

# REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NUR: 8610280550 DOC. DATE: 86/10/24 NOTARIZED: NO DOCKET #  
 FACIL: 50-250 Turkey Point Plant, Unit 3, Florida Power and Light C 05000250  
 50-251 Turkey Point Plant, Unit 4, Florida Power and Light C 05000251  
 AUTH. NAME AUTHOR AFFILIATION  
 WOODY, C. O. Florida Power & Light Co.  
 RECIP. NAME RECIPIENT AFFILIATION  
 RUBENSTEIN, L. S. PWR Project Directorate 2

SUBJECT: Forwards load summary sheets for supports subj to PORV  
 discharge loads corresponding to EPRI load combinations, per  
 860626 response to NRC 850714 request for addl info re  
 NUREG-0737, Item II. D. 1.

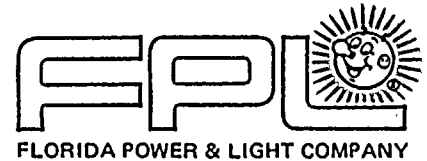
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## NOTES:

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McDONALD, D		1	1	PWR-A	PSB	1	1
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OCTOBER 24 1986

L-86-420

Office of Nuclear Reactor Regulation  
Attention: Mr. Lester S. Rubenstein, Director  
PWR Project Directorate #2  
Division of PWR Licensing - A  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Mr. Rubenstein:

Re: Turkey Point Units 3 and 4  
Docket Nos. 50-250 and 50-251  
NUREG-0737, Item II.D.1  
Performance Testing of Relief and Safety Valves  
Request for Additional Information  
NRC TAC Nos. 44626 and 44627

By letter dated June 26, 1986 (FPL Letter No. L-86-241) FPL responded to a July 14, 1985 request for additional information related to NUREG-0737, Item II.D.1, Performance Testing of Relief and Safety Valves. In the response to question 16, FPL indicated that additional analyses for certain PORV and SRV load combinations needed to be completed.

Attached are the load summary sheets for supports subject to PORV discharge loads which correspond to EPRI load combinations 2 and 3 (Table 2, Governing PORV and SRV Load Combinations 1 and 3 for Supports - Upset Condition).

Please note that the safety factors given are for allowable support loads vs. actual support loads (for the most limiting support component) in lieu of actual stresses vs. allowable stresses. This is more indicative of support loadings. The tabulated safety factors bound the normal allowable factors of safety for each respective component (e.g. if anchor bolt pullout load is limiting, a tabulated safety factor equal to 1.0 means that a normal pullout allowable factor of safety of 4.0 is also met.)

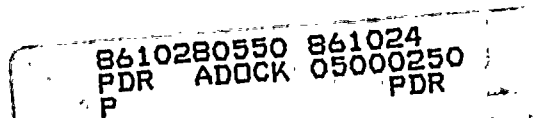
If you have any questions regarding the attached information, please call us. The submittal of this information completes our response to question 16.

Very truly yours,

*C. O. Woody*  
for C. O. Woody  
Group Vice President  
Nuclear Energy

COW/TCG/gp  
Attachment

cc: Dr. J. Nelson Grace, NRC Region II  
Harold F. Reis, Esquire



*A046*  
*11*



TABLE 2

## GOVERNING PORV &amp; SRV LOAD COMBINATIONS FOR PIPES &amp; SUPPORTS

COMBINATION	PLANT/SYSTEM OPERATING CONDITION	LOAD COMBINATION	SERVICES STRESS LIMIT	
			CLASS 1	CLASS 2
1	UPSET (PIPING)	Sustained Loads + OBE + Relief Valve Discharge Transient	$1.8S_m$	$1.8S_h$
1	UPSET (SUPPORTS)	Sustained Loads + Relief valve Discharge transient	Stress Level B	
2	EMERGENCY (PIPING)	Sustained Loads + Safety Valve $2.25S_m$	$2.25S_m$	$2.25S_h$
2	EMERGENCY (SUPPORTS)	Sustained Loads + Safety Valve discharge transient	Stress Level C	
3	UPSET (SUPPORTS)	Sustained Loads + OBE + Relief Valve Discharge Transient	Stress Level C	

## NOTE:

$S_m$  = Basic Allowable Stress Intensity = 20 ksi

$S_h$  = Basic Material Allowable Stress at Maximum Temperature = 15 ksi

(From FPL Letter L-86-241 dated June 26, 1986)



# SUMMARY OF PIPE SUPPORT LOADS

TR-0002-1

TELETYPE ENGINEERING SERVICES

REVISION LEB BARRON DATE 7/3/86 CHECKED WJM DATE 7/1/86 APPROVAL \_\_\_\_\_ DATE \_\_\_\_\_  
 TITLE REACTOR COOLANT SYSTEM - INSIDE CONT JOB NO. \_\_\_\_\_ FROM INVOICE PL-2 UNIT 4 REVISION NO. \_\_\_\_\_  
 SUBJECT SUPPORT LOADINGS SHEET NO. \_\_\_\_\_ COMPTON NO. \_\_\_\_\_

Sheet 4/3

SUPPORT NO.	DATA POINT	SUPPORT DIRECTION & TYPE	NOMINAL PIPE SIZE (IN)	SUPPORT LOADS (LBS)								EPRI COMB 2	EPRI COMB 3	EPRI LOAD COMB-2 SAFETY FACTOR	EPRI LOAD COMB 3 SAFETY FACTOR	COMMENTS
				OPERATING WEIGHT	OPERATING BASIS EARTH QUAKE	TEMPERATURE EXPANSION		PRESS RELIEF VALVE	SAFETY PRY & OBE							
4-PRH-3	11/40	X-RIGID	12	372	804	-815		1718	1897			2098 -2141 1865	2269 -2340 1738	1.05	1.04	
4-PRH-3	11/40	Z-RIGID	12	134	478	210		1521	1594			-1387	-1460	1.33	1.70	
4-PRH-4	13/30	Z-SNUB	12	N/A	420	N/A		2630	2663			±2630	±2663	1.0	1.0	
4-PRH-4	11/40	X-RIGID	12	46	603	848 -809		2094	2179			2988 -2897	3073 -2942	1.0	1.0	
4-PRH-2	11/81	X-SNUB	12	N/A	265	N/A		111	287			±111	±287	10.7	4.16	
4-PRH-B	21/240	Y-SNUB	6	N/A	183	N/A		742	764			±742	±764	2.86	2.78	
4-PRH-B	27/270	X-RIGID	6	44	147	-412		484	506			628 -752	650 -774	1.37	1.78	
4-PRH-B	27/270	Z-RIGID	6	44	168	-769		573	597			67 -1298	641 -1322	1.37	1.78	
(WIL-6-2) 4-PRH-12	63/530	Z-RIGID	6	277	84	1892		238	243			2377 10	2416 10	1.0	1.0	
BA-1 PRH-11	57/570	X-RIGID	6	171	260	371 -54		387	408			831 -274	910 -353	1.05	1.04	
BA-1 PRH-11	57/570	Z-RIGID	6	193	147	-1864		349	377			156 -2446	186 -2436	1.05	1.04	

NOTES: 1) EPRI Load Combinations per Interim Report dated July '82 Appendix E (Reference 1)

2) Safety Factors Defined as  $\frac{\text{Allowable Support Load}}{\text{Actual Support Load}}$



BY LEB DATE 8-17-86  
 CHKD. BY WJM DATE 8-24-86





# SUMMARY OF PIPE SUPPORT LOADS

TR-0602-1  
TELEPHONE ENGINEERING SERVICES

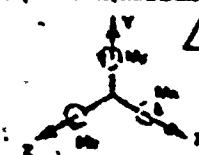
DESIGNED Lee, Rocco DATE 7/1/86 CHECKED WJM DATE 7/1/86 APPROVAL \_\_\_\_\_ DATE \_\_\_\_\_  
 TITLE REACTOR COOLANT SYSTEM - INSIDE CONT. SHEET NO. \_\_\_\_\_ PROJECT NO. PR-2 UNIT 4 REVISED \_\_\_\_\_  
 SUBJECT SUPPORT LOADINGS SHEET NO. \_\_\_\_\_ PROJECT NO. \_\_\_\_\_

Sheet 2/3

SUPPORT NO.	DATA POINT	SUPPORT DIRECTION & TYPE	NOMINAL PIPE SIZE (IN.)	SUPPORT LOADS (LBS.)										EPRI LOAD COMB-2 SAFETY FACTOR	EPRI LOAD COMB-3 SAFETY FACTOR					COMMENTS
				OPERATING WEIGHT	OPERATING BASIC EARTH QUAKE	THERMAL EXPANSION	PRESS. RELIEF	SACS PRV & OBE				EPRI COMB 2	EPRI COMB 3							
4-PRH-10	61/110	Y-SHUB	6	N/A	195	N/A	227	299				±227	±299	9.35	7.1					
4-PRH-10	62/121	RIGID LATERAL NE	6	-150	124	-448	538	552				380/-1144	394/-1158	1.0	1.0					
4-PRH-10	63/121	RIGID AXIAL NW	6	217	147	732	226	269				1175/-9	1218/-52	6.0	1.0					
4-PRH-9	76/110	Y-SHUB	6	N/A	241	N/A	1184	1208				±1184	±1208	1.75	1.75					
4-PRH-9	78/120	X-RIGID	6	130	145	-555	368	396				498/-773	526/-821	6.23	6.6					
4-PRH-9	78/120	Z-RIGID	6	-163	124	43/-345	229	260				109/-737	140/-768	6.23	6.6					
(WALL PEN) 4-RCH-4B	113/120	X-RIGID	6	-309	949	461/-230	2913	2947				3065/-3452	3077/-3482	1.05	1.09					
4-PRH-6	115/118	Y-SHUB	6	N/A	189	N/A	1184	1199				±1184	±1199	3.54	2.78					
4-PRH-6	1175/125	Z-RIGID	6	104	330	150/-330	1904	1932				2158/-2130	2176/-2158	1.82	2.3					

## NOTES:

- 1) EPRI Load Combinations per Interim Report dated July '82 Appendix E (Reference 1)
- 2) Safety Factors Defined as  $\frac{\text{Allowable Support Load}}{\text{Actual Support Load}}$



BY LCB DATE 8-27-86  
 CHKD. BY WJM DATE 8-28-86



