIF=1.8,            .
                                 .
DTITLE=FW9014HL5003,             .
```

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239  .                                          ADDWT=850,                 *1  .  WT1
240  .                                          SIF=2.1,                       .
241  .  SNB    080                 1.0          AA=1100E03,                    .
242  .                                          RSNAME=INTOBE,             *S  .  TAG NOT USED - CARD IGNORED
243  .                                          RSNAME=INTSSE,             *T  .  TAG NOT USED - CARD IGNORED
244  .  RAD    080                 1.0          AA=1100E03,                *3  .  WTJ2
245  .  DLD    080 1.0                          TFOR=  5,MULTI=-1.,            .
246  .         085 -1-0.25                                                     .
247  .                                          DTITLE=FW9014HL5006,           .
248  .  RAD    085          0.9973   -0.0732                                   .
249  .                                          AA=560.0E03,                   .
250  .                                          RSNAME=INTOBE,             *S  .  TAG NOT USED - CARD IGNORED
251  .                                          RSNAME=INTSSE,             *T  .  TAG NOT USED - CARD IGNORED
252  .         086 -2-6                                                        .
253  .         087 -2-3                                                        .
254  .                                          DTITLE=SLEEVE@243,             .
255  .                                          SEGMNT=2,                      .
256  .         090 -3-0                     L                                  .
257  .                                          JOINT=BTWELD,                  .
258  .                                          UFL=857.0,                 *2  .  WTJ1
259  .                                          COSFX=1.0000,              *2  .  WTJ1
260  .                                          COSFY=0.0000,              *2  .  WTJ1
261  .                                          COSFZ=0.0000,              *2  .  WTJ1
262  .                                          UFL=1714,                  *3  .  WTJ2
263  .                                          COSFX=1.0000,              *3  .  WTJ2
264  .                                          COSFY=0.0000,              *3  .  WTJ2
265  .                                          COSFZ=0.0000,              *3  .  WTJ2
266  .         095                 8-11                                        .
267  .                                          ADDWT=150,                 *1  .  WT1
268  .                                          DTITLE=FW9014SH0004,           .
269  .                                          SEGMNT=2,                      .
270  .  ***SPD   095          1.0                                              .
271  .  SPR    095          1.0                 FORCE=6756.,AA=1.,         *1  .  WT1
272  .  DLD    095                 -1.0         TFOR=  4,MULTI=-1.,            .
273  .         95B                 1-0                                         .
274  .                                          DTITLE=FW9014HL5004,           .
275  .                                          SIF=2.1,                       .
276  .  RAD    95B 1.0                                                         .
277  .                                          AA=853.0E3,                    .
278  .                                          RSNAME=INTOBE,             *S  .  TAG NOT USED - CARD IGNORED
279  .                                          RSNAME=INTSSE,             *T  .  TAG NOT USED - CARD IGNORED
280  .         100                 5-10     L                                  .
281  .                                          JOINT=BTWELD,                  .
282  .         10A -4-6                         DTITLE=FW9014HL5011,           .
283  .                                          SEGMNT=2,                      .
284  .                                          ADDWT=250,                 *1  .  WT1
285  .                                          UFL=0.00,                  *2  .  WTJ1
286  .                                          COSFX=1.0000,              *2  .  WTJ1
287  .                                          COSFY=0.0000,              *2  .  WTJ1
288  .                                          COSFZ=0.0000,              *2  .  WTJ1
289  .                                          UFL=0.00,                  *3  .  WTJ2
290  .                                          COSFX=1.0000,              *3  .  WTJ2
291  .                                          COSFY=0.0000,              *3  .  WTJ2
292  .                                          COSFZ=0.0000,              *3  .  WTJ2
293  .  RAD    10A                 1.0                                         .
294  .                                          AA=1554E03,                    .
295  .                                          RSNAME=INTOBE,             *S  .  TAG NOT USED - CARD IGNORED
296  .                                          RSNAME=INTSSE,             *T  .  TAG NOT USED - CARD IGNORED
297  .  DLD    10A  1.0                         TFOR=  2,MULTI=-1.,            .
298  .         105-10-3-11/16                   SIF=1.8,                       .
299  .                                          SEGMNT=4,                      .
```

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INPUT CARD IMAGES                                                     MS101/NS  PREU/054    (002938) 10/16/00 G02938  PAGE

300 .        110 -0-4-5/8                              SIF=1.9,DTITLE=PEN M-7,            .
301 . ANC    110 0.03901    -0.06168    0.005251                                      *N  . WT1     THRM1  WTJ1   WTJ2
302 . ANC    110 -0.26854   0.2352      -0.036149                                     *P  . TAG NOT USED - CARD IGNORED
303 . ANC    110                                                                      *O  . TAG NOT USED - CARD IGNORED
304 .                                                  COSAX=1.0,COSAZ=0,                 .
305 .                                                  COSCX=0,COSCZ=1.0,                 .
306 .                                                  AA=6.4E6,AB=6.4E6,AC=6.4E6,        .
307 .                                                  ARA=7.45E9,ARB=7.45E9,             .
308 .                                                  ARC=7.45E9,                        .
309 .                                                  DX=.0268,DY=.00340,DZ=.0351,*X     . TAG NOT USED - CARD IGNORED
310 .                                                  DX=.0482,DY=.00580,DZ=.0602,*Y     . TAG NOT USED - CARD IGNORED
311 .                                                  PHASE=CONT,                        .
312 .                                                  RSNAME=CNTOBE,                 *S  . TAG NOT USED - CARD IGNORED
313 .                                                  RSNAME=CNTSSE,                 *T  . TAG NOT USED - CARD IGNORED
314 . ************************************************************************           .
315 . ****                                                                               .
316 . **********************************************************************             .
317 . ****                                                                               .
318 . **********************************************************************             .
319 . **********************************************************************             .
320 . ****                                                                               .
321 . ***                                                                                .
322 . STD                                              LIST=NONE,                         .
323 . CMB                                              C0=0.00*WT1,                       .
324 . CMB                                              SEISJ=EMAX(WTJ1,WTJ2),             .
325 . CMB                                              JMAX=C0&WTJ1&WTJ2,                 .
326 . CMB                                              JMIN=C0#WTJ1#WTJ2,                 .
327 . CMB                                              C1=WT1+THRM1,                      .
328 . CMB                                              C2=C1+JMAX,                        .
329 . CMB                                              C3=C1+JMIN,                        .
330 . CMB                                              FAULTP=C0&C2,                      .
331 . CMB                                              FAULTN=C0#C3,                      .
332 . RLS                                              LIST=WT1+THRM1+JMAX+JMIN+          .
333 .                                                  FAULTP+FAULTN,                     .
334 . ***                                                                                .
335 . SLA                                              INCLUDE=WT1,                       .
336 . OLA                                              INCLUDE=WT1+SEISJ,LEVEL=D,         .
337 . END                                                                                .
338 . ************************************************************************           .
339 . ************************************************************************           .
340 . ************************************************************************           .
341 . ****                                                                               .
```

```
                                          ME101

                              I N P U T   C A R D   I M A G E S
INPUT
CARD     1         11        21        31        41        51        61        71       80
 SEQ  .  +         +         +         +         +         +         +         +        +  .  LOAD CASE(S)
   1  .  ********************************************************************************  .
   2  .  ***         DATA FILE FOR UNIT-2                                              ***  .
   3  .  ***  TEST RUN STRUT ORIENTATION AT NODE 011 76 DEG INSTEAD OF 63 DEG               .
   4  .  ***RAD   011 -0.6018                -0.7986                                       .
   5  .  ***RAD   011 -0.2419                -0.9703                                       .
   6  .  ********************************************************************************  .
   7  .  ***    INPUT FILE FOR CALC REVISION DUE TO SGR REPLACEMENT :MFWBLU2.INP            .
   8  .  ***    DATA FILE FOR UNIT-2                                                        .
   9  .  ***    NOTE: ABR STIFFNESS & SUPPORT RELOCATION ARE INCORPORATED                   .
  10  .  ***    WESTINGHOUSE AXES: X WEST; Y VERT UP; Z NORTH                               .
  11  .  ***    TIMEL1: LOCA DISP/ROT HISTORY RHRBRK4 FOR FW NOZZLE (W NODE 7632)           .
  12  .  ***    TIMEL2: LOCA DISP/ROT HISTORY RHRBRK15 FOR FW NOZZLE (W NODE 7632)          .
  13  .  ***    TIMEL3: LOCA DISP/ROT HISTORY RHRBRK12 FOR FW NOZZLE (W NODE 7632)          .
  14  .  ********************************************************************************  .
  15  .  ********************************************************************************  .
  16  .  ********************************************************************************  .
  17  .  CTL                                                OUTPUT=SHORT,                   .
  18  .  HED                                                TITLE=FEEDWATER "FW" SYSTEM -   .
  19  .                                                     RSG 2B TO M7,                   .
  20  .                                                     PROJNO=23438001,                .
  21  .                                                     PROBNO=2C159RC5835,             .
  22  .                                                     USER=PANI,                      .
  23  .                                                     UNITS=2,                        .
  24  .                                                     INTG=MODAL,DAMP=0.03,           .
  25  .                                                     MODES=200,PER=0.005,            .
  26  .                                                     TZERO=0.,TFIN=0.65,             .
  27  .  RUN                                                LDCASE=WT1(N+7+I),              .
  28  .  RUN                                                LDCASE=TIMEL1(T) .              .
  29  .  RUN                                                LDCASE=TIMEL2(U) .              .
  30  .  RUN                                                LDCASE=TIMEL3(V)                .
  31  .  ***                                                                                .
  32  .  ***                                                                                .
  33  .  ***    WT1   --- NORMAL OPERATING WEIGHT ANALYSIS                                  .
  34  .  ***                                                                                .
  35  .  ***                                                                                .
  36  .  ***                                                                                .
  37  .  ***    CAD. ISO. 2C369PFW433 SHT. 01 REV. 4                                        .
  38  .  ***                                                                                .
  39  .  ***    UNIT-2 LOOP B   MAIN FEEDWATER                                              .
  40  .  ***                                                                                .
  41  .  ***    SGR NOZZLE MATERIAL SA508 CL. 3A  SC=22.5 KSI; SH=22.5 KSI                  .
  42  .  ***    MATL: SA-508 GR. 2 CL. 2 FOR STRAIGHT SPOOL OF BECHTEL PIPE @ NOZZLE         .
  43  .  ***    MATL: SA-336 GR.F22 CL.:16" SCH.80 PIPE UP TO & INCLUDING TOP ELB OF RISER  .
  44  .  ***    MATL: SA-333 GR.6 AFTER TOP ELB OF RISER & REST; 16" SCH. 80/ 18" SCH. 80   .
  45  .  ****                                                                               .
  46  .  SAP    002            82.719                                                       .
  47  .  ***     001;002,N02 ARE NODES ON SGR CL;SGR SURFACE; FW NOZ END RESPECTIVELY       .
  48  .  ***                                                                                .
  49  .         002                                                                         .
  50  .         001  7.2674               4.0284                                            .
  51  .                                                     OD=199.42,THI=4.71,             .
  52  .                                                     SC=22500,SH=22500,              .
  53  .                                                     E=27.886,                       .
  54  .                                                     LBS/FT=1.0,                     .
  55  .                                                     DPRESS=1.0,PPRESS=1.0,          .
```

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```
.                                                        CODE=SC3N75,CLASS-2,                .
.  ***                                                                                       .
.  ***    LINE NO. FW-1024-GA2                                                               .
.  ANC    001 -0.637    1.971       -1.956                                             *N    .  NT1
.                                                          DTITLE=CENTER  SG,                .
.                                                        STI-1R122NSG201B,                   .
.  ****************                                                                          .
.  ***     BEGIN    FW LINE REROUTE DUE TO SG REPLACEMENT/NEW FW NOZZLE LOCATION             .
.  ****************                                                                          .
.  ****************                                                                          .
.  RAD    001 1.0                                        TDIS=B43,                     *T    .  TIMEL1
.  RAD    001           1.0                              TDIS=B42,                     *T    .  TIMEL1
.  RAD    001                       1.0                  TDIS=B41,                     *T    .  TIMEL1
.  RAR    001 1.0                                        TROT=B46,                     *T    .  TIMEL1
.  RAR    001           1.0                              TROT=B45,                     *T    .  TIMEL1
.  RAR    001                       1.0                  TROT=B44,                     *T    .  TIMEL1
.  RAD    001 1.0                                        TDIS=B53,                     *U    .  TIMEL2
.  RAD    001           1.0                              TDIS=B52,                     *U    .  TIMEL2
.  RAD    001                       1.0                  TDIS=B51,                     *U    .  TIMEL2
.  RAR    001 1.0                                        TROT=B56,                     *U    .  TIMEL2
.  RAR    001           1.0                              TROT=B55,                     *U    .  TIMEL2
.  RAR    001                       1.0                  TROT=B54,                     *U    .  TIMEL2
.  RAD    001 1.0                                        TDIS=B23,                     *V    .  TIMEL3
.  RAD    001           1.0                              TDIS=B22,                     *V    .  TIMEL3
.  RAD    001                       1.0                  TDIS=B21,                     *V    .  TIMEL3
.  RAR    001 1.0                                        TROT=B26,                     *V    .  TIMEL3
.  RAR    001           1.0                              TROT=B25,                     *V    .  TIMEL3
.  RAR    001                       1.0                  TROT=B24,                     *V    .  TIMEL3
.     002003 -0.3440               -0.1907                                                   .
.                                                        OD=26.0,THICK=4.75,                 .
.                                                        LBS/FT=1176.5,                      .
.         03A -0.5860              -0.3248                                                   .
.                                                        OD=20.0,THICK=1.75,                 .
.                                                        LBS/FT=439.2,                       .
.         N02 -0.4490              -0.2489               SIF=1.502,                          .
.                                                        OD=16.0,THICK=.843,                 .
.                                                        LBS/FT=210.66,                      .
.                                                        DTITLE=FW NOZZLE,                   .
.                                                        DPRESS=1350,PPRESS=1360,            .
.         004-2-0.6                -1-1.6400             JOINT=BTWELD,                       .
.         005-1-9                  -0-11.640      L      JOINT=BTWELD,                       .
.  ***                                                   MAT=SA336 GR.F22                    .
.                                                        SC=18800,SH=17817,                  .
.                                                        E=30.686,                           .
.                                                        TEMP=567,EXP=4.3864,          *A    .  TAG NOT USED - CARD IGNORED
.                                                        TEMP=440,EXP=3.160,           *B    .  TAG NOT USED - CARD IGNORED
.                                                        TEMP=250,EXP=1.45,            *C    .  TAG NOT USED - CARD IGNORED
.                                                        TEMP=120,EXP=0.378,           *D    .  TAG NOT USED - CARD IGNORED
.                                                        TEMP=583,EXP=4.534,           *E    .  TAG NOT USED - CARD IGNORED
.                                                        TEMP=408,EXP=2.872,           *F    .  TAG NOT USED - CARD IGNORED
.                                                        EXP=-0.2892,TEMP=32,          *G    .  TAG NOT USED - CARD IGNORED
.                                                        TEMP=70,EXP=0.,               *H    .  TAG NOT USED - CARD IGNORED
.                                                        TEMP=70.,EXP=0.,              *O    .  TAG NOT USED - CARD IGNORED
.         007           -10-8-5/8                        SEG=2,                              .
.  ***                                                   MAT=SA333 GR.6 (C-MN-SI)            .
.                                                        SC=15000,SH=15000,                  .
.                                                        E=27.986,                           .
.                                                        OD=16.0,THICK=.843,                 .
.                                                        LBS/FT=210.66,                      .
.                                                        TEMP=567,EXP=4.2766,          *A    .  TAG NOT USED - CARD IGNORED
.                                                        TEMP=440,EXP=3.068,           *B    .  TAG NOT USED - CARD IGNORED
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117  .                                                   TEMP=250,EXP=1.40,          *C  .  TAG NOT USED - CARD IGNORED
118  .                                                   TEMP=120,EXP=0.382,         *D  .  TAG NOT USED - CARD IGNORED
119  .                                                   TEMP=583,EXP=4.433,         *E  .  TAG NOT USED - CARD IGNORED
120  .                                                   TEMP=408,EXP=2.774,         *F  .  TAG NOT USED - CARD IGNORED
121  .                                                   EXP=-0.2908,TEMP=32,        *G  .  TAG NOT USED - CARD IGNORED
122  .                                                   TEMP=70,EXP=0.,             *H  .  TAG NOT USED - CARD IGNORED
123  .                                                   TEMP=70.,EXP=0.,            *O  .  TAG NOT USED - CARD IGNORED
124  .  RAD   007  0.9272               -0.3746                                          .
125  .                                                   AA=1855E3,ETI-HL5016,           .
126  .        008           -9-0                     S   JOINT-BTWELD,SEG-2,             .
127  .        009 1-10.2               0-9.23                                            .
128  .                                                   ADDWT=50,                       .
129  .  SPD   009             1.0                                                       .
130  .                                                   ETI-HL5015,                     .
131  .        010 1-10.2               0-9.23     S,     JOINT-BTWELD,                   .
132  .        011           -2-10.5                                                     .
133  .                                                   ADDWT=982,                      .
134  .  RAD   011 -1.0000                                                               .
135  .                                                   AA=662E3,ETI-HL5014,            .
136  .  ***RAD   011 -0.6018              -0.7986                                       .
137  .  ***  TEST RUN STRUT ORIENTATION AT NODE 011 76 DEG INSTEAD OF 53 DEG             .
138  .  ***RAD   011 -0.6018              -0.7986                                       .
139  .  RAD   011 -0.2419               -0.9703                                         .
140  .                                                   AA=1470E3,ETI-HL5014,           .
141  .        11A           -1-7.5                       DTI-PLATFRM,                    .
142  .        012           -5-4.5                       SEG=2,                          .
143  .        013           -1-5-3/16                                                   .
144  .        014           -5-10-5/16                   SEG=2,                          .
145  .                                                   UFL=1230,                   *2  .  TAG NOT USED - CARD IGNORED
146  .                                                   COSFX=0.7290,               *2  .  TAG NOT USED - CARD IGNORED
147  .                                                   COSFY=0.0000,               *2  .  TAG NOT USED - CARD IGNORED
148  .                                                   COSFZ=-0.685,               *2  .  TAG NOT USED - CARD IGNORED
149  .                                                   UFL=2460,                   *3  .  TAG NOT USED - CARD IGNORED
150  .                                                   COSFX=0.7290,               *3  .  TAG NOT USED - CARD IGNORED
151  .                                                   COSFY=0.0000,               *3  .  TAG NOT USED - CARD IGNORED
152  .                                                   COSFZ=-0.685,               *3  .  TAG NOT USED - CARD IGNORED
153  .                                                   ADDWT=1133,                     .
154  .  RAD   014 -0.9748               -0.2233                                         .
155  .                                                   AA=3208E3,ETI-HL5013,           .
156  .  RAD   014 -0.5402               -0.8415                                         .
157  .                                                   AA=1444E3,ETI-HL5013,           .
158  .        015           -1-7-13/16                   DTI-CUT LOCN,JOINT-BTWELD,      .
159  .  ***      END OF FW LINE REROUTE DUE TO SG REPLCEMENT/NEW FW NOZZLE LOCATION      .
160  .  ****************                                                                .
161  .        016           -0-7-1/2                     JOINT-RED,                      .
162  .        018           -0-7-1/2                     JOINT-BTWELD,                   .
163  .                                                   OD=18,THICK=.937,               .
164  .                                                   LBS/FT=264.20,                  .
165  .        020           -0-9                         SIF=1.0,                        .
166  .                                                   ADDWT=25,                       .
167  .        021           -1-0                         SIF=1.0,                        .
168  .                                                   ADDWT=20,                       .
169  .        022           -1-0                         SIF=1.0,                        .
170  .                                                   ADDWT=50,                       .
171  .        025           -4-0                     L                                   .
172  .                                                   JOINT-BTWELD,                   .
173  .        026 -3.73331             2.65883                                          .
174  .                                                   SIF=1.0,                        .
175  .                                                   ADDWT=25,                       .
176  .                                                   UFL=1089,                   *8  .  TAG NOT USED - CARD IGNORED
177  .                                                   UFL=2179,                   *9  .  TAG NOT USED - CARD IGNORED
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INPUT CARD IMAGES                                                              ME101/NS  PREU/054    (002213) 10/16/00 002213  PAGE

178  .                                                  COEFX=0.5801,           *O  .  TAG NOT USED - CARD IGNORED
179  .                                                  COEFY=0.2419,           *O  .  TAG NOT USED - CARD IGNORED
180  .                                                  COEFZ=0.8145,           *O  .  TAG NOT USED - CARD IGNORED
181  .          027 -0-2.95271          0-2.10289                                   .
182  .                                                  DTITLE=FW9014HL5012,        .
183  .                                                  ADDWT=150,                  .
184  .                                                  SIF=2.1,                    .
185  .   SNB    027 -.4690              -.883                                       .
186  .                                                  AA=757.0E03,                .
187  .          030 -0-6.8218           0-4.8584        SIF=1.0,                    .
188  .                                                  ADDWT=20,                   .
189  .          035 -0-2.44362          0-1.7403        SIF=1.0,                    .
190  .                                                  ADDWT=25,                   .
191  .                                                  DTITLE=1.5FW1073GA2,        .
192  .          040 -1-0.2254           0-8.70167       ADDWT=120,                  .
193  .                                                  DTITLE=FW9014SH0001,        .
194  .   ***SPD   040          1.0                                                  .
195  .   SPR    040         1.0                         FORCE=1751.,AA=1.,      *I  .  WT1
196  .          042 -2.376              1.692                                       .
197  .                                                  DTITLE=FW9014HL5009,        .
198  .                                                  SEGMNT=2,                   .
199  .   SNB    042         1.0                                                     .
200  .                                                  AA=898.0E03,                .
201  .          13  -3.4024             2.42316         ADDWT=120,                  .
202  .                                                  DTITLE=FW9014HL5008,        .
203  .                                                  SEGMNT=2,                   .
204  .                                                  UFL=0.00,                   .
205  .   ***SPD   13           1.0                                                  .
206  .   SPR    13          1.0                         FORCE=9157.,AA=1.,          .
207  .          045-3.0206              2.15123    L                                .
208  .                                                  JOINT=BTWELD,               .
209  .          050          2-7-13/16                                              .
210  .                                                  DTITLE=FW9014HL5001,        .
211  .                                                  ADDWT=900,                  .
212  .                                                  SIF=2.1,                    .
213  .   SNB    050 1.0                                                             .
214  .                                                  AA=872.0E3,                 .
215  .          055          2-6.375                   DTITLE=FW9014HL5002,        .
216  .                                                  SEGMNT=2,                   .
217  .                                                  ADDWT=491,                  .
218  .   SNB    055 0.464               -0.882                                      .
219  .                                                  AA=1148.0E3,                .
220  .          060          6-1.625               L                                .
221  .                                                  JOINT=BTWELD,               .
222  .          065 -3.5                                DTITLE=SLEEVE8245,          .
223  .                                                  SEGMNT=2,                   .
224  .          070 -4.5                                JOINT=BTWELD,SIF=1.8,       .
225  .          080 -4-2.75                                                         .
226  .                                                  DTITLE=FW9014HL5003,        .
227  .                                                  ADDWT=850,                  .
228  .                                                  SIF=2.1,                    .
229  .   SNB    080                     1.0                                         .
230  .                                                  AA=1100E03,                 .
231  .          085 -1-0.25                                                         .
232  .                                                  DTITLE=FW9014HL5006,        .
233  .   BAD    085         0.9973      -0.0732                                     .
234  .                                                  AA=560.0E03,                .
235  .          086 -2-6                                                            .
236  .          087 -2-3                                                            .
237  .                                                  DTITLE=SLEEVE8243,          .
238  .                                                  SEGMNT=2,                   .
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.         090 -3-0                              L                  JOINT=BTWELD,                    .
.                                                                  ADDNT=150,                        .
.         095                        8-11                          DTITLE=FW9014SH0004,             .
.                                                                  SEGMNT=2,                        .
.                                                                                                   .
.   ***SPD   095              1.0                                                                   .
.   SPR     095           1.0                                      FORCE=6756.,AA=1.,               .
.           95B                      1.0                                                            .
.                                                                  DTITLE=FW9014HL5004,             .
.                                                                  SIF=2.1,                         .
.   RAD     95B 1.0                                                                                 .
.                                                                  AA=853.0E3,                      .
.           100                      5-10           L                                               .
.                                                                  JOINT=BTWELD,                    .
.           10A -4-6                                               DTITLE=FW9014HL5011,             .
.                                                                  SEGMNT=2,                        .
.                                                                  ADDNT=250,                       .
.   RAD     10A                      1.0                                                            .
.                                                                  AA=1554E03,                      .
.           105-10-3-11/16                                         SIF=1.8,                         .
.                                                                  SEGMNT=4,                        .
.           110 -0-4-5/8                                           SIF=1.9,DTITLE=PEN M-7,          .
.   ANC     110                                                                           *N  .  WT1
.   ANC     110                                                                           *T  .  TIMEL1
.   ANC     110                                                                           *U  .  TIMEL2
.   ANC     110                                                                           *V  .  TIMEL3
.                                                                  COSAX=1.0,COSAZ=0,               .
.                                                                  COSCX=0,COSCZ=1.0,               .
.                                                                  AA=6.4E6,AB=6.4E6,AC=6.4E6,      .
.                                                                  ARA=7.45E9,ARB=7.45E9,           .
.                                                                  ARC=7.45E9,                      .
.   ******************************************************************                              .
.   ****                                                                                            .
.   ****************************************************************                                .
.   ****                                                                                            .
.   ****************************************************************                                .
.   ****************************************************************                                .
.   ****************************************************************                                .
.   ***                                                                                             .
.   *****************************************************************                               .
.   *****************************************************************                               .
.   *****                                                                                           .
.   ADD       C:\PANI\STPSGR\RHRBRK4\7632BK4.MPL                                          *T  .  TIMEL1
.   ADD       C:\PANI\STPSGR\RHRBK15\7632B15.MPL                                          *U  .  TIMEL2
.   ADD       C:\PANI\STPSGR\RHRBK12\7632B12.MPL                                          *V  .  TIMEL3
.   ***       +-----------------------------------------------+          ***                        .
.   CMB                                                            SEISL=TIMEL1|TIMEL2|TIMEL3,      .
.   CMB                                                            LOCA=AMAX(TIMEL1,TIMEL2,         .
.                                                                  TIMEL3),                         .
.   STD                                                            LIST=NONE,                       .
.   RLS                                                            LIST=WT1+TIMEL1+TIMEL2+          .
.                                                                  TIMEL3+LOCA,                     .
.   OLA                                                            INCLUD=WT1+SEISL,LEVEL=D,        .
.   ***                                                                                             .
.   END                                                                                             .
.   ******************************************************************                              .
.   ******************************************************************                              .
.   ******************************************************************                              .
.   ******************************************************************                              .
.   ****                                                                                            .
.   ******************************************************************                              .
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CALCULATION SHEET

PROJECT STP-SGR
JOB NO 23438300

SUBJECT FW-PIPING FROM S.G. 2B

ORIGINATOR C.BASAVARAJU DATE

CALC NO RC5035
SHEET NO
SHEET REV 5

ATTACHMENT 2.0 PIPE SUPPORT LOADS PAGES 52

WEIGHT/ THERMAL/SEISMIC/SAM
WATER HAMMER
JET
LOCA

Load Case Names:

WTX - Dead weight analysis
WTJx - Static Jet Impingement analysis
THRMxx - Thermal expansion/anchor movement analysis.
TIMEx - Time history analysis
SAMx - Seismic anchor movement analysis
SEISAX - Seismic inertia analysis
DBA - Design Basis Accident

NORMP - Normal Positive
NORMN - Normal Negative
UPSETP - Upset Positive
UPSETN - Upset Negative
FAULTP - Faulted Positive
FAULTN - Faulted Negative

THRM1 & THRM5: EMERG./FAULTED.
THRM2, THRM3, THRM4 & THRM6: NORMAL/UPSET
THRM7: UPSET/EMERG./FAULTED.
THRM8: DBA (POST-LOCA)

Support Types:

RAD - Rigid translational restraint
RAR - Rigid rotational restraint
SPR/SPD - Spring hanger
SNB - Snubber
ANC - Anchor (may be specified as RAD and RAR in each of the three translational and rotational directions).

Co-ordinates: North = -X (Global)

Note: Spring settings are based on Normal operating (THRM2) case and verified for topping or bottoming out due to movements from all other load cases. Snubbers are set so that thermal movements are not restricted and reserve travel checked for max thermal movements.

THERMAL CASES CONCURRENT WITH WATER HAMMER: THRM2 OR THRM3 OR THRM6.

DESIGN/FAULTED LOAD (LB.) FOR MFW B U2

SUPPORT MK #	DATA PT.	DIR.		WT.	THERMAL FAULTED	JET LOAD	LOCA	WATER HAMMER	FAULTED LOAD WT+TH+ LOCA+JET	FAULTED LOAD WT+TH+ WH	FAULTED LOAD WT+TH+ SSE *	Design Load Exist P.S. Calc
FW-9014-HL-5012	C27	SKEW	POS	0		568	7999	31528	8567	31528	2979	48410
(-0.47,0,-0.88)		SNB	NEG			-568	-7999	-24671	-8567	-24671	-2979	
FW-9014-SH-0001	C40	Y	POS			0	0	0	0	0	0	0
		SPD	NEG	-1751			0		-1751	-1751	-1751	-1751
FW-9014-HL-5009	C42	Y	POS	0		2010	7667	84801	9677	84801	11633	141000
		SNB	NEG			-2010	-7667	-84022	-9677	-84022	-11633	
FW-9014-HL-5008	13	Y	POS			0	0	0	0	0	0	0
		SPD	NEG	-9157			0		-9157	-9157	-9157	-9157
FW-9014-HL-5001	C50	X	POS	0		5743	3897	37337	9640	37337	5385	79500
		SNB	NEG			-5743	-3897	-42298	-9640	-42298	-5385	
FW-9014-HL-5002	C55	SKEW	POS	0		1894	3989	29564	5883	29564	3927	87968
(0.47,0,-0.89)		SNB	NEG			-1894	-3989	-32144	-5883	-32144	-3927	
FW-9014-HL-5003	C60	Z	POS	0		4490	2551	53509	7041	53509	6239	82634
		SNB	NEG			-4490	-2551	-53149	-7041	-53149	-6239	
FW-9014-HL-5006	C65	SKEW	POS	-3800	7530	2439	1451	42919	7620	48649	7310	19500
(0,0.997,-0.073)		RAD	NEG	-3800	0	-2439	-1451	-38226	-7690	-42026	-7381	
FW-9014-SH-5004	C65	Y	POS			0	0	0	0	0	0	0
		SPD	NEG	-6756			0		-6756	-6756	-6756	-6756
FW-9014-HL-5004	958	X	POS	-837	26359	24957	1706	44426	52185	69948	45695	95579
		RAD	NEG	-837	-5874	-24957	-1706	-32718	-33374	-39429	-26885	
FW-9014-HL-5011	10A	Z	POS	-85	3067	3381	2207	49530	8570	52512	11240	144073
		RAD	NEG	-85	-10877	-3381	-2207	-66491	-16350	-77253	-19018	
FW-9014-HL-5016	C07	LAT	POS	138	16456	382	27834	33490	44810	50084	34144	N/A
(0.93,0,-0.37)		RAD	NEG	138	-8173	-382	-27834	-28362	-33251	-33397	-22584	N/A
FW-9014-HL-5015	C09	Y	POS			0	0	0	0	0	0	
		SPR	NEG	-13358			0		-13358	-13358	-13358	N/A
FW-1014-HL-5014	C11	LAT	POS	-37	14859	464	21585	16913	36871	31735	22590	N/A
(-1,0,0)		RAD	NEG	-37	0	-464	-21585	-22301	-22086	-22338	-7804	N/A
FW-1014-HL-5014	C11	LAT	POS	-96	12589	172	12813	38745	25478	51238	17123	N/A
(-0.24,0,-0.97)		RAD	NEG	-96	0	-172	-12813	-32777	-13081	-32873	-4726	N/A
FW-1014-HL-5013	C14	LAT	POS	-476	0	2010	11090	45007	12624	44531	6103	N/A
(-0.97,0,-0.22)		RAD	NEG	-476	-33522	-2010	-11090	-35896	-47098	-69894	-40577	N/A
FW-1014-HL-5013	C14	LAT	POS	512	17030	1970	11520	34696	31032	52238	22066	N/A
(-0.54,0,-0.84)		RAD	NEG	512	0	-1970	-11520	-31133	-12978	-30621	-4013	N/A

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
001	ANC		1R122N5G201B									
		WT1		14.	-747.	71.	-2583.	978.	4292.	0.000	0.000	0.000
		THRM1		5833.	-4708.	8340.	-145486.	34774.	104340.	-0.637	1.971	-1.956
		THRM2		2699.	-4772.	9352.	-148098.	74098.	91613.	-0.637	1.971	-1.956
		THRM3		-1632.	-4859.	10751.	-151750.	128442.	74027.	-0.637	1.971	-1.956
		THRM4		-4286.	-4914.	11607.	-153990.	161737.	63256.	-0.637	1.971	-1.956
		THRM5		6234.	-4701.	8210.	-145118.	29738.	105971.	-0.637	1.971	-1.956
		THRM6		1941.	-4786.	9597.	-148737.	83626.	88528.	-0.637	1.971	-1.956
		THRM7		-6024.	-4949.	12169.	-155456.	183550.	56195.	-0.637	1.971	-1.956
		DBA		604.	628.	602.	5246.	2340.	8306.	0.000	0.000	0.000
		SEISA1		1433.	6168.	1333.	42926.	14047.	74465.	0.000	0.000	0.000
		SEISA2		2838.	12229.	2645.	85238.	28015.	147822.	0.000	0.000	0.000
		SAM1		6264.	816.	6698.	33863.	83011.	29207.	0.229	0.017	0.252
		SAM2		9871.	1633.	10891.	55314.	131202.	49101.	0.359	0.052	0.406
007	RAD		HL5016									
		WT1		128.	0.	-52.	0.	0.	0.	0.001	0.001	0.002
		THRM1		-4140.	0.	1673.	0.	0.	0.	-0.543	1.356	-1.339
		THRM2		987.	0.	-399.	0.	0.	0.	-0.500	1.497	-1.238
		THRM3		8073.	0.	-3261.	0.	0.	0.	-0.439	1.693	-1.099
		THRM4		12414.	0.	-5016.	0.	0.	0.	-0.402	1.813	-1.014
		THRM5		-4796.	0.	1938.	0.	0.	0.	-0.548	1.338	-1.352
		THRM6		2229.	0.	-901.	0.	0.	0.	-0.489	1.532	-1.214
		THRM7		15258.	0.	-6164.	0.	0.	0.	-0.377	1.891	-0.958
		DBA		1021.	0.	413.	0.	0.	0.	0.005	0.003	0.015
		SEISA1		1484.	0.	599.	0.	0.	0.	0.013	0.016	0.032
		SEISA2		2827.	0.	1142.	0.	0.	0.	0.027	0.031	0.063
		SAM1		10160.	0.	4105.	0.	0.	0.	0.050	0.025	0.122
		SAM2		16025.	0.	6474.	0.	0.	0.	0.080	0.058	0.195
009	SPD		HL5015									
		WT1		0.	-13358.	0.	0.	0.	0.	0.005	0.000	0.003
		THRM1								-0.050	1.078	-0.238
		THRM2								-0.048	1.326	-0.194
		THRM3								-0.044	1.669	-0.133
		THRM4								-0.043	1.879	-0.096
		THRM5								-0.050	1.046	-0.244
		THRM6								-0.047	1.386	-0.183
		THRM7								-0.041	2.017	-0.071
		DBA								0.002	0.007	0.016
		SEISA1								0.006	0.032	0.017
		SEISA2								0.011	0.063	0.033
		SAM1								0.026	0.023	0.035
		SAM2								0.042	0.054	0.055

TITLE : FEEDWATER "FW" SYSTEM - REG 2E TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RCS035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
011	RAD		HL5014									
		WT1		27.	0.	0.	0.	0.	0.	0.000	-0.006	0.000
		THRM1		-7855.	0.	0.	0.	0.	0.	-0.012	1.022	-0.006
		THRM2		-9705.	0.	0.	0.	0.	0.	-0.015	1.305	-0.004
		THRM3		-12264.	0.	0.	0.	0.	0.	-0.019	1.697	-0.003
		THRM4		-13835.	0.	0.	0.	0.	0.	-0.021	1.936	-0.002
		THRM5		-7619.	0.	0.	0.	0.	0.	-0.012	0.985	-0.006
		THRM6		-10152.	0.	0.	0.	0.	0.	-0.015	1.374	-0.004
		THRM7		-14859.	0.	0.	0.	0.	0.	-0.022	2.094	-0.001
		DBA		166.	0.	0.	0.	0.	0.	0.000	0.011	0.000
		SEISA1		1127.	0.	0.	0.	0.	0.	0.002	0.047	0.001
		SEISA2		2095.	0.	0.	0.	0.	0.	0.003	0.095	0.002
		SAM1		4728.	0.	0.	0.	0.	0.	0.007	0.027	0.003
		SAM2		7479.	0.	0.	0.	0.	0.	0.011	0.057	0.005
011	RAD		HL5014									
		WT1		23.	0.	93.	0.	0.	0.	0.000	-0.006	0.000
		THRM1		-3018.	0.	-12106.	0.	0.	0.	-0.012	1.022	-0.006
		THRM2		-2803.	0.	-11245.	0.	0.	0.	-0.015	1.305	-0.004
		THRM3		-2506.	0.	-10053.	0.	0.	0.	-0.019	1.697	-0.003
		THRM4		-2323.	0.	-9320.	0.	0.	0.	-0.021	1.936	-0.002
		THRM5		-3045.	0.	-12218.	0.	0.	0.	-0.012	0.985	-0.006
		THRM6		-2752.	0.	-11038.	0.	0.	0.	-0.015	1.374	-0.004
		THRM7		-2205.	0.	-8844.	0.	0.	0.	-0.022	2.094	-0.001
		DBA		26.	0.	106.	0.	0.	0.	0.000	0.011	0.000
		SEISA1		383.	0.	1536.	0.	0.	0.	0.002	0.047	0.001
		SEISA2		752.	0.	3017.	0.	0.	0.	0.003	0.095	0.002
		SAM1		524.	0.	2103.	0.	0.	0.	0.007	0.027	0.003
		SAM2		830.	0.	3328.	0.	0.	0.	0.011	0.057	0.005
014	RAD		HL5013									
		WT1		464.	0.	106.	0.	0.	0.	0.000	-0.007	-0.001
		THRM1		31994.	0.	7329.	0.	0.	0.	0.016	0.410	-0.024
		THRM2		26726.	0.	6122.	0.	0.	0.	0.013	0.866	-0.019
		THRM3		19457.	0.	4457.	0.	0.	0.	0.009	1.496	-0.012
		THRM4		15023.	0.	3441.	0.	0.	0.	0.007	1.881	-0.007
		THRM5		32676.	0.	7485.	0.	0.	0.	0.016	0.351	-0.024
		THRM6		25442.	0.	5828.	0.	0.	0.	0.012	0.977	-0.017
		THRM7		12090.	0.	2770.	0.	0.	0.	0.005	2.134	-0.005
		DBA		2402.	0.	550.	0.	0.	0.	0.001	0.012	0.001
		SEISA1		3107.	0.	712.	0.	0.	0.	0.001	0.048	0.002
		SEISA2		6244.	0.	1430.	0.	0.	0.	0.003	0.096	0.005
		SAM1		810.	0.	185.	0.	0.	0.	0.001	0.027	0.002
		SAM2		1462.	0.	335.	0.	0.	0.	0.001	0.056	0.003

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
014	RAD		HL5013									
		WT1		-277.	0.	-431.	0.	0.	0.	0.000	-0.007	-0.001
		THRM1		-8923.	0.	-13900.	0.	0.	0.	0.016	0.410	-0.024
		THRM2		-6789.	0.	-10575.	0.	0.	0.	0.013	0.866	-0.019
		THRM3		-3844.	0.	-5987.	0.	0.	0.	0.009	1.496	-0.012
		THRM4		-2047.	0.	-3189.	0.	0.	0.	0.007	1.881	-0.007
		THRM5		-9200.	0.	-14331.	0.	0.	0.	0.016	0.351	-0.024
		THRM6		-6268.	0.	-9765.	0.	0.	0.	0.012	0.977	-0.017
		THRM7		-859.	0.	-1338.	0.	0.	0.	0.005	2.134	-0.005
		DBA		128.	0.	200.	0.	0.	0.	0.001	0.012	0.001
		SEISA1		999.	0.	1557.	0.	0.	0.	0.001	0.068	0.002
		SEISA2		2006.	0.	3121.	0.	0.	0.	0.003	0.096	0.005
		SAM1		850.	0.	1325.	0.	0.	0.	0.001	0.027	0.002
		SAM2		1400.	0.	2181.	0.	0.	0.	0.001	0.056	0.003
040	SPR		FW9014SN0001									
		WT1		0.	0.	0.	0.	0.	0.	0.010	0.001	0.007
		THRM1								0.101	-0.331	-0.303
		THRM2								0.190	0.192	-0.260
		THRM3								0.313	0.914	-0.200
		THRM4								0.389	1.356	-0.164
		THRM5								0.090	-0.398	-0.309
		THRM6								0.212	0.315	-0.249
		THRM7								0.438	1.646	-0.140
		DBA								0.123	0.044	0.099
		SEISA1								0.025	0.015	0.019
		SEISA2								0.050	0.030	0.038
		SAM1								0.007	0.009	0.004
		SAM2								0.014	0.019	0.008
13	SPR		FW9014HL5008									
		WT1		0.	0.	0.	0.	0.	0.	0.012	0.003	0.010
		THRM1		0.	-1.	0.	0.	0.	0.	-0.236	-0.533	-0.255
		THRM2		0.	0.	0.	0.	0.	0.	-0.034	-0.104	-0.201
		THRM3		0.	0.	0.	0.	0.	0.	0.248	0.489	-0.126
		THRM4		0.	1.	0.	0.	0.	0.	0.415	0.852	-0.080
		THRM5		0.	-1.	0.	0.	0.	0.	-0.262	-0.509	-0.262
		THRM6		0.	0.	0.	0.	0.	0.	0.015	0.001	-0.188
		THRM7		0.	1.	0.	0.	0.	0.	0.527	1.090	-0.050
		DBA		0.	0.	0.	0.	0.	0.	0.200	0.067	0.207
		SEISA1		0.	0.	0.	0.	0.	0.	0.018	0.039	0.031
		SEISA2		0.	0.	0.	0.	0.	0.	0.035	0.078	0.062
		SAM1		0.	0.	0.	0.	0.	0.	0.006	0.009	0.006
		SAM2		0.	0.	0.	0.	0.	0.	0.011	0.019	0.013

TITLE : FEEDWATER "FW" SYSTEM - REQ 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RCS035
USER : PAMI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
085	RAD		FW9014HL5006									
		WT1		0.	-3790.	278.	0.	0.	0.	-0.007	-0.007	0.000
		THRM1		0.	3615.	-265.	0.	0.	0.	-0.672	-0.066	-0.983
		THRM2		0.	4645.	-341.	0.	0.	0.	-0.508	-0.643	-0.700
		THRM3		0.	6067.	-445.	0.	0.	0.	-0.283	-0.012	-0.309
		THRM4		0.	6938.	-509.	0.	0.	0.	-0.145	0.007	-0.070
		THRM5		0.	3483.	-256.	0.	0.	0.	-0.693	-0.069	-1.020
		THRM6		0.	4896.	-359.	0.	0.	0.	-0.468	-0.038	-0.631
		THRM7		0.	7510.	-551.	0.	0.	0.	-0.054	0.020	0.087
		DBA		0.	1433.	105.	0.	0.	0.	0.314	0.018	0.216
		SEISA1		0.	2085.	153.	0.	0.	0.	0.050	0.004	0.002
		SEISA2		0.	3458.	254.	0.	0.	0.	0.090	0.006	0.003
		SAM1		0.	478.	35.	0.	0.	0.	0.014	0.001	0.002
		SAM2		0.	891.	65.	0.	0.	0.	0.025	0.002	0.004
095	SPR		FW9014SH0004									
		WT1		0.	0.	0.	0.	0.	0.	-0.001	0.011	0.000
		THRM1		0.	0.	0.	0.	0.	0.	-0.093	-0.033	-0.499
		THRM2		0.	0.	0.	0.	0.	0.	-0.071	-0.065	-0.361
		THRM3		0.	0.	0.	0.	0.	0.	-0.040	-0.109	-0.169
		THRM4		0.	0.	0.	0.	0.	0.	-0.022	-0.136	-0.052
		THRM5		0.	0.	0.	0.	0.	0.	-0.096	-0.029	-0.517
		THRM6		0.	0.	0.	0.	0.	0.	-0.065	-0.073	-0.327
		THRM7		0.	0.	0.	0.	0.	0.	-0.009	-0.154	0.025
		DBA		0.	0.	0.	0.	0.	0.	0.017	0.141	0.098
		SEISA1		0.	0.	0.	0.	0.	0.	0.011	0.040	0.007
		SEISA2		0.	0.	0.	0.	0.	0.	0.019	0.061	0.013
		SAM1		0.	0.	0.	0.	0.	0.	0.002	0.003	0.011
		SAM2		0.	0.	0.	0.	0.	0.	0.003	0.007	0.020
95B	RAD		FW9014HL5004									
		WT1		-837.	0.	0.	0.	0.	0.	-0.001	0.010	0.000
		THRM1		25294.	0.	0.	0.	0.	0.	0.030	-0.026	-0.457
		THRM2		17048.	0.	0.	0.	0.	0.	0.020	-0.055	-0.330
		THRM3		8665.	0.	0.	0.	0.	0.	0.007	-0.094	-0.155
		THRM4		-1369.	0.	0.	0.	0.	0.	-0.002	-0.119	-0.048
		THRM5		26359.	0.	0.	0.	0.	0.	0.031	-0.022	-0.473
		THRM6		15042.	0.	0.	0.	0.	0.	0.018	-0.062	-0.299
		THRM7		-5874.	0.	0.	0.	0.	0.	-0.007	-0.134	0.022
		DBA		20173.	0.	0.	0.	0.	0.	0.024	0.149	0.098
		SEISA1		5312.	0.	0.	0.	0.	0.	0.007	0.042	0.007
		SEISA2		10609.	0.	0.	0.	0.	0.	0.012	0.062	0.013
		SAM1		4081.	0.	0.	0.	0.	0.	0.005	0.003	0.011
		SAM2		7313.	0.	0.	0.	0.	0.	0.009	0.006	0.020

TITLE : FEEDWATER "FW" SYSTEM - REQ 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RCS035
USER : PAMI
LOAD CASE :

DATA PT	TYPE	LOAD TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
10A	RAD	FW9014HLS011									
		WT1	0.	0.	-85.	0.	0.	0.	0.000	-0.001	0.000
		THRM1	0.	0.	-10223.	0.	0.	0.	0.487	-0.023	-0.007
		THRM2	0.	0.	-6707.	0.	0.	0.	0.360	-0.033	-0.004
		THRM3	0.	0.	-1853.	0.	0.	0.	0.186	-0.046	-0.001
		THRM4	0.	0.	1112.	0.	0.	0.	0.079	-0.054	0.001
		THRM5	0.	0.	-10677.	0.	0.	0.	0.503	-0.022	-0.007
		THRM6	0.	0.	-5852.	0.	0.	0.	0.329	-0.035	-0.004
		THRM7	0.	0.	3067.	0.	0.	0.	0.009	-0.060	0.002
		DBA	0.	0.	8149.	0.	0.	0.	0.264	0.209	0.003
		SEISA1	0.	0.	3037.	0.	0.	0.	0.001	0.035	0.002
		SEISA2	0.	0.	5729.	0.	0.	0.	0.001	0.051	0.004
		SAM1	0.	0.	3471.	0.	0.	0.	0.026	0.004	0.002
		SAM2	0.	0.	5947.	0.	0.	0.	0.047	0.007	0.004
110	ANC	PEN M-7									
		WT1	447.	-2280.	18.	2083.	-28.	-5053.	0.000	0.000	0.000
		THRM1	-39185.	1094.	19154.	-6508.	-50469.	21209.	0.033	-0.062	0.008
		THRM2	-28163.	127.	13793.	-11026.	-35863.	12873.	0.035	-0.062	0.007
		THRM3	-12949.	-1208.	6393.	-17266.	-15677.	3745.	0.037	-0.062	0.006
		THRM4	-3657.	-2024.	1873.	-21085.	-3354.	-2441.	0.038	-0.062	0.006
		THRM5	-40604.	1219.	19846.	-5928.	-52355.	22156.	0.033	-0.061	0.008
		THRM6	-25482.	-108.	12488.	-12122.	-32297.	12088.	0.035	-0.062	0.007
		THRM7	2472.	-2562.	-1108.	-23594.	4774.	-6521.	0.039	-0.062	0.005
		DBA	18509.	806.	5531.	7400.	2287.	14412.	0.266	0.235	0.037
		SEISA1	2671.	2220.	664.	4268.	992.	22484.	0.000	0.000	0.000
		SEISA2	4816.	3271.	1233.	8276.	1865.	32929.	0.001	0.001	0.000
		SAM1	3372.	58.	3034.	867.	24110.	814.	0.026	0.003	0.035
		SAM2	6045.	108.	5213.	1771.	41359.	1515.	0.047	0.006	0.059
027	SNB	FW9014HLS012									
		WT1							0.009	-0.002	0.006
		THRM1							0.205	-0.243	-0.319
		THRM2							0.259	0.302	-0.279
		THRM3							0.333	1.054	-0.225
		THRM4							0.379	1.514	-0.192
		THRM5							0.198	-0.313	-0.324
		THRM6							0.272	0.434	-0.270
		THRM7							0.409	1.817	-0.170
		DBA							0.898	0.034	0.064
		SEISA1	672.	0.	1265.	0.	0.	0.	0.028	0.027	0.016
		SEISA2	1342.	0.	2527.	0.	0.	0.	0.055	0.054	0.032
		SAM1	234.	0.	440.	0.	0.	0.	0.007	0.015	0.004
		SAM2	389.	0.	732.	0.	0.	0.	0.014	0.032	0.008

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
042	SNB	FW9014HL5009									
		WT1							0.011	0.003	0.009
		THRM1							-0.037	-0.431	-0.283
		THRM2							0.099	0.058	-0.235
		THRM3							0.286	0.733	-0.168
		THRM4							0.401	1.146	-0.128
		THRM5							-0.054	-0.494	-0.289
		THRM6							0.132	0.177	-0.223
		THRM7							0.476	1.417	-0.101
		DBA							0.156	0.055	0.145
		$EISA1	0.	5506.	0.	0.	0.	0.	0.022	0.006	0.024
		$EISA2	0.	11411.	0.	0.	0.	0.	0.044	0.013	0.048
		$AM1	0.	1139.	0.	0.	0.	0.	0.007	0.001	0.004
		$AM2	0.	2259.	0.	0.	0.	0.	0.013	0.003	0.010
050	SNB	FW9014HL5001									
		WT1							0.007	-0.006	0.012
		THRM1							-0.371	-0.421	-0.303
		THRM2							-0.166	-0.094	-0.211
		THRM3							0.116	0.357	-0.094
		THRM4							0.289	0.633	-0.006
		THRM5							-0.398	-0.463	-0.314
		THRM6							-0.117	-0.015	-0.188
		THRM7							0.403	0.814	0.045
		DBA							0.247	0.070	0.262
		$EISA1	2701.	0.	0.	0.	0.	0.	0.003	0.070	0.022
		$EISA2	4978.	0.	0.	0.	0.	0.	0.006	0.139	0.043
		$AM1	1211.	0.	0.	0.	0.	0.	0.001	0.016	0.005
		$AM2	2054.	0.	0.	0.	0.	0.	0.002	0.034	0.009
055	SNB	FW9014HL5002									
		WT1							0.002	-0.006	0.011
		THRM1							-0.289	-0.313	-0.399
		THRM2							-0.144	-0.017	-0.271
		THRM3							0.056	0.392	-0.094
		THRM4							0.178	0.642	0.014
		THRM5							-0.308	-0.351	-0.416
		THRM6							-0.109	0.055	-0.260
		THRM7							0.258	0.807	0.085
		DBA							0.266	0.070	0.268
		$EISA1	796.	0.	1513.	0.	0.	0.	0.019	0.070	0.011
		$EISA2	1709.	0.	3249.	0.	0.	0.	0.034	0.139	0.020
		$AM1	361.	0.	687.	0.	0.	0.	0.005	0.016	0.003
		$AM2	650.	0.	1235.	0.	0.	0.	0.009	0.034	0.005

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
080	SRB	FW9014HL5003									
		WT1							-0.007	-0.008	0.000
		THRM1							-0.628	-0.057	-0.970
		THRM2							-0.477	-0.023	-0.689
		THRM3							-0.268	0.025	-0.300
		THRM4							-0.141	0.054	-0.063
		THRM5							-0.648	-0.062	-1.007
		THRM6							-0.440	-0.014	-0.620
		THRM7							-0.057	0.073	0.093
		DBA							0.314	0.012	0.226
		SEISA1	0.	0.	3032.	0.	0.	0.	0.050	0.008	0.003
		SEISA2	0.	0.	5736.	0.	0.	0.	0.090	0.016	0.005
		SAM1	0.	0.	1383.	0.	0.	0.	0.014	0.002	0.001
		SAM2	0.	0.	2456.	0.	0.	0.	0.025	0.004	0.002

TITLE : FEEDWATER "FW" SYSTEM - REG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RCS035
USER : FANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
001	ANC		1R122HSG201B															
		WT1		-47	-747	-55	178	978	-5006	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
		THRM1		-9145	-4708	-4466	76633	34774	-161776	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
		THRM2		-6895	-4772	-6871	85114	74098	-151926	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
		THRM3		-3785	-4859	-10194	96835	128442	-138316	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
		THRM4		-1879	-4914	-12230	104015	161737	-129981	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
		THRM5		-9433	-4701	-4158	75547	29738	-163039	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
		THRM6		-6350	-4786	-7453	87169	83626	-149538	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
		THRM7		-631	-4949	-13564	108720	183550	-124515	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
		DBA		446	628	441	510	2340	9300	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
		SEISA1		1146	5168	889	2722	14047	83631	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
		SEISA2		2265	12229	1768	5445	28015	165995	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
		SAM1		4028	816	5654	29170	83011	17225	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
		SAM2		6329	2631	8944	46373	131202	30434	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
007	RAD		HL5016															
		WT1		138	0	0	0	0	0	0.93	0.00	-0.37						
		THRM1		-4465	0	0	0	0	0	0.93	0.00	-0.37						
		THRM2		1065	0	0	0	0	0	0.93	0.00	-0.37						
		THRM3		8706	0	0	0	0	0	0.93	0.00	-0.37						
		THRM4		13389	0	0	0	0	0	0.93	0.00	-0.37						
		THRM5		-5173	0	0	0	0	0	0.93	0.00	-0.37						
		THRM6		2404	0	0	0	0	0	0.93	0.00	-0.37						
		THRM7		16456	0	0	0	0	0	0.93	0.00	-0.37						
		DBA		1102	0	0	0	0	0	0.93	0.00	-0.37						
		SEISA1		1600	0	0	0	0	0	0.93	0.00	-0.37						
		SEISA2		3049	0	0	0	0	0	0.93	0.00	-0.37						
		SAM1		10958	0	0	0	0	0	0.93	0.00	-0.37						
		SAM2		17283	0	0	0	0	0	0.93	0.00	-0.37						
009	SPD		HL5015															
		WT1		-13358	0	0	0	0	0	0.00	1.00	0.00						
		THRM1																
		THRM2																
		THRM3																
		THRM4																
		THRM5																
		THRM6																
		THRM7																
		DBA																
		SEISA1																
		SEISA2																
		SAM1																
		SAM2																

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RCS035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
011	RAD		NLS014															
		WT1		-37	0	0	0	0	0	-1.00	0.00	0.00						
		THRM1		7855	0	0	0	0	0	-1.00	0.00	0.00						
		THRM2		9705	0	0	0	0	0	-1.00	0.00	0.00						
		THRM3		12364	0	0	0	0	0	-1.00	0.00	0.00						
		THRM4		13635	0	0	0	0	0	-1.00	0.00	0.00						
		THRM5		7619	0	0	0	0	0	-1.00	0.00	0.00						
		THRM6		10152	0	0	0	0	0	-1.00	0.00	0.00						
		THRM7		14859	0	0	0	0	0	-1.00	0.00	0.00						
		DBA		166	0	0	0	0	0	-1.00	0.00	0.00						
		SEISA1		1127	0	0	0	0	0	-1.00	0.00	0.00						
		SEISA2		2095	0	0	0	0	0	-1.00	0.00	0.00						
		SAM1		4728	0	0	0	0	0	-1.00	0.00	0.00						
		SAM2		7479	0	0	0	0	0	-1.00	0.00	0.00						
011	RAD		NLS014															
		WT1		-96	0	0	0	0	0	-0.24	0.00	-0.97						
		THRM1		12477	0	0	0	0	0	-0.24	0.00	-0.97						
		THRM2		11589	0	0	0	0	0	-0.24	0.00	-0.97						
		THRM3		10361	0	0	0	0	0	-0.24	0.00	-0.97						
		THRM4		9605	0	0	0	0	0	-0.24	0.00	-0.97						
		THRM5		12589	0	0	0	0	0	-0.24	0.00	-0.97						
		THRM6		11375	0	0	0	0	0	-0.24	0.00	-0.97						
		THRM7		9114	0	0	0	0	0	-0.24	0.00	-0.97						
		DBA		109	0	0	0	0	0	-0.24	0.00	-0.97						
		SEISA1		1883	0	0	0	0	0	-0.24	0.00	-0.97						
		SEISA2		3110	0	0	0	0	0	-0.24	0.00	-0.97						
		SAM1		3167	0	0	0	0	0	-0.24	0.00	-0.97						
		SAM2		3430	0	0	0	0	0	-0.24	0.00	-0.97						
014	RAD		NLS013															
		WT1		-476	0	0	0	0	0	-0.97	0.00	-0.22						
		THRM1		-32822	0	0	0	0	0	-0.97	0.00	-0.22						
		THRM2		-27418	0	0	0	0	0	-0.97	0.00	-0.22						
		THRM3		-19961	0	0	0	0	0	-0.97	0.00	-0.22						
		THRM4		-15412	0	0	0	0	0	-0.97	0.00	-0.22						
		THRM5		-33822	0	0	0	0	0	-0.97	0.00	-0.22						
		THRM6		-26101	0	0	0	0	0	-0.97	0.00	-0.22						
		THRM7		-12404	0	0	0	0	0	-0.97	0.00	-0.22						
		DBA		2465	0	0	0	0	0	-0.97	0.00	-0.22						
		SEISA1		3187	0	0	0	0	0	-0.97	0.00	-0.22						
		SEISA2		6406	0	0	0	0	0	-0.97	0.00	-0.22						
		SAM1		831	0	0	0	0	0	-0.97	0.00	-0.22						
		SAM2		1500	0	0	0	0	0	-0.97	0.00	-0.22						

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438081
PROBLEM NUMBER : 2C159RC5035
USER : PAMI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
014	RAD		HL5013															
		WT1		512	0	0	0	0		0-0.54	0.00-0.84							
		THRM1		16518	0	0	0	0		0-0.54	0.00-0.84							
		THRM2		12566	0	0	0	0		0-0.54	0.00-0.84							
		THRM3		7115	0	0	0	0		0-0.54	0.00-0.84							
		THRM4		3790	0	0	0	0		0-0.54	0.00-0.84							
		THRM5		17030	0	0	0	0		0-0.54	0.00-0.84							
		THRM6		11603	0	0	0	0		0-0.54	0.00-0.84							
		THRM7		1590	0	0	0	0		0-0.54	0.00-0.84							
		DBA		238	0	0	0	0		0-0.54	0.00-0.84							
		SEISA1		1850	0	0	0	0		0-0.54	0.00-0.84							
		SEISA2		3709	0	0	0	0		0-0.54	0.00-0.84							
		SAM1		1574	0	0	0	0		0-0.54	0.00-0.84							
		SAM2		2591	0	0	0	0		0-0.54	0.00-0.84							
040	SPR		FW9014SH0001															
		WT1		0	0	0	0	0	0	0.00	1.00	0.00						
		THRM1																
		THRM2																
		THRM3																
		THRM4																
		THRM5																
		THRM6																
		THRM7																
		DBA																
		SEISA1																
		SEISA2																
		SAM1																
		SAM2																
13	SPR		FW9014HL5008															
		WT1		0	0	0	0	0	0	0.00	1.00	0.00						
		THRM1		-1	0	0	0	0	0	0.00	1.00	0.00						
		THRM2		0	0	0	0	0	0	0.00	1.00	0.00						
		THRM3		0	0	0	0	0	0	0.00	1.00	0.00						
		THRM4		1	0	0	0	0	0	0.00	1.00	0.00						
		THRM5		-1	0	0	0	0	0	0.00	1.00	0.00						
		THRM6		0	0	0	0	0	0	0.00	1.00	0.00						
		THRM7		1	0	0	0	0	0	0.00	1.00	0.00						
		DBA		0	0	0	0	0	0	0.00	1.00	0.00						
		SEISA1		0	0	0	0	0	0	0.00	1.00	0.00						
		SEISA2		0	0	0	0	0	0	0.00	1.00	0.00						
		SAM1		0	0	0	0	0	0	0.00	1.00	0.00						
		SAM2		0	0	0	0	0	0	0.00	1.00	0.00						

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RCS03S
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
085	RAD	FW9014HL5006															
		WT1	-3800	0	0	0	0	0	0.00	1.00	-0.07						
		THRM1	3625	0	0	0	0	0	0.00	1.00	-0.07						
		THRM2	4657	0	0	0	0	0	0.00	1.00	-0.07						
		THRM3	6083	0	0	0	0	0	0.00	1.00	-0.07						
		THRM4	6957	0	0	0	0	0	0.00	1.00	-0.07						
		THRM5	3492	0	0	0	0	0	0.00	1.00	-0.07						
		THRM6	4908	0	0	0	0	0	0.00	1.00	-0.07						
		THRM7	7530	0	0	0	0	0	0.00	1.00	-0.07						
		DBA	1437	0	0	0	0	0	0.00	1.00	-0.07						
		SEISA1	2091	0	0	0	0	0	0.00	1.00	-0.07						
		SEISA2	3467	0	0	0	0	0	0.00	1.00	-0.07						
		SAM1	479	0	0	0	0	0	0.00	1.00	-0.07						
		SAM2	894	0	0	0	0	0	0.00	1.00	-0.07						
095	SPR	FW9014SH0004															
		WT1	0	0	0	0	0	0	0.00	1.00	0.00						
		THRM1	0	0	0	0	0	0	0.00	1.00	0.00						
		THRM2	0	0	0	0	0	0	0.00	1.00	0.00						
		THRM3	0	0	0	0	0	0	0.00	1.00	0.00						
		THRM4	0	0	0	0	0	0	0.00	1.00	0.00						
		THRM5	0	0	0	0	0	0	0.00	1.00	0.00						
		THRM6	0	0	0	0	0	0	0.00	1.00	0.00						
		THRM7	0	0	0	0	0	0	0.00	1.00	0.00						
		DBA	0	0	0	0	0	0	0.00	1.00	0.00						
		SEISA1	0	0	0	0	0	0	0.00	1.00	0.00						
		SEISA2	0	0	0	0	0	0	0.00	1.00	0.00						
		SAM1	0	0	0	0	0	0	0.00	1.00	0.00						
		SAM2	0	0	0	0	0	0	0.00	1.00	0.00						
95B	RAD	FW9014HL5004															
		WT1	-837	0	0	0	0	0	1.00	0.00	0.00						
		THRM1	25294	0	0	0	0	0	1.00	0.00	0.00						
		THRM2	17048	0	0	0	0	0	1.00	0.00	0.00						
		THRM3	5665	0	0	0	0	0	1.00	0.00	0.00						
		THRM4	-1289	0	0	0	0	0	1.00	0.00	0.00						
		THRM5	26359	0	0	0	0	0	1.00	0.00	0.00						
		THRM6	15042	0	0	0	0	0	1.00	0.00	0.00						
		THRM7	-5076	0	0	0	0	0	1.00	0.00	0.00						
		DBA	20173	0	0	0	0	0	1.00	0.00	0.00						
		SEISA1	5912	0	0	0	0	0	1.00	0.00	0.00						
		SEISA2	10609	0	0	0	0	0	1.00	0.00	0.00						
		SAM1	4081	0	0	0	0	0	1.00	0.00	0.00						
		SAM2	7313	0	0	0	0	0	1.00	0.00	0.00						

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
10A	RAD	FW9014HL5011															
		WT1	-85	0	0	0	0	0	0.00	0.00	1.00						
		THRM1	-10223	0	0	0	0	0	0.00	0.00	1.00						
		THRM2	-6707	0	0	0	0	0	0.00	0.00	1.00						
		THRM3	-1853	0	0	0	0	0	0.00	0.00	1.00						
		THRM4	1112	0	0	0	0	0	0.00	0.00	1.00						
		THRM5	-10677	0	0	0	0	0	0.00	0.00	1.00						
		THRM6	-5852	0	0	0	0	0	0.00	0.00	1.00						
		THRM7	3067	0	0	0	0	0	0.00	0.00	1.00						
		DBA	5149	0	0	0	0	0	0.00	0.00	1.00						
		SEISA1	3037	0	0	0	0	0	0.00	0.00	1.00						
		SEISA2	5729	0	0	0	0	0	0.00	0.00	1.00						
		SAM1	3471	0	0	0	0	0	0.00	0.00	1.00						
		SAM2	5947	0	0	0	0	0	0.00	0.00	1.00						
110	ANC	PEN M-7															
		WT1	467	-2280	18	2083	-28	-5053	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		THRM1	-39185	1094	19154	-6508	-50469	21209	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		THRM2	-28163	127	13793	-11026	-35853	13873	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		THRM3	-12949	-1208	6393	-17266	-15677	3745	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		THRM4	-3657	-2024	1873	-21085	-3354	-2441	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		THRM5	-40608	1219	19846	-5928	-52355	22156	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		THRM6	-25482	-108	12488	-12122	-32297	12088	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		THRM7	2472	-2562	-1108	-23594	4774	-6521	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		DBA	18509	806	5531	7400	2287	14412	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		SEISA1	2671	2220	654	4268	992	22484	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		SEISA2	4816	3271	1233	8278	1865	32929	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		SAM1	3372	58	1034	867	24110	814	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		SAM2	6045	108	5213	1771	41359	1515	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
027	SNB	FW9014HL5012															
		WT1															
		THRM1															
		THRM2															
		THRM3															
		THRM4															
		THRM5															
		THRM6															
		THRM7															
		DBA															
		SEISA1	1432	0	0	0	0	0-0.47	0.00-0.88								
		SEISA2	2861	0	0	0	0	0-0.47	0.00-0.88								
		SAM1	498	0	0	0	0	0-0.47	0.00-0.88								
		SAM2	829	0	0	0	0	0-0.47	0.00-0.88								

TITLE : FEEDWATER "FW" SYSTEM - RSO 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
042	SNB		FW9014HL5009															
		WT1																
		THRM1																
		THRM2																
		THRM3																
		THRM4																
		THRM5																
		THRM6																
		THRM7																
		DBA																
		SEISA1		5504	0	0	0	0	0	0.00	1.00	0.00						
		SEISA2		11411	0	0	0	0	0	0.00	1.00	0.00						
		SAM1		1139	0	0	0	0	0	0.00	1.00	0.00						
		SAM2		2259	0	0	0	0	0	0.00	1.00	0.00						
050	SNB		FW9014HL5001															
		WT1																
		THRM1																
		THRM2																
		THRM3																
		THRM4																
		THRM5																
		THRM6																
		THRM7																
		DBA																
		SEISA1		2701	0	0	0	0	0	1.00	0.00	0.00						
		SEISA2		4978	0	0	0	0	0	1.00	0.00	0.00						
		SAM1		1211	0	0	0	0	0	1.00	0.00	0.00						
		SAM2		2054	0	0	0	0	0	1.00	0.00	0.00						
055	SNB		FW9014HL5002															
		WT1																
		THRM1																
		THRM2																
		THRM3																
		THRM4																
		THRM5																
		THRM6																
		THRM7																
		DBA																
		SEISA1		1710	0	0	0	0	0	0.47	0.00	-0.89						
		SEISA2		3672	0	0	0	0	0	0.47	0.00	-0.89						
		SAM1		776	0	0	0	0	0	0.47	0.00	-0.89						
		SAM2		1395	0	0	0	0	0	0.47	0.00	-0.89						

TITLE : FEEDWATER "FW" SYSTEM - REG 3B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PAMI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES (LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
080	SNB		FW9014HL5003															
		WT1																
		THRM1																
		THRM2																
		THRM3																
		THRM4																
		THRM5																
		THRM6																
		THRM7																
		DBA																
		SEISA1		3032	0	0	0	0	0	0.00	0.00	1.00						
		SEISA2		5736	0	0	0	0	0	0.00	0.00	1.00						
		SAM1		1383	0	0	0	0	0	0.00	0.00	1.00						
		SAM2		2456	0	0	0	0	0	0.00	0.00	1.00						

TITLE : FEEDWATER "FW" SYSTEM - REG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
001	ANC	1R122NSG201B									
		NORMP	8039.	0.	15201.	0.	162715.	145871.	0.000	1.971	0.000
		NORMN	-5986.	-5661.	0.	-171987.	0.	-50514.	-0.637	0.000	-1.956
		UPSETP	14477.	6222.	23404.	67019.	268718.	234755.	0.229	1.988	0.252
		UPSETN	-13040.	-11917.	-7036.	-243121.	-84191.	-141678.	-0.866	-0.017	-2.208
		FAULTP	18563.	11590.	27740.	120072.	318687.	317128.	0.359	2.023	0.406
		FAULTN	-16961.	-18032.	-11162.	-299369.	-133182.	-218655.	-0.996	-0.052	-2.362
007	RAD	NL5016									
		NORMP	12542.	0.	1673.	0.	0.	0.	0.001	1.814	0.002
		NORMN	-4140.	0.	-5067.	0.	0.	0.	-0.543	0.000	-1.339
		UPSETP	25656.	0.	5769.	0.	0.	0.	0.053	1.922	0.128
		UPSETN	-14280.	0.	-10365.	0.	0.	0.	-0.594	-0.029	-1.462
		FAULTP	31658.	0.	8460.	0.	0.	0.	0.085	1.958	0.207
		FAULTN	-20940.	0.	-12790.	0.	0.	0.	-0.632	-0.064	-1.554
009	SPD	NL5015									
		NORMP	0.	-13358.	0.	0.	0.	0.	0.005	1.879	0.003
		NORMN	0.	-13358.	0.	0.	0.	0.	-0.050	0.000	-0.238
		UPSETP	0.	-13358.	0.	0.	0.	0.	0.032	2.056	0.042
		UPSETN	0.	-13358.	0.	0.	0.	0.	-0.072	-0.039	-0.273
		FAULTP	0.	-13358.	0.	0.	0.	0.	0.048	2.100	0.068
		FAULTN	0.	-13358.	0.	0.	0.	0.	-0.088	-0.083	-0.304
011	RAD	NL5014									
		NORMP	37.	0.	0.	0.	0.	0.	0.000	1.936	0.000
		NORMN	-13835.	0.	0.	0.	0.	0.	-0.021	-0.006	-0.006
		UPSETP	4898.	0.	0.	0.	0.	0.	0.007	2.142	0.003
		UPSETN	-19603.	0.	0.	0.	0.	0.	-0.030	-0.061	-0.009
		FAULTP	7804.	0.	0.	0.	0.	0.	0.012	2.198	0.005
		FAULTN	-22590.	0.	0.	0.	0.	0.	-0.034	-0.117	-0.011
011	RAD	NL5014									
		NORMP	23.	0.	93.	0.	0.	0.	0.000	1.936	0.000
		NORMN	-3018.	0.	-12106.	0.	0.	0.	-0.021	-0.006	-0.006
		UPSETP	672.	0.	2697.	0.	0.	0.	0.007	2.142	0.003
		UPSETN	-3644.	0.	-14617.	0.	0.	0.	-0.030	-0.061	-0.009
		FAULTP	1143.	0.	4585.	0.	0.	0.	0.012	2.198	0.005
		FAULTN	-4142.	0.	-16614.	0.	0.	0.	-0.034	-0.117	-0.011
014	RAD	NL5013									
		NORMP	32458.	0.	7438.	0.	0.	0.	0.016	1.881	0.000
		NORMN	0.	0.	0.	0.	0.	0.	0.000	-0.007	-0.024
		UPSETP	35669.	0.	8171.	0.	0.	0.	0.018	2.182	0.003
		UPSETN	-3211.	0.	-735.	0.	0.	0.	-0.002	-0.062	-0.027
		FAULTP	39553.	0.	9061.	0.	0.	0.	0.020	2.238	0.005
		FAULTN	-5948.	0.	-1363.	0.	0.	0.	-0.003	-0.118	-0.030

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
014	RAD	HL5013									
		NORMP	0.	0.	0.	0.	0.	0.	0.016	1.881	0.000
		NORMN	-9200.	0.	-14331.	0.	0.	0.	0.000	-0.007	-0.024
		UPSETP	1312.	0.	2044.	0.	0.	0.	0.018	2.182	0.003
		UPSETN	-10512.	0.	-16375.	0.	0.	0.	-0.002	-0.062	-0.027
		FAULTP	2168.	0.	3377.	0.	0.	0.	0.020	2.338	0.005
		FAULTN	-11920.	0.	-18569.	0.	0.	0.	-0.003	-0.118	-0.030
040	SPR	FW9014SH0001									
		NORMP	0.	0.	0.	0.	0.	0.	0.399	1.357	0.007
		NORMN	0.	0.	0.	0.	0.	0.	0.000	-0.331	-0.303
		UPSETP	0.	0.	0.	0.	0.	0.	0.474	1.665	0.027
		UPSETN	0.	0.	0.	0.	0.	0.	-0.026	-0.348	-0.316
		FAULTP	0.	0.	0.	0.	0.	0.	0.571	1.691	0.106
		FAULTN	0.	0.	0.	0.	0.	0.	-0.113	-0.441	-0.401
13	SPR	FW9014HL5008									
		NORMP	0.	1.	0.	0.	0.	0.	0.428	0.854	0.010
		NORMN	0.	-1.	0.	0.	0.	0.	-0.236	-0.533	-0.255
		UPSETP	0.	1.	0.	0.	0.	0.	0.558	1.133	0.042
		UPSETN	0.	-1.	0.	0.	0.	0.	-0.242	-0.571	-0.277
		FAULTP	0.	1.	0.	0.	0.	0.	0.740	1.173	0.217
		FAULTN	0.	-1.	0.	0.	0.	0.	-0.450	-0.666	-0.459
085	RAD	FW9014HL5006									
		NORMP	0.	6938.	278.	0.	0.	0.	0.000	0.007	0.000
		NORMN	0.	-3790.	-509.	0.	0.	0.	-0.678	-0.072	-0.983
		UPSETP	0.	8859.	435.	0.	0.	0.	0.052	0.017	0.090
		UPSETN	0.	-5930.	-430.	0.	0.	0.	-0.731	-0.076	-0.986
		FAULTP	0.	7290.	540.	0.	0.	0.	0.307	0.031	0.303
		FAULTN	0.	-7361.	-535.	0.	0.	0.	-1.014	-0.094	-1.236
095	SPR	FW9014SH0004									
		NORMP	0.	0.	0.	0.	0.	0.	0.000	0.011	0.000
		NORMN	0.	0.	0.	0.	0.	0.	-0.094	-0.136	-0.500
		UPSETP	0.	0.	0.	0.	0.	0.	0.011	0.051	0.038
		UPSETN	0.	0.	0.	0.	0.	0.	-0.105	-0.183	-0.513
		FAULTP	0.	0.	0.	0.	0.	0.	0.018	0.151	0.121
		FAULTN	0.	0.	0.	0.	0.	0.	-0.116	-0.284	-0.616
958	RAD	FW9014HL5004									
		NORMP	25294.	0.	0.	0.	0.	0.	0.030	0.010	0.000
		NORMN	-2126.	0.	0.	0.	0.	0.	-0.002	-0.119	-0.457
		UPSETP	31641.	0.	0.	0.	0.	0.	0.037	0.052	0.035
		UPSETN	-13895.	0.	0.	0.	0.	0.	-0.016	-0.166	-0.470
		FAULTP	45695.	0.	0.	0.	0.	0.	0.054	0.159	0.121
		FAULTN	-26885.	0.	0.	0.	0.	0.	-0.032	-0.273	-0.572

TITLE : FEEDWATER "FW" SYSTEM - REG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
10A	RAD		FW9014HLS011									
		NORMP		0.	0.	1112.	0.	0.	0.	0.487	0.000	0.001
		NORMN		0.	0.	-10306.	0.	0.	0.	0.000	-0.055	-0.007
		UPSETP		0.	0.	7595.	0.	0.	0.	0.513	0.035	0.005
		UPSETN		0.	0.	-14920.	0.	0.	0.	-0.026	-0.095	-0.010
		FAULTP		0.	0.	11240.	0.	0.	0.	0.767	0.209	0.007
		FAULTN		0.	0.	-19018.	0.	0.	0.	-0.264	-0.270	-0.012
110	ANC		PEN M-7									
		NORMP		447.	1094.	19172.	2083.	0.	21209.	0.039	0.800	0.008
		NORMN		-39185.	-4304.	0.	-21085.	-50697.	-7494.	0.000	-0.062	0.000
		UPSETP		7221.	2220.	22276.	6438.	28876.	38655.	0.066	0.003	0.043
		UPSETN		-43039.	-7062.	-4194.	-25866.	-74627.	-24072.	-0.026	-0.066	-0.035
		FAULTP		21429.	2212.	25395.	10548.	46147.	50067.	0.305	0.235	0.068
		FAULTN		-58670.	-8115.	-6621.	-29976.	-93785.	-44537.	-0.266	-0.298	-0.059
027	SNB		FW9014HLS012									
		NORMP								0.388	1.514	0.006
		NORMN								0.000	-0.245	-0.319
		UPSETP		711.	0.	1339.	0.	0.	0.	0.446	1.846	0.023
		UPSETN		-711.	0.	-1339.	0.	0.	0.	-0.026	-0.276	-0.325
		FAULTP		1397.	0.	2631.	0.	0.	0.	0.516	1.877	0.070
		FAULTN		-1397.	0.	-2631.	0.	0.	0.	-0.089	-0.377	-0.382
042	SNB		FW9014HLS009									
		NORMP								0.412	1.149	0.009
		NORMN								-0.037	-0.431	-0.283
		UPSETP		0.	5621.	0.	0.	0.	0.	0.510	1.427	0.033
		UPSETN		0.	-5621.	0.	0.	0.	0.	-0.049	-0.434	-0.298
		FAULTP		0.	11633.	0.	0.	0.	0.	0.643	1.476	0.153
		FAULTN		0.	-11633.	0.	0.	0.	0.	-0.199	-0.546	-0.425
050	SNB		FW9014HLS001									
		NORMP								0.296	0.633	0.012
		NORMN								-0.371	-0.427	-0.303
		UPSETP		2960.	0.	0.	0.	0.	0.	0.413	0.880	0.080
		UPSETN		-2960.	0.	0.	0.	0.	0.	-0.368	-0.499	-0.313
		FAULTP		5385.	0.	0.	0.	0.	0.	0.657	0.951	0.319
		FAULTN		-5385.	0.	0.	0.	0.	0.	-0.638	-0.612	-0.564
055	SNB		FW9014HLS002									
		NORMP								0.180	0.642	0.025
		NORMN								-0.289	-0.319	-0.399
		UPSETP		874.	0.	1662.	0.	0.	0.	0.280	0.873	0.107
		UPSETN		-874.	0.	-1662.	0.	0.	0.	-0.307	-0.391	-0.399
		FAULTP		1828.	0.	3476.	0.	0.	0.	0.526	0.964	0.364
		FAULTN		-1828.	0.	-3476.	0.	0.	0.	-0.571	-0.500	-0.673

TITLE : FEEDWATER "FW" SYSTEM - REG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA TYPE PT	LOAD	TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
080 SKE		FW3014HL5003									
	NORMP								0.000	0.054	0.000
	NORMN								-0.635	-0.065	-0.970
	UPSETP		0.	0.	3333.	0.	0.	0.	0.052	0.074	0.096
	UPSETN		0.	0.	-3333.	0.	0.	0.	-0.687	-0.074	-0.973
	FAULTP		0.	0.	6239.	0.	0.	0.	0.307	0.083	0.320
	FAULTN		0.	0.	-6239.	0.	0.	0.	-0.968	-0.086	-1.233

TITLE : FEEDWATER "FW" SYSTEM - REQ 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
001	ANC		1R122HSG201B															
		NORMP		0	0	0	104194	162715	0	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
		NORMN		-9192	-5661	-12285	0	0	-166782	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
		UPSETP		4188	6222	5723	138196	268718	85386	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
		UPSETN		-13380	-11917	-19342	-29296	-84191	-252168	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
		FAULTP		6675	11690	9062	155889	318687	163756	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
		FAULTN		-16201	-18032	-22736	-46514	-133182	-336807	-0.87	0.00	-0.48	0.00	1.00	0.00	0.48	0.00	-0.87
007	RAD		HLS016															
		NORMP		13527	0	0	0	0	0	0.93	0.00	-0.37						
		NORMN		-4465	0	0	0	0	0	0.93	0.00	-0.37						
		UPSETP		27669	0	0	0	0	0	0.93	0.00	-0.37						
		UPSETN		-15401	0	0	0	0	0	0.93	0.00	-0.37						
		FAULTP		34144	0	0	0	0	0	0.93	0.00	-0.37						
		FAULTN		-22584	0	0	0	0	0	0.93	0.00	-0.37						
009	SPD		HLS015															
		NORMP		-13358	0	0	0	0	0	0.00	1.00	0.00						
		NORMN		-13358	0	0	0	0	0	0.00	1.00	0.00						
		UPSETP		-13358	0	0	0	0	0	0.00	1.00	0.00						
		UPSETN		-13358	0	0	0	0	0	0.00	1.00	0.00						
		FAULTP		-13358	0	0	0	0	0	0.00	1.00	0.00						
		FAULTN		-13358	0	0	0	0	0	0.00	1.00	0.00						
011	RAD		HLS014															
		NORMP		13835	0	0	0	0	0	-1.00	0.00	0.00						
		NORMN		-37	0	0	0	0	0	-1.00	0.00	0.00						
		UPSETP		19683	0	0	0	0	0	-1.00	0.00	0.00						
		UPSETN		-4898	0	0	0	0	0	-1.00	0.00	0.00						
		FAULTP		22590	0	0	0	0	0	-1.00	0.00	0.00						
		FAULTN		-7804	0	0	0	0	0	-1.00	0.00	0.00						
011	RAD		HLS014															
		NORMP		12477	0	0	0	0	0	-0.24	0.00	-0.97						
		NORMN		-96	0	0	0	0	0	-0.24	0.00	-0.97						
		UPSETP		15064	0	0	0	0	0	-0.24	0.00	-0.97						
		UPSETN		-2780	0	0	0	0	0	-0.24	0.00	-0.97						
		FAULTP		17123	0	0	0	0	0	-0.24	0.00	-0.97						
		FAULTN		-4726	0	0	0	0	0	-0.24	0.00	-0.97						
014	RAD		HLS013															
		NORMP		0	0	0	0	0	0	-0.97	0.00	-0.22						
		NORMN		-33299	0	0	0	0	0	-0.97	0.00	-0.22						
		UPSETP		3294	0	0	0	0	0	-0.97	0.00	-0.22						
		UPSETN		-36593	0	0	0	0	0	-0.97	0.00	-0.22						
		FAULTP		6103	0	0	0	0	0	-0.97	0.00	-0.22						
		FAULTN		-40577	0	0	0	0	0	-0.97	0.00	-0.22						

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
014	RAD		HL5013															
		NORMP		17030	0	0	0	0	0-0.54	0.00-0.84								
		NORMN		0	0	0	0	0	0-0.54	0.00-0.84								
		UPSETP		19459	0	0	0	0	0-0.54	0.00-0.84								
		UPSETN		-2429	0	0	0	0	0-0.54	0.00-0.84								
		FAULTP		22066	0	0	0	0	0-0.54	0.00-0.84								
		FAULTN		-4013	0	0	0	0	0-0.54	0.00-0.84								
040	SPR		FW9014SH0001															
		NORMP		0	0	0	0	0	0	0.00	1.00	0.00						
		NORMN		0	0	0	0	0	0	0.00	1.00	0.00						
		UPSETP		0	0	0	0	0	0	0.00	1.00	0.00						
		UPSETN		0	0	0	0	0	0	0.00	1.00	0.00						
		FAULTP		0	0	0	0	0	0	0.00	1.00	0.00						
		FAULTN		0	0	0	0	0	0	0.00	1.00	0.00						
13	SPR		FW9014HL5008															
		NORMP		1	0	0	0	0	0	0.00	1.00	0.00						
		NORMN		-1	0	0	0	0	0	0.00	1.00	0.00						
		UPSETP		1	0	0	0	0	0	0.00	1.00	0.00						
		UPSETN		-1	0	0	0	0	0	0.00	1.00	0.00						
		FAULTP		1	0	0	0	0	0	0.00	1.00	0.00						
		FAULTN		-1	0	0	0	0	0	0.00	1.00	0.00						
085	RAD		FW9014HL5006															
		NORMP		6957	0	0	0	0	0	0.00	1.00-0.07							
		NORMN		-3800	0	0	0	0	0	0.00	1.00-0.07							
		UPSETP		5875	0	0	0	0	0	0.00	1.00-0.07							
		UPSETN		-5946	0	0	0	0	0	0.00	1.00-0.07							
		FAULTP		7310	0	0	0	0	0	0.00	1.00-0.07							
		FAULTN		-7381	0	0	0	0	0	0.00	1.00-0.07							
095	SPR		FW9014SH0004															
		NORMP		0	0	0	0	0	0	0.00	1.00	0.00						
		NORMN		0	0	0	0	0	0	0.00	1.00	0.00						
		UPSETP		0	0	0	0	0	0	0.00	1.00	0.00						
		UPSETN		0	0	0	0	0	0	0.00	1.00	0.00						
		FAULTP		0	0	0	0	0	0	0.00	1.00	0.00						
		FAULTN		0	0	0	0	0	0	0.00	1.00	0.00						
95B	RAD		FW9014HL5004															
		NORMP		25296	0	0	0	0	0	1.00	0.00	0.00						
		NORMN		-2126	0	0	0	0	0	1.00	0.00	0.00						
		UPSETP		31641	0	0	0	0	0	1.00	0.00	0.00						
		UPSETN		-13895	0	0	0	0	0	1.00	0.00	0.00						
		FAULTP		45695	0	0	0	0	0	1.00	0.00	0.00						
		FAULTN		-26885	0	0	0	0	0	1.00	0.00	0.00						

TITLE : FEEDWATER "FW" SYSTEM - REG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
10A	RAD		FW9014HL5011															
		NORMP		1112	0	0	0	0	0	0.00	0.00	1.00						
		NORMN		-10308	0	0	0	0	0	0.00	0.00	1.00						
		UPSETP		7595	0	0	0	0	0	0.00	0.00	1.00						
		UPSETN		-14920	0	0	0	0	0	0.00	0.00	1.00						
		FAULTP		11240	0	0	0	0	0	0.00	0.00	1.00						
		FAULTN		-19018	0	0	0	0	0	0.00	0.00	1.00						
110	ANC		FEM M-7															
		NORMP		447	1094	19172	2083	0	21209	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		NORMN		-39185	-4304	0	-21085	-50497	-7494	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		UPSETP		7221	2220	22276	6438	28876	38655	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		UPSETN		-43039	-7062	-4194	-25866	-74627	-34072	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		FAULTP		21429	2212	25395	10548	46147	50067	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		FAULTN		-58670	-8115	-6621	-29976	-93785	-44537	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
027	SNB		FW9014HL5012															
		NORMP																
		NORMN																
		UPSETP		1516	0	0	0	0	0	-0.47	0.00	-0.88						
		UPSETN		-1516	0	0	0	0	0	-0.47	0.00	-0.88						
		FAULTP		2979	0	0	0	0	0	-0.47	0.00	-0.88						
		FAULTN		-2979	0	0	0	0	0	-0.47	0.00	-0.88						
042	SNB		FW9014HL5009															
		NORMP																
		NORMN																
		UPSETP		5621	0	0	0	0	0	0.00	1.00	0.00						
		UPSETN		-5621	0	0	0	0	0	0.00	1.00	0.00						
		FAULTP		11633	0	0	0	0	0	0.00	1.00	0.00						
		FAULTN		-11633	0	0	0	0	0	0.00	1.00	0.00						
050	SNB		FW9014HL5001															
		NORMP																
		NORMN																
		UPSETP		2960	0	0	0	0	0	1.00	0.00	0.00						
		UPSETN		-2960	0	0	0	0	0	1.00	0.00	0.00						
		FAULTP		5385	0	0	0	0	0	1.00	0.00	0.00						
		FAULTN		-5385	0	0	0	0	0	1.00	0.00	0.00						
055	SNB		FW9014HL5002															
		NORMP																
		NORMN																
		UPSETP		1877	0	0	0	0	0	0.47	0.00	-0.89						
		UPSETN		-1877	0	0	0	0	0	0.47	0.00	-0.89						
		FAULTP		3927	0	0	0	0	0	0.47	0.00	-0.89						
		FAULTN		-3927	0	0	0	0	0	0.47	0.00	-0.89						

TITLE : FEEDWATER "FW" SYSTEM - REQ 2E TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PAMI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
080	SNB	FW9014HL5003																
		NORMP																
		NORMN																
		UPSETP		3333	0	0	0	0	0	0.00	0.00	1.00						
		UPSETN		-3333	0	0	0	0	0	0.00	0.00	1.00						
		FAULTP		6239	0	0	0	0	0	0.00	0.00	1.00						
		FAULTN		-6239	0	0	0	0	0	0.00	0.00	1.00						

TITLE : FEEDWATER "FW" SYSTEM - REQ 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE : TIME1

DATA PT	TYPE	LOCAL FORCES (LB) FA MAX/MIN	FA TIME	FB MAX/MIN	FB TIME	FC MAX/MIN	FC TIME	LOCAL MOMENTS (FT-LB) MA MAX/MIN	MA TIME	MB MAX/MIN	MB TIME	MC MAX/MIN	MC TIME
001	ANA	21833.	0.274	0.	0.000	0.	0.000	42703.	0.088	0.	0.000	0.	0.000
		-24622.	0.244	0.	0.000	0.	0.000	-46003.	0.256	0.	0.000	0.	0.000
001	ANB	0.	0.000	138945.	0.251	0.	0.000	0.	0.000	282462.	0.089	0.	0.000
		0.	0.000	-142599.	0.317	0.	0.000	0.	0.000	-314393.	0.254	0.	0.000
001	ANC	0.	0.000	0.	0.000	21802.	0.254	0.	0.000	0.	0.000	1850356.	0.251
		0.	0.000	0.	0.000	-19387.	0.089	0.	0.000	0.	0.000	-1887470.	0.317
007	RAD	33490.	0.317	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
		-28362.	0.386	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
011	RAD	16913.	0.151	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
		-22301.	0.340	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
011	RAD	38745.	0.266	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
		-32777.	0.302	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
014	RAD	45007.	0.316	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
		-35896.	0.244	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
014	RAD	34696.	0.297	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
		-31133.	0.263	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
027	SNB	31528.	0.381	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
		-24671.	0.338	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
042	SNB	84801.	0.325	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
		-64022.	0.377	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
13	SPR	1.	0.323	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
		0.	0.380	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
050	SNB	37337.	0.192	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
		-42298.	0.078	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
055	SNB	29564.	0.382	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
		-32144.	0.335	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000

DATA PT	TYPE	LOCAL FORCES (LB) FA MAX/MIN	FA TIME	FB MAX/MIN	FB TIME	FC MAX/MIN	FC TIME	LOCAL MOMENTS (FT-LB) MA MAX/MIN	MA TIME	MB MAX/MIN	MB TIME	MC MAX/MIN	MC TIME
080	SHB	53509.	0.243	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
		-53149.	0.321	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
085	RAD	42919.	0.445	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
		-38226.	0.372	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
095	SPR	0.	0.391	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
		0.	0.324	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
95B	RAD	44426.	0.243	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
		-32718.	0.268	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
10A	RAD	49530.	0.067	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
		-66491.	0.227	0.	0.000	0.	0.000	0.	0.000	0.	0.000	0.	0.000
110	ANA	259184.	0.213	0.	0.000	0.	0.000	56940.	0.393	0.	0.000	0.	0.000
		-1332587.	0.238	0.	0.000	0.	0.000	-78992.	0.325	0.	0.000	0.	0.000
110	ANB	0.	0.000	8282.	0.276	0.	0.000	0.	0.000	24217.	0.240	0.	0.000
		0.	0.000	-6414.	0.303	0.	0.000	0.	0.000	-33663.	0.224	0.	0.000
110	ANC	0.	0.000	0.	0.000	18765.	0.324	0.	0.000	0.	0.000	58428.	0.327
		0.	0.000	0.	0.000	-13228.	0.240	0.	0.000	0.	0.000	-59819.	0.396

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
001	ANC		1R122HSG201B									
		WT1		14.	-747.	71.	-2583.	978.	4292.	0.000	0.000	0.000
		THRM2		2699.	-4772.	9352.	-148098.	74098.	91613.	-0.637	1.971	-1.956
		THRM3		-1632.	-4859.	10751.	-151750.	128442.	74027.	-0.637	1.971	-1.956
		THRM6		1961.	-4786.	9597.	-148737.	83626.	88528.	-0.637	1.971	-1.956
		TIME1		40850.	142599.	35853.	955299.	316393.	1673120.	0.000	0.000	0.000
		FAULTP		46895.	141852.	48183.	952716.	443813.	1810290.	0.000	1.971	0.000
		FAULTM		-45778.	-148205.	-35782.	-1116230.	-313416.	-1715775.	-0.637	0.000	-1.956
007	RAD		HL5016									
		WT1		128.	0.	-52.	0.	0.	0.	0.001	0.001	0.002
		THRM2		987.	0.	-399.	0.	0.	0.	-0.500	1.497	-1.238
		THRM3		8073.	0.	-3261.	0.	0.	0.	-0.439	1.693	-1.099
		THRM6		2229.	0.	-901.	0.	0.	0.	-0.489	1.532	-1.216
		TIME1		31052.	0.	12545.	0.	0.	0.	0.209	0.312	0.491
		FAULTP		39252.	0.	12494.	0.	0.	0.	0.210	2.006	0.493
		FAULTM		-30924.	0.	-15858.	0.	0.	0.	-0.707	-0.311	-1.727
009	SPD		HL5015									
		WT1		0.	-13358.	0.	0.	0.	0.	0.005	0.000	0.003
		THRM2								-0.068	1.326	-0.194
		THRM3								-0.044	1.669	-0.133
		THRM6								-0.047	1.386	-0.183
		TIME1								0.139	0.471	0.341
		FAULTP		0.	-13358.	0.	0.	0.	0.	0.144	2.140	0.345
		FAULTM		0.	-13358.	0.	0.	0.	0.	-0.181	-0.471	-0.532
011	RAD		HL5014									
		WT1		37.	0.	0.	0.	0.	0.	0.000	-0.006	0.000
		THRM2		-9705.	0.	0.	0.	0.	0.	-0.015	1.305	-0.004
		THRM3		-12364.	0.	0.	0.	0.	0.	-0.019	1.697	-0.003
		THRM6		-10152.	0.	0.	0.	0.	0.	-0.015	1.374	-0.004
		TIME1		22301.	0.	0.	0.	0.	0.	0.034	0.737	0.026
		FAULTP		22338.	0.	0.	0.	0.	0.	0.034	2.427	0.026
		FAULTM		-34529.	0.	0.	0.	0.	0.	-0.052	-0.743	-0.030
011	RAD		HL5014									
		WT1		23.	0.	93.	0.	0.	0.	0.000	-0.006	0.000
		THRM2		-2803.	0.	-11245.	0.	0.	0.	-0.015	1.305	-0.004
		THRM3		-2506.	0.	-10053.	0.	0.	0.	-0.019	1.697	-0.003
		THRM6		-2752.	0.	-11038.	0.	0.	0.	-0.015	1.374	-0.004
		TIME1		9373.	0.	37595.	0.	0.	0.	0.034	0.737	0.026
		FAULTP		9396.	0.	37688.	0.	0.	0.	0.034	2.427	0.026
		FAULTM		-12153.	0.	-48747.	0.	0.	0.	-0.052	-0.743	-0.030

TITLE : FEEDWATER "FW" SYSTEM - REG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
014	RAD		HL5013									
		WT1		464.	0.	106.	0.	0.	0.	0.000	-0.007	-0.001
		THRM2		26726.	0.	6122.	0.	0.	0.	0.013	0.866	-0.019
		THRM3		19457.	0.	4457.	0.	0.	0.	0.009	1.496	-0.012
		THRM6		25442.	0.	5828.	0.	0.	0.	0.012	0.977	-0.017
		TIME1		43870.	0.	10050.	0.	0.	0.	0.021	0.746	0.035
		FAULTP		71060.	0.	16278.	0.	0.	0.	0.034	2.235	0.034
		FAULTN		-43406.	0.	-9943.	0.	0.	0.	-0.021	-0.753	-0.054
014	RAD		HL5013									
		WT1		-277.	0.	-431.	0.	0.	0.	0.000	-0.007	-0.001
		THRM2		-6789.	0.	-10575.	0.	0.	0.	0.013	0.866	-0.019
		THRM3		-3844.	0.	-5987.	0.	0.	0.	0.009	1.496	-0.012
		THRM6		-6268.	0.	-9765.	0.	0.	0.	0.012	0.977	-0.017
		TIME1		18743.	0.	29197.	0.	0.	0.	0.021	0.746	0.035
		FAULTP		18467.	0.	28767.	0.	0.	0.	0.034	2.235	0.034
		FAULTN		-25808.	0.	-40203.	0.	0.	0.	-0.021	-0.753	-0.054
040	SPR		FW9014SH0001									
		WT1		0.	0.	0.	0.	0.	0.	0.010	0.001	0.007
		THRM2								0.190	0.192	-0.260
		THRM3								0.313	0.914	-0.200
		THRM6								0.212	0.319	-0.249
		TIME1								0.358	0.260	0.286
		FAULTP		0.	0.	0.	0.	0.	0.	0.682	1.175	0.293
		FAULTN		0.	0.	0.	0.	0.	0.	-0.348	-0.259	-0.539
13	SPR		FW9014HL5008									
		WT1		0.	0.	0.	0.	0.	0.	0.012	0.003	0.010
		THRM2		0.	0.	0.	0.	0.	0.	-0.034	-0.104	-0.201
		THRM3		0.	0.	0.	0.	0.	0.	0.245	0.489	-0.126
		THRM6		0.	0.	0.	0.	0.	0.	0.015	0.001	-0.188
		TIME1		0.	1.	0.	0.	0.	0.	0.233	0.562	0.502
		FAULTP		0.	1.	0.	0.	0.	0.	0.491	1.054	0.512
		FAULTN		0.	-1.	0.	0.	0.	0.	-0.255	-0.663	-0.693
085	RAD		FW9014HL5006									
		WT1		0.	-3790.	274.	0.	0.	0.	-0.007	-0.007	0.000
		THRM2		0.	4645.	-341.	0.	0.	0.	-0.508	-0.043	-0.700
		THRM3		0.	6067.	-445.	0.	0.	0.	-0.283	-0.012	-0.309
		THRM6		0.	4894.	-359.	0.	0.	0.	-0.468	-0.038	-0.631
		TIME1		0.	42804.	3142.	0.	0.	0.	0.264	0.078	0.044
		FAULTP		0.	45081.	3430.	0.	0.	0.	0.258	0.071	0.044
		FAULTN		0.	-46594.	-3309.	0.	0.	0.	-0.779	-0.128	-0.744

TITLE ; FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER ; 23438001
PROBLEM NUMBER ; 2C159RC5035
USER ; PANI
LOAD CASE ;

DATA PT	TYPE	LOAD	TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
095	SPR		FW9014SH0004									
		WT1		0.	0.	0.	0.	0.	0.	-0.001	0.011	0.000
		THRM2		0.	0.	0.	0.	0.	0.	-0.071	-0.065	-0.361
		THRM3		0.	0.	0.	0.	0.	0.	-0.040	-0.109	-0.169
		THRM6		0.	0.	0.	0.	0.	0.	-0.065	-0.073	-0.327
		TIME1		0.	0.	0.	0.	0.	0.	0.066	0.189	0.151
		FAULTP		0.	0.	0.	0.	0.	0.	0.064	0.199	0.151
		FAULTM		0.	0.	0.	0.	0.	0.	-0.138	-0.287	-0.512
95B	RAD		FW9014HLS004									
		WT1		-837.	0.	0.	0.	0.	0.	-0.001	0.010	0.000
		THRM2		17048.	0.	0.	0.	0.	0.	0.020	-0.055	-0.330
		THRM3		5665.	0.	0.	0.	0.	0.	0.007	-0.094	-0.155
		THRM6		15042.	0.	0.	0.	0.	0.	0.018	-0.062	-0.299
		TIME1		44426.	0.	0.	0.	0.	0.	0.052	0.119	0.151
		FAULTP		60637.	0.	0.	0.	0.	0.	0.071	0.130	0.151
		FAULTM		-45263.	0.	0.	0.	0.	0.	-0.053	-0.203	-0.481
10A	RAD		FW9014HLS011									
		WT1		0.	0.	-85.	0.	0.	0.	0.000	-0.001	0.000
		THRM2		0.	0.	-6707.	0.	0.	0.	0.360	-0.033	-0.004
		THRM3		0.	0.	-1853.	0.	0.	0.	0.186	-0.046	-0.001
		THRM6		0.	0.	-5852.	0.	0.	0.	0.329	-0.035	-0.004
		TIME1		0.	0.	66491.	0.	0.	0.	0.061	0.117	0.043
		FAULTP		0.	0.	66406.	0.	0.	0.	0.422	0.117	0.043
		FAULTM		0.	0.	-73282.	0.	0.	0.	-0.061	-0.164	-0.047
110	ANC		PEN M-7									
		WT1		447.	-3280.	18.	2083.	-28.	-5053.	0.000	0.000	0.000
		THRM2		-28163.	127.	13793.	-11026.	-35853.	13873.	0.035	-0.062	0.007
		THRM3		-12949.	-1208.	6393.	-17266.	-15677.	3745.	0.037	-0.062	0.006
		THRM6		-25482.	-108.	12488.	-12123.	-32297.	12088.	0.035	-0.062	0.007
		TIME1		259184.	8282.	18765.	78993.	33663.	59819.	0.040	0.001	0.003
		FAULTP		259632.	6129.	32576.	81075.	33635.	68639.	0.078	0.001	0.010
		FAULTM		-286900.	-11770.	-16747.	-94176.	-69544.	-64872.	-0.040	-0.064	-0.003
027	SNB		FW9014HLS012									
		WT1								0.009	-0.002	0.006
		THRM2								0.259	0.302	-0.279
		THRM3								0.333	1.054	-0.225
		THRM6								0.272	0.434	-0.270
		TIME1		14789.	0.	27844.	0.	0.	0.	0.392	0.431	0.232
		FAULTP		14789.	0.	27844.	0.	0.	0.	0.734	1.483	0.238
		FAULTM		-14789.	0.	-27844.	0.	0.	0.	-0.382	-0.633	-0.505

TITLE : FEEDWATER "FW" SYSTEM - REQ 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
042	SNB		FW9014HL5009									
		WT1								0.011	0.003	0.009
		THRM2								0.099	0.058	-0.235
		THRM3								0.286	0.733	-0.168
		THRM6								0.132	0.177	-0.223
		TIME1		0.	84801.	0.	0.	0.	0.	0.312	0.094	0.374
		FAULTP		0.	84801.	0.	0.	0.	0.	0.601	0.831	0.383
		FAULTN		0.	-84801.	0.	0.	0.	0.	-0.301	-0.091	-0.690
050	SNB		FW9014HL5001									
		WT1								0.007	-0.006	0.012
		THRM2								-0.166	-0.094	-0.211
		THRM3								0.116	0.357	-0.084
		THRM6								-0.117	-0.015	-0.188
		TIME1		42298.	0.	0.	0.	0.	0.	0.049	0.999	0.314
		FAULTP		42298.	0.	0.	0.	0.	0.	0.172	1.350	0.327
		FAULTN		-42298.	0.	0.	0.	0.	0.	-0.208	-1.099	-0.513
055	SNB		FW9014HL5002									
		WT1								0.002	-0.006	0.011
		THRM2								-0.144	-0.017	-0.271
		THRM3								0.056	0.392	-0.094
		THRM6								-0.109	0.055	-0.240
		TIME1		14965.	0.	28448.	0.	0.	0.	0.093	0.999	0.069
		FAULTP		14965.	0.	28448.	0.	0.	0.	0.151	1.386	0.080
		FAULTN		-14965.	0.	-28448.	0.	0.	0.	-0.235	-1.022	-0.329
080	SNB		FW9014HL5003									
		WT1								-0.007	-0.008	0.000
		THRM2								-0.477	-0.023	-0.669
		THRM3								-0.268	0.025	-0.300
		THRM6								-0.440	-0.014	-0.620
		TIME1		0.	0.	53509.	0.	0.	0.	0.264	0.126	0.049
		FAULTP		0.	0.	53509.	0.	0.	0.	0.258	0.144	0.049
		FAULTN		0.	0.	-53509.	0.	0.	0.	-0.748	-0.157	-0.737

TITLE : FEEDWATER "FW" SYSTEM - NSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RCS035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
001	ANC		1R122NSG201B															
		WT1		-47	-747	-55	178	978	-5006-0.87	0.00-0.48	0.00	1.00	0.00	0.48	0.00-0.87			
		THRM2		-6895	-4772	-6871	85114	74098	-151926-0.87	0.00-0.48	0.00	1.00	0.00	0.48	0.00-0.87			
		THRM3		-3785	-4859	-10194	96835	128442	-138316-0.87	0.00-0.48	0.00	1.00	0.00	0.48	0.00-0.87			
		THRM6		-6350	-4786	-7453	87169	83626	-149538-0.87	0.00-0.48	0.00	1.00	0.00	0.48	0.00-0.87			
		TIME1		34622	142599	21802	46003	314393	1887470-0.87	0.00-0.48	0.00	1.00	0.00	0.48	0.00-0.87			
		FAULTP		34575	141852	21747	143015	443813	1882464-0.87	0.00-0.48	0.00	1.00	0.00	0.48	0.00-0.87			
		FAULTN		-41563	-148205	-32051	-45825	-313416	-2044401-0.87	0.00-0.48	0.00	1.00	0.00	0.48	0.00-0.87			
007	RAD		HLS016															
		WT1		138	0	0	0	0	0 0.93	0.00-0.37								
		THRM2		1065	0	0	0	0	0 0.93	0.00-0.37								
		THRM3		8706	0	0	0	0	0 0.93	0.00-0.37								
		THRM6		2404	0	0	0	0	0 0.93	0.00-0.37								
		TIME1		33490	0	0	0	0	0 0.93	0.00-0.37								
		FAULTP		42335	0	0	0	0	0 0.93	0.00-0.37								
		FAULTN		-33352	0	0	0	0	0 0.93	0.00-0.37								
009	RYD		HLS015															
		WT1		-13358	0	0	0	0	0 0.00	1.00 0.00								
		THRM2																
		THRM3																
		THRM6																
		TIME1																
		FAULTP		-13358	0	0	0	0	0 0.00	1.00 0.00								
		FAULTN		-13358	0	0	0	0	0 0.00	1.00 0.00								
011	RAD		HLS014															
		WT1		-37	0	0	0	0	0-1.00	0.00 0.00								
		THRM2		9705	0	0	0	0	0-1.00	0.00 0.00								
		THRM3		12264	0	0	0	0	0-1.00	0.00 0.00								
		THRM6		10152	0	0	0	0	0-1.00	0.00 0.00								
		TIME1		22301	0	0	0	0	0-1.00	0.00 0.00								
		FAULTP		34529	0	0	0	0	0-1.00	0.00 0.00								
		FAULTN		-22338	0	0	0	0	0-1.00	0.00 0.00								
021	RAD		HLS014															
		WT1		-96	0	0	0	0	0-0.24	0.00-0.97								
		THRM2		11569	0	0	0	0	0-0.24	0.00-0.97								
		THRM3		10361	0	0	0	0	0-0.24	0.00-0.97								
		THRM6		11375	0	0	0	0	0-0.24	0.00-0.97								
		TIME1		38746	0	0	0	0	0-0.24	0.00-0.97								
		FAULTP		50239	0	0	0	0	0-0.24	0.00-0.97								
		FAULTN		-38841	0	0	0	0	0-0.24	0.00-0.97								

TITLE : FEEDWATER "FW" SYSTEM - REQ 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
014	RAD		HL5013															
		WT1		-476	0	0	0	0	0	-0.97	0.00	-0.22						
		THRM2		-27618	0	0	0	0	0	-0.97	0.00	-0.22						
		THRM3		-19961	0	0	0	0	0	-0.97	0.00	-0.22						
		THRM6		-26101	0	0	0	0	0	-0.97	0.00	-0.22						
		TIME1		45007	0	0	0	0	0	-0.97	0.00	-0.22						
		FAULTP		44530	0	0	0	0	0	-0.97	0.00	-0.22						
		FAULTN		-72901	0	0	0	0	0	-0.97	0.00	-0.22						
034	RAD		HL5013															
		WT1		512	0	0	0	0	0	-0.54	0.00	-0.84						
		THRM2		12566	0	0	0	0	0	-0.54	0.00	-0.84						
		THRM3		7115	0	0	0	0	0	-0.54	0.00	-0.84						
		THRM6		11603	0	0	0	0	0	-0.54	0.00	-0.84						
		TIME1		34696	0	0	0	0	0	-0.54	0.00	-0.84						
		FAULTP		47774	0	0	0	0	0	-0.54	0.00	-0.84						
		FAULTN		-34184	0	0	0	0	0	-0.54	0.00	-0.84						
040	SPR		FW9014SH0001															
		WT1		0	0	0	0	0	0	0.00	1.00	0.00						
		THRM2																
		THRM3																
		THRM6																
		TIME1																
		FAULTP		0	0	0	0	0	0	0.00	1.00	0.00						
		FAULTN		0	0	0	0	0	0	0.00	1.00	0.00						
13	SPR		FW9014HL5008															
		WT1		0	0	0	0	0	0	0.00	1.00	0.00						
		THRM2		0	0	0	0	0	0	0.00	1.00	0.00						
		THRM3		0	0	0	0	0	0	0.00	1.00	0.00						
		THRM6		0	0	0	0	0	0	0.00	1.00	0.00						
		TIME1		1	0	0	0	0	0	0.00	1.00	0.00						
		FAULTP		1	0	0	0	0	0	0.00	1.00	0.00						
		FAULTN		-1	0	0	0	0	0	0.00	1.00	0.00						
085	RAD		FW9014HL5006															
		WT1		-3800	0	0	0	0	0	0.00	1.00	-0.07						
		THRM2		4657	0	0	0	0	0	0.00	1.00	-0.07						
		THRM3		6083	0	0	0	0	0	0.00	1.00	-0.07						
		THRM6		4908	0	0	0	0	0	0.00	1.00	-0.07						
		TIME1		42919	0	0	0	0	0	0.00	1.00	-0.07						
		FAULTP		45203	0	0	0	0	0	0.00	1.00	-0.07						
		FAULTN		-46720	0	0	0	0	0	0.00	1.00	-0.07						

TITLE : FEEDWATER "FW" SYSTEM - RSO 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
095	SPR	FW9014SH0004															
		WT1	0	0	0	0	0	0	0.00	1.00	0.00						
		THRM2	0	0	0	0	0	0	0.00	1.00	0.00						
		THRM3	0	0	0	0	0	0	0.00	1.00	0.00						
		THRM6	0	0	0	0	0	0	0.00	1.00	0.00						
		TIME1	0	0	0	0	0	0	0.00	1.00	0.00						
		FAULTP	0	0	0	0	0	0	0.00	1.00	0.00						
		FAULTN	0	0	0	0	0	0	0.00	1.00	0.00						
95B	RAD	FW9014HL5004															
		WT1	-837	0	0	0	0	0	1.00	0.00	0.00						
		THRM2	17048	0	0	0	0	0	1.00	0.00	0.00						
		THRM3	5665	0	0	0	0	0	1.00	0.00	0.00						
		THRM6	15042	0	0	0	0	0	1.00	0.00	0.00						
		TIME1	44426	0	0	0	0	0	1.00	0.00	0.00						
		FAULTP	60637	0	0	0	0	0	1.00	0.00	0.00						
		FAULTN	-45263	0	0	0	0	0	1.00	0.00	0.00						
10A	RAD	FW9014HL5011															
		WT1	-85	0	0	0	0	0	0.00	0.00	1.00						
		THRM2	-6707	0	0	0	0	0	0.00	0.00	1.00						
		THRM3	-1853	0	0	0	0	0	0.00	0.00	1.00						
		THRM6	-5852	0	0	0	0	0	0.00	0.00	1.00						
		TIME1	66491	0	0	0	0	0	0.00	0.00	1.00						
		FAULTP	66406	0	0	0	0	0	0.00	0.00	1.00						
		FAULTN	-73282	0	0	0	0	0	0.00	0.00	1.00						
110	ANC	PEN M-7															
		WT1	447	-2280	18	2083	-28	-8053	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		THRM2	-28163	127	13793	-11026	-35853	13873	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		THRM3	-12949	-1208	6393	-17266	-15677	3745	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		THRM6	-25482	-108	12488	-12122	-32297	12088	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		TIME1	259184	8282	18765	78992	33663	59819	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		FAULTP	259632	6129	32576	81076	33635	68639	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		FAULTN	-286900	-11770	-18747	-94176	-69544	-64872	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
027	SNB	FW9014HL5012															
		WT1															
		THRM2															
		THRM3															
		THRM6															
		TIME1	31528	0	0	0	0	0	-0.47	0.00	-0.88						
		FAULTP	31528	0	0	0	0	0	-0.47	0.00	-0.88						
		FAULTN	-31528	0	0	0	0	0	-0.47	0.00	-0.88						

TITLE : FEEDWATER "FW" SYSTEM - REQ 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
042	SNB		FW9014HL5009															
		WT1																
		THRM2																
		THRM3																
		THRM6																
		TIME1		84801	0	0	0	0	0	0.00	1.00	0.00						
		FAULTP		84801	0	0	0	0	0	0.00	1.00	0.00						
		FAULTM		-84801	0	0	0	0	0	0.00	1.00	0.00						
050	SNB		FW9014HL5001															
		WT1																
		THRM2																
		THRM3																
		THRM6																
		TIME1		42298	0	0	0	0	0	1.00	0.00	0.00						
		FAULTP		42298	0	0	0	0	0	1.00	0.00	0.00						
		FAULTM		-42298	0	0	0	0	0	1.00	0.00	0.00						
055	SNB		FW9014HL5002															
		WT1																
		THRM2																
		THRM3																
		THRM6																
		TIME1		32144	0	0	0	0	0	0.47	0.00	-0.89						
		FAULTP		32144	0	0	0	0	0	0.47	0.00	-0.89						
		FAULTM		-32144	0	0	0	0	0	0.47	0.00	-0.89						
080	SNB		FW9014HL5003															
		WT1																
		THRM2																
		THRM3																
		THRM6																
		TIME1		53509	0	0	0	0	0	0.00	0.00	1.00						
		FAULTP		53509	0	0	0	0	0	0.00	0.00	1.00						
		FAULTM		-53509	0	0	0	0	0	0.00	0.00	1.00						

TITLE : FEEDWATER "FW" SYSTEM - REG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : RAMI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
001	ANC		1R122HSG201B									
		WT1		14.	-747.	71.	-2583.	976.	4292.	0.000	0.000	0.000
		THRM1		5833.	-4708.	8339.	-145457.	34774.	104343.	-0.637	1.971	-1.956
		JMAX		211.	0.	74.	177.	174.	3993.	0.000	0.000	0.000
		JMIN		0.	-325.	-139.	-2205.	-874.	-26.	0.000	0.000	0.000
		FAULTP		8173.	0.	8485.	0.	35926.	149768.	0.000	1.971	0.000
		FAULTN		-2192.	-5760.	0.	-150245.	0.	-37265.	-0.637	0.000	-1.956
007	RAD		HLS016									
		WT1		128.	0.	-52.	0.	0.	0.	0.001	0.001	0.002
		THRM1		-4140.	0.	1672.	0.	0.	0.	-0.543	1.356	-1.339
		JMAX		0.	0.	143.	0.	0.	0.	0.002	0.000	0.005
		JMIN		-354.	0.	0.	0.	0.	0.	0.000	-0.001	0.000
		FAULTP		0.	0.	1764.	0.	0.	0.	0.000	1.357	0.000
		FAULTN		-4366.	0.	0.	0.	0.	0.	-0.542	0.000	-1.336
009	SPD		HLS015									
		WT1		0.	-13358.	0.	0.	0.	0.	0.005	0.000	0.003
		THRM1								-0.050	1.078	-0.238
		JMAX		0.	0.	0.	0.	0.	0.	0.000	0.000	0.006
		JMIN		0.	0.	0.	0.	0.	0.	-0.001	-0.002	0.000
		FAULTP		0.	0.	0.	0.	0.	0.	0.000	1.078	0.000
		FAULTN		0.	-13358.	0.	0.	0.	0.	-0.045	0.000	-0.234
011	RAD		HLS014									
		WT1		37.	0.	0.	0.	0.	0.	0.000	-0.006	0.000
		THRM1		-7855.	0.	0.	0.	0.	0.	-0.012	1.022	-0.006
		JMAX		464.	0.	0.	0.	0.	0.	0.001	0.000	0.000
		JMIN		-186.	0.	0.	0.	0.	0.	0.000	-0.004	0.000
		FAULTP		0.	0.	0.	0.	0.	0.	0.000	1.015	0.000
		FAULTN		-8005.	0.	0.	0.	0.	0.	-0.012	0.000	-0.006
013	RAD		HLS014									
		WT1		23.	0.	93.	0.	0.	0.	0.000	-0.006	0.000
		THRM1		-3018.	0.	-12106.	0.	0.	0.	-0.012	1.022	-0.006
		JMAX		17.	0.	67.	0.	0.	0.	0.001	0.000	0.000
		JMIN		-42.	0.	-167.	0.	0.	0.	0.000	-0.004	0.000
		FAULTP		0.	0.	0.	0.	0.	0.	0.000	1.015	0.000
		FAULTN		-3036.	0.	-12180.	0.	0.	0.	-0.012	0.000	-0.006
014	RAD		HLS013									
		WT1		464.	0.	186.	0.	0.	0.	0.000	-0.007	-0.001
		THRM1		31994.	0.	7329.	0.	0.	0.	0.016	0.410	-0.024
		JMAX		1495.	0.	343.	0.	0.	0.	0.001	0.000	0.002
		JMIN		-1959.	0.	-469.	0.	0.	0.	-0.001	-0.004	-0.001
		FAULTP		33953.	0.	7778.	0.	0.	0.	0.017	0.403	0.000
		FAULTN		0.	0.	0.	0.	0.	0.	0.000	0.000	-0.025

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
014	RAD		HL5013									
		WT1		-277.	0.	-431.	0.	0.	0.	0.000	-0.007	-0.001
		THRM1		-8923.	0.	-13900.	0.	0.	0.	0.016	0.410	-0.024
		JMAX		1064.	0.	1658.	0.	0.	0.	0.001	0.000	0.002
		JMIN		-289.	0.	-451.	0.	0.	0.	-0.001	-0.004	-0.001
		FAULTP		0.	0.	0.	0.	0.	0.	0.017	0.403	0.000
		FAULTN		-9489.	0.	-14782.	0.	0.	0.	0.000	0.000	-0.025
040	SPR		FW9014SH0001									
		WT1		0.	0.	0.	0.	0.	0.	0.010	0.001	0.007
		THRM1								0.101	-0.331	-0.303
		JMAX		0.	0.	0.	0.	0.	0.	0.046	0.000	0.027
		JMIN		0.	0.	0.	0.	0.	0.	-0.019	-0.016	0.000
		FAULTP		0.	0.	0.	0.	0.	0.	0.158	0.000	0.000
		FAULTN		0.	0.	0.	0.	0.	0.	0.000	-0.346	-0.296
13	SPR		FW9014HL5008									
		WT1		0.	0.	0.	0.	0.	0.	0.012	0.003	0.010
		THRM1								-0.236	-0.833	-0.255
		JMAX		0.	0.	0.	0.	0.	0.	0.072	0.000	0.063
		JMIN		0.	0.	0.	0.	0.	0.	-0.019	-0.023	0.000
		FAULTP		0.	0.	0.	0.	0.	0.	0.000	0.000	0.000
		FAULTN		0.	0.	0.	0.	0.	0.	-0.242	-0.853	-0.245
085	RAD		FW9014HL5006									
		WT1		0.	-3790.	278.	0.	0.	0.	-0.007	-0.007	0.000
		THRM1		0.	3614.	-265.	0.	0.	0.	-0.672	-0.066	-0.983
		JMAX		0.	2433.	0.	0.	0.	0.	0.125	0.005	0.055
		JMIN		0.	0.	-179.	0.	0.	0.	0.000	0.000	0.000
		FAULTP		0.	2257.	13.	0.	0.	0.	0.000	0.000	0.000
		FAULTN		0.	-176.	-166.	0.	0.	0.	-0.678	-0.072	-0.983
095	SPR		FW9014SH0004									
		WT1		0.	0.	0.	0.	0.	0.	-0.001	0.011	0.000
		THRM1								-0.093	-0.033	-0.499
		JMAX		0.	0.	0.	0.	0.	0.	0.039	0.005	0.004
		JMIN		0.	0.	0.	0.	0.	0.	0.000	-0.003	-0.002
		FAULTP		0.	0.	0.	0.	0.	0.	0.000	0.000	0.000
		FAULTN		0.	0.	0.	0.	0.	0.	-0.094	-0.026	-0.501
958	RAD		FW9014HL5004									
		WT1		-837.	0.	0.	0.	0.	0.	-0.001	0.010	0.000
		THRM1		25294.	0.	0.	0.	0.	0.	0.030	-0.026	-0.457
		JMAX		24957.	0.	0.	0.	0.	0.	0.029	0.004	0.004
		JMIN		0.	0.	0.	0.	0.	0.	0.000	-0.002	-0.002
		FAULTP		49414.	0.	0.	0.	0.	0.	0.058	0.000	0.000
		FAULTN		0.	0.	0.	0.	0.	0.	0.000	-0.018	-0.459

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
10A	RAD		FW9014HL5011									
		WT1		0.	0.	-85.	0.	0.	0.	0.000	-0.001	0.000
		THRM1		0.	0.	-10223.	0.	0.	0.	0.487	-0.023	-0.007
		JMAX		0.	0.	282.	0.	0.	0.	0.000	0.001	0.000
		JMIN		0.	0.	-3381.	0.	0.	0.	-0.001	0.000	-0.002
		FAULTP		0.	0.	0.	0.	0.	0.	0.487	0.000	0.000
		FAULTN		0.	0.	-13689.	0.	0.	0.	0.000	-0.024	-0.009
110	ANC		PEN M-7									
		WT1		447.	-2280.	18.	2083.	-26.	-5053.	0.000	0.000	0.000
		THRM1		-39185.	1094.	19154.	-6507.	-50469.	21209.	0.033	-0.062	0.008
		JMAX		1854.	70.	180.	1004.	822.	145.	0.000	0.000	0.000
		JMIN		-3163.	-98.	-310.	-1023.	0.	-48.	0.000	0.000	0.000
		FAULTP		0.	0.	19352.	0.	0.	26301.	0.033	0.000	0.008
		FAULTN		-41881.	-1286.	0.	-5447.	-50497.	0.	0.000	-0.062	0.000
027	RAD		FW9014HL5012									
		WT1								0.009	-0.002	0.006
		THRM1								0.205	-0.243	-0.319
		JMAX		-266.	0.	-502.	0.	0.	0.	0.038	0.000	0.015
		JMIN		-266.	0.	-502.	0.	0.	0.	-0.019	-0.013	0.000
		FAULTP		-266.	0.	-502.	0.	0.	0.	0.252	0.000	0.000
		FAULTN		-266.	0.	-502.	0.	0.	0.	0.000	-0.258	-0.313
042	RAD		FW9014HL5009									
		WT1								0.011	0.003	0.009
		THRM1								-0.037	-0.431	-0.283
		JMAX		0.	-2010.	0.	0.	0.	0.	0.057	0.000	0.042
		JMIN		0.	-2010.	0.	0.	0.	0.	-0.019	-0.019	0.000
		FAULTP		0.	-2010.	0.	0.	0.	0.	0.032	0.000	0.000
		FAULTN		0.	-2010.	0.	0.	0.	0.	-0.044	-0.447	-0.274
050	RAD		FW9014HL5001									
		WT1								0.007	-0.006	0.012
		THRM1								-0.371	-0.421	-0.303
		JMAX		5743.	0.	0.	0.	0.	0.	0.090	0.003	0.082
		JMIN		5743.	0.	0.	0.	0.	0.	0.000	-0.022	0.000
		FAULTP		5743.	0.	0.	0.	0.	0.	0.000	0.000	0.000
		FAULTN		5743.	0.	0.	0.	0.	0.	-0.364	-0.449	-0.290
055	RAD		FW9014HL5002									
		WT1								0.002	-0.006	0.011
		THRM1								-0.289	-0.313	-0.399
		JMAX		882.	0.	-1676.	0.	0.	0.	0.100	0.003	0.086
		JMIN		882.	0.	-1676.	0.	0.	0.	0.000	-0.022	0.000
		FAULTP		882.	0.	-1676.	0.	0.	0.	0.000	0.000	0.000
		FAULTN		882.	0.	-1676.	0.	0.	0.	-0.287	-0.341	-0.388

TITLE : FEEDWATER "FW" SYSTEM - REG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
080	RAD		FW9014HLS003									
		WT1								-0.007	-0.008	0.000
		THRM1								-0.628	-0.057	-0.970
		JMAX		0.	0.	4490.	0.	0.	0.	0.125	0.007	0.060
		JMIN		0.	0.	4490.	0.	0.	0.	0.000	0.000	0.000
		FAULTP		0.	0.	4490.	0.	0.	0.	0.000	0.000	0.000
		FAULTM		0.	0.	4490.	0.	0.	0.	-0.635	-0.065	-0.970

TITLE : FEEDWATER "FW" SYSTEM - REG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
001	ANC		1R122MSG201B															
		WT1		-47	-747	-55	178	978	-5006-0.87	0.00-0.48	0.00	1.00	0.00	0.48	0.00-0.87			
		THRM1		-9145	-4708	-4466	76633	34774	-161780-0.87	0.00-0.48	0.00	1.00	0.00	0.48	0.00-0.87			
		JMAX		0	0	159	53	174	0-0.87	0.00-0.48	0.00	1.00	0.00	0.48	0.00-0.87			
		JMIN		-153	-325	0	-201	-674	-4453-0.87	0.00-0.48	0.00	1.00	0.00	0.48	0.00-0.87			
		FAULTP		0	0	0	76864	35926	0-0.87	0.00-0.48	0.00	1.00	0.00	0.48	0.00-0.87			
		FAULTN		-9344	-5780	-4521	0	0	-171238-0.87	0.00-0.48	0.00	1.00	0.00	0.48	0.00-0.87			
007	RAD		HLS016															
		WT1		138	0	0	0	0	0 0.93	0.00-0.37								
		THRM1		-4465	0	0	0	0	0 0.93	0.00-0.37								
		JMAX		0	0	0	0	0	0 0.93	0.00-0.37								
		JMIN		-302	0	0	0	0	0 0.93	0.00-0.37								
		FAULTP		0	0	0	0	0	0 0.93	0.00-0.37								
		FAULTN		-4708	0	0	0	0	0 0.93	0.00-0.37								
009	SPD		HLS015															
		WT1		-13358	0	0	0	0	0 0.00	1.00 0.00								
		THRM1																
		JMAX		0	0	0	0	0	0 0.00	1.00 0.00								
		JMIN		0	0	0	0	0	0 0.00	1.00 0.00								
		FAULTP		0	0	0	0	0	0 0.00	1.00 0.00								
		FAULTN		-13358	0	0	0	0	0 0.00	1.00 0.00								
011	RAD		HLS014															
		WT1		-37	0	0	0	0	0-1.00	0.00 0.00								
		THRM1		7855	0	0	0	0	0-1.00	0.00 0.00								
		JMAX		186	0	0	0	0	0-1.00	0.00 0.00								
		JMIN		-464	0	0	0	0	0-1.00	0.00 0.00								
		FAULTP		8005	0	0	0	0	0-1.00	0.00 0.00								
		FAULTN		0	0	0	0	0	0-1.00	0.00 0.00								
011	RAD		HLS014															
		WT1		-96	0	0	0	0	0-0.24	0.00-0.97								
		THRM1		12477	0	0	0	0	0-0.24	0.00-0.97								
		JMAX		172	0	0	0	0	0-0.24	0.00-0.97								
		JMIN		-69	0	0	0	0	0-0.24	0.00-0.97								
		FAULTP		12552	0	0	0	0	0-0.24	0.00-0.97								
		FAULTN		0	0	0	0	0	0-0.24	0.00-0.97								
014	RAD		HLS013															
		WT1		-476	0	0	0	0	0-0.97	0.00-0.22								
		THRM1		-32822	0	0	0	0	0-0.97	0.00-0.22								
		JMAX		2010	0	0	0	0	0-0.97	0.00-0.22								
		JMIN		-1534	0	0	0	0	0-0.97	0.00-0.22								
		FAULTP		0	0	0	0	0	0-0.97	0.00-0.22								
		FAULTN		-34833	0	0	0	0	0-0.97	0.00-0.22								

TITLE : FEEDWATER "FW" SYSTEM - REG 2B TO M7
PROJECT NUMBER : 23436001
PROBLEM NUMBER : 2C159RCS035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
014	RAD		HL5013															
		WT1		513	0	0	0	0	0	-0.54	0.00	-0.84						
		THRM1		16518	0	0	0	0	0	-0.54	0.00	-0.84						
		JMAX		536	0	0	0	0	0	-0.54	0.00	-0.84						
		JMIN		-1970	0	0	0	0	0	-0.54	0.00	-0.84						
		FAULTP		17565	0	0	0	0	0	-0.54	0.00	-0.84						
		FAULTN		0	0	0	0	0	0	-0.54	0.00	-0.84						
040	SPR		FW9014SH0001															
		WT1		0	0	0	0	0	0	0.00	1.00	0.00						
		THRM1																
		JMAX		0	0	0	0	0	0	0.00	1.00	0.00						
		JMIN		0	0	0	0	0	0	0.00	1.00	0.00						
		FAULTP		0	0	0	0	0	0	0.00	1.00	0.00						
		FAULTN		0	0	0	0	0	0	0.00	1.00	0.00						
13	SPR		FW9014HL5008															
		WT1		0	0	0	0	0	0	0.00	1.00	0.00						
		THRM1																
		JMAX		0	0	0	0	0	0	0.00	1.00	0.00						
		JMIN		0	0	0	0	0	0	0.00	1.00	0.00						
		FAULTP		0	0	0	0	0	0	0.00	1.00	0.00						
		FAULTN		0	0	0	0	0	0	0.00	1.00	0.00						
085	RAD		FW9014HL5006															
		WT1		-3800	0	0	0	0	0	0.00	1.00	-0.07						
		THRM1		3624	0	0	0	0	0	0.00	1.00	-0.07						
		JMAX		2439	0	0	0	0	0	0.00	1.00	-0.07						
		JMIN		0	0	0	0	0	0	0.00	1.00	-0.07						
		FAULTP		2263	0	0	0	0	0	0.00	1.00	-0.07						
		FAULTN		-176	0	0	0	0	0	0.00	1.00	-0.07						
095	SPR		FW9014SH0004															
		WT1		0	0	0	0	0	0	0.00	1.00	0.00						
		THRM1																
		JMAX		0	0	0	0	0	0	0.00	1.00	0.00						
		JMIN		0	0	0	0	0	0	0.00	1.00	0.00						
		FAULTP		0	0	0	0	0	0	0.00	1.00	0.00						
		FAULTN		0	0	0	0	0	0	0.00	1.00	0.00						
95B	RAD		FW9014HL5004															
		WT1		-837	0	0	0	0	0	1.00	0.00	0.00						
		THRM1		25294	0	0	0	0	0	1.00	0.00	0.00						
		JMAX		24957	0	0	0	0	0	1.00	0.00	0.00						
		JMIN		0	0	0	0	0	0	1.00	0.00	0.00						
		FAULTP		49414	0	0	0	0	0	1.00	0.00	0.00						
		FAULTN		0	0	0	0	0	0	1.00	0.00	0.00						

TITLE : FREDWATER "FW" SYSTEM - REG 2B TO M7
PROJECT NUMBER : 23438061
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
10A	RAD		FW9014HL5011															
		WT1		-85	0	0	0	0	0	0.00	0.00	1.00						
		THRM1		-10223	0	0	0	0	0	0.00	0.00	1.00						
		JMAX		282	0	0	0	0	0	0.00	0.00	1.00						
		JMIN		-3381	0	0	0	0	0	0.00	0.00	1.00						
		FAULTP		0	0	0	0	0	0	0.00	0.00	1.00						
		FAULTN		-13689	0	0	0	0	0	0.00	0.00	1.00						
110	ANC		PEN M-7															
		WT1		447	-2280	18	2083	-28	-5053	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		THRM1		-39185	1094	19154	-6507	-50469	21209	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		JMAX		1854	70	280	1004	822	145	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		JMIN		-3143	-98	-310	-1023	0	-48	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		FAULTP		0	0	19352	0	0	16301	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		FAULTN		-41881	-1284	0	-5447	-50497	0	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
027	RAD		FW9014HL5012															
		WT1																
		THRM1																
		JMAX		568	0	0	0	0	0	-0.47	0.00	-0.88						
		JMIN		568	0	0	0	0	0	-0.47	0.00	-0.88						
		FAULTP		568	0	0	0	0	0	-0.47	0.00	-0.88						
		FAULTN		568	0	0	0	0	0	-0.47	0.00	-0.88						
042	RAD		FW9014HL5009															
		WT1																
		THRM1																
		JMAX		-2010	0	0	0	0	0	0.00	1.00	0.00						
		JMIN		-2010	0	0	0	0	0	0.00	1.00	0.00						
		FAULTP		-2010	0	0	0	0	0	0.00	1.00	0.00						
		FAULTN		-2010	0	0	0	0	0	0.00	1.00	0.00						
050	RAD		FW9014HL5001															
		WT1																
		THRM1																
		JMAX		5743	0	0	0	0	0	1.00	0.00	0.00						
		JMIN		5743	0	0	0	0	0	1.00	0.00	0.00						
		FAULTP		5743	0	0	0	0	0	1.00	0.00	0.00						
		FAULTN		5743	0	0	0	0	0	1.00	0.00	0.00						
055	RAD		FW9014HL5002															
		WT1																
		THRM1																
		JMAX		1894	0	0	0	0	0	0.47	0.00	-0.89						
		JMIN		1894	0	0	0	0	0	0.47	0.00	-0.89						
		FAULTP		1894	0	0	0	0	0	0.47	0.00	-0.89						
		FAULTN		1894	0	0	0	0	0	0.47	0.00	-0.89						

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
080	RAD	FW9014HL5003															
		WT1															
		THRM1															
		JMAX	4490	0	0	0	0	0	0.00	0.00	1.00						
		JMIN	4490	0	0	0	0	0	0.00	0.00	1.00						
		FAULTP	4490	0	0	0	0	0	0.00	0.00	1.00						
		FAULTN	4490	0	0	0	0	0	0.00	0.00	1.00						

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
001	ANC		1R122HSG201B									
		WT1		14.	-747.	71.	-2583.	978.	4292.	0.000	0.000	0.000
		TIMEL1								0.028	0.028	0.027
		TIMEL2								0.032	0.031	0.028
		TIMEL3								0.031	0.030	0.027
		LOCA								0.032	0.031	0.028
007	RAD		HL5016									
		WT1		128.	0.	-52.	0.	0.	0.	0.001	0.001	0.002
		TIMEL1		25120.	0.	10149.	0.	0.	0.	0.028	0.027	0.041
		TIMEL2		24290.	0.	9814.	0.	0.	0.	0.028	0.026	0.042
		TIMEL3		25808.	0.	10427.	0.	0.	0.	0.028	0.029	0.043
		LOCA		25808.	0.	10427.	0.	0.	0.	0.028	0.029	0.043
009	SPD		HL5015									
		WT1		0.	-13358.	0.	0.	0.	0.	0.005	0.000	0.003
		TIMEL1								0.048	0.023	0.042
		TIMEL2								0.049	0.029	0.042
		TIMEL3								0.047	0.026	0.044
		LOCA								0.049	0.029	0.044
011	RAD		HL5014									
		WT1		37.	0.	0.	0.	0.	0.	0.000	-0.006	0.000
		TIMEL1		21444.	0.	0.	0.	0.	0.	0.032	0.030	0.008
		TIMEL2		21585.	0.	0.	0.	0.	0.	0.033	0.035	0.008
		TIMEL3		21177.	0.	0.	0.	0.	0.	0.032	0.034	0.008
		LOCA		21585.	0.	0.	0.	0.	0.	0.033	0.035	0.008
011	RAD		HL5014									
		WT1		23.	0.	93.	0.	0.	0.	0.000	-0.006	0.000
		TIMEL1		3047.	0.	12222.	0.	0.	0.	0.032	0.030	0.008
		TIMEL2		3100.	0.	12433.	0.	0.	0.	0.033	0.035	0.008
		TIMEL3		3072.	0.	12323.	0.	0.	0.	0.032	0.034	0.008
		LOCA		3100.	0.	12433.	0.	0.	0.	0.033	0.035	0.008
014	RAD		HL5013									
		WT1		464.	0.	106.	0.	0.	0.	0.000	-0.007	-0.001
		TIMEL1		10810.	0.	2476.	0.	0.	0.	0.006	0.030	0.013
		TIMEL2		10536.	0.	2413.	0.	0.	0.	0.006	0.035	0.013
		TIMEL3		10524.	0.	2411.	0.	0.	0.	0.006	0.035	0.012
		LOCA		10810.	0.	2476.	0.	0.	0.	0.006	0.035	0.013

TITLE : FEEDWATER "FW" SYSTEM - REQ 2b TO M7
PROJECT NUMBER : 23436001
PROBLEM NUMBER : 2C159RCS035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
014	RAD		RLS013									
		WT1		-277.	0.	-431.	0.	0.	0.	0.000	-0.007	-0.001
		TIMEL1		6223.	0.	9694.	0.	0.	0.	0.006	0.030	0.013
		TIMEL2		6159.	0.	9594.	0.	0.	0.	0.006	0.035	0.013
		TIMEL3		6039.	0.	9407.	0.	0.	0.	0.006	0.035	0.012
		LOCA		6223.	0.	9694.	0.	0.	0.	0.006	0.035	0.013
040	SPR		FW9014SH0001									
		WT1		0.	0.	0.	0.	0.	0.	0.010	0.001	0.007
		TIMEL1								0.016	0.010	0.015
		TIMEL2								0.021	0.013	0.017
		TIMEL3								0.018	0.012	0.017
		LOCA								0.021	0.013	0.017
13	SPR		FW9014HL5008									
		WT1		0.	0.	0.	0.	0.	0.	0.012	0.003	0.010
		TIMEL1		0.	0.	0.	0.	0.	0.	0.010	0.028	0.033
		TIMEL2		0.	0.	0.	0.	0.	0.	0.012	0.034	0.031
		TIMEL3		0.	0.	0.	0.	0.	0.	0.011	0.031	0.025
		LOCA		0.	0.	0.	0.	0.	0.	0.012	0.034	0.031
085	RAD		FW9014HL5006									
		WT1		0.	-3790.	278.	0.	0.	0.	-0.007	-0.007	0.000
		TIMEL1		0.	1346.	99.	0.	0.	0.	0.011	0.002	0.001
		TIMEL2		0.	1361.	100.	0.	0.	0.	0.010	0.003	0.001
		TIMEL3		0.	1447.	106.	0.	0.	0.	0.014	0.003	0.001
		LOCA		0.	1447.	106.	0.	0.	0.	0.014	0.003	0.001
095	SPR		FW9014SH0004									
		WT1		0.	0.	0.	0.	0.	0.	-0.001	0.011	0.000
		TIMEL1		0.	0.	0.	0.	0.	0.	0.002	0.007	0.004
		TIMEL2		0.	0.	0.	0.	0.	0.	0.002	0.008	0.005
		TIMEL3		0.	0.	0.	0.	0.	0.	0.003	0.008	0.004
		LOCA		0.	0.	0.	0.	0.	0.	0.003	0.009	0.005
95B	RAD		FW9014HL5004									
		WT1		-837.	0.	0.	0.	0.	0.	-0.001	0.010	0.000
		TIMEL1		1371.	0.	0.	0.	0.	0.	0.002	0.005	0.004
		TIMEL2		1169.	0.	0.	0.	0.	0.	0.001	0.005	0.005
		TIMEL3		1706.	0.	0.	0.	0.	0.	0.002	0.006	0.004
		LOCA		1706.	0.	0.	0.	0.	0.	0.002	0.006	0.005

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
10A	RAD		FW9014HL5011									
		WT1		0.	0.	-85.	0.	0.	0.	0.000	-0.001	0.000
		TIMEL1		0.	0.	1644.	0.	0.	0.	0.000	0.005	0.001
		TIMEL2		0.	0.	2207.	0.	0.	0.	0.000	0.006	0.001
		TIMEL3		0.	0.	1595.	0.	0.	0.	0.000	0.006	0.001
		LOCA		0.	0.	2207.	0.	0.	0.	0.000	0.006	0.001
110	ANC		FEW M-7									
		WT1		447.	-2280.	18.	2083.	-28.	-5053.	0.000	0.000	0.000
		TIMEL1		964.	423.	397.	3856.	613.	2743.	0.000	0.000	0.000
		TIMEL2		985.	402.	504.	3842.	815.	2817.	0.000	0.000	0.000
		TIMEL3		909.	407.	372.	3311.	569.	2838.	0.000	0.000	0.000
		LOCA		985.	423.	504.	3842.	815.	2838.	0.000	0.000	0.000
001	RAD		CENTER SG									
		WT1								0.000	0.000	0.000
		TIMEL1		23004.	0.	0.	0.	0.	0.	0.028	0.028	0.027
		TIMEL2		23489.	0.	0.	0.	0.	0.	0.032	0.031	0.028
		TIMEL3		23011.	0.	0.	0.	0.	0.	0.031	0.030	0.027
		LOCA		23489.	0.	0.	0.	0.	0.	0.032	0.031	0.028
001	RAD		CENTER SG									
		WT1								0.000	0.000	0.000
		TIMEL1		0.	18495.	0.	0.	0.	0.	0.028	0.028	0.027
		TIMEL2		0.	18137.	0.	0.	0.	0.	0.032	0.031	0.028
		TIMEL3		0.	19016.	0.	0.	0.	0.	0.031	0.030	0.027
		LOCA		0.	19016.	0.	0.	0.	0.	0.032	0.031	0.028
001	RAD		CENTER SG									
		WT1								0.000	0.000	0.000
		TIMEL1		0.	0.	35744.	0.	0.	0.	0.028	0.028	0.027
		TIMEL2		0.	0.	35446.	0.	0.	0.	0.032	0.031	0.028
		TIMEL3		0.	0.	35685.	0.	0.	0.	0.031	0.030	0.027
		LOCA		0.	0.	35744.	0.	0.	0.	0.032	0.031	0.028
001	RAR		CENTER SG									
		WT1								0.000	0.000	0.000
		TIMEL1		0.	0.	0.	107405.	0.	0.	0.028	0.028	0.027
		TIMEL2		0.	0.	0.	104402.	0.	0.	0.032	0.031	0.028
		TIMEL3		0.	0.	0.	110645.	0.	0.	0.031	0.030	0.027
		LOCA		0.	0.	0.	110645.	0.	0.	0.032	0.031	0.028

TITLE : FEEDWATER "FW" SYSTEM - RSG 2E TO M7
PROJECT NUMBER : 23436001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
001	RAR	CENTER SG									
		WT1							0.000	0.000	0.000
		TIMEL1	0.	0.	0.	0.	418899.	0.	0.028	0.028	0.027
		TIMEL2	0.	0.	0.	0.	427253.	0.	0.032	0.031	0.028
		TIMEL3	0.	0.	0.	0.	414241.	0.	0.031	0.030	0.027
		LOCA	0.	0.	0.	0.	427253.	0.	0.032	0.031	0.028
001	RAR	CENTER SG									
		WT1							0.000	0.000	0.000
		TIMEL1	0.	0.	0.	0.	0.	207725.	0.028	0.028	0.027
		TIMEL2	0.	0.	0.	0.	0.	203136.	0.032	0.031	0.028
		TIMEL3	0.	0.	0.	0.	0.	213769.	0.031	0.030	0.027
		LOCA	0.	0.	0.	0.	0.	213769.	0.032	0.031	0.028
027	SNB	FW9014HL5012									
		WT1							0.009	-0.002	0.006
		TIMEL1	3752.	0.	7064.	0.	0.	0.	0.018	0.018	0.015
		TIMEL2	3602.	0.	6781.	0.	0.	0.	0.023	0.020	0.014
		TIMEL3	3493.	0.	6577.	0.	0.	0.	0.020	0.020	0.015
		LOCA	3752.	0.	7064.	0.	0.	0.	0.023	0.020	0.015
042	SNB	FW9014HL5009									
		WT1							0.011	0.003	0.009
		TIMEL1	0.	6181.	0.	0.	0.	0.	0.013	0.007	0.017
		TIMEL2	0.	7667.	0.	0.	0.	0.	0.017	0.009	0.022
		TIMEL3	0.	6370.	0.	0.	0.	0.	0.015	0.007	0.019
		LOCA	0.	7667.	0.	0.	0.	0.	0.017	0.009	0.022
050	SNB	FW9014HL5001									
		WT1							0.007	-0.006	0.012
		TIMEL1	3842.	0.	0.	0.	0.	0.	0.004	0.050	0.014
		TIMEL2	3837.	0.	0.	0.	0.	0.	0.004	0.059	0.019
		TIMEL3	3897.	0.	0.	0.	0.	0.	0.004	0.054	0.015
		LOCA	3897.	0.	0.	0.	0.	0.	0.004	0.059	0.019
055	SNB	FW9014HL5002									
		WT1							0.002	-0.006	0.011
		TIMEL1	1800.	0.	3422.	0.	0.	0.	0.005	0.050	0.005
		TIMEL2	1820.	0.	3460.	0.	0.	0.	0.005	0.059	0.005
		TIMEL3	1857.	0.	3530.	0.	0.	0.	0.006	0.055	0.006
		LOCA	3857.	0.	3530.	0.	0.	0.	0.006	0.059	0.006

TITLE : FEEDWATER "FW" SYSTEM - RSG 2E TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : FANI
LOAD CASE :

DATA TYPE PT	LOAD	TITLE	GLOBAL FORCES (LB) FX	FY	FZ	GLOBAL MOMENTS (FT-LB) MX	MY	MZ	DISPLACEMENT (IN) DX	DY	DZ
080 SNB		FW3014HL5003									
	WT1								-0.007	-0.008	0.000
	TIMEL1		0.	0.	2243.	0.	0.	0.	0.011	0.005	0.002
	TIMEL2		0.	0.	2551.	0.	0.	0.	0.010	0.005	0.002
	TIMEL3		0.	0.	2133.	0.	0.	0.	0.014	0.005	0.002
	LOCA		0.	0.	2591.	0.	0.	0.	0.014	0.005	0.002

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438091
PROBLEM NUMBER : 2C159RCS035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
001	ANC		1R122WSG201B															
		WT1		14	-747	71	-2583	978	4292	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		TIMEL1																
		TIMEL2																
		TIMEL3																
		LOCA																
007	RAD		HLS016															
		WT1		138	0	0	0	0	0	0.93	0.00	-0.37						
		TIMEL1		27093	0	0	0	0	0	0.93	0.00	-0.37						
		TIMEL2		26198	0	0	0	0	0	0.93	0.00	-0.37						
		TIMEL3		27834	0	0	0	0	0	0.93	0.00	-0.37						
		LOCA		27834	0	0	0	0	0	0.93	0.00	-0.37						
009	SPD		HLS015															
		WT1		-13358	0	0	0	0	0	0.00	1.00	0.00						
		TIMEL1																
		TIMEL2																
		TIMEL3																
		LOCA																
011	RAD		HLS014															
		WT1		-37	0	0	0	0	0	-1.00	0.00	0.00						
		TIMEL1		21444	0	0	0	0	0	-1.00	0.00	0.00						
		TIMEL2		21585	0	0	0	0	0	-1.00	0.00	0.00						
		TIMEL3		21177	0	0	0	0	0	-1.00	0.00	0.00						
		LOCA		21585	0	0	0	0	0	-1.00	0.00	0.00						
011	RAD		HLS014															
		WT1		-96	0	0	0	0	0	-0.24	0.00	-0.97						
		TIMEL1		12596	0	0	0	0	0	-0.24	0.00	-0.97						
		TIMEL2		12813	0	0	0	0	0	-0.24	0.00	-0.97						
		TIMEL3		12700	0	0	0	0	0	-0.24	0.00	-0.97						
		LOCA		12813	0	0	0	0	0	-0.24	0.00	-0.97						
014	RAD		HLS013															
		WT1		-476	0	0	0	0	0	-0.97	0.00	-0.22						
		TIMEL1		11090	0	0	0	0	0	-0.97	0.00	-0.22						
		TIMEL2		10808	0	0	0	0	0	-0.97	0.00	-0.22						
		TIMEL3		10797	0	0	0	0	0	-0.97	0.00	-0.22						
		LOCA		11090	0	0	0	0	0	-0.97	0.00	-0.22						

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
014	RAD		HL5013															
		WT1		512	0	0	0	0	0	-0.54	0.00	-0.84						
		TIMEL1		11520	0	0	0	0	0	-0.54	0.00	-0.84						
		TIMEL2		11401	0	0	0	0	0	-0.54	0.00	-0.84						
		TIMEL3		11178	0	0	0	0	0	-0.54	0.00	-0.84						
		LOCA		11520	0	0	0	0	0	-0.54	0.00	-0.84						
040	SPR		FW9014SH0001															
		WT1		0	0	0	0	0	0	0.00	1.00	0.00						
		TIMEL1																
		TIMEL2																
		TIMEL3																
		LOCA																
13	SPR		FW9014HL5008															
		WT1		0	0	0	0	0	0	0.00	1.00	0.00						
		TIMEL1		0	0	0	0	0	0	0.00	1.00	0.00						
		TIMEL2		0	0	0	0	0	0	0.00	1.00	0.00						
		TIMEL3		0	0	0	0	0	0	0.00	1.00	0.00						
		LOCA		0	0	0	0	0	0	0.00	1.00	0.00						
085	RAD		FW9014HL5006															
		WT1		-3800	0	0	0	0	0	0.00	1.00	-0.07						
		TIMEL1		1349	0	0	0	0	0	0.00	1.00	-0.07						
		TIMEL2		1365	0	0	0	0	0	0.00	1.00	-0.07						
		TIMEL3		1451	0	0	0	0	0	0.00	1.00	-0.07						
		LOCA		1451	0	0	0	0	0	0.00	1.00	-0.07						
095	SPR		FW9014SH0004															
		WT1		0	0	0	0	0	0	0.00	1.00	0.00						
		TIMEL1		0	0	0	0	0	0	0.00	1.00	0.00						
		TIMEL2		0	0	0	0	0	0	0.00	1.00	0.00						
		TIMEL3		0	0	0	0	0	0	0.00	1.00	0.00						
		LOCA		0	0	0	0	0	0	0.00	1.00	0.00						
95B	RAD		FW9014HL5004															
		WT1		-817	0	0	0	0	0	1.00	0.00	0.00						
		TIMEL1		1371	0	0	0	0	0	1.00	0.00	0.00						
		TIMEL2		1169	0	0	0	0	0	1.00	0.00	0.00						
		TIMEL3		1706	0	0	0	0	0	1.00	0.00	0.00						
		LOCA		1706	0	0	0	0	0	1.00	0.00	0.00						

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
10A	RAD		FW9014HL5011															
		WT1		-85	0	0	0	0	0	0.00	0.00	1.00						
		TIMEL1		1668	0	0	0	0	0	0.00	0.00	1.00						
		TIMEL2		2207	0	0	0	0	0	0.00	0.00	1.00						
		TIMEL3		1595	0	0	0	0	0	0.00	0.00	1.00						
		LOCA		2207	0	0	0	0	0	0.00	0.00	1.00						
110	ANC		PEN M-7															
		WT1		447	-2280	18	2083	-28	-5053	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		TIMEL1		964	423	397	3056	613	2743	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		TIMEL2		985	402	504	3842	815	2817	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		TIMEL3		909	407	372	3311	569	2838	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
		LOCA		985	423	504	3842	815	2838	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
001	RAD		CENTER SG															
		WT1																
		TIMEL1		23004	0	0	0	0	0	1.00	0.00	0.00						
		TIMEL2		23489	0	0	0	0	0	1.00	0.00	0.00						
		TIMEL3		23011	0	0	0	0	0	1.00	0.00	0.00						
		LOCA		23489	0	0	0	0	0	1.00	0.00	0.00						
001	RAD		CENTER SG															
		WT1																
		TIMEL1		18695	0	0	0	0	0	0.00	1.00	0.00						
		TIMEL2		18137	0	0	0	0	0	0.00	1.00	0.00						
		TIMEL3		19016	0	0	0	0	0	0.00	1.00	0.00						
		LOCA		19016	0	0	0	0	0	0.00	1.00	0.00						
001	RAD		CENTER SG															
		WT1																
		TIMEL1		35744	0	0	0	0	0	0.00	0.00	1.00						
		TIMEL2		35446	0	0	0	0	0	0.00	0.00	1.00						
		TIMEL3		35685	0	0	0	0	0	0.00	0.00	1.00						
		LOCA		35744	0	0	0	0	0	0.00	0.00	1.00						
001	RAR		CENTER SG															
		WT1																
		TIMEL1		0	0	0	107405	0	0	1.00	0.00	0.00						
		TIMEL2		0	0	0	106402	0	0	1.00	0.00	0.00						
		TIMEL3		0	0	0	110645	0	0	1.00	0.00	0.00						
		LOCA		0	0	0	110645	0	0	1.00	0.00	0.00						

TITLE : FEEDWATER "FW" SYSTEM - RSG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
001	RAR	CENTER SG															
		WT1															
		TIMEL1	0	0	0	418899	0	0	0.00	1.00	0.00						
		TIMEL2	0	0	0	427253	0	0	0.00	1.00	0.00						
		TIMEL3	0	0	0	414241	0	0	0.00	1.00	0.00						
		LOCA	0	0	0	427253	0	0	0.00	1.00	0.00						
001	RAR	CENTER SG															
		WT1															
		TIMEL1	0	0	0	207725	0	0	0.00	0.00	1.00						
		TIMEL2	0	0	0	203136	0	0	0.00	0.00	1.00						
		TIMEL3	0	0	0	213749	0	0	0.00	0.00	1.00						
		LOCA	0	0	0	213749	0	0	0.00	0.00	1.00						
027	SNB	FW9014HL5012															
		WT1															
		TIMEL1	7999	0	0	0	0	0	-0.47	0.00	-0.88						
		TIMEL2	7678	0	0	0	0	0	-0.47	0.00	-0.88						
		TIMEL3	7447	0	0	0	0	0	-0.47	0.00	-0.88						
		LOCA	7999	0	0	0	0	0	-0.47	0.00	-0.88						
042	SNB	FW9014HL5009															
		WT1															
		TIMEL1	6181	0	0	0	0	0	0.00	1.00	0.00						
		TIMEL2	7667	0	0	0	0	0	0.00	1.00	0.00						
		TIMEL3	6370	0	0	0	0	0	0.00	1.00	0.00						
		LOCA	7667	0	0	0	0	0	0.00	1.00	0.00						
050	SNB	FW9014HL5001															
		WT1															
		TIMEL1	3842	0	0	0	0	0	1.00	0.00	0.00						
		TIMEL2	3837	0	0	0	0	0	1.00	0.00	0.00						
		TIMEL3	3897	0	0	0	0	0	1.00	0.00	0.00						
		LOCA	3897	0	0	0	0	0	1.00	0.00	0.00						
055	SNB	FW9014HL5002															
		WT1															
		TIMEL1	3866	0	0	0	0	0	0.47	0.00	-0.89						
		TIMEL2	3910	0	0	0	0	0	0.47	0.00	-0.89						
		TIMEL3	3989	0	0	0	0	0	0.47	0.00	-0.89						
		LOCA	3989	0	0	0	0	0	0.47	0.00	-0.89						

TITLE : FEEDWATER "FW" SYSTEM - REQ 2B TO M7
PROJECT NUMBER : 23436001
PROBLEM NUMBER : 2C159RC5035
USER : PANI
LOAD CASE :

DATA PT	TYPE	LOAD	TITLE	LOCAL FORCES(LB) FA	FB	FC	LOCAL MOMENTS (FT-LB) MA	MB	MC	DIRECTION COSINES COS AX	COS AY	COS AZ	COS BX	COS BY	COS BZ	COS CX	COS CY	COS CZ
080	SNB		FW9014HL5003															
		WT1																
		TIHEL1		2243	0	0	0	0	0	0.00	0.00	1.00						
		TIHEL2		2551	0	0	0	0	0	0.00	0.00	1.00						
		TIHEL3		2133	0	0	0	0	0	0.00	0.00	1.00						
		LOCA		2551	0	0	0	0	0	0.00	0.00	1.00						

CALCULATION SHEET

PROJECT STP-SGR
JOB NO 23438300

SUBJECT FW-PIPING FROM S.G. 2B

ORIGINATOR C.BASAVARAJU DATE

CALC NO RC5035
SHEET NO
SHEET REV 5

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ATTACHMENT 3.0 HELB STRESS SUMMARY TOTAL NO OF SHEETS 6

TITLE : FEEDWATER "FW" SYSTEM - REG 2B TO M7
PROJECT NUMBER : 23438001
PROBLEM NUMBER : 2C159RC5035
USER : PAMI
LOAD CASE : ALL

CODE SC3M75, CLASS 2

ELEMENT FROM TO	TYPE TITLE	EQN 9 PSI	EQN 10 PSI	SUM 9+10 PSI	ALLOW PSI
002	TNGT	13	17	30	48600
001		18	28	46	
002	TNGT	247	1435	1681	48600
003		231	1400	1631	
003	TNGT	848	5152	6000	48600
03A		742	4946	5688	
03A	TNGT	7678	14887	22565	48600
M02		7676	21700	29376	
M02	TNGT	7676	21700	29376	48600
004		6251	13066	19317	
004	BEND	6534	23576	30110	39468
005 M		5881	21270	27152	
005 M	BEND	5881	21270	27152	39468
005 E		6093	18142	24235	
005 E	TNGT	5926	9981	15906	32400
005A		6038	6115	12153	
005A	TNGT	6038	6115	12153	32400
007		6209	10230	16439	
007	TNGT	6209	10230	16439	32400
007A		6218	6442	12660	
007A	TNGT	6218	6442	12660	32400
008 E		6313	6356	12669	
008 E	BEND	6979	14978	21958	32400
008 M		7006	15517	22523	
008 M	BEND	7006	15517	22523	32400
008 E		6984	15139	22123	

** EXCEEDED ALLOWABLE

CODE 8C3W75, CLASS 2

ELEMENT FROM TO	TYPE TITLE	EQN 9 PSI	EQN 10 PSI	SUM 9+10 PSI	ALLOW PSI
008 E	TNGT	6316	6403	12719	32400
009		6384	6155	12540	
009	TNGT	6384	6155	12540	32400
010 B		6196	5946	12142	
010 B	BEND	6772	14058	20830	32400
010 M		6923	14340	21263	
010 M	BEND	6923	14340	21263	32400
010 E		7561	15791	23352	
010 E	TNGT	6641	6678	13319	32400
011		6610	8073	14683	
011	TNGT	6610	8073	14683	32400
11A		6433	7492	13925	
11A	TNGT	6433	7492	13925	32400
11AA		6182	7143	13325	
11AA	TNGT	6182	7143	13325	32400
012		6038	7370	13408	
012	TNGT	6038	7370	13408	32400
013		6036	7699	13735	
013	TNGT	6036	7699	13735	32400
013A		6159	8772	14932	
013A	TNGT	6159	8772	14932	32400
014		6364	10333	16697	
014	TNGT	6364	10333	16697	32400
015		6141	8118	14259	
015	TNGT	6141	8118	14259	32400
016		6388	14581	20968	
016	TNGT	6195	10351	16545	32400
018		5937	4601	10538	
018	TNGT	5937	4601	10538	32400
020		5907	4225	10132	
020	TNGT	5907	4225	10132	32400
021		5889	4038	9927	

** EXCEEDED ALLOWABLE

CODE EC3W75, CLASS 2

ELEMENT FROM TO	TYPE TITLE	EQN 9 PSI	EQN 10 PSI	SUM 9+10 PSI	ALLOW PSI
021	TNGT	5899	4038	9927	32400
022		5900	3854	9754	
022	TNGT	5900	3854	9754	32400
025 B		5979	3540	9519	
025 B	BEND	6157	6443	12600	32400
025 M		6276	8300	14576	
025 M	BEND	6276	8300	14576	32400
025 E		6301	9023	15324	
025 E	TNGT	6095	4956	11051	32400
026		6152	4816	10968	
026	TNGT	6152	4816	10968	32400
027		6586	10077	16664	
027	TNGT	6586	10077	16664	32400
030		6320	4758	11077	
030	TNGT	6320	4758	11077	32400
035		6366	4749	11115	
035	TNGT	6366	4749	11115	32400
040		6623	4775	11398	
040	TNGT	6623	4775	11398	32400
040A		6834	4807	11641	
040A	TNGT	6834	4807	11641	32400
042		7087	4879	11966	
042	TNGT	7087	4879	11966	32400
042A		6930	5415	12344	
042A	TNGT	6930	5415	12344	32400
13		6958	5956	12914	
13	TNGT	6958	5956	12914	32400
045 B		6436	6339	12775	
045 B	BEND	6767	11540	18307	32400
045 M		6499	11226	17724	
045 M	BEND	6499	11226	17724	32400
045 E		6824	8952	15776	

** EXCEEDED ALLOWABLE

CODE SC3W7S, CLASS 2

ELEMENT FROM TO	TYPE TITLE	EQN 9 PSI	EQN 10 PSI	SUM 9+10 PSI	ALLOW PSI
045 E	TNGT	6467	4923	11390	32400
050		6998	9586	16584	
050	TNGT	6998	9586	16584	32400
050A		6366	3389	9754	
050A	TNGT	6366	3389	9754	32400
055		6333	2274	8606	
055	TNGT	6333	2274	8606	32400
060 B		6330	2389	8719	
060 B	BEND	6622	4349	10972	32400
060 M		6687	6601	13288	
060 M	BEND	6687	6601	13288	32400
060 E		6758	7765	14523	
060 E	TNGT	6430	4265	10695	32400
060A		6432	4348	10780	
060A	TNGT	6432	4348	10780	32400
065		6429	4447	10876	
065	TNGT	6429	4447	10876	32400
070		6592	9952	16543	
070	TNGT	6592	9952	16543	32400
080		6690	14613	21303	
080	TNGT	6690	14613	21303	32400
085		6269	7278	13547	
085	TNGT	6269	7278	13547	32400
086		6044	7813	13857	
086	TNGT	6044	7813	13857	32400
086A		6055	8114	14169	
086A	TNGT	6055	8114	14169	32400
087		6107	8587	14694	
087	TNGT	6107	8587	14694	32400
090 B		6159	8997	15156	
090 B	BEND	6388	16380	22769	32400
090 M		6457	17080	23537	

** EXCEEDED ALLOWABLE

CODE SC3W7S, CLASS 2

ELEMENT FROM TO	TYPE TITLE	EQN 9 PSI	EQN 10 PSI	SUM 9+10 PSI	ALLOW PSI
090 M	BEND	6457	17080	23537	32400
090 E		6371	15528	21899	
090 E	TNGT	6146	8529	14675	32400
090A		6439	6309	12748	
090A	TNGT	6439	6309	12748	32400
095		7395	4426	11821	
095	TNGT	7395	4426	11821	32400
95B		8440	8166	16605	
95B	TNGT	8440	8166	16605	32400
100 B		6407	6396	12803	
100 B	BEND	6727	11645	18372	32400
100 M		6280	18055	24336	
100 M	BEND	6280	18055	24336	32400
100 E		6234	19839	26073	
100 E	TNGT	6046	10897	16943	32400
100A		6114	10416	16531	
100A	TNGT	6114	10416	16531	32400
10A		6247	9945	16192	
10A	TNGT	6247	9945	16192	32400
10AA		6290	6605	12895	
10AA	TNGT	6290	6605	12895	32400
10AB		6416	3922	10337	
10AB	TNGT	6416	3922	10337	32400
10AC		6580	1849	8429	
10AC	TNGT	6580	1849	8429	32400
105		7553	8011	15563	
105	TNGT	7553	8011	15563	32400
110		7795	9406	17200	

** EXCEEDED ALLOWABLE

CALCULATION SHEET

PROJECT STP-SGR
JOB NO 23438300

OJECT FW-PIPING FROM S.G. 2B

ORIGINATOR C.BASAVARAJU DATE

CALC NO RC5035
SHEET NO
SHEET REV 5

DCP# 98-19444-2, SUPP. 0 page of DCN# 0000065 Page 110 of 135

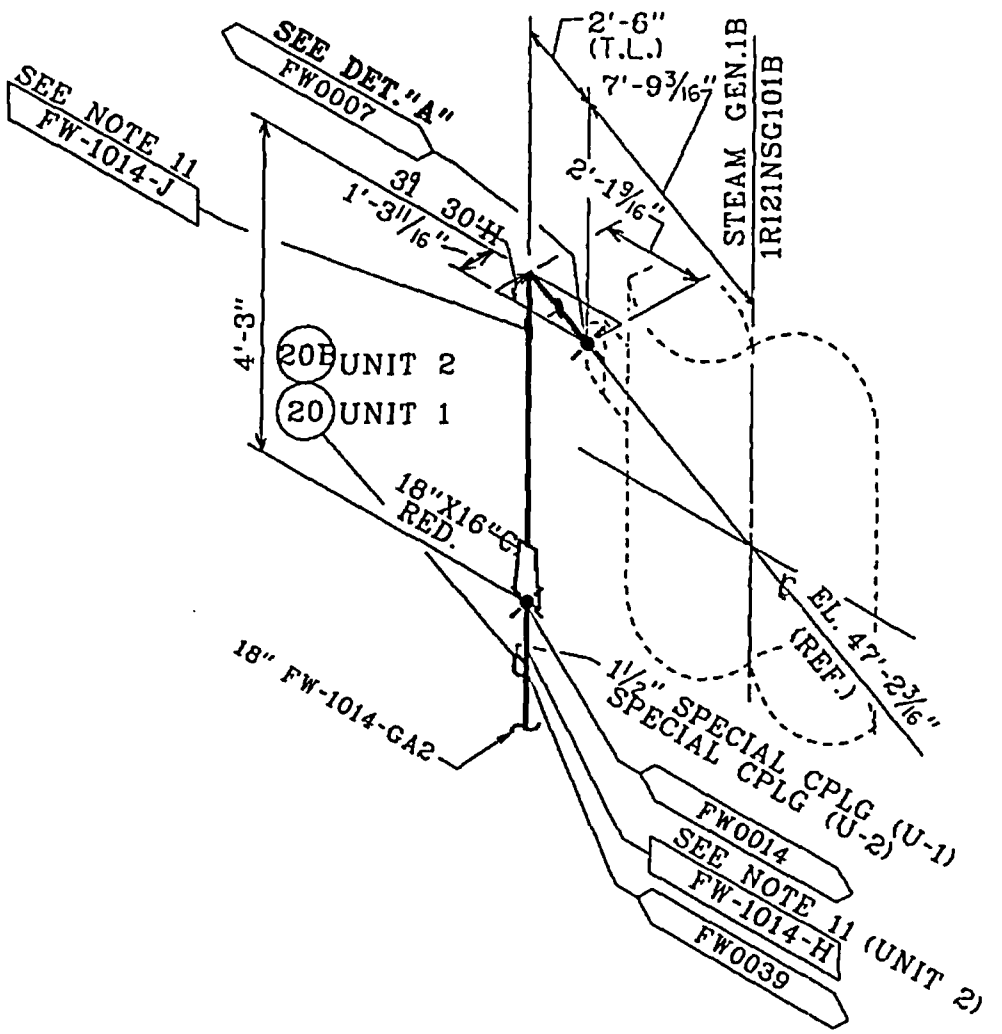
ATTACHMENT 4.0 STRESS ISOMETRICS TOTAL NO OF SHEETS 6

DESIGN CHANGE PACKAGE	
FORM 5	DOCUMENT CHANGE NOTICE (DCN)

DCP NO. 98-19444-2 SUPP. Ø PAGE ___ OF ___

DCN NO. 0001945 PAGE 2 OF 9

"BEFORE"
SG "B"



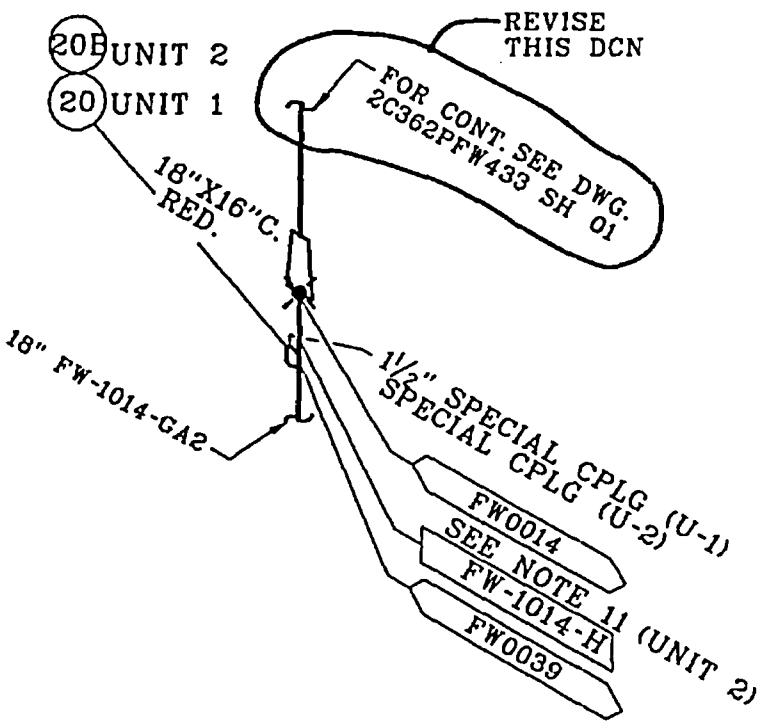
STPDCNS.DGN

DESIGN CHANGE PACKAGE	
FORM 5	DOCUMENT CHANGE NOTICE (DCN)

OCP NO. 98-19444-2 SUPP. 0 PAGE ___ OF ___

DCN NO. 0001945 PAGE 7 OF 9

"AFTER"
SG "B"



STPDCNS.DGN

ATTACHMENT 5.0 LOCAL STRESS EVALUATIONS FOR IWAs

Based on unit-1, there are 5 welded attachments (nodes 10A; 027, 050; 080; & 009) No separate evaluation is considered necessary for unit-2 as unit-1 local stress evaluations (see Ref.5.12) showed large margins while the stress and load changes for unit-2 are realtively small. Therefore, unit-2 welded attachments are acceptable in comparison with unit-1.

CALCULATION SHEET

PROJECT STP-SGR
JOB NO 23438300

SUBJECT FW-PIPING FROM S.G. 2B

CALC NO RC5035
SHEET NO
SHEET REV 5

ORIGINATOR C.BASAVARAJU DATE

ATTACHMENT 6.0 EVALUATION OF GENERIC IWA CALCULATION

Based on unit-1, there are 5 welded attachments (nodes 10A; 027, 050; 080; & 009) No separate evaluation is considered necessary for unit-2 as unit-1 local stress evaluations (see Ref.5.12) showed large margins while the stress and load changes for unit-2 are realtively small. Therefore, unit-2 welded attachments are acceptable in comparison with unit-1.

CALCULATION SHEET

PROJECT STP-SGR
JOB NO 23438300

SUBJECT FW-PIPING FROM S.G. 2B

ORIGINATOR C.BASAVARAJU DATE

CALC NO RC5035
SHEET NO
SHEET REV 5

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ATTACHMENT 7.0 FLUEDHEAD PENETRATION LOADINGS AND EVALUATION

TOTAL NO OF SHEETS 4

DCP # 98-19444-2, SUPP. 0 Page 7 DCN# 0000065 Page 119 of 135

LOADING	OUTSIDE CTMT LOADS							
	FA	FB	FC	MA	MB	MC		
	LB	LB	LB	FT LB	FT LB	FT LB		
DW	-32	-1219	0	8863	1	4652		
TE +	4466	122	49	0	798	0		
TE-	-431	0	-17	0	-438	-3649		
OBEI	12895	4110	1959	9185	11705	24056		
SSEI	25568	5703	3700	18786	22619	33427		
OBE SAM	124	637	1355	0	19640	8204		
BLD SETL	512	1995	898	0	26953	59538		
WAT HAM	39838	5307	2693	2810	11608	27948		
DBA	0	0	0	0	0	0		
LOCA	0	0	0	0	0	0		
WIND	899	101	5	0	90	1095		
JET	0	0	0	0	0	0		
RUPTURE	220200	43268	43268	151400	222917	222917		
	INSIDE CTMT LOADS							
	FA	FB	FC	MA	MB	MC		
	LB	LB	LB	FT LB	FT LB	FT LB		
DW	447	-2280	18	2083	-28	-5053		
TE +	2472	1219	19846	0	4774	22156		
TE-	-40608	-2562	-1108	-23594	-52355	-6521		
OBEI	2671	2220	654	4268	992	22484		
SSEI	4816	3271	1233	8278	1865	32929		
OBE SAM	3372	58	3034	867	24110	814		
BLD SETL	0	0	0	0	0	0		
WAT HAM	259184	8282	18765	78992	33663	59819		
DBA	18509	806	5531	7400	2287	14412		
LOCA	985	423	504	3842	815	2838		
WIND	0	0	0	0	0	0		
JET	3143	98	310	1023	822	145		
RUPTURE	0	0	0	0	0	0		
	INSIDE+OUTSIDE LOADS							
	FA	FB	FC	MA	MB	MC	V	MBR
	LB	LB	LB	FT LB	FT LB	FT LB	LB	FT LB
DW	415	-3499	18	10946	-27	-401	3499	402
TE +	6938	1341	19895	0	5572	22156	19940	22846
TE-	-41039	-2562	-1125	-23594	-52793	-10170	2798	53764
OBEI	15566	6330	2613	13453	12697	46540	6848	48241
SSEI	30384	8974	4933	27064	24484	66356	10240	70729
OBE SAM	3496	695	4389	867	43750	9018	4444	44670
BLD SETL	512	1995	898	0	26953	59538	2188	65355
WAT HAM	299022	13589	21458	81802	45271	87767	25399	98755
DBA	18509	806	5531	7400	2287	14412	5589	14592
LOCA	985	423	504	3842	815	2838	658	2953
WIND	899	101	5	0	90	1095	101	1099
JET	3143	98	310	1023	822	145	325	835

* SEE JUSTIFICATION FOR EXCEEDANCES

PENETRATION LOAD SUMMARY PENETRATION No. M-7 10/23/2000

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RUPTURE	220200	43268	43268	151400	222917	222917	61190	315252
D	415	-3499	18	10946	-27	-401	3499	402
D+TEP+BS	7865	-163	20811	10946	32498	81293	20812	87548
D+TEN+BS	-40112	-4066	-209	-12648	-25867	48967	4071	55379
D+OI+WND	16880	9930	2636	24399	12814	48036	10274	49716
D+OI+WND	24330	6594	23429	24399	45285	128928	24339	136650
D+OI+WND	56577	10497	2827	26101	38654	96602	10871	104048
D+SI+WN	353357	25878	32759	132077	73742	172212	41747	187336
D+SI+R	250999	55741	48219	189410	247428	289674	73703	380961
	PENETRATION ALLOWABLES							
	FAA			MAA			VA	MBA
	LB			FT-LB			LB	FT-LB
D	600			6962			7447	42130
D+TEP+BS	41846			40976			18263	260446
D+TEN+BS	41846			40976			18263	260446
D+OI+WND	8517			28295			20458	178058
D+OI+WND	64839			63829			34615	406829
D+OI+WND	64839			63829			34615	406829
D+SI+WN	488016			786831			496685	946739
D+SI+R	488016			786831			496685	946739
	ACTUAL TO ALLOWABLES RATIO							
	FA/FAA			MA/MAA			V/VA	MBR/MBA
D	0.692			* 1.572			0.470	0.010
D+TEP+BS	0.188			0.267			* 1.140	0.336
D+TEN+BS	0.959			0.309			0.223	0.213
D+OI+WND	* 1.982			0.862			0.502	0.279
D+OI+WND	0.375			0.382			0.703	0.336
D+OI+WND	0.873			0.409			0.314	0.256
D+SI+WN	0.724			0.168			0.084	0.198
D+SI+R	0.514			0.241			0.148	0.402

* SEE JUSTIFICATION FOR EXCEEDANCES

ASSESSMENT OF IMPACT OF SGR MODIFICATION ON FLUED HEAD PENETRATION LOADS:

FLUED HEAD PENETRATION (M-7): (LOOP -B)
CASES WHERE ALLOWABLES ARE EXCEEDED ARE SUMMARIZED BELOW WITH JUSTIFICATION.

	ACTUAL/ ALLOWABLE	PREVIOUSLY JUSTIFIED ENVELOPED LOADINGS **	COMMENT
	(NORMAL PRIM)		
FA LB	415/600	725.	OK
V LB	3499/7447	6302.	
MA FT LB	10946/6962*	15311.	
MB FT LB	402/42130	25871.	
	(NORM PRI+SEC		
FA LB	7865/41846	31298	OK
V LB	20812/18263*	23609.	
MA FT LB	10946/40976	46230.	
MB FT LB	87548/260446	185309.	
	(UPSET PRIM)		
FA LB	16880/8517*	16660***	OK
V LB	10274/20458	11768	
MA FT LB	24399/28295	30408	
MB FT LB	49716/178058	63763	

* EXCEEDED COMPONENT
** RESULTS ACCEPTABILITY BASED ON ENVELOPED LOADINGS USED IN CALC# 2L469RC9962 REV. 2
*** SCALING FEA STRESS RESULTS CONSERVATIVELY:UPSET PRIMARY STRESS INTENSITY 14032 (16880/16660)= 14217 PSI < 19580 PSI ; THEREFORE OK.

CALCULATION SHEET

PROJECT STP-SGR
JOB NO 23438300

SUBJECT FW-PIPING FROM S.G. 2B

ORIGINATOR C.BASAVARAJU DATE

CALC NO RC5035
SHEET NO
SHEET REV 5

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ATTACHMENT 8.0 OTHER INFORMATION TOTAL NO OF SHEETS 13

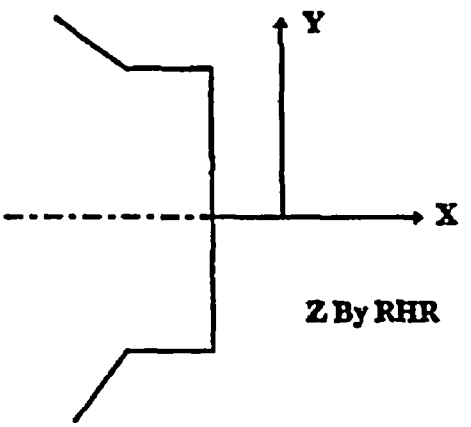
TABLE B-2 (CONTINUED)
STEAM AND FEEDWATER NOZZLE DESIGN LOADS

FEEDWATER NOZZLE DESIGN LOADS

MAIN FEEDWATER NOZZLE

LOADING	Fx (KIPS)	Fy (KIPS)	Fz (KIPS)	Mx (IN-KIPS)	My (IN-KIPS)	Mz (IN-KIPS)
THERMAL	11	50	14	1500	1909	3500
PRESSURE	175	0	0	0	0	0
WEIGHT (3)	5	14	14	300	570	570
SEISMIC OBE (3)	40	30	30	1100	1440	1440
SEISMIC SSE (3)	77	70	70	1700	2000	2000
LOCA	35	26	44	1425	3581	3581
FEED LINE BREAK (FLB) (2)	506	358	358	13,133	7739	7739

(2) NOTES: (1) All values are ± unless Evaluation of adequacy of shell junction is required.
(3) Dead weight and seismic loads to be increased 20%



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Westinghouse
Electric Company LLC

Nuclear Services Division

Box 355
Pittsburgh, Pennsylvania 15230-0355

WP-BEC-STP2-SGR-00-011
Bechtel Job: 23438-SC-001(U2)
W File: 27.1.3, 29.1.8 & 29.3.1
June 28, 2000

Mr. Ron Beck
STP SGR Project Manager
Bechtel Energy Corporation
5275 Westview Drive
Frederick, MD 21703-8388

SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION
UNIT 2 STEAM GENERATOR REPLACEMENT PROJECT
Confirmation of Stress Calculation Input

Ref. 1.: BW-00-015, dated June 2, 2000
Ref. 2.: W Calculation CN-SMT-00-056, dated June 21, 2000

Attn: John Atwell

In response to your request for confirmation of select stress calculation input, reference 1, Westinghouse provides the following:

Reference 1, Enclosure 1, Items 1 & 2

Westinghouse has completed the evaluation of the applicability of the reactor coolant loop analyses performed for the South Texas Unit 1 Steam Generator Replacement Program (SGRP) for use in the South Texas Unit 2 SGRP. Westinghouse has concluded that the results of the Unit 1 SGRP reactor coolant loop piping stress analyses are applicable for the Unit 2 SGRP. The evaluation is documented in Reference 2.

Therefore, Westinghouse confirms that the analysis data defined in Reference 1 (Enclosure 1 Items 1 & 2) are applicable for use in the Unit 2 SGRP. Specifically:

- Reference 1, Enclosure 1, Item 1 - The South Texas Unit 1 SGRP reactor coolant system thermal and seismic movements documented in Westinghouse Calculation W-SMT-97-027-14 and Westinghouse Letter WP-BEC-SGR-97-051 (June 27, 1997) are applicable to the South Texas Unit 2 SGRP.

- Reference 1, Enclosure 1, Item 2 - The South Texas Unit 1 SGRP time history LOCA analysis displacements documented in Westinghouse Calculation W-SMT-97-027-030, Revision 1, and Westinghouse Letters WP-BEC-SGR-98-056 (May 18, 1998) and WP-BEC-SGR-98-060 (May 20, 1998) are applicable to the South Texas Unit 2 SGRP. (Note that data provided in Westinghouse Letters WP-BEC-SGR-98-046 (April 21, 1998) and WP-BEC-SGR-98-055 (May 5, 1998) were superceded by Westinghouse Letters WP-BEC-SGR-98-056 and WP-BEC-SGR-98-060.)

WP-BEC-STP2-SGR-00-011
Bechtel Job: 23438-SC-001(U2)
June 28, 2000

Reference 1, Enclosure 1, Item 3

Westinghouse confirms that the allowable nozzle loads provided in Tables B-1, B-2 and B-3 of Design Specification 413A42, revision 2, STP Unit 1 Model Delta 94 Replacement Steam Generator, are applicable to the STP Unit 2 replacement steam generators. The STP Unit 2 replacement steam generator allowable nozzle loads are provided in Design Specification 414A21, revision 0. An information copy of Design Specification 414A21 is enclosed for your use.

Reference 1, Enclosure 1, Item 4

Regarding your request for confirmation of a twenty percent margin for potential future increases in the nozzle loads submitted (Enclosure 2 to reference 1), Westinghouse notes that specific evaluations of nozzle loads beyond those specified in Design Specification 414A21 will be required to confirm acceptability.

Reference 1, Enclosure 2

Westinghouse has performed an evaluation of the nozzle loads provided and finds them to be acceptable. The evaluation is documented in Westinghouse calculation CN-NEE-00-073, revision 0, "Evaluation of South Texas 2 RSG Main/Auxiliary Feedwater Nozzle Loads", June 2000.

Please contact Dave Dominicis (412-374-6741) or me (412-374-6452) if you have any questions on this transmittal.

Action Summary: None

Sincerely,

S. A. Palm
Project Manager
SGR Installation

Enclosure: Design Specification 414A21, revision 0, STP Unit 2 Delta 94 Replacement Steam Generator

cc: R. Slover (Bechtel STP Site) 1L, 1E
J. Liddy (Bechtel STP Site) 1L
K. Plasket (Bechtel Frederick) 1L, 1E
B. Bizzak (W) 1L
C. Pringle (W) 1L

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Bechtel

9801 Washingtonian Boulevard
Gaithersburg, Maryland 20878-5356
(301) 417-3000

November 11, 1999

Mr. David Stonestreet
Project Manager, Steam Generator Replacement
South Texas Project Nuclear Operating Company
8 Miles West of Wadsworth on FM 521
Matagorda County
Wadsworth, TX 77483

ST-B6-NOC-990093
STI Number 30990523
STP File Number M180505

South Texas Project Nuclear Operating Company
Unit 2 Steam Generator Replacement Project
Bechtel Job Number 23438
Bechtel File Numbers 0260, T0730, T0735, T0740

Subject: Unit 2 – 2RE07 Walkdown Results – RSG Secondary System Piping

Dear Mr. Stonestreet:

Bechtel and Westinghouse's engineering teams completed walkdowns during 2RE07 associated with rerouting of replacement steam generator secondary side piping systems inside the biological shield walls. Based on results of these walkdowns we have been able to confirm that the proposed Unit 2 piping reroutes and support locations for Main Feedwater, Auxiliary Feedwater and Blowdown systems will be similar to Design Change Package defined pipe routings and support locations for Unit 1.

The differences between the Unit 1 piping and support designs and the just-completed Unit 2 2RE07 walkdowns for each of these three piping systems are associated with the location of existing pipe supports, and potential interferences between proposed new support designs, based on Unit 1, and existing Unit 2 plant commodities. In loops A and D in Unit 2 vertical piping reroutes have to be adjusted to accommodate for the fact that the Unit 2 RSGs in these cubicles are within the installation tolerance for plumb (verticality). In all cases, Unit 2 piping and supports will be designed using Unit 1 as-builts as the starting point to resolve interferences identified by the 2RE07 walkdowns. At present, we do not anticipate Unit 2 pipe support locations to be greater than one pipe diameter from the corresponding Unit 1 support location.

The information in this letter is provided for your use in completing STPNOC's subcompartment pressurization analyses. Based on the results of our Unit 1 piping stress analyses and the similarity of probable reroutes for Unit 2, we do not anticipate any intermediate breaks will result from the Unit 2 piping analyses. We cannot confirm this assumption until STPNOC has completed its Unit 2 subcompartment pressurization analyses and we have completed our Unit 2 piping stress analyses. Should our Unit 2 piping stress analyses determine the need for consideration of intermediate breaks, we will inform you by letter of those results.

If you have any questions please contact R. Pernisi at 361/972-4041.

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Action Summary:

1. STPDED is requested to review and use this information to complete the analyses for the Unit 2 Subcompartment Pressurization Analyses and provide the results to Bechtel and Westinghouse as soon as these results are available.
2. Bechtel is to advise STPNOC via letter if intermediate pipe breaks must be considered for Unit 2 main feedwater, main steam, or anxiliary feedwater piping, by December 31, 2000.

Sincerely,

R. L. Beck
Project Manager

RLB tb

Enclosure: None

cc: T. H. Cloninger, w/o
J.W. Wells, w/o
K. Richards, w/o
S. E. Thomas, w/o
M. E. Kanavos, w/o
D. M. Chamberlain, w/o
STP-RMS, w/o
K. Cornett, w/o
R. Slover, w/o
J. K. Arwell, w/o
R. Pernisl, w/o
J. Liddy, w/o
G. Caul, w/o
S. Palm, w/o

Nuclear Operating Company
South Texas Project Nuclear Operating Company P.O. Box 289 Wadsworth, Texas 77483

ST-NOC-WN-000018
November 29, 1999
PFN: M18.5.4, M33.02
STI: 31001820

Mr. Steve Palm
Manager, Replacement Steam Generator Project
Westinghouse Electric Corporation
P. O. Box 355
Pittsburgh, PA 15230-0355

Attention: Mr. David P. Dominicus

Subject: Unit 2 RSG Subcompartment Pressurization Analysis

Dear Mr. Dominicus:

This letter provides information for your use in completing the Unit 2 Δ94 Steam Generator loop compartment analysis. Based on Unit 2 walkdown results summarized in letter ST-B6-NOC-990093, the proposed Unit 2 piping reroutes and support locations for main feedwater, auxiliary feedwater, and SG blowdown systems will be similar to those of Unit 1.

Bechtel is currently performing the Unit 2 piping stress analyses. The difference between Unit 1 and Unit 2 piping reroutes are negligible for the purpose of subcompartment pressure/temperature analyses. Therefore, if no new break locations are identified during Bechtel's analyses, then the results for Unit 1 Δ94 SG loop compartment analyses may be applied to Unit 2.

If you need further information on this subject, please contact Safdar Hafeez at 361-972-8906.

Best Regards,

Mark E. Kanavos
Project Manager
Steam Generator Replacement Project

/sh

cc:		
	J. J. Sheppard	N5005
	T. H. Cloninger	N5009
	R. L. Beck	Bechtel
	R. Pernisi	Bechtel -NTA50
	D. W. Stonestreet	NTA50
	D. A. Leazar	N3010
	C. R. Albury	N3010
	S. Hafeez	N3010
	R. M. Attar	N3009
	A. C. McIntyre	N3009
	U. S. Patil	N3009
	D. M. Chamberlain	N3001
	STP RMS/SRC	N2002

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June 2, 2000
BW-00-015

Mr. Steve Palm
Manager, SG Replacement Projects
Westinghouse Electric Corporation
Energy Center Site
4350 Northern Pike
Monroeville, PA 15146-2886

South Texas Project Electric Generating Station
Unit 2 Steam Generator Replacement Project
Bechtel Job Number 23438
Bechtel File Numbers 0650/SC-001, T0620

Subject: Stress Calculation Input

Dear Mr. Palm:

In order to finalize our stress calculations for Unit 2 SGRP, please confirm that the Unit 1 SGRP information on Enclosure 1 is applicable for use on Unit 2. If the Unit 1 information is not applicable to Unit 2, please either provide the appropriate information or inform us as to when this information will be available.

If you have any questions, please contact Mr. John Atwell at 301-228-6566 or Mr. Jan McCombie at 301-228-6504.

Action Summary: Provide letter verifying the applicability of the input documents used on Unit 1 for use on Unit 2 SGRP by June 30, 2000.

Sincerely,

R. L. Beck
Project Manager

JAM:jam

Enclosure: 1. Stress Calculation Input (1 sheet)
2. Preliminary Equipment Nozzle Load Summary Sheets (4 sheets)

cc: R. Slover, w/all
J. Liddy, w/o
T. V. Sarma, w/o
P. Kelly, w/o
J. A. McCombie, w/all
A. Papadopoulos, w/all

Enclosure 1

STRESS CALCULATION INPUT

1. Thermal and seismic movements from Westinghouse Calculation W-SMT-97-027-14 & Westinghouse Letter WP-BEC-SGR-97-051.

2. Westinghouse TGX time history displacement from Westinghouse Calculation W-SMT-97-027-030, Revision 1 and Westinghouse Letters WP-BEC-SGR-98-046, WP-BEC-SGR-98-055, and WP-BEC-SGR-98-056.

3. Allowable nozzle loads from Westinghouse Design Specification 413A42, Revision 0.

4. Twenty percent allowable nozzle load increase on the submitted loads (see Enclosure 2) as a future margin for any future modifications.

CALCULATION SHEET

PROJECT STP-SGR

JOB NO 23438303

SUBJECT FW-PIPING FROM S.G. 2A

CALC NO RC5034-P-100 R1

ORIGINATOR C.BASAVARAJU DATE SHEET NO

SHEET REV

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SECTION 3.16 EQUIPMENT NOZZLE LOAD SUMMARY

NOZZ NUMBER : N02 EQUIPMENT ID. : FW NOZZLE

COSAX, COSAY, COSAZ : -.493 .000 .870

COSBX, COSBY, COSBZ : .870 .000 .493

COSCX, COSCY, COSCZ : .000 1.000 .000

LOAD CASE	NOZZLE FORCE (LBS) FA	FB	FC	NOZZLE MOMENT (FT-LBS) MA	MB	MC
WT1	728.	-65.	-3303.	-3560.	7920.	-1763.
THRMP	30836.	6144.	32673.	71773.	0.	60976.
THRMN	0.	0.	-2793.	0.	-188853.	0.
C5	1426.	4386.	1903.	24890.	14841.	19002.
C6	2601.	7301.	4013.	40877.	25214.	31211.
TIME1	23774.	10839.	58944.	70103.	195818.	27940.
JET	9.	75.	42.	174.	268.	52.
LOCA	8571.	20700.	16244.	13516.	21606.	60428.

LOAD CASE	ALLOWABLE FORCE (LBS) FA	FB	FC	ALLOWABLE MOMENT (FT-LBS) MA	MB	MC
WT1	8000.	16800.	16800.	30000.	57000.	57000.
THRMP	10000.	10000.	50800.	125000.	291667.	159083.
THRMN	10000.	10000.	50800.	125000.	291667.	159083.
C5	48000.	36000.	36000.	110000.	144000.	144000.
C6	92400.	84000.	84000.	170000.	200000.	200000.
TIME1	506000.	358000.	358000.	1094000.	644900.	644900.
RUPTURE	35000.	26000.	26000.	118750.	298417.	298417.

LOAD CASE	FORCE RATIOS FA	FB	FC	MOMENT RATIOS MA	MB	MC	REMARKS
WT1	0.121	0.004	0.209	0.119	0.139	0.031	OK
THRMP	* 1.083	0.614	0.653	0.574	0.000	0.383	*
THRMN	0.000	0.000	0.056	0.000	0.647	0.000	OK
C5	0.030	0.122	0.053	0.226	0.103	0.132	OK
C6	0.028	0.087	0.048	0.241	0.126	0.156	OK
TIME1	0.047	0.030	0.164	0.064	0.304	0.043	OK
RUPTURE	0.265	0.799	0.549	0.115	0.073	0.203	OK

NOTES: C5 - SRSS OF OBEI & OBESAM; C6 - SRSS OF SSEI & SSESAM

TIME1 - WATER HAMMER ; RUPTURE - JET+LOCA

* - EXCEEDED COMPONENT; SIMILAR EXCEEDANCE IN U1 WAS ACCEPTED BY WESTINGHOUSE

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CALCULATION SHEET

PROJECT STP-SGR
JOB NO 23138300
SUBJECT FW-PIPING FROM S.G. 2B — CALC NO RC5035-P-200 R1
ORIGINATOR _ C.BASAVARAJU _____ DATE _____ — SHEET NO
SHEET REV

SECTION 8.16 EQUIPMENT NOZZLE LOAD SUMMARY

NODE NUMBER : N52
EQUIPMENT ID. : FW NOZZLE
COSAX, COSAY, COSAZ : -0.875 0.000 -0.485
COSBX, COSBY, COSBZ : 0.000 -1.000 0.000
COSCX, COSCY, COSCZ : -0.485 0.000 0.875

LOAD CASE	NOZZLE FORCE (LBS) FA	FB	FC	NOZZLE MOMENT (FT-LBS) MA	MB	MC
WT1	3.	-205.	-73.	-238.	527.	412.
THRMP	9341.	0.	0.	0.	50915.	0.
THRMN	0.	-4975.	-13779.	-108892.	-9957.	-116404.
C5	4137.	6435.	5791.	29531.	27937.	29100.
C6	6559.	12376.	9218.	47054.	44531.	52936.
TIME1	20188.	141049.	28814.	43581.	92965.	482509.
JET	156.	330.	160.	196.	699.	1246.
LOCA	31028.	13769.	24437.	21621.	82949.	35425.

LOAD CASE	ALLOWABLE FORCE (LBS) FA	FB	FC	ALLOWABLE MOMENT (FT-LBS) MA	MB	MC
WT1	6000.	16800.	16800.	30000.	57000.	57000.
THRMP	10000.	50000.	10000.	125000.	291667.	159083.
THRMN	10000.	50000.	10000.	125000.	291667.	159083.
C5	48000.	36000.	36000.	110000.	144000.	144000.
C6	92400.	84000.	84000.	170000.	200000.	200000.
TIME1	506000.	358000.	358000.	1094000.	644900.	644900.
RUPTURE	35000.	26000.	26000.	118750.	298417.	298417.

LOAD CASE	FORCE RATIOS FA	FB	FC	MOMENT RATIOS MA	MB	MC	REMARKS
WT1	0.001	0.012	0.004	0.008	0.009	0.007	OK
THRMP	0.934	0.000	0.000	0.000	0.175	0.000	OK
THRMN	0.000	0.010	*1.378	0.871	0.034	0.732	*
C5	0.086	0.179	0.161	0.268	0.194	0.202	OK
C6	0.071	0.147	0.110	0.277	0.223	0.265	OK
TIME1	0.040	0.394	0.053	0.040	0.144	0.748	OK
RUPTURE	0.320	0.465	0.946	0.184	0.280	0.123	OK

NOTES: C5 = SRSS OF OBE1 & OBESAM; C6 = SRSS OF SSE1 & SSESAM
TIME1 = WATER HAMMER ; RUPTURE = JET+LOCA
* Exceeded component; Similar exceedance in U1 was accepted by westinghouse.

CALCULATION SHEET

PROJECT STP-SGR
JOB NO 23438300
SUBJECT FW-PIPING FROM S.G. 2C CALC NO PC5035-P-300 R1
ORIGINATOR C.BASAVARAJU DATE SHEET NO
SHEET REV

SECTION 8.16 EQUIPMENT NOZZLE LOAD SUMMARY

NODE NUMBER : N01
EQUIPMENT ID. : FW NOZZLE
COSAX, COSAY, COSAZ : 0.493 0.000 -0.870
COSBX, COSBY, COSBZ : 0.000 1.000 0.000
COSCX, COSCY, COSCZ : 0.870 0.000 0.493

LOAD CASE	NOZZLE FORCE (LBS) FA	FB	FC	NOZZLE MOMENT (FT-LBS) MA	MB	MC
WT1	310.	811.	-366.	160.	2332.	2519.
THRMP	4002.	1843.	688.	3502.	43476.	56768.
THRMN	0.	-589.	-327.	-7192.	0.	0.
C5	2145.	2977.	6597.	18145.	12156.	14088.
C6	5585.	5260.	10798.	29935.	20096.	33222.
TIME1	19460.	89984.	27653.	179109.	49342.	110196.
LOCA	6802.	15921.	36634.	17333.	45522.	16274.

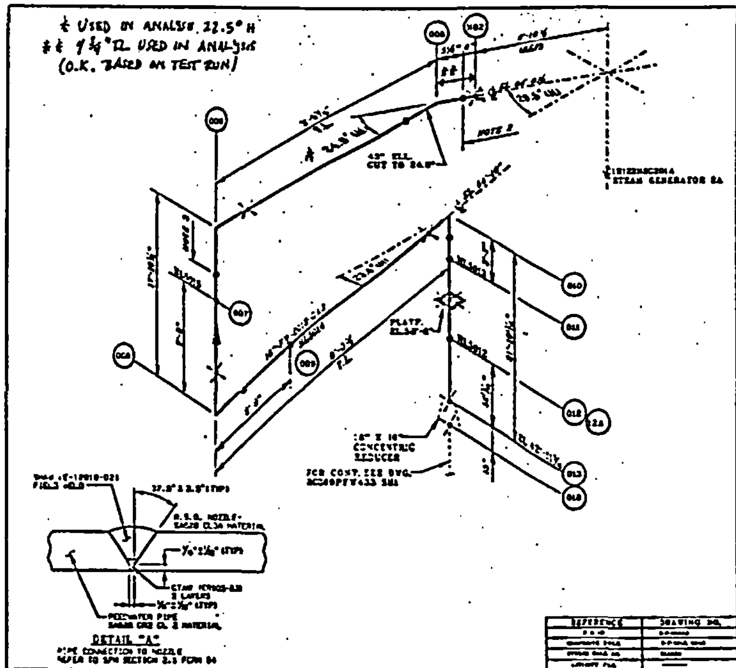
LOAD CASE	ALLOWABLE FORCE (LBS) FA	FB	FC	ALLOWABLE MOMENT (FT-LBS) MA	MB	MC
WT1	6000.	16800.	16800.	30000.	57000.	57000.
THRMP	10000.	50000.	10000.	125000.	291667.	159083.
THRMN	10000.	50000.	10000.	125000.	291667.	159083.
C5	48000.	36000.	36000.	110080.	144000.	144000.
C6	92400.	84000.	84000.	170000.	200000.	200000.
TIME1	506000.	358000.	358000.	1094000.	644900.	644900.
RUPTURE	35000.	26000.	26000.	118750.	298417.	298417.

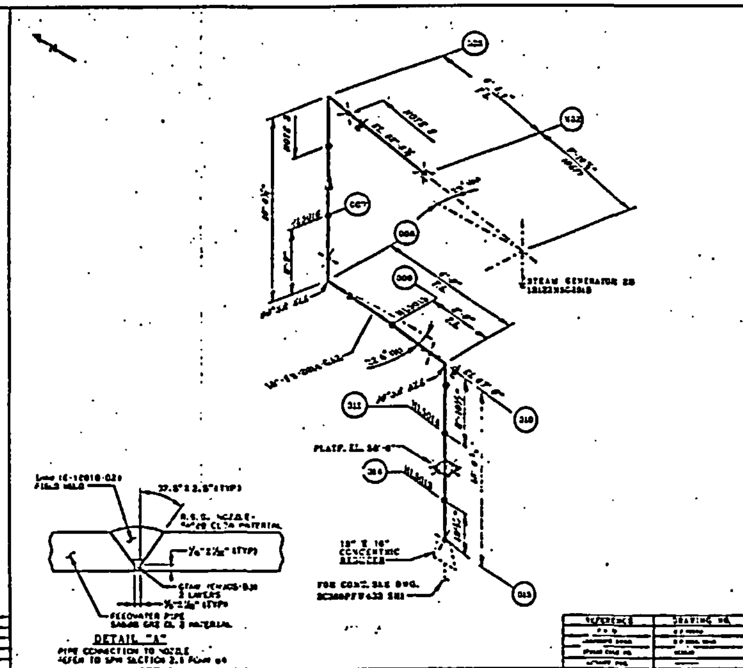
LOAD CASE	FORCE RATIOS FA	FB	FC	MOMENT RATIOS MA	MB	MC	REMARKS
WT1	0.052	0.048	0.022	0.005	0.041	0.044	OK
THRMP	0.400	0.037	0.069	0.028	0.149	0.357	OK
THRMN	0.000	0.012	0.033	0.058	0.000	0.000	OK
C5	0.045	0.083	0.183	0.165	0.084	0.098	OK
C6	0.060	0.063	0.129	0.176	0.100	0.166	OK
TIME1	0.038	0.252	0.077	0.164	0.077	0.171	OK
RUPTURE	0.194	0.612	*1.409	0.146	0.153	0.055	

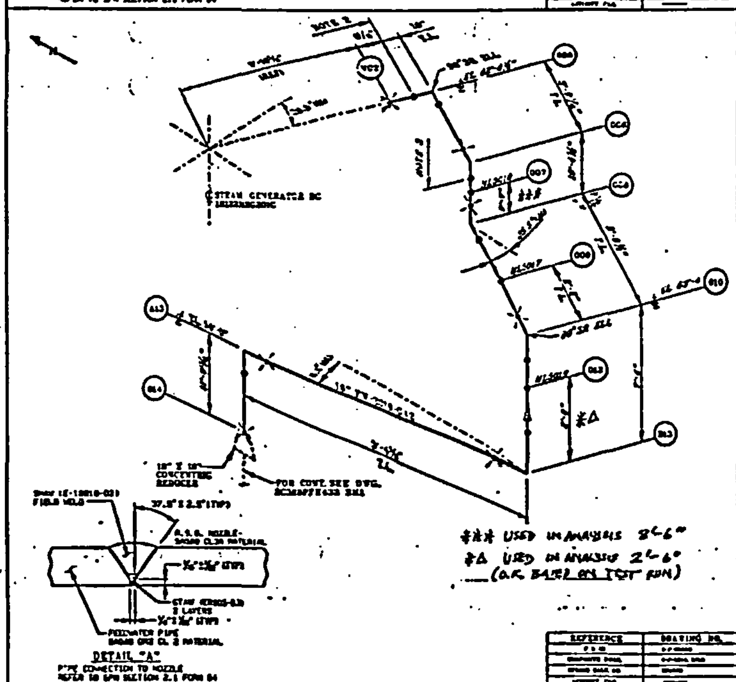
NOTES: C5 - SRSS OF OBE1 & OBESAM; C6 - SRSS OF SSE1 & SSESAM
TIME1 - WATER HAMMER ; RUPTURE - JET+LOCA
* Exceeded component; Similar exceedance in U1 was accepted by Westinghouse

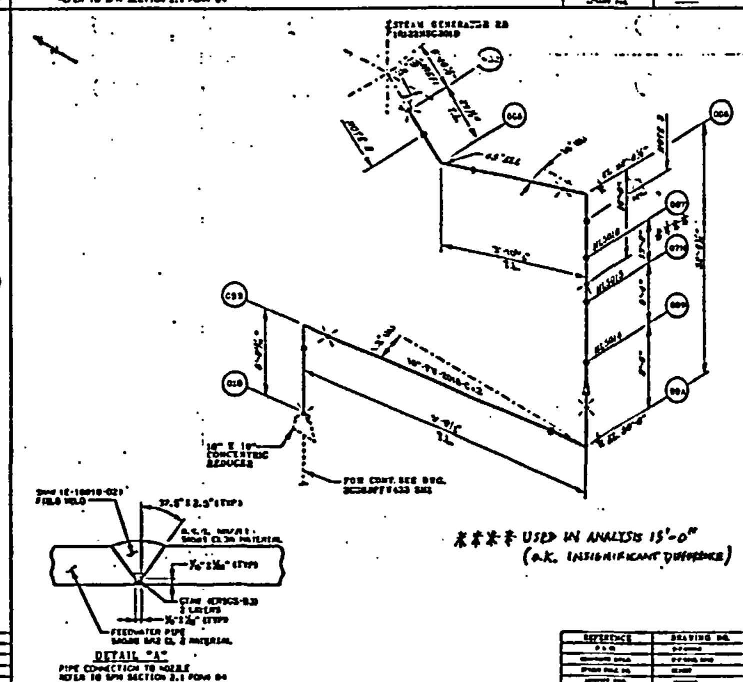
ATTACHMENT 9.0 MICROFICHE FILES LOG

File # 1, Computer Output: FLEXIBILITY (MFWBSU2)
File # 2, Computer Output: WATER HAMMER (MFWBWU2)
File # 3, Computer Output: JET IMPINGEMENT (MFWBJU2)
File # 4, Computer Output: LOCA (MFWBLU2)









LEGEND:

NOTES:

1. FOR DESIGN PRESSURE AND TEMPERATURE SEE [illegible] (PIPING SPECS) AND [illegible] (PIPING LINE LIST).
2. PIPING MATERIAL: SA106, GRADE 2, (P3 GROUP 3) CL. 2, SCH 80 (1.044 WALL) SHALL BE PROVIDED WITH AN R VALUE OF 1.8 OR GREATER. FOR SA106 MATERIAL, SUPPLIER SHALL SELECT, FROM AVAILABLE FORGING STOCK, MATERIAL WITH AN R VALUE (WHERE R IS A MEASURE OF EROSION / CORROSION RESISTANCE), GREATER THAN OR EQUAL TO 1.8. THE R VALUE SHALL BE DETERMINED BY USING THE FOLLOWING FORMULA: R = 4.61 + 2.43 (% CR) + 1.64 (% CU) + 0.3 (% MO) WHERE THE % OF EACH ELEMENT IS TAKEN FROM THE CMTR FOR ANY MATERIAL LOT TO BE SUPPLIED, WHERE CR IS CHROMIUM, CU IS COPPER AND MO IS MOLYBDENUM. THE S/G FEEDWATER NOZZLE MATERIAL IS SA 508, CL. 3A (P3 GROUP 3)
3. PIPING AND FITTING MATERIAL SA336, F22, CLASS 3, (P5A GROUP 1) SCH 80 (1.044 WALL) NORMALIZED AND TEMPERED WITH SIMULATED PWHT OF 1275 DEGREES F FOR 8 HOURS.

UNIT 2

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REFERENCES			
P & ID	9-F-00042		
	9-P-3013	9-P-3016	9-P-3033
	9-P-3014	9-P-3012	9-P-3043
	9-P-3015	9-P-3046	
			2C5037,5038,5035,5036

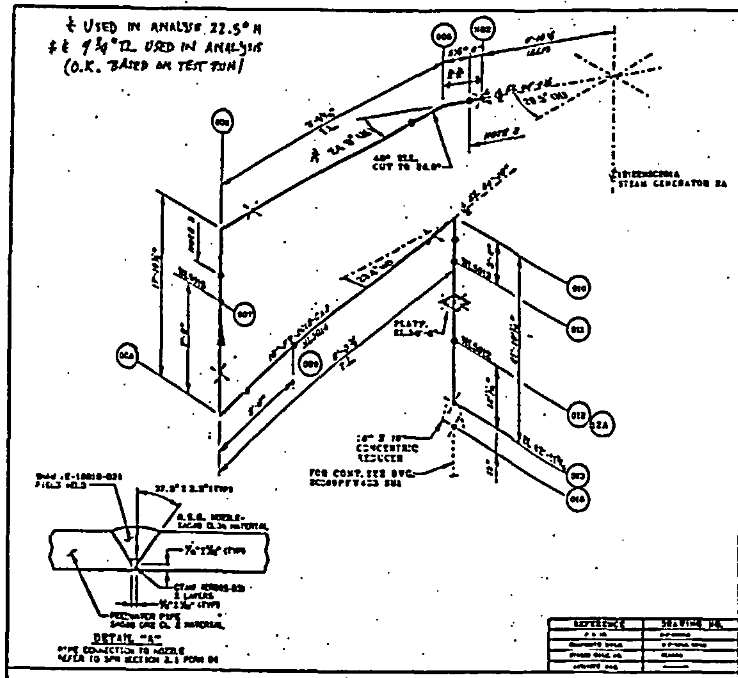
ATTACHMENT ______________
TO CALC ______________

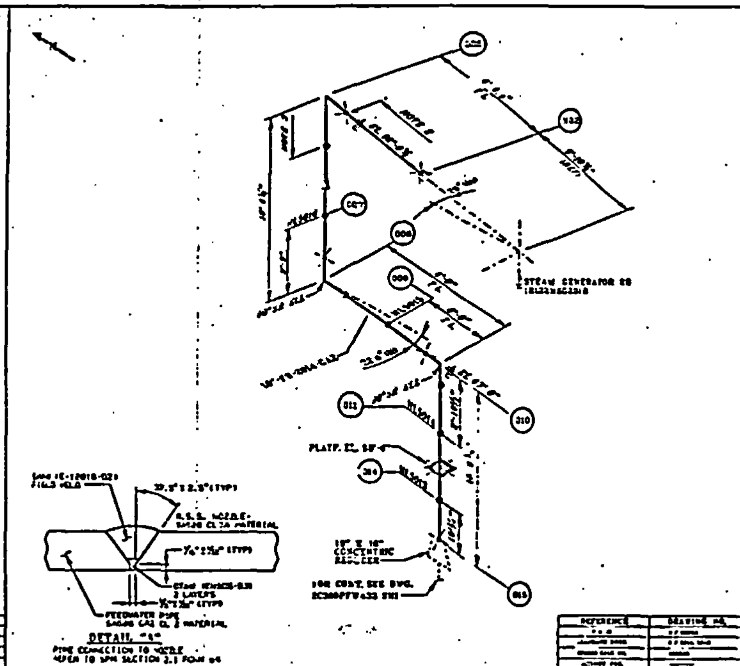
SOUTH TEXAS PROJECT
NUCLEAR OPERATING COMPANY

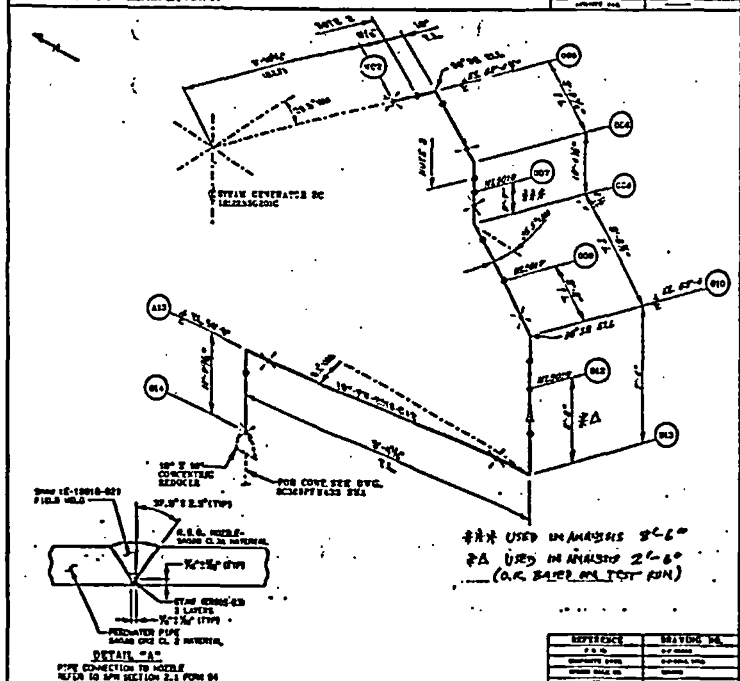
FEEDWATER "FW"
STRESS ISOMETRIC

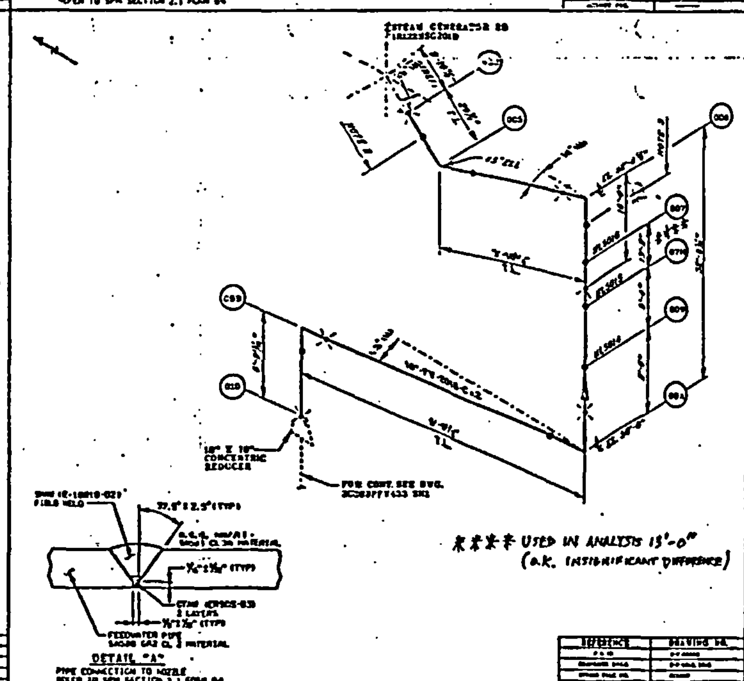
ISSUED AS ATTACHMENT FOR STRESS CALCULATIONS

2		C872920	STRESS2.DGN	GA2	NONE		01	0









LEGEND:

NOTES:

1. FOR DESIGN PRESSURE AND TEMPERATURE SEE [illegible] (PIPING SPECS) AND [illegible] (PIPING LINE LIST).
2. PIPING MATERIAL: [illegible] GRADE 2, (P3 GROUP 3) CL. 2. [illegible] WALLS SHALL BE PROVIDED WITH AN R VALUE OF 1.8 OR GREATER. FOR [illegible] MATERIAL, SUPPLIER SHALL SELECT, FROM AVAILABLE FORGING STOCK, MATERIAL WITH AN R VALUE (WHERE R IS A MEASURE OF EROSION / CORROSION RESISTANCE), GREATER THAN OR EQUAL TO 1.8. THE R VALUE SHALL BE DETERMINED BY USING THE FOLLOWING FORMULA: R = [illegible] WHERE THE % OF EACH ELEMENT IS TAKEN FROM THE CMTR FOR ANY MATERIAL LOT TO BE SUPPLIED. (WHERE CR IS CHROMIUM, CU IS COPPER AND MO IS MOLYBDENUM. [illegible]
3. PIPING AND FITTING MATERIAL [illegible] CLASS 3. [illegible]

UNIT 2

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DCN # 000067
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STI: 31017703 Att. A

REFERENCES

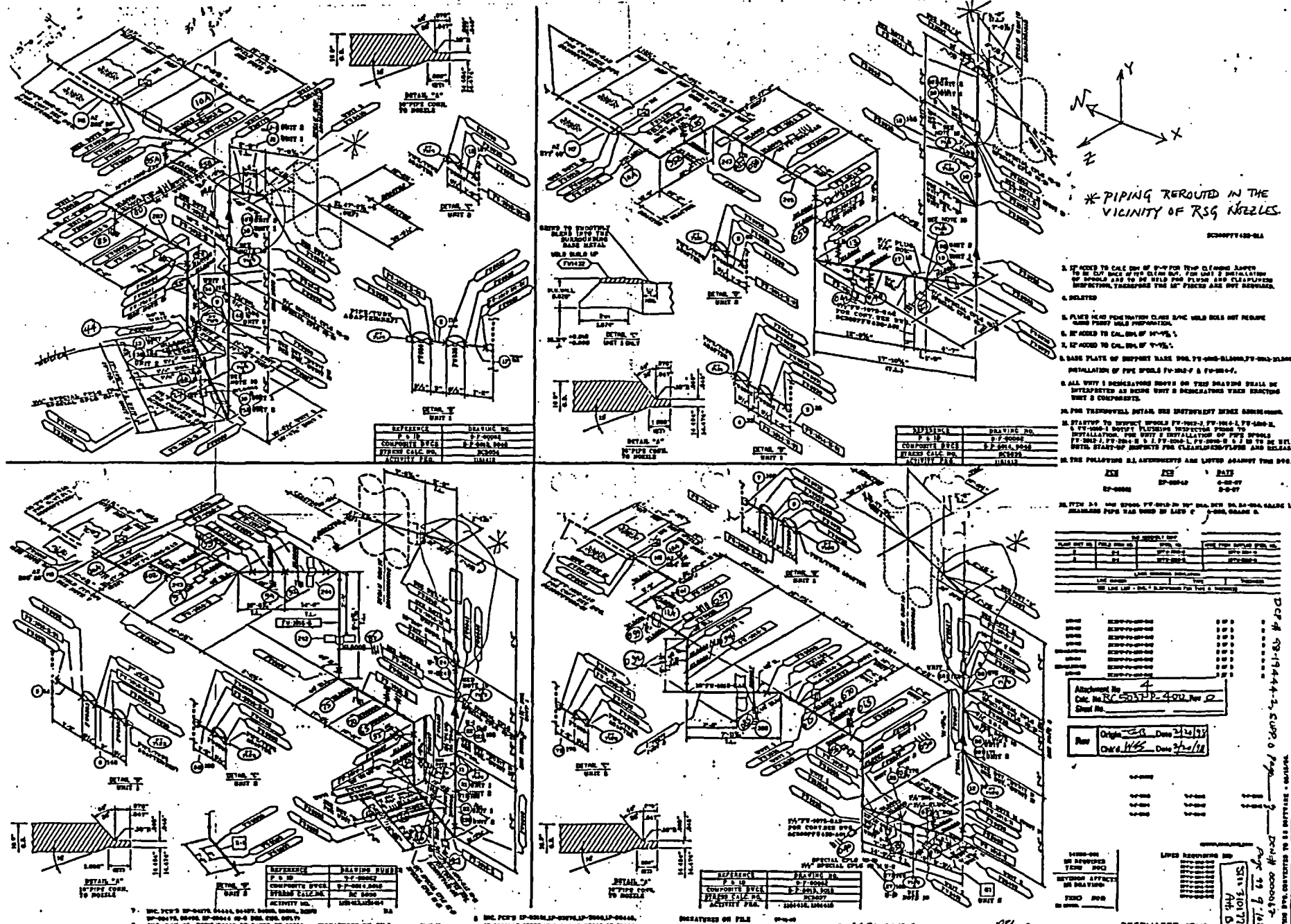
ATTACHMENT TO CALC ______

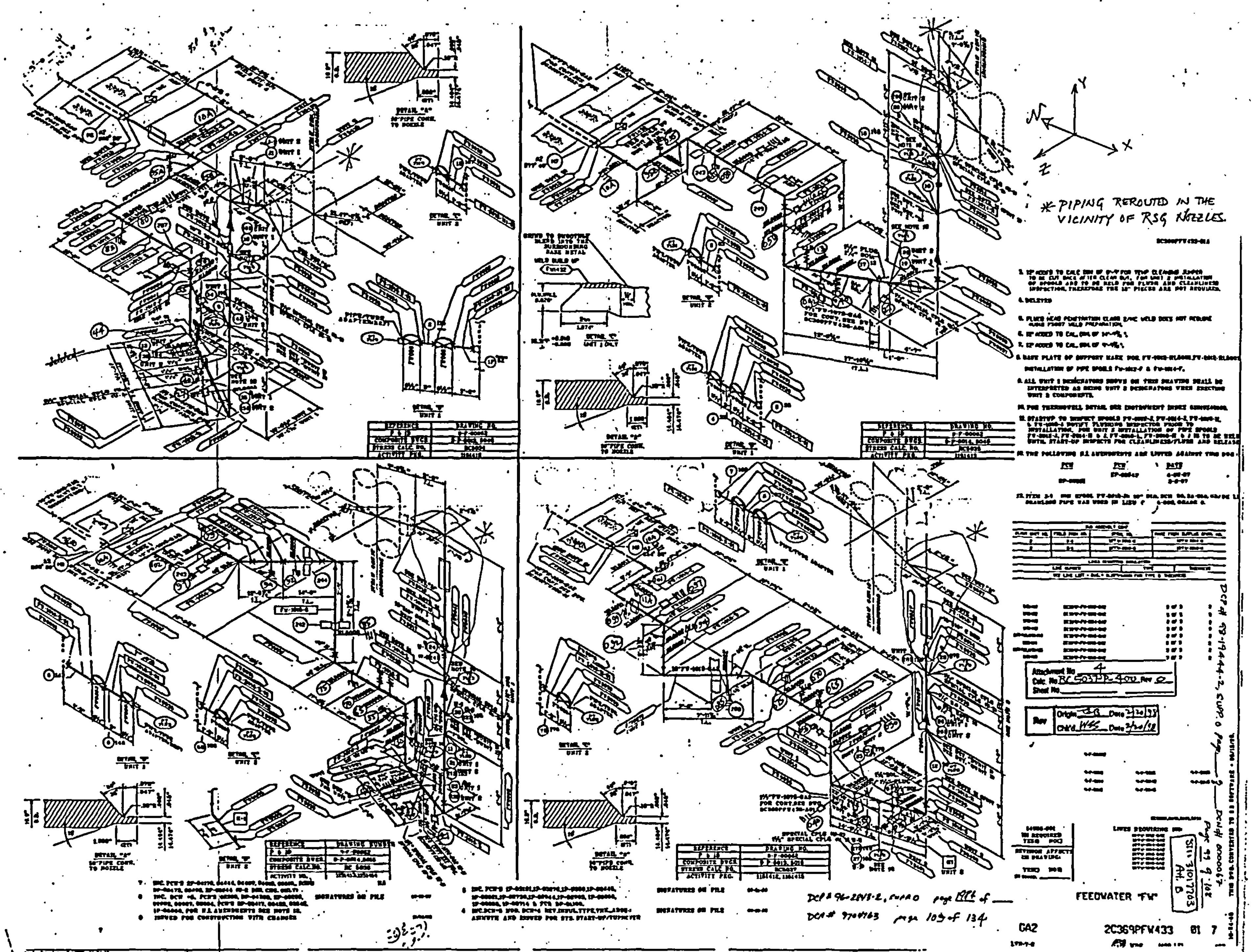
SOUTH TEXAS PROJECT NUCLEAR OPERATING COMPANY

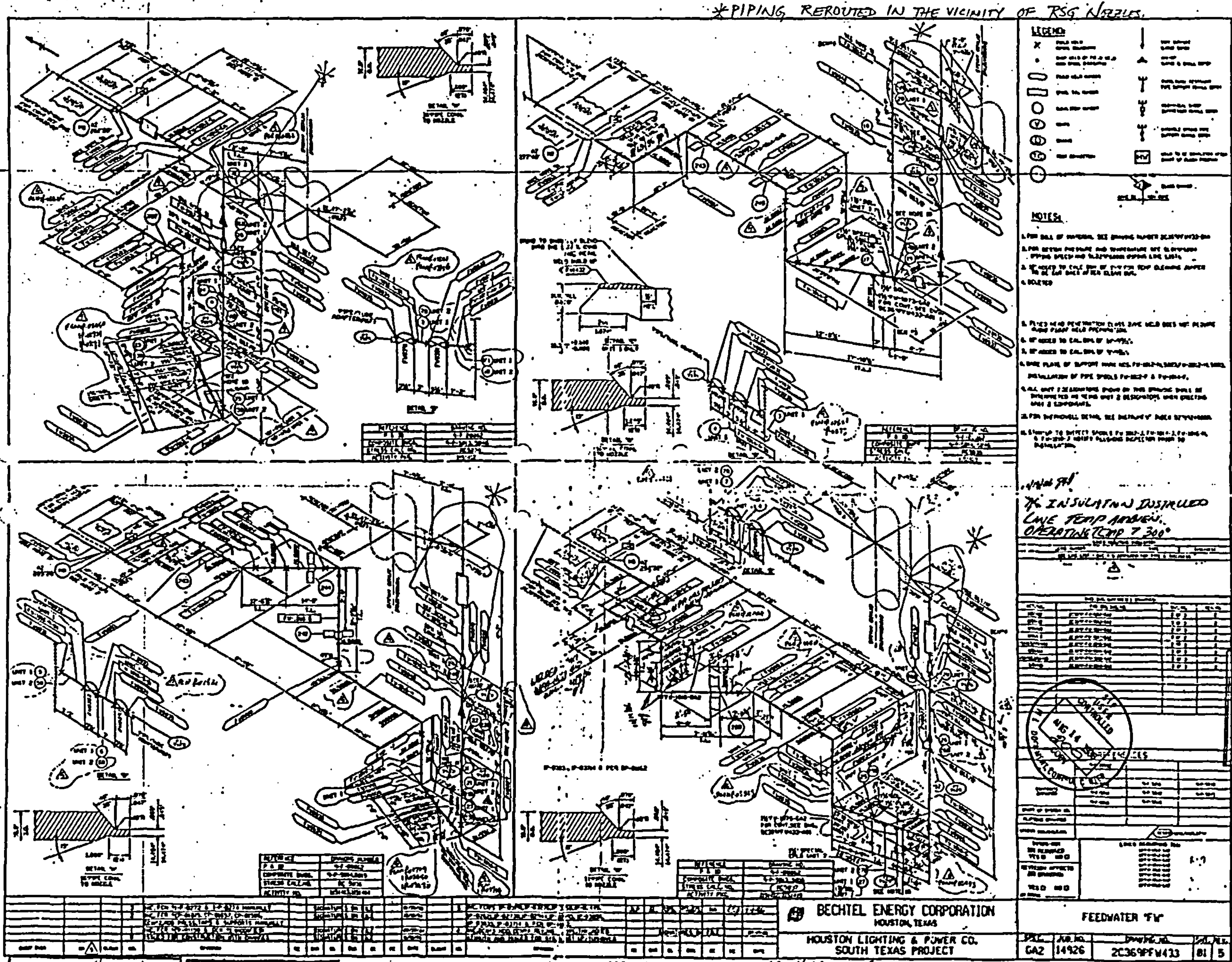
FEEDWATER "FW" STRESS ISOMETRIC

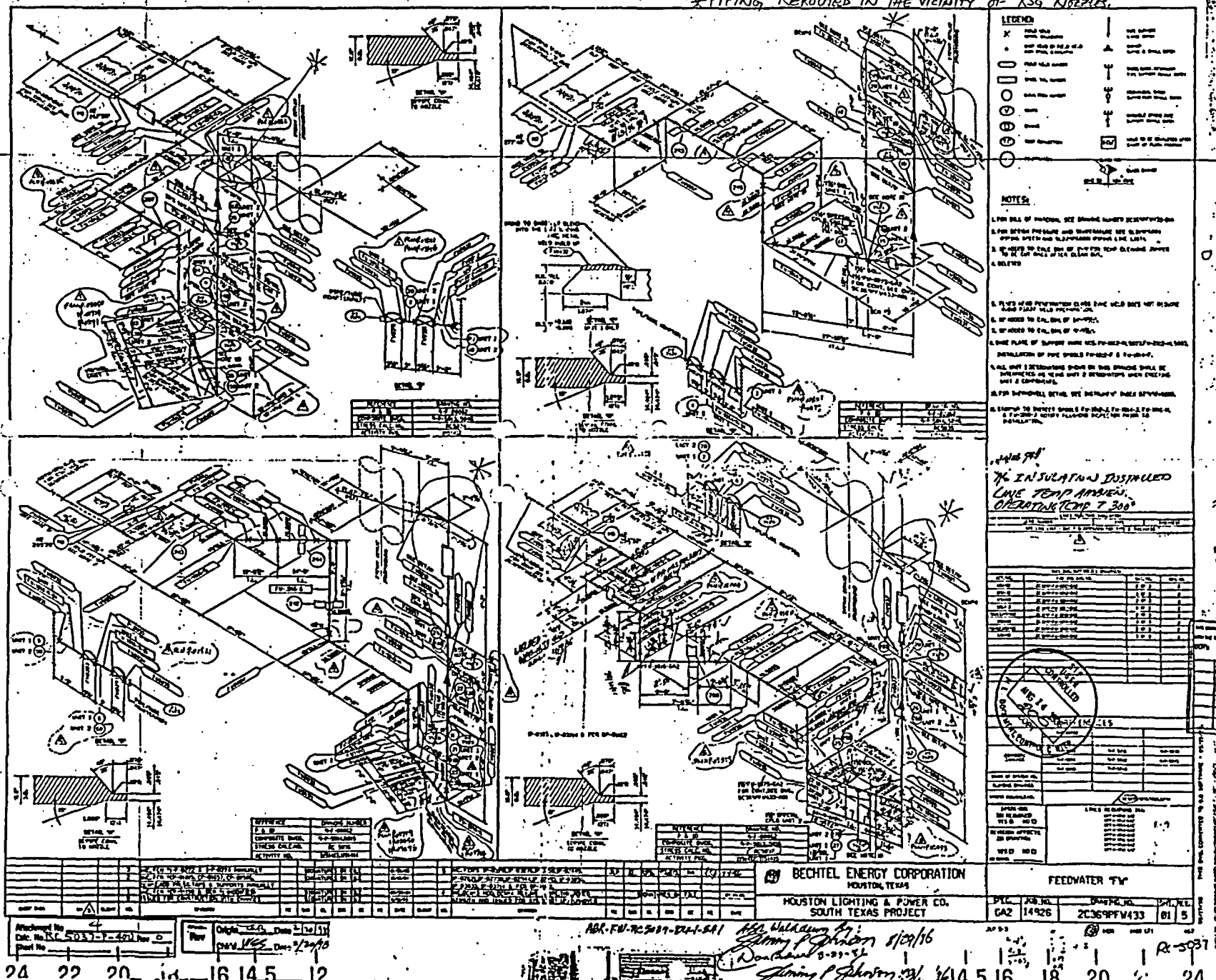
ISSUED AS ATTACHMENT FOR STRESS CALCULATIONS

STRESS2.DGN


* PIPING REROUTED IN THE VICINITY OF RSG NOZZLES.
FEEDWATER "FW"
2C369PFW433 01 7
CA2


* PIPING REROUTED IN THE VICINITY OF RSG NOZZLES.
DETAIL "A"
30" PIPE CONN. TO NOZZLE
Attachment No 4
Calc No BC503PP-400 Rev 0
Sheet No
DCP# 98-19444-2, SUPP.0 Page ___
DCN# 000067 Page 99 of 102
SIT 3017703 Att. B
DCP# 96-2843-2, SUPP.0 page ___ of ___
DCP# 9704763 page 103 of 134
FEEDWATER "FW"
GA2
2C369PFW433 01 7


*PIPING REROUTED IN THE VICINITY OF RSG NOZZLES.
LEGEND
NOTES
BECHTEL ENERGY CORPORATION
HOUSTON, TEXAS
HOUSTON LIGHTING & POWER CO.
SOUTH TEXAS PROJECT
FEEDWATER "FW"
GA2
14926
2C369PFW433
B1
5


*PIPING REROUTED IN THE VICINITY OF RSG NOZZLES.
LEGEND
NOTES:
BECHTEL ENERGY CORPORATION
HOUSTON, TEXAS
HOUSTON LIGHTING & POWER CO.
SOUTH TEXAS PROJECT
FEEDWATER 'B'