

DCP 80101382 rev. 0

### Stress & Support Summary

Two 4" Auxiliary Feedwater lines that run between the penetration area and the buried portion south of the Fuel Handling building are replaced and rerouted. These two lines are in stress calculations 267274D and 267274Dsim which will be revised. These lines are analyzed with ME101 pipe stress program for deadweight, thermal, and seismic loads and meet all code allowables.

There is significant margin in all stresses (the maximum stress ratio is .424) as can be seen on the following output sheets.

Due to the reroute 18 new supports are installed, two existing springs are deleted, two existing anchors are reevaluated, and two anchors are abandoned in place.

The 18 new supports use 5 basic designs (see the attached details). All the supports meet the current design criteria for the loading developed. See the attached sheets for the support loads.

New calculations will be generated for the new supports. The current anchor calculations will be revised to reflect the new loads.

6-8

PIPING STRESS SUMMARY CHECK AND COVER SHEET  
ANSI-B31.1

PSEG/818 (MK1505) 04/22/10 MK1505 PAGE 179

PROJECT

JOB NO. 80101382 PLANT DESIGN GROUP  
SYSTEM AUXILIARY FEEDWATER PIPING  
CALC NO 267274D\_2 ISO NO REV NO

DESIGN CONDITION	LEVEL	LOCATION OF MAXIMUM END ELEMENT	MAXIMUM COMPUTED STRESS ( PSI)	ALLOWABLE STRESS ( PSI)	COMPUTED ALLOWABLE
SUSTAINED LOADS EQN. 11		35 27 35	6367	SH 15000	0.424
OCCASIONAL LOADS EQN. 12	C	35 27 35	8553	1.8 SH 27000	0.317
THERMAL EXPANSION EQN. 13		20 M 20 B 20 M	7568	SA 22500	0.336

REFERENCE CALCULATIONS:

WEIGHT SEISMIC-INERTIA PORTION OTHERS  
THERMAL EXP SEISMIC-ANCHOR MOVEMENT  
DYNAMIC

NAME SIGNATURE DATE

PREPARED BY  
REVIEWED BY  
APPROVED BY

ME101SA VERSION N9 STOP ON 04/22/10 AT 11:15:07  
ME101SA VERSION N9 EXECUTION TIME CPU= 0 SECONDS

80101382R2  
SUP11R0  
Page 2

PROJECT

-----  
 JOB NO. 80101382 PLANT DESIGN GROUP  
 -----  
 SYSTEM AUXILIARY FEEDWATER PIPING  
 -----  
 CALC NO 267274DS\_2 ISO NO REV NO  
 -----

DESIGN CONDITION	LEVEL	LOCATION OF MAXIMUM END ELEMENT	MAXIMUM COMPUTED STRESS ( PSI)	ALLOWABLE STRESS ( PSI)	COMPUTED ALLOWABLE
SUSTAINED LOADS EQN. 11		60 B 60 B 60 M	6189	SH 15000	0.413
OCCASIONAL LOADS EQN. 12	C	60 B 60 B 60 M	7822	1.8 SH 27000	0.290
THERMAL EXPANSION EQN. 13		55 M 55 B 55 M	6361	SA 22500	0.283

REFERENCE CALCULATIONS:

WEIGHT ----- SEISMIC-INERTIA PORTION ----- OTHERS -----  
 THERMAL EXP ----- SEISMIC-ANCHOR MOVEMENT -----  
 ----- DYNAMIC -----

NAME SIGNATURE DATE

PREPARED BY -----  
 REVIEWED BY -----  
 APPROVED BY -----

ME101SA VERSION N9 STOP ON 04/22/10 AT 10:55:27  
 ME101SA VERSION N9 EXECUTION TIME CPU= 0 SECONDS

80101382R2  
 SUP11R0  
 Page 3

TITLE : AUXILIARY FEEDWATER PIPING  
 PROJECT NUMBER : 80101382  
 PROBLEM NUMBER : 267274D\_2  
 USER : GM/BKG  
 LOAD CASE :

DATA TYPE PT	LOAD	TITLE	GLOBAL FORCES (LB)			GLOBAL MOMENTS (FT-LB)			DISPLACEMENT (IN)			
			FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	
1	ANC	14AFWA-31										
		WTDW	6.	-121.	-18.	-244.	-24.	-17.	0.000	0.000	0.000	
		THRM1	-8.	-9.	-19.	-35.	35.	45.	0.000	0.000	0.000	
		THRM2	12.	12.	28.	50.	-50.	-65.	0.000	0.000	0.000	
		SAMDB	60.	66.	121.	273.	246.	203.	0.038	0.014	0.038	
		SEISDB	98.	63.	178.	205.	364.	80.	0.000	0.000	0.000	
		DWTH1	-3.	-130.	-37.	-279.	11.	28.	0.000	0.000	0.000	
		DWTH2	18.	-109.	10.	-194.	-74.	-82.	0.000	0.000	0.000	
		DWTH1D	118.	221.	252.	621.	450.	246.	0.038	0.014	0.038	
		DWTH2D	133.	200.	225.	535.	513.	300.	0.038	0.014	0.038	
		DWDB	121.	212.	233.	586.	463.	235.	0.038	0.014	0.038	
13	RAD	14AFWG-DP13										
		WTDW	0.	-267.	0.	0.	0.	0.	0.000	0.000	0.000	
		THRM1	0.	63.	0.	0.	0.	0.	0.000	0.000	0.033	
		THRM2	0.	-90.	0.	0.	0.	0.	0.000	0.000	-0.047	
		SAMDB	0.	301.	0.	0.	0.	0.	0.038	0.014	0.038	
		SEISDB	0.	63.	0.	0.	0.	0.	0.000	0.000	0.000	
		DWTH1	0.	-204.	0.	0.	0.	0.	0.000	0.000	0.033	
		DWTH2	0.	-356.	0.	0.	0.	0.	0.000	0.000	-0.047	
		DWTH1D	0.	512.	0.	0.	0.	0.	0.038	0.014	0.071	
		DWTH2D	0.	664.	0.	0.	0.	0.	0.038	0.014	0.085	
		DWDB	0.	574.	0.	0.	0.	0.	0.038	0.014	0.038	
13	RAD	14AFWG-DP13										
		WTDW	-3.	0.	0.	0.	0.	0.	0.000	0.000	0.000	
		THRM1	53.	0.	0.	0.	0.	0.	0.000	0.000	0.033	
		THRM2	-76.	0.	0.	0.	0.	0.	0.000	0.000	-0.047	
		SAMDB	299.	0.	0.	0.	0.	0.	0.038	0.014	0.038	
		SEISDB	158.	0.	0.	0.	0.	0.	0.000	0.000	0.000	
		DWTH1	50.	0.	0.	0.	0.	0.	0.000	0.000	0.033	
		DWTH2	-79.	0.	0.	0.	0.	0.	0.000	0.000	-0.047	
		DWTH1D	388.	0.	0.	0.	0.	0.	0.038	0.014	0.071	
		DWTH2D	417.	0.	0.	0.	0.	0.	0.038	0.014	0.085	
		DWDB	341.	0.	0.	0.	0.	0.	0.038	0.014	0.038	
23	RAD	14AFWG-DP23										
		WTDW	-2.	0.	0.	0.	0.	0.	0.000	-0.015	0.000	
		THRM1	-65.	0.	0.	0.	0.	0.	0.000	0.012	0.000	
		THRM2	93.	0.	0.	0.	0.	0.	0.000	-0.017	0.000	
		SAMDB	537.	0.	0.	0.	0.	0.	0.139	0.146	0.139	
		SEISDB	111.	0.	0.	0.	0.	0.	0.000	0.040	0.000	
		DWTH1	-67.	0.	0.	0.	0.	0.	0.000	-0.003	0.000	
		DWTH2	90.	0.	0.	0.	0.	0.	0.000	-0.032	0.000	
		DWTH1D	616.	0.	0.	0.	0.	0.	0.139	0.154	0.139	
		DWTH2D	639.	0.	0.	0.	0.	0.	0.139	0.183	0.139	
		DWDB	551.	0.	0.	0.	0.	0.	0.139	0.166	0.139	

267274D\_2 RESTRAINT LOAD SUMMARY  
 TITLE : AUXILIARY FEEDWATER PIPING  
 PROJECT NUMBER : 80101382  
 PROBLEM NUMBER : 267274D\_2  
 USER : GM/BKG  
 LOAD CASE :

ME101/N9 PSEG/818 (MK1505) 04/22/10 MK1505 PAGE 163

DATA TYPE	LOAD	TITLE	GLOBAL FORCES (LB)			GLOBAL MOMENTS (FT-LB)			DISPLACEMENT (IN)			
			FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	
23	RAD	14AFWG-DP23										
		WTDW	0.	0.	48.	0.	0.	0.	0.000	-0.015	0.000	
		THRM1	0.	0.	-56.	0.	0.	0.	0.000	0.012	0.000	
		THRM2	0.	0.	80.	0.	0.	0.	0.000	-0.017	0.000	
		SAMDB	0.	0.	184.	0.	0.	0.	0.139	0.146	0.139	
		SEISDB	0.	0.	600.	0.	0.	0.	0.000	0.040	0.000	
		DWTH1	0.	0.	-8.	0.	0.	0.	0.000	-0.003	0.000	
		DWTH2	0.	0.	128.	0.	0.	0.	0.000	-0.032	0.000	
		DWTH1D	0.	0.	635.	0.	0.	0.	0.139	0.154	0.139	
		DWTH2D	0.	0.	755.	0.	0.	0.	0.139	0.183	0.139	
		DWDB	0.	0.	675.	0.	0.	0.	0.139	0.166	0.139	
35	RAD	14AFWG-DP35										
		WTDW	0.	-481.	0.	0.	0.	0.	0.000	0.000	0.016	
		THRM1	0.	-43.	0.	0.	0.	0.	0.000	0.000	-0.010	
		THRM2	0.	61.	0.	0.	0.	0.	0.000	0.000	0.015	
		SAMDB	0.	269.	0.	0.	0.	0.	0.145	0.154	0.161	
		SEISDB	0.	169.	0.	0.	0.	0.	0.000	0.000	0.080	
		DWTH1	0.	-524.	0.	0.	0.	0.	0.000	0.000	0.006	
		DWTH2	0.	-419.	0.	0.	0.	0.	0.000	0.000	0.031	
		DWTH1D	0.	842.	0.	0.	0.	0.	0.145	0.154	0.186	
		DWTH2D	0.	737.	0.	0.	0.	0.	0.145	0.154	0.211	
		DWDB	0.	799.	0.	0.	0.	0.	0.145	0.154	0.196	
35	RAD	14AFWG-DP35										
		WTDW	3.	0.	0.	0.	0.	0.	0.000	0.000	0.016	
		THRM1	26.	0.	0.	0.	0.	0.	0.000	0.000	-0.010	
		THRM2	-37.	0.	0.	0.	0.	0.	0.000	0.000	0.015	
		SAMDB	370.	0.	0.	0.	0.	0.	0.145	0.154	0.161	
		SEISDB	111.	0.	0.	0.	0.	0.	0.000	0.000	0.080	
		DWTH1	29.	0.	0.	0.	0.	0.	0.000	0.000	0.006	
		DWTH2	-34.	0.	0.	0.	0.	0.	0.000	0.000	0.031	
		DWTH1D	415.	0.	0.	0.	0.	0.	0.145	0.154	0.186	
		DWTH2D	420.	0.	0.	0.	0.	0.	0.145	0.154	0.211	
		DWDB	389.	0.	0.	0.	0.	0.	0.145	0.154	0.196	
40	RAD	14AFWG-DP40										
		WTDW	0.	-183.	0.	0.	0.	0.	0.000	0.000	0.016	
		THRM1	0.	-12.	0.	0.	0.	0.	0.000	0.000	0.015	
		THRM2	0.	17.	0.	0.	0.	0.	0.000	0.000	-0.021	
		SAMDB	0.	49.	0.	0.	0.	0.	0.145	0.154	0.161	
		SEISDB	0.	151.	0.	0.	0.	0.	0.000	0.000	0.080	
		DWTH1	0.	-195.	0.	0.	0.	0.	0.000	0.000	0.031	
		DWTH2	0.	-166.	0.	0.	0.	0.	0.000	0.000	-0.005	
		DWTH1D	0.	354.	0.	0.	0.	0.	0.145	0.154	0.211	
		DWTH2D	0.	325.	0.	0.	0.	0.	0.145	0.154	0.185	
		DWDB	0.	342.	0.	0.	0.	0.	0.145	0.154	0.196	

80101382R2  
 SUP11R0  
 Page 5

267274D\_2

## RESTRAINT LOAD SUMMARY

ME101/N9 PSEG/818

(MK1505) 04/22/10 MK1505 PAGE 164

TITLE : AUXILIARY FEEDWATER PIPING  
 PROJECT NUMBER : 80101382  
 PROBLEM NUMBER : 267274D\_2  
 USER : GM/BKG  
 LOAD CASE :

DATA TYPE PT	LOAD	TITLE	GLOBAL FORCES (LB)			GLOBAL MOMENTS (FT-LB)			DISPLACEMENT (IN)		
			FX	FY	FZ	MX	MY	MZ	DX	DY	DZ
40	RAD	14AFWG-DP40									
		WTDW	-3.	0.	0.	0.	0.	0.	0.000	0.000	0.016
		THRM1	-5.	0.	0.	0.	0.	0.	0.000	0.000	0.015
		THRM2	8.	0.	0.	0.	0.	0.	0.000	0.000	-0.021
		SAMDB	87.	0.	0.	0.	0.	0.	0.145	0.154	0.161
		SEISDB	84.	0.	0.	0.	0.	0.	0.000	0.000	0.080
		DWTH1	-9.	0.	0.	0.	0.	0.	0.000	0.000	0.031
		DWTH2	4.	0.	0.	0.	0.	0.	0.000	0.000	-0.005
		DWTH1D	130.	0.	0.	0.	0.	0.	0.145	0.154	0.211
		DWTH2D	125.	0.	0.	0.	0.	0.	0.145	0.154	0.185
		DWDB	124.	0.	0.	0.	0.	0.	0.145	0.154	0.196
43	RAD	14AFWG-DP43									
		WTDW	0.	-269.	0.	0.	0.	0.	0.000	0.000	0.016
		THRM1	0.	-6.	0.	0.	0.	0.	0.000	0.000	0.041
		THRM2	0.	8.	0.	0.	0.	0.	0.000	0.000	-0.059
		SAMDB	0.	16.	0.	0.	0.	0.	0.145	0.154	0.161
		SEISDB	0.	65.	0.	0.	0.	0.	0.000	0.000	0.081
		DWTH1	0.	-275.	0.	0.	0.	0.	0.000	0.000	0.058
		DWTH2	0.	-261.	0.	0.	0.	0.	0.000	0.000	-0.043
		DWTH1D	0.	342.	0.	0.	0.	0.	0.145	0.154	0.238
		DWTH2D	0.	328.	0.	0.	0.	0.	0.145	0.154	0.223
		DWDB	0.	336.	0.	0.	0.	0.	0.145	0.154	0.196
43	RAD	14AFWG-DP43									
		WTDW	-2.	0.	0.	0.	0.	0.	0.000	0.000	0.016
		THRM1	-5.	0.	0.	0.	0.	0.	0.000	0.000	0.041
		THRM2	8.	0.	0.	0.	0.	0.	0.000	0.000	-0.059
		SAMDB	24.	0.	0.	0.	0.	0.	0.145	0.154	0.161
		SEISDB	69.	0.	0.	0.	0.	0.	0.000	0.000	0.081
		DWTH1	-8.	0.	0.	0.	0.	0.	0.000	0.000	0.058
		DWTH2	5.	0.	0.	0.	0.	0.	0.000	0.000	-0.043
		DWTH1D	81.	0.	0.	0.	0.	0.	0.145	0.154	0.238
		DWTH2D	79.	0.	0.	0.	0.	0.	0.145	0.154	0.223
		DWDB	75.	0.	0.	0.	0.	0.	0.145	0.154	0.196
45	RAD	14AFWG-DP45									
		WTDW	0.	-184.	0.	0.	0.	0.	0.000	0.000	0.016
		THRM1	0.	45.	0.	0.	0.	0.	0.000	0.000	0.068
		THRM2	0.	-64.	0.	0.	0.	0.	0.000	0.000	-0.097
		SAMDB	0.	28.	0.	0.	0.	0.	0.145	0.154	0.161
		SEISDB	0.	93.	0.	0.	0.	0.	0.000	0.000	0.081
		DWTH1	0.	-140.	0.	0.	0.	0.	0.000	0.000	0.084
		DWTH2	0.	-248.	0.	0.	0.	0.	0.000	0.000	-0.081
		DWTH1D	0.	237.	0.	0.	0.	0.	0.145	0.154	0.264
		DWTH2D	0.	345.	0.	0.	0.	0.	0.145	0.154	0.261
		DWDB	0.	281.	0.	0.	0.	0.	0.145	0.154	0.196

80101382R2  
 SUP11R0  
 Page 6

TITLE : AUXILIARY FEEDWATER PIPING  
 PROJECT NUMBER : 80101382  
 PROBLEM NUMBER : 267274D\_2  
 USER : GM/BKG  
 LOAD CASE :

DATA TYPE	LOAD	TITLE	GLOBAL FORCES (LB)			GLOBAL MOMENTS (FT-LB)			DISPLACEMENT (IN)		
			FX	FY	FZ	MX	MY	MZ	DX	DY	DZ
45	RAD	14AFWG-DP45									
		WTDW	16.	0.	0.	0.	0.	0.	0.000	0.000	0.016
		THRM1	35.	0.	0.	0.	0.	0.	0.000	0.000	0.068
		THRM2	-50.	0.	0.	0.	0.	0.	0.000	0.000	-0.097
		SAMDB	26.	0.	0.	0.	0.	0.	0.145	0.154	0.161
		SEISDB	74.	0.	0.	0.	0.	0.	0.000	0.000	0.081
		DWTH1	51.	0.	0.	0.	0.	0.	0.000	0.000	0.084
		DWTH2	-34.	0.	0.	0.	0.	0.	0.000	0.000	-0.081
		DWTH1D	129.	0.	0.	0.	0.	0.	0.145	0.154	0.264
		DWTH2D	112.	0.	0.	0.	0.	0.	0.145	0.154	0.261
		DWDB	94.	0.	0.	0.	0.	0.	0.145	0.154	0.196
47	RAD	14AFWG-DP47									
		WTDW	0.	-266.	0.	0.	0.	0.	0.000	0.000	0.016
		THRM1	0.	-206.	0.	0.	0.	0.	0.000	0.000	0.089
		THRM2	0.	294.	0.	0.	0.	0.	0.000	0.000	-0.127
		SAMDB	0.	169.	0.	0.	0.	0.	0.145	0.154	0.161
		SEISDB	0.	177.	0.	0.	0.	0.	0.000	0.000	0.081
		DWTH1	0.	-472.	0.	0.	0.	0.	0.000	0.000	0.105
		DWTH2	0.	28.	0.	0.	0.	0.	0.000	0.000	-0.111
		DWTH1D	0.	717.	0.	0.	0.	0.	0.145	0.154	0.286
		DWTH2D	0.	272.	0.	0.	0.	0.	0.145	0.154	0.292
		DWDB	0.	511.	0.	0.	0.	0.	0.145	0.154	0.196
47	RAD	14AFWG-DP47									
		WTDW	-16.	0.	0.	0.	0.	0.	0.000	0.000	0.016
		THRM1	-119.	0.	0.	0.	0.	0.	0.000	0.000	0.089
		THRM2	170.	0.	0.	0.	0.	0.	0.000	0.000	-0.127
		SAMDB	90.	0.	0.	0.	0.	0.	0.145	0.154	0.161
		SEISDB	86.	0.	0.	0.	0.	0.	0.000	0.000	0.081
		DWTH1	-135.	0.	0.	0.	0.	0.	0.000	0.000	0.105
		DWTH2	154.	0.	0.	0.	0.	0.	0.000	0.000	-0.111
		DWTH1D	260.	0.	0.	0.	0.	0.	0.145	0.154	0.286
		DWTH2D	279.	0.	0.	0.	0.	0.	0.145	0.154	0.292
		DWDB	141.	0.	0.	0.	0.	0.	0.145	0.154	0.196
57	RAD	14AFWG-DP57									
		WTDW	-5.	0.	0.	0.	0.	0.	0.000	-0.027	0.030
		THRM1	79.	0.	0.	0.	0.	0.	0.000	-0.028	0.070
		THRM2	-113.	0.	0.	0.	0.	0.	0.000	0.040	-0.100
		SAMDB	56.	0.	0.	0.	0.	0.	0.138	0.151	0.114
		SEISDB	80.	0.	0.	0.	0.	0.	0.000	0.038	0.075
		DWTH1	74.	0.	0.	0.	0.	0.	0.000	-0.055	0.100
		DWTH2	-118.	0.	0.	0.	0.	0.	0.000	0.014	-0.070
		DWTH1D	172.	0.	0.	0.	0.	0.	0.138	0.211	0.237
		DWTH2D	216.	0.	0.	0.	0.	0.	0.138	0.170	0.207
		DWDB	103.	0.	0.	0.	0.	0.	0.138	0.183	0.167

80101382R2  
 SUP11R0  
 Page 7

267274D\_2

## RESTRAINT LOAD SUMMARY

ME101/N9 PSEG/818 (MK1505) 04/22/10 MK1505 PAGE 166

TITLE : AUXILIARY FEEDWATER PIPING  
 PROJECT NUMBER : 80101382  
 PROBLEM NUMBER : 267274D\_2  
 USER : GM/BKG  
 LOAD CASE :

DATA TYPE	LOAD	TITLE	GLOBAL FORCES (LB)			GLOBAL MOMENTS (FT-LB)			DISPLACEMENT (IN)		
			FX	FY	FZ	MX	MY	MZ	DX	DY	DZ
73	RAD	14AFWG-DP73									
		WTDW	0.	-312.	0.	0.	0.	0.	0.000	0.000	0.000
		THRM1	0.	168.	0.	0.	0.	0.	0.000	0.000	-0.005
		THRM2	0.	-240.	0.	0.	0.	0.	0.000	0.000	0.008
		SAMDB	0.	147.	0.	0.	0.	0.	0.121	0.149	0.000
		SEISDB	0.	229.	0.	0.	0.	0.	0.000	0.000	0.000
		DWTH1	0.	-144.	0.	0.	0.	0.	0.000	0.000	-0.005
		DWTH2	0.	-552.	0.	0.	0.	0.	0.000	0.000	0.008
		DWTH1D	0.	416.	0.	0.	0.	0.	0.121	0.149	0.005
		DWTH2D	0.	824.	0.	0.	0.	0.	0.121	0.149	0.008
		DWDB	0.	584.	0.	0.	0.	0.	0.121	0.149	0.000
73	RAD	14AFWG-DP73									
		WTDW	8.	0.	0.	0.	0.	0.	0.000	0.000	0.000
		THRM1	10.	0.	0.	0.	0.	0.	0.000	0.000	-0.005
		THRM2	-15.	0.	0.	0.	0.	0.	0.000	0.000	0.008
		SAMDB	15.	0.	0.	0.	0.	0.	0.121	0.149	0.000
		SEISDB	56.	0.	0.	0.	0.	0.	0.000	0.000	0.000
		DWTH1	18.	0.	0.	0.	0.	0.	0.000	0.000	-0.005
		DWTH2	-7.	0.	0.	0.	0.	0.	0.000	0.000	0.008
		DWTH1D	76.	0.	0.	0.	0.	0.	0.121	0.149	0.005
		DWTH2D	65.	0.	0.	0.	0.	0.	0.121	0.149	0.008
		DWDB	66.	0.	0.	0.	0.	0.	0.121	0.149	0.000
75	RAD	BURIED PIPE									
		WTDW	0.	0.	-30.	0.	0.	0.	-0.012	0.032	0.000
		THRM1	0.	0.	75.	0.	0.	0.	-0.003	0.012	0.000
		THRM2	0.	0.	-108.	0.	0.	0.	0.004	-0.018	0.000
		SAMDB	0.	0.	75.	0.	0.	0.	0.121	0.151	0.000
		SEISDB	0.	0.	72.	0.	0.	0.	0.052	0.047	0.000
		DWTH1	0.	0.	45.	0.	0.	0.	-0.015	0.044	0.000
		DWTH2	0.	0.	-138.	0.	0.	0.	-0.007	0.014	0.000
		DWTH1D	0.	0.	149.	0.	0.	0.	0.146	0.203	0.000
		DWTH2D	0.	0.	242.	0.	0.	0.	0.139	0.172	0.000
		DWDB	0.	0.	134.	0.	0.	0.	0.143	0.190	0.000

80101382R2  
 SUP11R0  
 Page 8



TITLE : AUXILIARY FEEDWATER PIPING  
 PROJECT NUMBER : 80101382  
 PROBLEM NUMBER : 267274DS\_2  
 USER : GM  
 LOAD CASE :

DATA TYPE	LOAD	TITLE	GLOBAL FORCES (LB)			GLOBAL MOMENTS (FT-LB)			DISPLACEMENT (IN)		
			FX	FY	FZ	MX	MY	MZ	DX	DY	DZ
1	ANC	12AFWA-31									
		WTDW	-3.	-119.	-6.	-236.	14.	12.	0.000	0.000	0.000
		THRM1	-7.	-10.	-18.	-40.	28.	35.	0.000	0.000	0.000
		THRM2	10.	14.	26.	57.	-41.	-51.	0.000	0.000	0.000
		SAMDB	51.	66.	88.	273.	211.	175.	0.038	0.014	0.038
		SEISDB	97.	79.	157.	266.	345.	47.	0.000	0.000	0.000
		DWTH1	-10.	-129.	-24.	-277.	43.	48.	0.000	0.000	0.000
		DWTH2	6.	-105.	20.	-179.	-26.	-38.	0.000	0.000	0.000
		DWTH1D	120.	232.	204.	657.	447.	229.	0.038	0.014	0.038
		DWTH2D	116.	208.	200.	560.	430.	219.	0.038	0.014	0.038
		DWDB	113.	222.	186.	617.	418.	193.	0.038	0.014	0.038
13	RAD	12AFWG-DP13									
		WTDW	0.	-249.	0.	0.	0.	0.	0.000	0.000	0.000
		THRM1	0.	52.	0.	0.	0.	0.	0.000	0.000	0.033
		THRM2	0.	-74.	0.	0.	0.	0.	0.000	0.000	-0.047
		SAMDB	0.	251.	0.	0.	0.	0.	0.038	0.014	0.038
		SEISDB	0.	85.	0.	0.	0.	0.	0.000	0.000	0.000
		DWTH1	0.	-198.	0.	0.	0.	0.	0.000	0.000	0.033
		DWTH2	0.	-323.	0.	0.	0.	0.	0.000	0.000	-0.047
		DWTH1D	0.	463.	0.	0.	0.	0.	0.038	0.014	0.071
		DWTH2D	0.	588.	0.	0.	0.	0.	0.038	0.014	0.085
		DWDB	0.	515.	0.	0.	0.	0.	0.038	0.014	0.038
13	RAD	12AFWG-DP13									
		WTDW	16.	0.	0.	0.	0.	0.	0.000	0.000	0.000
		THRM1	37.	0.	0.	0.	0.	0.	0.000	0.000	0.033
		THRM2	-52.	0.	0.	0.	0.	0.	0.000	0.000	-0.047
		SAMDB	207.	0.	0.	0.	0.	0.	0.038	0.014	0.038
		SEISDB	211.	0.	0.	0.	0.	0.	0.000	0.000	0.000
		DWTH1	52.	0.	0.	0.	0.	0.	0.000	0.000	0.033
		DWTH2	-37.	0.	0.	0.	0.	0.	0.000	0.000	-0.047
		DWTH1D	348.	0.	0.	0.	0.	0.	0.038	0.014	0.071
		DWTH2D	332.	0.	0.	0.	0.	0.	0.038	0.014	0.085
		DWDB	311.	0.	0.	0.	0.	0.	0.038	0.014	0.038
23	RAD	12AFWG-DP23									
		WTDW	0.	0.	0.	0.	0.	0.	0.000	-0.002	0.000
		THRM1	-57.	0.	0.	0.	0.	0.	0.000	0.007	0.000
		THRM2	81.	0.	0.	0.	0.	0.	0.000	-0.010	0.000
		SAMDB	577.	0.	0.	0.	0.	0.	0.139	0.153	0.139
		SEISDB	264.	0.	0.	0.	0.	0.	0.000	0.011	0.000
		DWTH1	-57.	0.	0.	0.	0.	0.	0.000	0.005	0.000
		DWTH2	80.	0.	0.	0.	0.	0.	0.000	-0.012	0.000
		DWTH1D	691.	0.	0.	0.	0.	0.	0.139	0.158	0.139
		DWTH2D	714.	0.	0.	0.	0.	0.	0.139	0.165	0.139
		DWDB	634.	0.	0.	0.	0.	0.	0.139	0.156	0.139

TITLE : AUXILIARY FEEDWATER PIPING  
 PROJECT NUMBER : 80101382  
 PROBLEM NUMBER : 267274DS\_2  
 USER : GM  
 LOAD CASE :

DATA TYPE	LOAD	TITLE	GLOBAL FORCES (LB)			GLOBAL MOMENTS (FT-LB)			DISPLACEMENT (IN)		
			FX	FY	FZ	MX	MY	MZ	DX	DY	DZ
23	RAD	12AFWG-DP23									
		WTDW	0.	0.	38.	0.	0.	0.	0.000	-0.002	0.000
		THRM1	0.	0.	-66.	0.	0.	0.	0.000	0.007	0.000
		THRM2	0.	0.	94.	0.	0.	0.	0.000	-0.010	0.000
		SAMDB	0.	0.	153.	0.	0.	0.	0.139	0.153	0.139
		SEISDB	0.	0.	549.	0.	0.	0.	0.000	0.011	0.000
		DWTH1	0.	0.	-28.	0.	0.	0.	0.000	0.005	0.000
		DWTH2	0.	0.	132.	0.	0.	0.	0.000	-0.012	0.000
		DWTH1D	0.	0.	598.	0.	0.	0.	0.139	0.158	0.139
		DWTH2D	0.	0.	702.	0.	0.	0.	0.139	0.165	0.139
		DWDB	0.	0.	608.	0.	0.	0.	0.139	0.156	0.139
35	RAD	12AFWG-DP35									
		WTDW	0.	-464.	0.	0.	0.	0.	0.000	0.000	0.003
		THRM1	0.	-26.	0.	0.	0.	0.	0.000	0.000	-0.005
		THRM2	0.	37.	0.	0.	0.	0.	0.000	0.000	0.007
		SAMDB	0.	190.	0.	0.	0.	0.	0.143	0.154	0.153
		SEISDB	0.	148.	0.	0.	0.	0.	0.000	0.000	0.022
		DWTH1	0.	-490.	0.	0.	0.	0.	0.000	0.000	-0.001
		DWTH2	0.	-427.	0.	0.	0.	0.	0.000	0.000	0.010
		DWTH1D	0.	731.	0.	0.	0.	0.	0.143	0.154	0.156
		DWTH2D	0.	668.	0.	0.	0.	0.	0.143	0.154	0.165
		DWDB	0.	705.	0.	0.	0.	0.	0.143	0.154	0.158
35	RAD	12AFWG-DP35									
		WTDW	-13.	0.	0.	0.	0.	0.	0.000	0.000	0.003
		THRM1	31.	0.	0.	0.	0.	0.	0.000	0.000	-0.005
		THRM2	-44.	0.	0.	0.	0.	0.	0.000	0.000	0.007
		SAMDB	474.	0.	0.	0.	0.	0.	0.143	0.154	0.153
		SEISDB	214.	0.	0.	0.	0.	0.	0.000	0.000	0.022
		DWTH1	18.	0.	0.	0.	0.	0.	0.000	0.000	-0.001
		DWTH2	-58.	0.	0.	0.	0.	0.	0.000	0.000	0.010
		DWTH1D	538.	0.	0.	0.	0.	0.	0.143	0.154	0.156
		DWTH2D	578.	0.	0.	0.	0.	0.	0.143	0.154	0.165
		DWDB	534.	0.	0.	0.	0.	0.	0.143	0.154	0.158
40	RAD	12AFWG-DP40									
		WTDW	0.	-218.	0.	0.	0.	0.	0.000	0.000	0.003
		THRM1	0.	-18.	0.	0.	0.	0.	0.000	0.000	0.020
		THRM2	0.	26.	0.	0.	0.	0.	0.000	0.000	-0.029
		SAMDB	0.	36.	0.	0.	0.	0.	0.143	0.154	0.153
		SEISDB	0.	98.	0.	0.	0.	0.	0.000	0.000	0.022
		DWTH1	0.	-237.	0.	0.	0.	0.	0.000	0.000	0.024
		DWTH2	0.	-192.	0.	0.	0.	0.	0.000	0.000	-0.026
		DWTH1D	0.	341.	0.	0.	0.	0.	0.143	0.154	0.178
		DWTH2D	0.	297.	0.	0.	0.	0.	0.143	0.154	0.180
		DWDB	0.	323.	0.	0.	0.	0.	0.143	0.154	0.158

80101382R2  
 SUP11R0  
 Page 10

267274DS\_2                    RESTRAINT LOAD SUMMARY  
 TITLE            : AUXILIARY FEEDWATER            PIPING  
 PROJECT NUMBER : 80101382  
 PROBLEM NUMBER : 267274DS\_2  
 USER            : GM  
 LOAD CASE       :

80101382R2  
 SUP11R0  
 Page 11

DATA PT	TYPE	LOAD	TITLE	GLOBAL FORCES (LB)			GLOBAL MOMENTS (FT-LB)			DISPLACEMENT (IN)		
				FX	FY	FZ	MX	MY	MZ	DX	DY	DZ
40	RAD		12AFWG-DP40									
		WTDW		3.	0.	0.	0.	0.	0.	0.000	0.000	0.003
		THRM1		-3.	0.	0.	0.	0.	0.	0.000	0.000	0.020
		THRM2		5.	0.	0.	0.	0.	0.	0.000	0.000	-0.029
		SAMDB		61.	0.	0.	0.	0.	0.	0.143	0.154	0.153
		SEISDB		75.	0.	0.	0.	0.	0.	0.000	0.000	0.022
		DWTH1		0.	0.	0.	0.	0.	0.	0.000	0.000	0.024
		DWTH2		8.	0.	0.	0.	0.	0.	0.000	0.000	-0.026
		DWTH1D		97.	0.	0.	0.	0.	0.	0.143	0.154	0.178
		DWTH2D		105.	0.	0.	0.	0.	0.	0.143	0.154	0.180
		DWDB		100.	0.	0.	0.	0.	0.	0.143	0.154	0.158
43	RAD		12AFWG-DP43									
		WTDW		0.	-262.	0.	0.	0.	0.	0.000	0.000	0.003
		THRM1		0.	-2.	0.	0.	0.	0.	0.000	0.000	0.047
		THRM2		0.	2.	0.	0.	0.	0.	0.000	0.000	-0.067
		SAMDB		0.	12.	0.	0.	0.	0.	0.143	0.154	0.153
		SEISDB		0.	59.	0.	0.	0.	0.	0.000	0.000	0.022
		DWTH1		0.	-264.	0.	0.	0.	0.	0.000	0.000	0.050
		DWTH2		0.	-260.	0.	0.	0.	0.	0.000	0.000	-0.063
		DWTH1D		0.	324.	0.	0.	0.	0.	0.143	0.154	0.205
		DWTH2D		0.	320.	0.	0.	0.	0.	0.143	0.154	0.218
		DWDB		0.	322.	0.	0.	0.	0.	0.143	0.154	0.158
43	RAD		12AFWG-DP43									
		WTDW		-7.	0.	0.	0.	0.	0.	0.000	0.000	0.003
		THRM1		-8.	0.	0.	0.	0.	0.	0.000	0.000	0.047
		THRM2		11.	0.	0.	0.	0.	0.	0.000	0.000	-0.067
		SAMDB		18.	0.	0.	0.	0.	0.	0.143	0.154	0.153
		SEISDB		84.	0.	0.	0.	0.	0.	0.000	0.000	0.022
		DWTH1		-15.	0.	0.	0.	0.	0.	0.000	0.000	0.050
		DWTH2		4.	0.	0.	0.	0.	0.	0.000	0.000	-0.063
		DWTH1D		101.	0.	0.	0.	0.	0.	0.143	0.154	0.205
		DWTH2D		90.	0.	0.	0.	0.	0.	0.143	0.154	0.218
		DWDB		93.	0.	0.	0.	0.	0.	0.143	0.154	0.158
45	RAD		12AFWG-DP45									
		WTDW		0.	-177.	0.	0.	0.	0.	0.000	0.000	0.004
		THRM1		0.	31.	0.	0.	0.	0.	0.000	0.000	0.073
		THRM2		0.	-44.	0.	0.	0.	0.	0.000	0.000	-0.105
		SAMDB		0.	15.	0.	0.	0.	0.	0.143	0.154	0.153
		SEISDB		0.	109.	0.	0.	0.	0.	0.000	0.000	0.023
		DWTH1		0.	-146.	0.	0.	0.	0.	0.000	0.000	0.077
		DWTH2		0.	-221.	0.	0.	0.	0.	0.000	0.000	-0.101
		DWTH1D		0.	255.	0.	0.	0.	0.	0.143	0.154	0.231
		DWTH2D		0.	331.	0.	0.	0.	0.	0.143	0.154	0.256
		DWDB		0.	286.	0.	0.	0.	0.	0.143	0.154	0.158

267274DS\_2            RESTRAINT LOAD SUMMARY  
 TITLE            : AUXILIARY FEEDWATER            PIPING  
 PROJECT NUMBER : 80101382  
 PROBLEM NUMBER : 267274DS\_2  
 USER            : GM  
 LOAD CASE       :           

ME101/N9 PSEG/818            (MJ5525) 04/22/10 MJ5525    PAGE    162

DATA PT	TYPE	LOAD	TITLE	GLOBAL FORCES (LB)			GLOBAL MOMENTS (FT-LB)			DISPLACEMENT (IN)		
				FX	FY	FZ	MX	MY	MZ	DX	DY	DZ
45	RAD		12AFWG-DP45									
		WTDW		32.	0.	0.	0.	0.	0.	0.000	0.000	0.004
		THRM1		45.	0.	0.	0.	0.	0.	0.000	0.000	0.073
		THRM2		-64.	0.	0.	0.	0.	0.	0.000	0.000	-0.105
		SAMDB		28.	0.	0.	0.	0.	0.	0.143	0.154	0.153
		SEISDB		90.	0.	0.	0.	0.	0.	0.000	0.000	0.023
		DWTH1		76.	0.	0.	0.	0.	0.	0.000	0.000	0.077
		DWTH2		-32.	0.	0.	0.	0.	0.	0.000	0.000	-0.101
		DWTH1D		171.	0.	0.	0.	0.	0.	0.143	0.154	0.231
		DWTH2D		127.	0.	0.	0.	0.	0.	0.143	0.154	0.256
		DWDB		126.	0.	0.	0.	0.	0.	0.143	0.154	0.158
47	RAD		12AFWG-DP47									
		WTDW		0.	-309.	0.	0.	0.	0.	0.000	0.000	0.004
		THRM1		0.	-212.	0.	0.	0.	0.	0.000	0.000	0.095
		THRM2		0.	302.	0.	0.	0.	0.	0.000	0.000	-0.135
		SAMDB		0.	158.	0.	0.	0.	0.	0.143	0.154	0.152
		SEISDB		0.	248.	0.	0.	0.	0.	0.000	0.000	0.023
		DWTH1		0.	-521.	0.	0.	0.	0.	0.000	0.000	0.098
		DWTH2		0.	-7.	0.	0.	0.	0.	0.000	0.000	-0.132
		DWTH1D		0.	815.	0.	0.	0.	0.	0.143	0.154	0.252
		DWTH2D		0.	301.	0.	0.	0.	0.	0.143	0.154	0.286
		DWDB		0.	603.	0.	0.	0.	0.	0.143	0.154	0.158
47	RAD		12AFWG-DP47									
		WTDW		-47.	0.	0.	0.	0.	0.	0.000	0.000	0.004
		THRM1		-170.	0.	0.	0.	0.	0.	0.000	0.000	0.095
		THRM2		242.	0.	0.	0.	0.	0.	0.000	0.000	-0.135
		SAMDB		112.	0.	0.	0.	0.	0.	0.143	0.154	0.152
		SEISDB		69.	0.	0.	0.	0.	0.	0.000	0.000	0.023
		DWTH1		-217.	0.	0.	0.	0.	0.	0.000	0.000	0.098
		DWTH2		195.	0.	0.	0.	0.	0.	0.000	0.000	-0.132
		DWTH1D		349.	0.	0.	0.	0.	0.	0.143	0.154	0.252
		DWTH2D		327.	0.	0.	0.	0.	0.	0.143	0.154	0.286
		DWDB		179.	0.	0.	0.	0.	0.	0.143	0.154	0.158
57	RAD		12AFWG-DP57									
		WTDW		4.	0.	0.	0.	0.	0.	0.000	-0.037	0.025
		THRM1		119.	0.	0.	0.	0.	0.	0.000	-0.025	0.087
		THRM2		-169.	0.	0.	0.	0.	0.	0.000	0.036	-0.124
		SAMDB		75.	0.	0.	0.	0.	0.	0.138	0.152	0.126
		SEISDB		90.	0.	0.	0.	0.	0.	0.000	0.050	0.044
		DWTH1		122.	0.	0.	0.	0.	0.	0.000	-0.062	0.112
		DWTH2		-166.	0.	0.	0.	0.	0.	0.000	-0.001	-0.098
		DWTH1D		239.	0.	0.	0.	0.	0.	0.138	0.222	0.246
		DWTH2D		282.	0.	0.	0.	0.	0.	0.138	0.161	0.232
		DWDB		120.	0.	0.	0.	0.	0.	0.138	0.197	0.159

80101382R2  
 SUP11R0  
 Page 12

267274DS\_2            RESTRAINT LOAD SUMMARY  
 TITLE            : AUXILIARY FEEDWATER        PIPING  
 PROJECT NUMBER : 80101382  
 PROBLEM NUMBER : 267274DS\_2  
 USER            : GM  
 LOAD CASE       :

ME101/N9 PSEG/818 (MJ5525) 04/22/10 MJ5525 PAGE 163

DATA TYPE	LOAD	TITLE	GLOBAL FORCES (LB)			GLOBAL MOMENTS (FT-LB)			DISPLACEMENT (IN)			
			FX	FY	FZ	MX	MY	MZ	DX	DY	DZ	
73	RAD	12AFWG-DP73										
		WTDW	0.	-278.	0.	0.	0.	0.	0.000	0.000	0.000	
		THRM1	0.	185.	0.	0.	0.	0.	0.000	0.000	-0.005	
		THRM2	0.	-264.	0.	0.	0.	0.	0.000	0.000	0.008	
		SAMDB	0.	147.	0.	0.	0.	0.	0.120	0.149	0.000	
		SEISDB	0.	169.	0.	0.	0.	0.	0.000	0.000	0.000	
		DWTH1	0.	-93.	0.	0.	0.	0.	0.000	0.000	-0.005	
		DWTH2	0.	-542.	0.	0.	0.	0.	0.000	0.000	0.008	
		DWTH1D	0.	318.	0.	0.	0.	0.	0.120	0.149	0.005	
		DWTH2D	0.	767.	0.	0.	0.	0.	0.120	0.149	0.008	
		DWDB	0.	502.	0.	0.	0.	0.	0.120	0.149	0.000	
73	RAD	12AFWG-DP73										
		WTDW	17.	0.	0.	0.	0.	0.	0.000	0.000	0.000	
		THRM1	13.	0.	0.	0.	0.	0.	0.000	0.000	-0.005	
		THRM2	-19.	0.	0.	0.	0.	0.	0.000	0.000	0.008	
		SAMDB	15.	0.	0.	0.	0.	0.	0.120	0.149	0.000	
		SEISDB	91.	0.	0.	0.	0.	0.	0.000	0.000	0.000	
		DWTH1	30.	0.	0.	0.	0.	0.	0.000	0.000	-0.005	
		DWTH2	-2.	0.	0.	0.	0.	0.	0.000	0.000	0.008	
		DWTH1D	123.	0.	0.	0.	0.	0.	0.120	0.149	0.005	
		DWTH2D	94.	0.	0.	0.	0.	0.	0.120	0.149	0.008	
		DWDB	110.	0.	0.	0.	0.	0.	0.120	0.149	0.000	
75	RAD	BURIED PIPE										
		WTDW	0.	0.	-32.	0.	0.	0.	-0.022	0.034	0.000	
		THRM1	0.	0.	84.	0.	0.	0.	-0.008	0.002	0.000	
		THRM2	0.	0.	-120.	0.	0.	0.	0.011	-0.003	0.000	
		SAMDB	0.	0.	74.	0.	0.	0.	0.120	0.148	0.000	
		SEISDB	0.	0.	53.	0.	0.	0.	0.097	0.049	0.000	
		DWTH1	0.	0.	52.	0.	0.	0.	-0.030	0.037	0.000	
		DWTH2	0.	0.	-152.	0.	0.	0.	-0.011	0.032	0.000	
		DWTH1D	0.	0.	143.	0.	0.	0.	0.183	0.193	0.000	
		DWTH2D	0.	0.	243.	0.	0.	0.	0.164	0.188	0.000	
		DWDB	0.	0.	123.	0.	0.	0.	0.176	0.191	0.000	

80101382R2  
 SUP11R0  
 Page 13 of 13