Florida Power & Light Company, 6501 S. Ocean Drive, Jensen Beach, FL 34957

October 29, 2008

L-2008-236
10 CFR 50.4

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

RE: St. Lucie Units 1 and 2
Docket Nos. 50-335 and 50-389
Extended Power Uprate
Data for NRC Confirmatory EPU analyses

This letter provides data requested by the NRC that is needed to build PSL-specific LOCA models for the NRC's confirmatory EPU analyses. This data is provided in Attachments 1 and 2.

Please contact Ken Frehafer at 772-467-7748 or Kathy Rydman at 772-467-7680 if there are any questions regarding this information.

Sincerely,

Eric S. Katzman
Licensing Manager
St. Lucie Plant

ESK/KWF

Attachments

A001
NRR

ST. LUCIE UNIT 1 EPU Input Data Request to NRC for LOCA Model

Item No.	Parameter –Description	Units	Value	Comments
1.	**Plant Operating Conditions**			
1a	For rated power conditions (Current)			
	1. Primary and Secondary Flow rates:			
	1.1. Core flow	gpm	410,922	Unc: ± 14,945 gpm and min flow is 365,000 gpm
	1.2. Main coolant pumps	gpm	95,000 (1A1) 96,000 (1A2) 95,000 (1B1) 94,000 (1B2)	RCP Pump Test Data
	1.3. Steam flow	lbm/s	See Item 1a.7.1	--------
	1.4. Feedwater flow	lbm/hr	See Item 1a.7.1	--------
	1.5. SG recirculation ratio/boiler section flow	Power- % CircRatio	Power %Circ Ratio 25 15.3 50 8.7 75 5.95 90 4.9 100 4.3	--------
	2. Primary and Secondary Pressures:			
	2.1. Pressurizer	psia	2250	Pressure range is 2225 to 2275, with Unc: ± 22 Normal, ± 80 Accident
	2.2. Core inlet	psia	2285	Estimate based on Rx vessel pressure losses of 35.4 psia and core outlet pressure.

Item No.	Parameter –Description	Units	Value	Comments
	2.3. Core outlet	psia	2250	Assumed to be the same as the pressurizer.
	2.4. Reactor coolant pump discharge	psia	2286	Assume a 1 psi pressure drop from RCP discharge to core inlet.
	2.5. Steam generator dome	psia	863.5	Steam Generator Outlet from Benchmarked Heat Balance plus pressure drop to Above Primary Deck
	2.6. Turbine control valve inlet	psia	See Item 1a.7.3	--------
	2.7. Detailed primary loop pressure drop distribution	psi	Later	Later
	3. Primary and Secondary Temperatures:			
	3.1. Hot leg	°F	599	Assumed to be the same as the core outlet temperature since the Rx vessel does not have upper head injection.
	3.2. Cold leg	°F	549 Unc: ± 3°F	Tcold temperature at full power.
	3.3. Core outlet	°F	599	--------
	3.4. Upper Head	°F	599	Assumed to be the same as the core outlet temperature since the Rx vessel does not have upper head injection.
	4. Water levels in the pressurizer and steam generators.			
	4.1. Pressurizer	% Tap Span	See Figure 1	--------
	4.2. Steam Generators	ft	35.0	Reference SG elevations from bottom of support skirt base.

Item No.	Parameter –Description	Units	Value	Comments
	5. Leakage flows (Bypass):	% of vessel flow	3.9	--------
	5.1. Outlet nozzle clearances	percent	1.18	--------
	5.2. Downcomer to upper head	percent	0.17	--------
	5.3. CEA shrouds	percent	N/A	Equivalent to a fraction of the leakage through guide tubes (item 1a.5.5.1). This has not been quantified.
	5.4. Upper head to upper plenum (guide structure holes)	percent	N/A	This has not been quantified.
	5.5. Core bypass (guide tubes, barrel-baffle)			
	5.5.1. Guide tubes	percent	1.86	--------
	5.5.2. Barrel-baffle	percent	0.50	--------
	6. Steam generator recirculation ratio	Power-%CircRatio	See Item 1a.1.5	--------
	7. Heat balance information, such as:			
	7.1. Feedwater and steam flows	lbm/hr	11,851,050 11,784,590	Benchmarked Heat Balance
	7.2. Feedwater temperature	°F	435	Benchmarked Heat Balance
	7.3. Turbine inlet pressure	psia	816.4	Benchmarked Heat Balance, Turbine Valve Inlet

Item No.	Parameter –Description	Units	Value	Comments
1.	**Plant Operating Conditions**			
1b.	For EPU conditions.			
	1. Primary and Secondary Flow rates:			
	1.1. Core flow	gpm	410,922	Nominal value based on the most recent measurement. Unc: ± 15,000 gpm; TS Min flow is 375,000 gpm
	1.2. Main coolant pumps	gpm	95,000 (1A1) 96,000 (1A2) 95,000 (1B1) 94,000 (1B2)	RCP Pump Test Data
	1.3. Steam flow	lbm/s	See Item 1b.7.1	--------
	1.4. Feedwater flow	lbm/hr	See Item 1b.7.1	--------
	1.5. SG recirculation ratio/boiler section flow	Power- % CircRatio	Later	Later
	2. Primary and Secondary Pressures:			
	2.1. Pressurizer	psia	2225 to 2275 Unc: ± 40	--------
	2.2. Core inlet	psia	2285	Assumed to remain similar to current conditions.
	2.3. Core outlet	psia	2250	Assumed to remain similar to current conditions.
	2.4. Reactor coolant pump discharge	psia	2286	Assumed to remain similar to current conditions.
	2.5. Steam generator dome	psia	Later	Later
	2.6. Turbine control valve inlet	psia	See Item 1b.7.3	--------
	2.7. Detailed primary loop pressure drop distribution	psi	Later	Later
	3. Primary and Secondary Temperatures:			
	3.1. Hot leg	°F	Later	Assume to be the same as the core outlet temperature since the Rx vessel

Item No.	Parameter –Description	Units	Value	Comments
				does not have upper head injection.
	3.2. Cold leg	°F	551 Unc: ± 3F	Corresponds to 100% Power. Tcold at 0% power is 532°F.
	3.3. Core outlet	°F	Later	Safety analysis will determine value during EPU analysis.
	3.4. Upper Head	°F	Later	Assume to be the same as the core outlet temperature since the Rx vessel does not have upper head injection.
	4. Water levels in the pressurizer and steam generators.			
	4.1. Pressurizer	% Tap Span	See Figure 1	--------
	4.2. Steam Generators	ft	35.0	Reference SG elevations from bottom of support skirt base. Assumes NWL does not change for EPU.
	5. Leakage flows (Bypass):			
	5.1. Outlet nozzle clearances	percent	1.27	--------
	5.2. Downcomer to upper head	percent	0.18	--------
	5.3. CEA shrouds	percent	N/A	This has not been quantified.
	5.4. Upper head to upper plenum (guide structure holes)	percent	N/A	This has not been quantified.
	5.5. Core bypass (guide tubes, barrel-baffle)			
	5.5.1. Guide tubes	percent	2.00	Guide and Instrument Tubes
	5.5.2. Barrel-baffle	percent	0.54	Includes Core Shroud Bypass
	6. Steam generator recirculation ratio	Power-%CircRatio	See Item 1b.1.5.	--------
	7. Heat balance information, such as:			
	7.1. Feedwater and steam flows	lbm/hr	13,305,870 13,239,440	Draft Heat Balance
	7.2. Feedwater temperature	°F	436.2	Draft Heat Balance
	7.3. Turbine inlet pressure	psia	802.5	Draft Heat Balance, Turbine Valve Inlet

Item No.	Parameter –Description	Units	Value	Comments
2.	**Analysis Topical Reports**			
	1. Topical Report on the licensing analysis of record for LOCA at rated power and EPU conditions.	See Comment	See Comment	See References provided below applicable to rated power: • XN-NF-82-49(P)(A), Rev. 1, "Exxon Nuclear Company Evaluation Model Revised EXEM PWR Small Break Model", • EMF-2328(P)(A), "PWR Small Break LOCA Evaluation Model, S-RELAP5 Based", • EMF-2087(P)(A), "SEM/PWR-98: ECCS Evaluation Model for PWR LBLOCA Applications". • EMF-2514, Rev. 0, "St. Lucie Unit 1 Large Break LOCA/ECCS Analysis," Dec. 2000. For EPU, the SBLOCA Topical Report from above will be used. For LBLOCA, the EPU Topical Report is: EMF-2103(P)(A), Rev. 0, "Realistic Large Break LOCA Methodology for PWRs".Analysis results are in the UFSAR.
3.	**Safety System Logic, Setpoints and Delay Times**			
	Critical Safety Parameters List (also called "Groundrules document") for the last reload for:			
	1. ESFAS	See Table 11	See Table 11	See Table 11
	2. RPS	See Table 11	See Table 11	See Table 11
	3. SGIS/MSIS	See Table 11	See Table 11	See Table 11

Item No.	Parameter –Description	Units	Value	Comments
	4. PORV	See Table 11	See Table 11	See Table 11
	5. SRV	See Table 11	See Table 11	See Table 11
4.	**Primary and Secondary Pressure Drops**			
	1. Primary side pressure drop distribution with corresponding flow rate, including leakage flows (from design data or vendor analyses).	Later	Later	Later
	2. Secondary side pressure drop distribution with corresponding flow rate, including leakage flows (from design data or vendor analyses).	Later	Later	Later
5.	**Core and Fuel Design**			
	1. Number of assemblies	N/A	217	--------
	2. Dimensions	N/A	Array: 14 x 14, Pitch: 8.18 in, Length: 157.115 in	--------
	3. Spacer grid locations and K-factors	N/A	See Table 4 for Grid locations. ------ See Comments for K-factors.	<u>K-factors</u> Core inlet region/ bottom grid = 3.530 Mid-grid 7 spacers = 8.496 Outlet region/top grid = 4.63 Bare rod = 3.971
	4. Vessel pressure drops	psi	a) 6.8 b) 21.5 c) 7.1	Current values: a) Inlet nozzle & 90 degree turn, b) Downcomer, lower plenum, support structure & fuel assembly, c) Fuel assembly outlet to outlet nozzle.
	5. Bypass and leakage flows	% of total flow	See Comment	See items 1a.5.5 & 1.b.5.5 above
	6. Number and location of fuel rods	N/A	176 per Assy. 38,192 total	See Figures 3 and 4 for location.
	7. Number and location of guide tubes	N/A	4 guide tubes and 1 instrument tube per Assy.	See Figure 3 for location.

Item No.	Parameter –Description	Units	Value	Comments
6.	**Equipment Drawings and Design Reports**			
	To confirm the calculation of flow path lengths and elevations, flow areas, volumes, metal mass and surface areas (including pipe schedules), and form loss (due to bends, contractions, expansions, orifices, etc.) for the following equipment:			
	1. Reactor vessel and internals (identification of all core bypass flow paths and flow rates, including upper plenum or head to downcomer, if available).	---	See Table 6	--------
	2. Primary loop piping (hot leg, cold leg, pump suction).	---	See Table 6	--------
	3. Reactor coolant pumps.	---	See Table 6	--------
	4. Steam generators and internals (U-tube lengths, separators, inlet and outlet plenum, etc.), (TH Design Report).	---	See Table 6	--------
	5. Pressurizer, surge line, spray lines, safety and relief valves and connecting lines, etc.	---	See Table 6	--------
	6. Main steam lines out to the turbine stop valves, including safety and relief valves and connecting lines, main steam isolation valves, flow restrictors, etc.	---	See Table 6	--------
	7. Main feedwater lines from the isolation valves to the steam generator inlet.	---	See Table 6	--------
	8. Auxiliary feedwater lines and feedwater pump type, configuration and capacity.	---	See Table 6	--------
	9. Safety injection equipment including SITs, high and low pressure injection systems and connecting piping.	---	See Table 6	--------
	10. Charging and letdown system (CVCS).	---	See Table 6	--------
	11. Residual heat removal system.	---	See Comment	See Item 6.9 for LPSI System. LPSI and RHR are the same system.

Item No.	Parameter –Description	Units	Value	Comments
7.	**Reactor Vessel Internals**			
	Weight and surface area of reactor vessel internal structures:			
	1. Core support barrel	Lbs / sq. ft.	90,000 / Later	Wet value (Dry weight is 103,000 lbs)
	2. Core shroud	Lbs / sq. ft.	31,000 / Later	Wet value (Dry weight is 35,000 lbs)
	3. Upper and lower core support plates	Lbs / sq. ft.	Upper: 18,463 Lower: 12,467 / Later	---
	4. Fuel alignment plate	Lbs / sq. ft.	NA / Later	---
	5. Upper guide structure	Lbs / sq. ft.	82,000 / Later	Includes expansion compensating ring, fuel alignment plate, upper core plate and CEA shroud.
	6. Core support assembly	Lbs / sq. ft.	42,000 / Later	Wet value (Dry weight is 48,000 lbs)
	7. Flow skirt	Lbs / sq. ft.	2,564 / Later	---
	8. Control element assembly (CEA) shroud	Lbs / sq. ft.	44,418 / Later	---
	9. Shroud extensions	Lbs / sq. ft.	Later	Later
	10. Grid assemblies	Lbs / sq. ft.	Later	Later
8.	**Steam Generator Internals**			
	1. Weight of steam generator tube sheet and surface area of tube sheet exposed to primary side fluid.			
	1.1. Weight of Tube Sheet	lbm	94,334	Includes base metal (93,239 lbm) and cladding (1095 lbm).
	1.2. Area of Tube Sheet (Primary Side)	ft^2	75	Area for tube sheet only.

Item No.	Parameter –Description	Units	Value	Comments
	2. Weight and surface area of steam generator wrapper.			
	2.1. Weight of SG wrapper	lbm	25,955	Assume height of wrapper is 21.3 ft and material density is 0.284 lbm/in^3.
	2.2. Surface area of SG wrapper	ft^2	Inner: 842 Outer: 850	Assume height of wrapper is 21.3 ft.
9.	**Steam Generator Fluid Volumes**			
	1. Inlet plenum	ft^3	222.026	Including Manway
	2. Outlet plenum	ft^3	222.665	Including Manway
	3. Active tubes, Outlet Inactive Tubes, Inlet Inactive Tubes	ft^3	1129.04 (Active), 36.635 (Outlet), 36.635 (Inlet)	--------
	4. Number of steam generator tubes	N/A	8523	--------
	5. Length of shortest and longest tubes	ft	50.786 70.981	--------
10.	**Steam Generator Parameters**			
	1. Inventory and recirculation ratio versus load (essential at rated power conditions).	Later	Later	Later
	2. SG flow areas, K-factors and flows	Later	Later	Later
11.	**MS Line Flow Restrictor**			
	1. Restrictor flow area.	ft^2	3.69 per SG 2.35 per SG	Outlet Nozzle Area Flow Venturi Area
12.	**Steam Generator and Reactor Vessel Heights**			
	1. Volume versus height relationship for the steam generators, with downcomer and boiler regions provided separately.	ft^3 vs. ft	See Table 3	--------

Item No.	Parameter –Description	Units	Value	Comments
	2. Volume versus height for the reactor vessel with internals installed.	ft^3 vs. ft	See Table 1	--------
13.	**Reactor Coolant Pump Rated Conditions**			
	1. Head	ft	273.5	--------
	2. Flow	gpm	95,000	--------
	3. Torque	lbf-ft	32,750	--------
	4. Speed	rpm	886.25	--------
	5. Density	lbs/ ft^3	Later	
	6. Homologous pump curves (four quadrant)	N/A	See Table 5	--------
	7. Pump inertia and friction (coefficients of polynomial in pump speed)	lbm-ft^2	101,900	--------
	8. Coolant primary system fluid volume within pump	ft^3	112	--------
	9. RCP metal mass, excluding motor	lbs	75,000	Dry Weight
	10. Reverse rotation device operational for RCPs	N/A	Yes	Device prevents reverse rotation.
	11. Pump power to primary fluid	MW	14.6 MWt (nominal), 20 MWt (max)	--------
	12. Coastdown characteristics	N/A	See Figure 2	UFSAR Figure 15.2.5-1
	13. Pump trip setpoints	N/A	Overcurrent	Overload Trip.
	14. Pump time delays and logic	N/A	N/A	No safety related RCP trips.
14.	**Core Cooling System**			
	1. HPSI and LPSI delivery curves	gpm	See Tables 12 & 13	--------
	2. SIT total volume	ft^3	2020	--------
	3. SIT initial pressure and liquid volume	psia / ft^3	215 / (1090 to 1170)	Minimum TS SIT pressure Nominal liquid volume in Mode 1.
	4. CST minimum capacity	gal	110,000	--------

Item No.	Parameter –Description	Units	Value	Comments
	5. Charging pump flow versus pressure	gpm	40 (nominal) to 49 (maximum)	Reciprocal pump. Flow is per charging pump. Nominal value does not include 4 gpm for RCP bleed off.
15.a	**Control Systems**			
	Rated power operation of the primary and secondary control systems for:			
	1. SG water level instrumentation and control (three-element)	Later	Later	Later
	2. SG pressure (including bypass and ADV)	Later	Later	Later
	3. Pressurizer heaters and sprays	Later	Later	Later
	4. Pressurizer level	Later	Later	Later
	5. Auxiliary feedwater	Later	Later	Later
	6. CVCS (charging and letdown)	Later	Later	Later
15.b	**Control Systems**			
	EPU condition operation of the primary and secondary control systems for:			
	7. SG water level instrumentation and control (three-element)	Later	Later	Later
	8. SG pressure (including bypass and ADV)	Later	Later	Later
	9. Pressurizer heaters and sprays	Later	Later	Later
	10. Pressurizer level	Later	Later	Later
	11. Auxiliary feedwater	Later	Later	Later
	12. CVCS (charging and letdown)	Later	Later	Later
16.	**Reactor Vessel Upper Head**			
	1. Upper head fluid temperature at normal operating conditions.	°F	Later	Assume to be the same as core outlet temperature since the Rx vessel does not have upper head injection.

Item No.	Parameter –Description	Units	Value	Comments
17.	**Essential Valve Characteristics**			
	Number of valves, full open flow area, forward/ reverse flow coefficients (CV's), open/close rate, minimum flow at rated conditions, logic for opening and closing the valves for:			
	1. Pressurizer PORVs	--------	See Table 2	--------
	2. Pressurizer safety valves	--------	See Table 2	--------
	3. Main steam safety valves	--------	See Table 2	--------
	4. Atmospheric dump valves	--------	See Table 2	--------
	5. TCVs (turbine control valves)	--------	See Table 2	--------
	6. Turbine bypass valves	--------	See Table 2	--------
	7. TSVs, (turbine stop valves)	--------	See Table 2	--------
	8. MFIVs	--------	See Table 2	--------
	9. MSIVs	--------	See Table 2	--------
18 to 20	**Reactor Core Parameters**			
	1. Control rod insertion versus time after scram.	seconds	3.1	Time for 90% insertion
	2. CEA worth versus insertion (with and without highest worth rod stuck out of core).	Later	Later	Later
	3. Reactivity versus fuel temperature and reactivity versus moderator density.	°F vs $\Delta\rho$	See Tables 7 & 8	--------
	4. Moderator temperature coefficient.	°F vs $\Delta\rho$	See Table 9	--------
	5. Typical top peaked axial power profile.	Axial height (ft) vs. Axial Power Shape	See Table 10	--------
	6. Minimum and maximum average fuel clad gap conductivity at rated power conditions.	Later	Later	Later

Item No.	Parameter –Description	Units	Value	Comments
	7. Minimum local gap conductance as a function of LHGR.	Later	Later	Later
	8. Gap conductance.	Later	Later	Later
	9. Linear heat rate.	kW / ft	15.0 (Max) 6.96 (Ave)	Value of 6.96 assumes 100 SS rods. Without this assumption, the average is 6.94 kW/ft.
	10. Fuel average and centerline temperature as a function of burnup for the hot rod in the hot bundle.	Later	Later	Later
21.	**Operator Actions During LOCA**			
	1. Reactor coolant pump trips (conditions to trip pumps – automatic or manual)	None	Pumps automatically trip on LOOP	Accident analysis assumes LOOP concurrent with LOCA, and pumps are not loaded onto EDGs or manually operated. Same assumption for EPU analysis.
	2. HPSI throttling criteria	None	See Comment	If HPSI pumps are operating, and **ALL** of the following conditions are satisfied: • RCS subcooling is greater than or equal to minimum subcooling • Pressurizer level is at least 30% and NOT lowering, • At least **ONE** S/G is available for RCS heat removal with level being restored to or maintained between 60 and 70% NR, • Rx Vessel level indicates sensors 4 through 8 are covered, or NO abnormal differences (greater than 20°F) between THOT and Representative CET temperature, Then, THROTTLE SI flow. Same

Item No.	Parameter –Description	Units	Value	Comments
				assumption for EPU analysis.
	3. MS line break auxiliary feedwater control.	Min	10	AFW is manually stopped 10 minutes after a MSLB event. Same assumption for EPU analysis.
22.	**Core Operating Limits Report**	See Comment	See Comment	Most recent COLR provided to NRC via FPL letter L-2007-066, dated 04-27-2007. EPU COLR to be provided later after it is issued.
23.	**RCS Material Property Data**			
	For the various materials in the reactor coolant system (stainless steel, inconel, etc.):			
	1. Density	Later	Later	Later
	2. Specific heat	Later	Later	Later
	3. Thermal conductivity	Later	Later	Later
	4. Emissivity versus temperature	Later	Later	Later

Figure 1

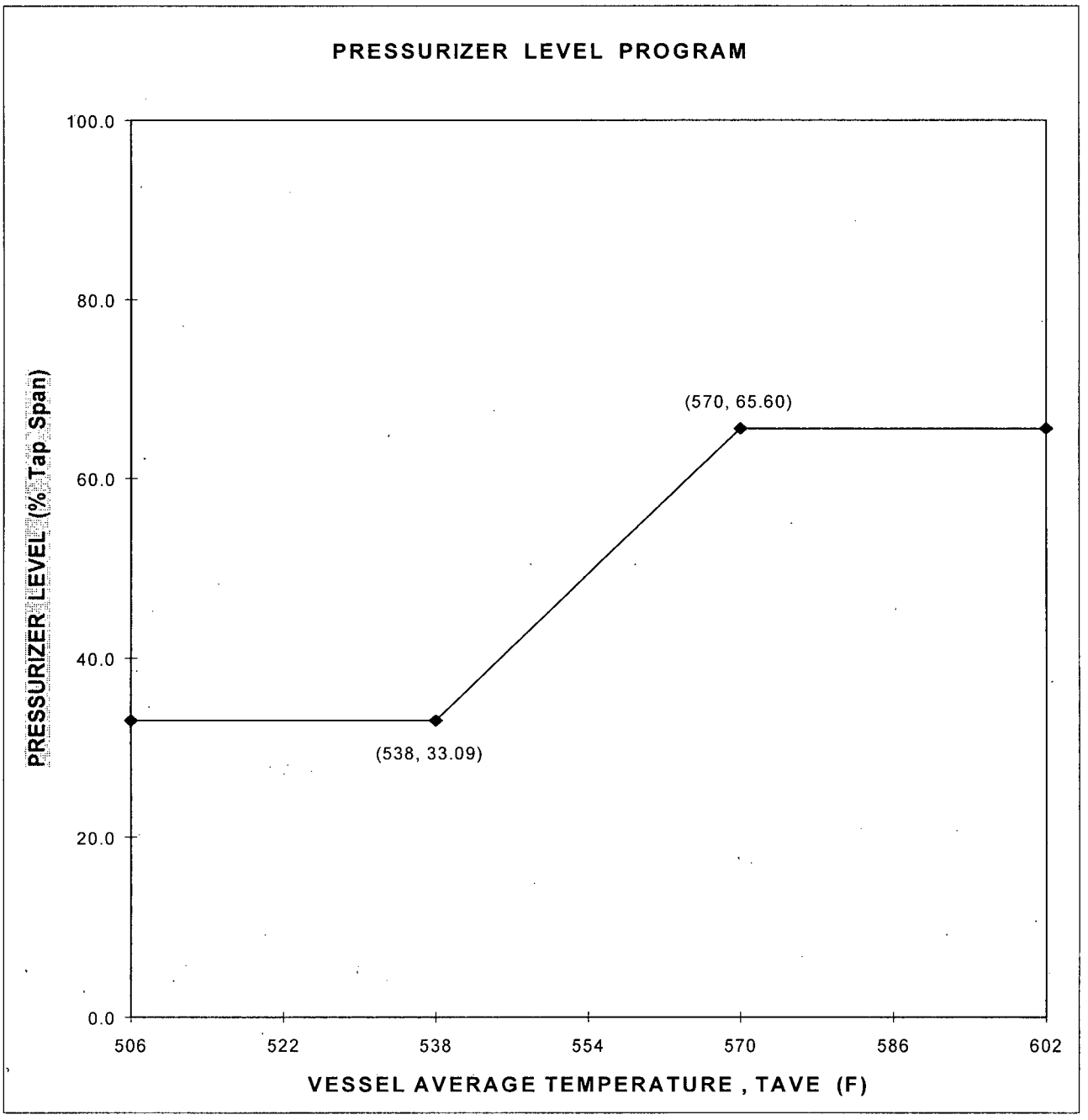
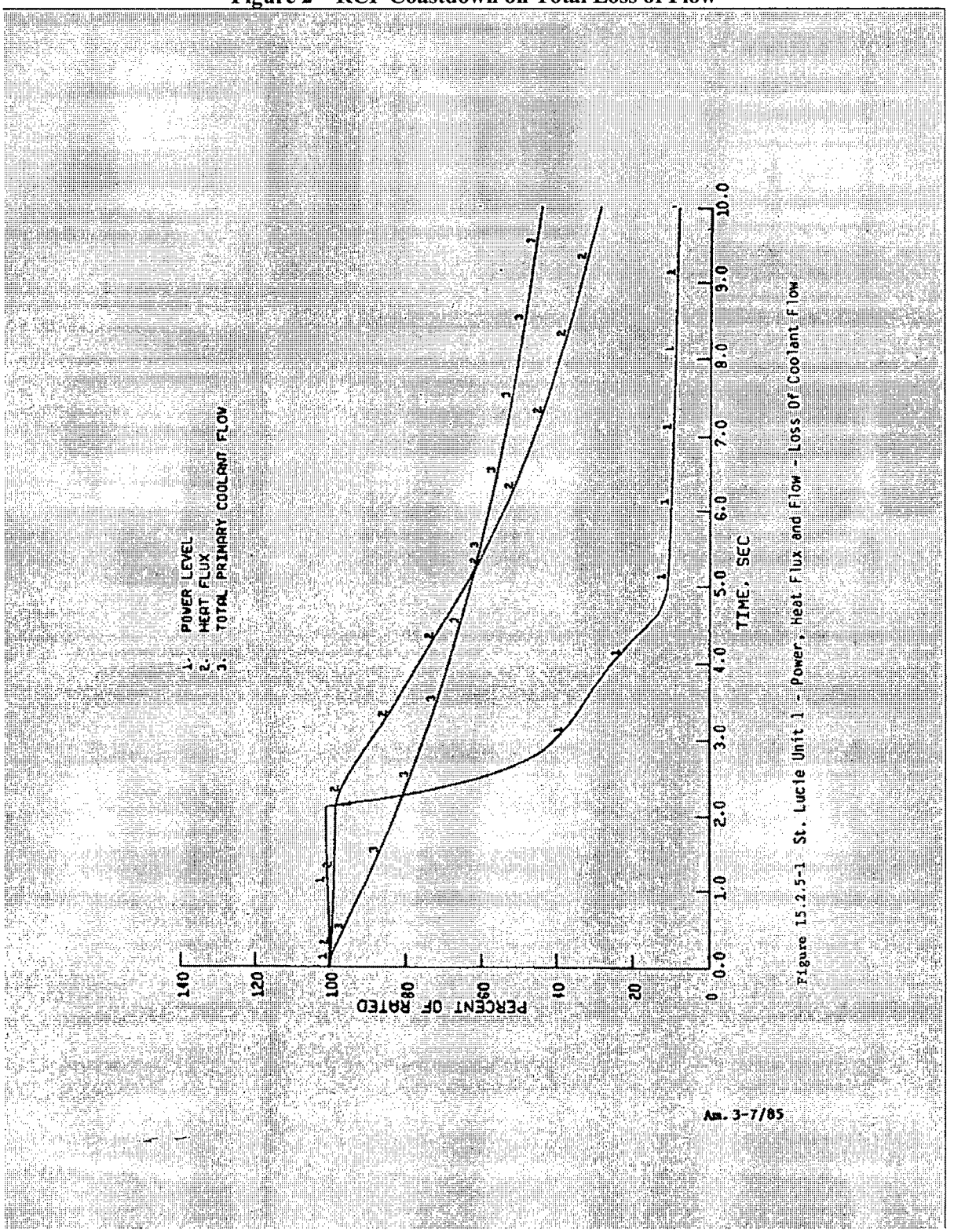

PRESSURIZER LEVEL PROGRAM
100.0
80.0
60.0
40.0
20.0
0.0
PRESSURIZER LEVEL (% Tap Span)
(570, 65.60)
(538, 33.09)
506
522
538
554
570
586
602
VESSEL AVERAGE TEMPERATURE , TAVE (F)

Figure 2 – RCP Coastdown on Total Loss of Flow



Note: This curve represents current analysis.

Figure 3 – Location of Fuel Rods and Guide Tubes in Fuel Assemblies

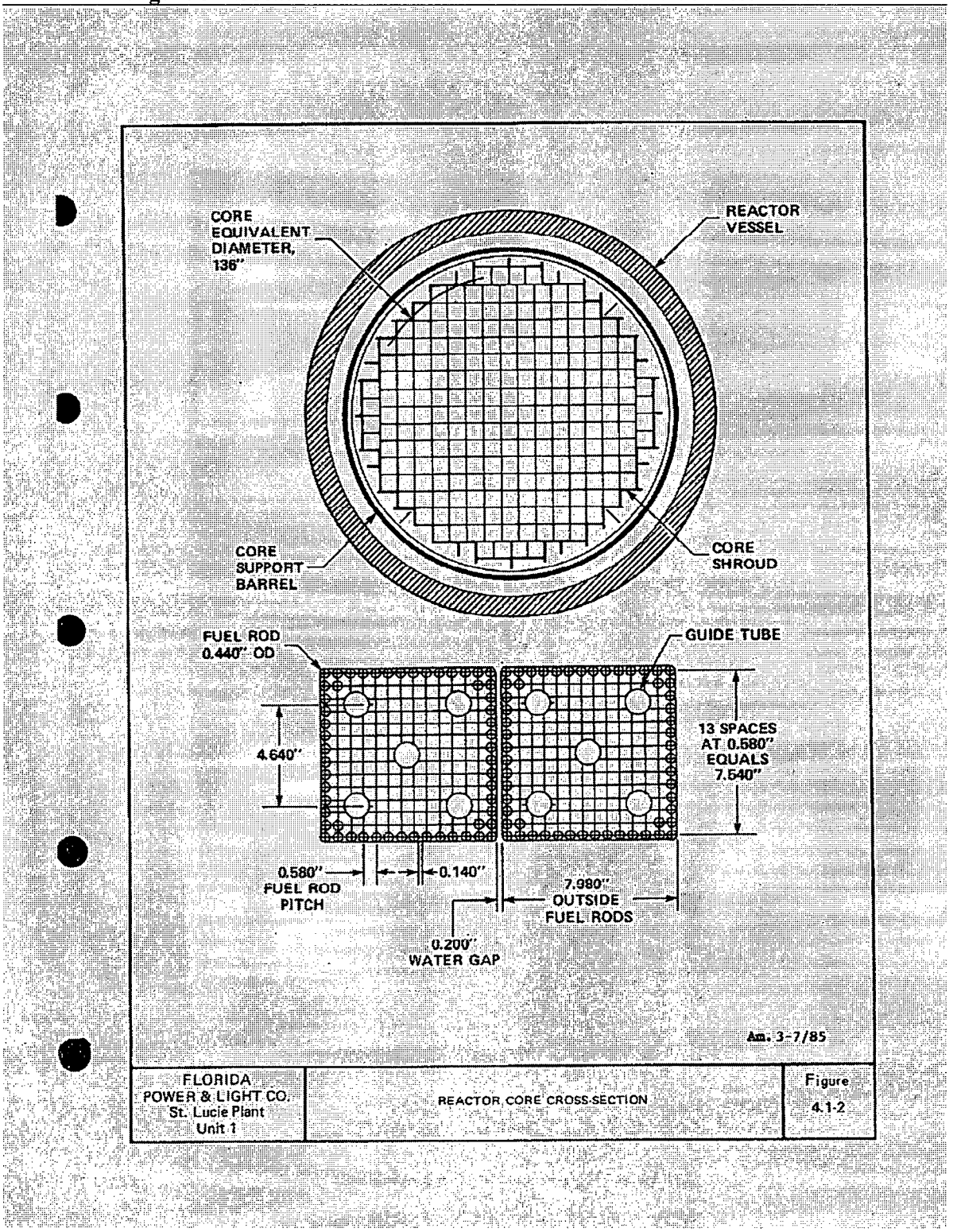


Figure 4 – Location of Fuel Assemblies in the Core

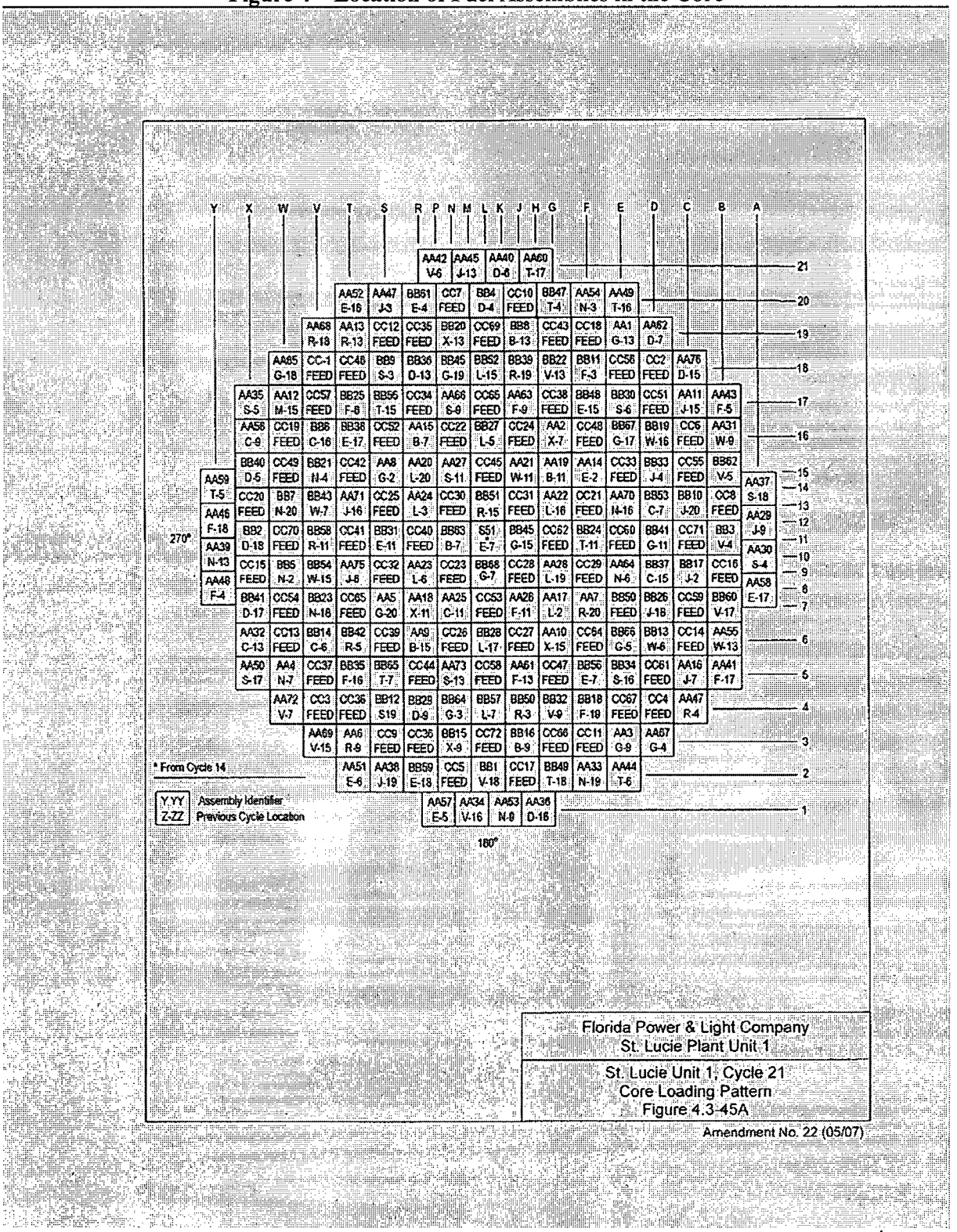


Table 1
Volume vs. Height for the Reactor Vessel with Internals Installed.

Region	Elevation (ft)	Volume vs. Height (ft^3 per ft)	Volume (ft^3)
UGS support plate to top of vessel (Region V_6)	**6.6**	----	**699**
FAP to UGS support plate (Region V_5)	**10.6**	**114.2**	**1210**
Core Region (Fuel Alignment Plate (FAP) to CSP) (Regions V_2, V_3 & V_4)	**12.8**	**69.7**	**892**
CSB to vessel annulus (Region V_1, Annulus)	**29.7**	**35**	**1039.5**
Bottom of vessel to Core Support Plate (CSP) (Region V_1, Lower Plenum)	**10**	----	**950.5**

Table 2
Component Data Required

Component	Flow Diagram	Component Information
Pressurizer PORVs		
V1402 V1404	8770-G-078 Sheet 110A, Rev 30	8770-9676 Rev 1 8770-9677 Rev 2 8770-9678 Rev 1 8770-9679 Rev 2 8770-9680 Rev 4 8770-9681 Rev 7 8770-9682 Rev 2 8770-9683 Rev 1
Pressurizer Safety Valves		
V1200 V1201 V1202	8770-G-078 Sheet 110A, Rev 30	8770-13730, Rev 1 8770-13731, Rev 1
Main Steam Safety Valves		
V8201 V8202 V8203 V8204 V8205 V8206 V8207 V8208 V8209 V8210 V8211 V8212 V8213 V8214 V8215 V8216	8770-G-079, Sheet 1, Rev. 53	8770-993, Rev 4 8770-990, Rev 9
Atmospheric Dump Valves		
HCV-08-2A HCV-08-2B	8770-G-079, Sheet 1, Rev. 53	8770-12944, Rev 1 8770-8971, Rev 1
Turbine Control Valves (Governor)		
FCV-08-644 FCV-08-645	8770-G-079, Sheet 2, Rev. 45	8770-103, Rev 7 8770-115, Rev 11

Component	Flow Diagram	Component Information
FCV-08-646 FCV-08-647		8770-116, Rev 24
Turbine By-Pass Valves		
PCV-8801 PCV-8802 PCV-8803 PCV-8804 PCV-8805	8770-G-079, Sheet 2, Rev. 45	8770-2082, Rev 10 8770-2083, Rev 11
Turbine Stop Valves (Throttle)		
FCV-08-640 FCV-08-641 FCV-08-642 FCV-08-643	8770-G-079, Sheet 2, Rev. 45	8770-103, Rev 7 8770-115, Rev 11 8770-116, Rev 24
Main Feed Isolation Valves		
HCV-09-7 HCV-09-8	8770-G-080, Sheet 3, Rev 54	8770-14210, Rev 0 8770-14211, Rev 0
Main Steam Isolation Valves		
HCV-08-1A HCV-08-1B	8770-G-079, Sheet 1, Rev. 53	8770-9673, Rev 10
Main Steam Check Valves		
V08117 V08148	8770-G-079, Sheet 1, Rev. 53	8770-8950, Rev 4 8770-8951, Rev 2 8770-8952, Rev 0 8770-9673, Rev 10 8770-9674, Rev 8
Miscellaneous Components		
V2526	8770-G-078 Sheet 121A Rev. 38	
V2501		8770-1380, Rev. 7
V2118		8770-1589, Rev. 9
V2623		8770-2699, Rev 2
V2500		8770-853, Rev 1
V2101		8770-1589, Rev 9
V2322	8770-G-078 Sheet 120B Rev 17	8770-1592 Rev. 10
SS (Suction Stabilizer for Charging Pump 1C) SS-02-1C		8770-9301 Rev. 1 8770-9302 Rev. 5
CHG PP 1C (Charging Pump 1C)		8770-205 Rev. 0 8770-364 Rev. 4 8770-12137 Rev. 5 8770-12138 Rev. 0
PD (Pulsation Damper on CHG PP 1C)		8770-9982 Rev. 1 8770-9981 Rev. 1

Component	Flow Diagram	Component Information
V02134		8770-14099 Rev. 1
		8770-14084 Rev. 1
V2336		8770-14345 Rev. 1
		8770-9379 Rev. 1
FE-2212		8770-2310 Rev. 0
V2429		8770-1588 Rev. 5
V2430		8770-1571 Rev. 8
MV-02-2		8770-10468 Rev. 0
Regen HT EXCH (Regenerative Heat Exchanger)		8770-420 Rev. 2
V2319		8770-1592 Rev. 10
SS-02-1B		
SS (Suction Stabilizer for Charging Pump 1B)		8770-9301 Rev. 1
		8770-9302 Rev. 5
CHG PP 1B (Charging Pump 1B)		8770-12137 Rev. 5
		8770-205 Rev. 0
		8770-364 Rev. 4
		8770-12138 Rev. 0
PD (Pulsation Damper on CHG PP 1B)		8770-9982 Rev. 1
		8770-9981 Rev. 1
V02133		8770-14084 Rev. 1
		8770-14099 Rev. 1
V2337		8770-14345 Rev. 1
		8770-9379 Rev. 1
V2316		8770-1592 Rev. 10
SS-02-1A		
SS (Suction Stabilizer for Charging Pump 1A)		8770-9301 Rev. 1
		8770-9302 Rev. 5
CHG PP 1A (Charging Pump 1A)		8770-12137 Rev. 5
		8770-364 Rev. 4
		8770-12138 Rev. 0
		8770-205 Rev. 0
PD (Pulsation Damper on CHG PP 1A)		
V2339		8770-14345 Rev. 1
		8770-9378 Rev. 0
V02132		8770-10883 Rev. 2
V2338		8770-1588 Rev. 5
SE-02-2		8770-12507 Rev. 0
		8770-12508 Rev. 0

Component	Flow Diagram	Component Information
		2998-19678 Rev. 0
		2998-19677 Rev. 0
V2433		8770-14084 Rev. 1
		8770-14099 Rev. 1
SE-02-1		8770-12507 Rev. 0
		8770-12508 Rev. 0
		2998-19677 Rev. 0
V2432		8770-1570 Rev. 10
V2519		8770-926 Rev. 13
		8770-858 Rev. 2
V2515		8770-928 Rev. 8
		8770-860 Rev. 4
V2516		8770-928 Rev. 8
		8770-860 Rev. 4
V2341	8770-G-078 Sheet 120A Rev. 023	8770-1588 Rev. 5
LCV-2110P		8770-16166 Rev. 0
		8770-787 Rev. 4
V2342		8770-1588 Rev. 5
LTDN (Letdown Heat Exchanger)		8770-419 Rev. 2
V2347		8770-1578 Rev. 4
PCV-2201Q		8770-971 Rev. 9
V2349		8770-1591 Rev. 5
FE-2202		8770-2301 Rev. 1
V2358		8770-1592 Rev. 10
Purif FLTR 1A (Purification Filter 1A)		8770-14147 Rev. 1 8770-558 Rev. 3 8770-8852 Rev. 2 8770-8617 Rev. 3
V2360		8770-1592 Rev. 10
V2520		8770-853 Rev. 1
V2369		8770-1592 Rev. 10
V2370		8770-1589 Rev. 9
V2378		8770-1592 Rev. 10
V2382		8770-1592 Rev. 10
V2395		8770-1592 Rev. 10
S2900		8770-1480 Rev. 1
V2415		8770-1592 Rev. 10
V2418		8770-1592 Rev. 10
Purif FLTR 1B (Purification Filter 1B)		8770-14147 Rev. 1 8770-558 Rev. 3 8770-8852 Rev. 2 8770-8617 Rev. 3
V2452		8770-1592 Rev. 10
FE-8011	8770-G-079, Sheet 1, Rev. 53	8770-965, Rev 5
FE-8021		8770-965, Rev 5

Component	Flow Diagram	Component Information
V09252	8770-G-080, Sheet 3, Rev 54	8770-5736, Rev 4
V09294		8770-7139, Rev 3
AFW PP 1A	8770-G-080, Sheet 4, Rev. 41	8770-3044, Rev 3
AFW PP 1B		8770-4409, Rev 0
		8770-15879, Rev 0
AFW PP 1C		8770-3183, Rev 7
		8770-4408, Rev 0
V09139		8770-1398, Rev 6
V09140		8770-1257, Rev 3
FE-09-2C		8770-3544, Rev 0
		8770-3294, Rev 4
MV-09-11		8770-6967, Rev 5
MV-09-12		8770-6967, Rev 5
V09151		8770-3775, Rev 6
V09157		8770-3775, Rev 6
V09152		8770-3774, Rev 3
V09158		8770-1251, Rev 2
V09123		2998-20110, Rev 1
V09107		8770-3775, Rev 6
V09108		8770-1251, Rev 2
V09124		8770-1251, Rev 2
FE-09-2A		8770-3294, Rev 4
FE-09-2B		8770-3544, Rev 0
MV-09-9		8770-6966, Rev 5
MV-09-10		8770-6966, Rev 5
V09119		8770-3775, Rev 6
V09135		8770-3775, Rev 6
V09120		8770-3774, Rev 3
V09136		8770-1251, Rev 2
V1403	8770-G-078 Sheet 110A, Rev 30	8770-1374, Rev 10
V1405		8770-1374, Rev 10
V1406		8770-1750, Rev 5
V1407		8770-1750, Rev 5
PZR Quench Tank		8770-898, Rev 3
V1252		8770-1769, Rev 4
V1253		8770-1769, Rev 4
PCV-1100E		8770-864, Rev 2
PCV-1100F		8770-970, Rev 15
V1248		8770-6586, Rev 3
V1249		8770-6777, Rev 1
		8770-16184, Rev 0
V1250		8770-1769, Rev 4
		8770-16184, Rev 0
V1251		8770-1769, Rev 4
SO-03-13	8770-G-078 Sheet 130A, Rev 27	
SO-03-14		

Component	Flow Diagram	Component Information
SO-03-15		
V3427		8770-1768, Rev 8
V3405		8770-1768, Rev 8
V3414		8770-1768, Rev 8
V3654		8770-1377, Rev 6
V3656		8770-1377, Rev 6
HCV-3616	8770-G-078 Sheet 131A, Rev 27	8770-1376, Rev 5
HCV-3626		8770-1376, Rev 5
HCV-3636		8770-1376, Rev 5
HCV-3646		8770-1376, Rev 5
V3113		8770-12709, Rev 10
V3123		8770-1570, Rev 10
V3133		8770-1570, Rev 10
V3143		8770-1570, Rev 10
FE-3311		
FE-3321		
FE-3331		
FE-3341		
HCV-3615		8770-1375, Rev 6
HCV-3625		8770-1375, Rev 6
HCV-3635		8770-1375, Rev 6
HCV-3645		8770-1375, Rev 6
V3114		8770-1748, Rev 7
V3124		8770-1748, Rev 7
V3134		8770-1748, Rev 7
V3144		8770-1748, Rev 7
FE-3312		8770-2301, Rev 1
FE-3322		8770-2301, Rev 1
FE-3332		8770-2301, Rev 1
FE-3342		8770-2301, Rev 1
HCV-3617		8770-1376, Rev 5
HCV-3627		8770-1376, Rev 5
HCV-3637		8770-1376, Rev 5
HCV-3647		8770-1376, Rev 5
V3106	8770-G-078 Sheet 130B, Rev 31	8770-3646, Rev 1
V3107		8770-3646, Rev 1
V3206		8770-9348, Rev 3
V3207		8770-9348, Rev 3
FCV-3306		8770-861, Rev 2
		8770-930, Rev 8
FE-3306		8770-2301, Rev 1

Table 3

Secondary Side Volume per Unit Height (ft^3/ft)

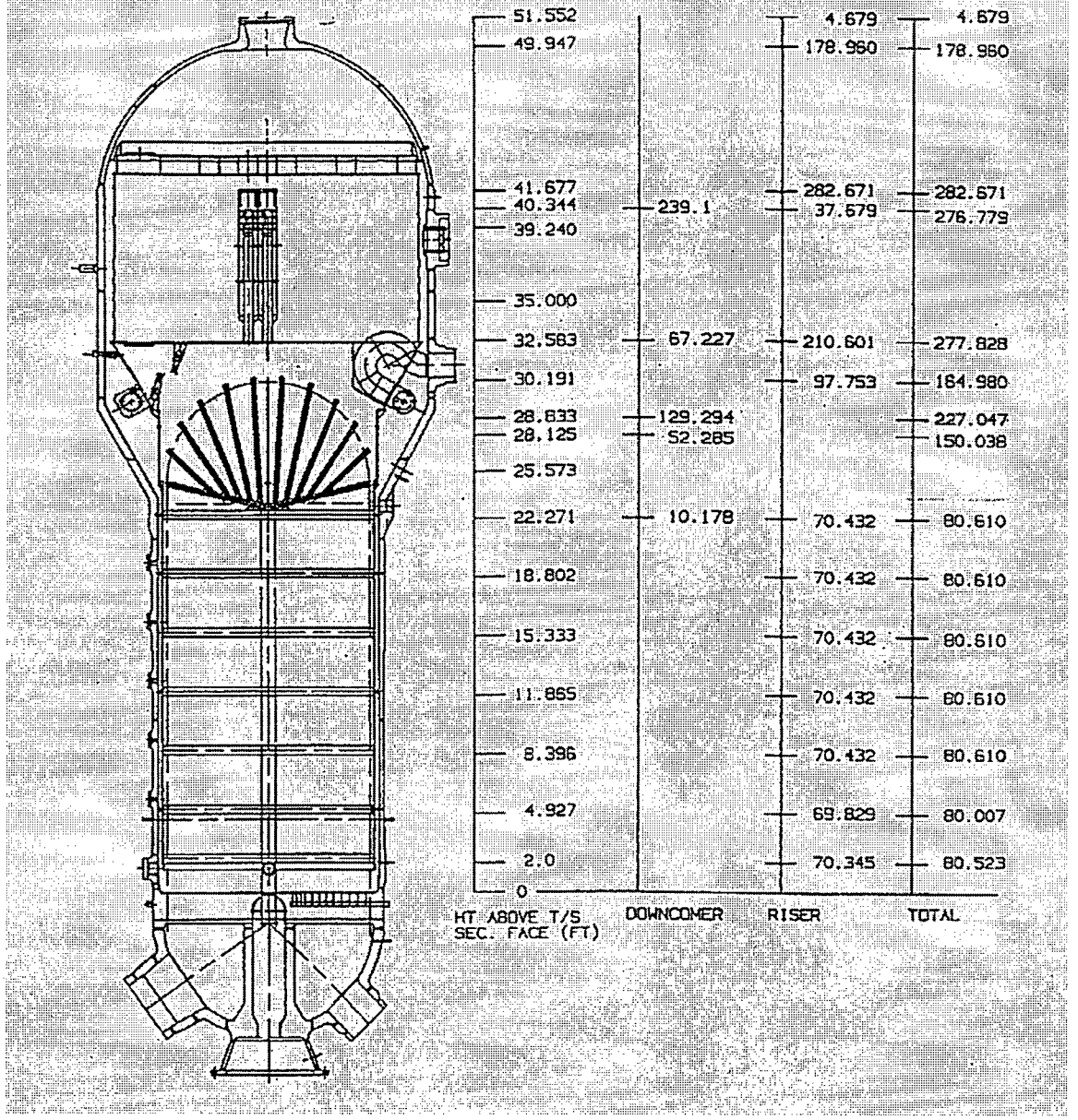


Table 4
Spacer Grid Locations

Grid #	Distance (in)
1	6.302
2	18.185
3	36.797
4	55.656
5	74.515
6	93.374
7	112.233
8	131.092
9	148.272

Notes: Measured from bottom of fuel assembly to top of grid.

Table 5 - Single Phase Homologous Head and Torque Curves

CURVE 1	CURVE 2	CURVE 3	CURVE 4	CURVE 5	CURVE 6	CURVE 7	CURVE 8
HAN Head Curve	HVN Head Curve	HAD Head Curve	HVD Head Curve	HAT Head Curve	HVT Head Curve	HAR Head Curve	HVR Head Curve
0.0 1.580	0.0 -1.420	-1.0 3.150	-1.0 3.150	0.0 0.433	0.0 1.220	-1.0 -3.100	-1.0 -3.100
0.1 1.500	0.1 -1.215	-0.9 2.930	-0.9 2.810	0.1 0.474	0.1 1.182	-0.9 -2.550	-0.9 -3.010
0.2 1.420	0.2 -1.082	-0.8 2.700	-0.8 2.490	0.2 0.502	0.2 1.140	-0.8 -2.050	-0.8 -2.930
0.3 1.370	0.3 -0.912	-0.7 2.470	-0.7 2.180	0.3 0.512	0.3 1.085	-0.7 -1.600	-0.7 -2.810
0.4 1.330	0.4 -0.728	-0.6 2.300	-0.6 1.930	0.4 0.524	0.4 1.045	-0.6 -1.035	-0.6 -2.690
0.5 1.295	0.5 -0.494	-0.5 2.130	-0.5 1.720	0.5 0.546	0.5 1.000	-0.5 -0.830	-0.5 -2.520
0.6 1.270	0.6 0.000	-0.4 2.000	-0.4 1.550	0.6 0.583	0.6 0.950	-0.4 -0.513	-0.4 -2.340
0.7 1.240	0.7 0.208	-0.3 1.870	-0.3 1.440	0.7 0.641	0.7 0.900	-0.3 -0.246	-0.3 -2.150
0.8 1.182	0.8 0.435	-0.2 1.760	-0.2 1.345	0.8 0.712	0.8 0.870	-0.2 0.0112	-0.2 -1.960
0.9 1.105	0.9 0.708	-0.1 1.660	-0.1 1.285	0.9 0.800	0.9 0.865	-0.1 0.343	-0.1 -1.715
1.0 1.000	1.0 1.000	0.0 1.580	0.0 1.220	1.0 0.908	1.0 0.908	0.0 0.433	0.0 -1.420

CURVE 9	CURVE 10	CURVE 11	CURVE 12	CURVE 13	CURVE 14	CURVE 15	CURVE 16
BAN Torque Curve	BVN Torque Curve	BAD Torque Curve	BVD Torque Curve	BAT Torque Curve	BVT Torque Curve	BAR Torque Curve	BVR Torque Curve
0.0 0.770	0.0 -1.450	-1.0 2.290	-1.0 2.290	0.0 -1.440	0.0 1.315	-1.0 -5.030	-1.0 -5.030
0.1 0.802	0.1 -1.112	-0.9 2.040	-0.9 2.120	0.1 -0.920	0.1 1.245	-0.9 -4.540	-0.9 -4.610
0.2 0.845	0.2 -0.872	-0.8 1.785	-0.8 1.960	0.2 -0.630	0.2 1.180	-0.8 -4.050	-0.8 -4.230
0.3 0.866	0.3 -0.648	-0.7 1.580	-0.7 1.830	0.3 -0.420	0.3 1.110	-0.7 -3.600	-0.7 -3.840
0.4 0.885	0.4 -0.442	-0.6 1.390	-0.6 1.720	0.4 -0.250	0.4 1.042	-0.6 -3.245	-0.6 -3.490
0.5 0.910	0.5 -0.270	-0.5 1.235	-0.5 1.640	0.5 -0.100	0.5 0.975	-0.5 -2.830	-0.5 -3.150
0.6 0.930	0.6 0.260	-0.4 1.090	-0.4 1.580	0.6 0.020	0.6 0.905	-0.4 -2.490	-0.4 -2.850
0.7 0.953	0.7 0.430	-0.3 0.980	-0.3 1.510	0.7 0.130	0.7 0.817	-0.3 -2.190	-0.3 -2.520
0.8 0.973	0.8 0.613	-0.2 0.880	-0.2 1.450	0.8 0.251	0.8 0.728	-0.2 -1.910	-0.2 -2.200
0.9 0.989	0.9 0.800	-0.1 0.810	-0.1 1.380	0.9 0.390	0.9 0.628	-0.1 -1.660	-0.1 -1.850
1.0 1.000	1.0 1.000	0.0 0.770	0.0 1.315	1.0 0.562	1.0 0.562	0.0 -1.440	0.0 -1.450

Table 6
Unit 1 Piping Isometric Drawings by P&ID

Flow Diagram	Isometric/Component Drawing
Reactor Vessel	
8770-G-078, Sheet 110B, Rev. 26	8770-44, Rev 5 8770-8862, Rev 0 8770-8863, Rev 0 8770-8864, Rev 0 8770-8865, Rev 0 8770-8873, Rev 1 8770-8874, Rev 0 8770-8877, Rev 0 8770-15672, Rev 0 8770-15673, Rev 0
Primary Loop Piping (RCS)	
8770-G-078, Sheet 110B, Rev. 26	8770-39, Rev 3 8770-40, Rev 3 8770-530, Rev 3 8770-781, Rev 3 8770-880, Rev 1 8770-1496, Rev 2
Reactor Coolant Pumps	
8770-G-078, Sheet 111A, Rev. 15 8770-G-078, Sheet 111B, Rev. 15 8770-G-078, Sheet 111C, Rev. 14 8770-G-078, Sheet 111D, Rev. 16	8770-15, Rev 8 8770-178, Rev 11 8770-54, Rev 9
Steam Generators	
8770-G-078, Sheet 110B, Rev. 26 8770-G-080, Sheet 3, Rev. 54 8770-G-079, Sheet 1, Rev. 53	8770-13348, Rev 1
Pressurizer/Surge Line/Spray Lines/Relief Lines	
8770-G-078, Sheet 110A, Rev. 30	8770-G-125 Sheet RC-AB-1, Rev 3 8770-15377, Rev 0 8770-15287, Rev 0 8770-15307, Rev 0 8770-16184, Rev 0 8770-1658, Rev 0 8770-15820, Rev 0 8770-6624, Rev 2 8770-15298, Rev 0 8770-15819, Rev 0 8770-B-124 Sheet RC-187, Rev 1

Main Steam Lines Out to the Turbine Stop Valves	
8770-G-079, Sheet 1, Rev. 53 8770-G-079, Sheet 2, Rev. 45	8770-G-125, Sheet MS-L-1, Rev 6 8770-G-125, Sheet MS-L-6, Rev 6
Main Feedwater Lines from the Isolation Valves to the Steam Generator Inlet	
8770-G-080, Sheet 3, Rev. 54	8770-G-125, Sheet BF-M-06, Rev 4
Auxiliary Feedwater Lines	
8770-G-080, Sheet 4, Rev. 41	8770-G-125, Sheet BF-M-07, Rev 6 8770-G-125, Sheet BF-M-08, Rev 10
Safety Injection	
8770-G-078, Sheet 130A, Rev. 27 8770-G-078, Sheet 130B, Rev. 31 8770-G-078, Sheet 131A, Rev. 27 8770-G-078, Sheet 131B, Rev. 19	8770-G-125, Sheet SI-N-5, Rev 2 8770-G-125, Sheet SI-N-6, Rev 4 8770-G-125, Sheet SI-N-7, Rev 3 8770-G-125, Sheet SI-N-8, Rev 4 8770-G-125, Sheet SI-N-10, Rev 3 8770-G-125, Sheet SI-N-12, Rev 2 8770-B-124 Sheet SI-27 Rev 13 8770-B-124 Sheet SI-28 Rev 12 8770-B-124 Sheet SI-29 Rev 12 8770-B-124 Sheet SI-30 Rev 11 8770-B-124 Sheet SI-31 Rev 13 8770-B-124 Sheet SI-32 Rev 9 8770-B-124 Sheet SI-33 Rev 14 8770-B-124 Sheet SI-34 Rev 10 8770-B-124 Sheet SI-128 Rev 1 8770-B-124 Sheet SI-129 Rev 3 8770-B-124 Sheet SI-130 Rev 4 8770-B-124 Sheet SI-131 Rev 2
Charging and Letdown System (CVCS)	
8770-G-078, Sheet 110B, Rev. 26 8770-G-078, Sheet 120A, Rev. 23 8770-G-078, Sheet 120B, Rev. 17 8770-G-078, Sheet 121A, Rev. 38 8770-G-078, Sheet 121B, Rev. 32 8770-G-088, Sheet 1, Rev. 51	8770-G-125 Sheet CH-G-1 Rev. 2 8770-G-125 Sheet CH-G-2 Rev 1 8770-G-125 Sheet CH-G-3 Rev 4 8770-G-125 Sheet CH-G-4 Rev 0 8770-G-125 Sheet CH-G-5 Rev 0 8770-G-125 Sheet CH-G-8 Rev 2 8770-G-125 Sheet CH-G-9 Rev 4 8770-G-125 Sheet CH-G-12 Rev 6 8770-G-125 Sheet CH-G-13 Rev 1 8770-B-124 Sheet CH-1 Rev 2 8770-B-124 Sheet CH-2 Rev 2 8770-B-124 Sheet CH-3 Rev 3 8770-B-124 Sheet CH-4 Rev 4 8770-B-124 Sheet CH-9 Rev 8 8770-B-124 Sheet CH-37 Rev 2

	8770-B-124 Sheet CH-43 Rev 5 8770-B-124 Sheet CH-63 Rev 7 8770-B-124 Sheet CH-64 Rev 5 8770-B-124 Sheet CH-65 Rev 12 8770-B-124 Sheet CH-66 Rev 9 8770-B-124 Sheet CH-68 Rev 10 8770-B-124 Sheet CH-69 Rev 8 8770-B-124 Sheet CH-70 Rev 7 8770-B-124 Sheet CH-71 Rev 6 8770-B-124 Sheet CH-72 Rev 8 8770-B-124 Sheet CH-74 Rev 12 8770-B-124 Sheet CH-75 Rev 7 8770-B-124 Sheet CH-77 Rev 10 8770-B-124 Sheet CH-78 Rev 5 8770-B-124 Sheet CH-79 Rev 8 8770-B-124 Sheet CH-80 Rev 14 8770-B-124 Sheet CH-82 Rev 21 8770-B-124 Sheet CH-92 Rev 11 8770-B-124 Sheet CH-124 Rev 11 8770-B-124 Sheet CH-125 Rev 7 8770-B-124 Sheet CH-126 Rev 8 8770-B-124 Sheet CH-128 Rev 5 8770-B-124 Sheet CH-129 Rev 8 8770-B-124 Sheet CH-130 Rev 6 8770-B-124 Sheet CH-141 Rev 11 8770-B-124 Sheet CH-142 Rev 7 8770-B-124 Sheet CH-143-1 Rev 2 8770-B-124 Sheet CH-143-2 Rev 6 8770-B-124 Sheet CH-178 Rev 4 8770-B-124 Sheet CH-187 Rev 1 8770-B-124 Sheet CH-188 Rev 0 8770-B-124 Sheet CH-189 Rev 0 8770-B-124 Sheet CH-193 Rev 2 8770-B-124 Sheet CH-232 Rev 0 8770-B-124 Sheet CH-264 Rev 0 8770-B-124 Sheet RC-1 Rev 6 8770-B-124 Sheet RC-2 Rev 7 8770-B-124 Sheet RC-3 Rev 6 8770-B-124 Sheet RC-4 Rev 5 8770-B-124 Sheet RC-6 Rev 1

Table 7. TEMPERATURE vs. DOPPLER REACTIVITY WORTH

Current Analysis Value		EPU Analysis Value	
FUEL TEMPERATURE (°F)	DOPPLER REACTIVITY (Δρ)	FUEL TEMPERATURE (°F)	DOPPLER REACTIVITY (Δρ)
0.0	0.0*	No changes from current analysis	No changes from current analysis
250.0	0.0		
400.0	-0.0037338		
667.5	-0.0098574		
808.1	-0.0128639		
946.5	-0.0156432		
1077.9	-0.0181490		
1199.1	-0.0203649		
1309.0	-0.0222887		
1445.5	-0.0246159		
5000.0	-0.0246159**		

Notes:

* assumed/extrapolated to be the same as the next value.

** assumed/extrapolated to be the same as the previous value.

Table 8. CHANGE IN REACTIVITY vs. MODERATOR DENSITY ***

Current Analysis Value		*EPU Analysis Value*	
CHANGE IN REACTIVITY (Δρ)	MODERATOR DENSITY (lbm/ft^3)	CHANGE IN REACTIVITY (Δρ)	*MODERATOR DENSITY (lbm/ft^3)*
-0.350	0.0	No changes from current analysis	*No changes from current analysis*
-0.270	2.1		
-0.190	5.0		
-0.100	10.0		
-0.090	12.1		
-0.060	15.0		
-0.030	20.0		
-0.020	22.1		
-0.012	25.0		
-0.005	30.0		
-0.0001	32.1		
-0.0000	35.0		
+0.0020	36.7		
0.0	40.0		
0.0	43.0		
0.0	45.0		
0.0	*$1.0x10^6$*		

Note: *** Reactivity corresponding to the most positive MTC @ HFP, BOC

Table 9. RCS TEMPERATURE vs. MODERATOR REACTIVITY

Current Analysis Value		EPU Analysis Value	
RCS TEMPERATURE (°F)	MODERATOR REACTIVITY (Δρ)	RCS TEMPERATURE (°F)	MODERATOR REACTIVITY (Δρ)
68.0	0.06345*	No changes from current analysis.	No changes from current analysis.
300.0	0.06345		
450.0	0.03959		
532.0	0.01627		
572.0**	0.0000**		

Notes:

* Assumed/extrapolated to be the same as the next value.

** Assumed to the nominal temperature at which the MTC would be equal to 0.0.

Table 10. AXIAL HEIGHT vs. AXIAL POWER SHAPE

Current Analysis Value (WEC)		EPU Analysis Value (FPL)	
AXIAL HEIGHT (ft)******	Axial Power Shape (*)	AXIAL HEIGHT (ft)******	Axial Power Shape
2.2783	0.38000	2.278	0.81301
4.5566	0.710	4.556	0.92260
6.8349	1.370	6.834	1.00900
9.1132	1.635	9.112	1.21700
11.3917	1.020	11.390	1.04567

Notes:

* FPL **can not confirm** the current values provided by Westinghouse for the Axial Power Shape data. FPL has provided values for the EPU from the current LOCA Containment Re-Analysis.

****** Axial height from the bottom of core.

Table 11 – PSL Unit-1 RPS, ESFAS and AFAS Setpoints and Safety Analysis Limits

Functional Description	Monthly Surveillance Setpoint	Tech Spec Setpoint	Current Setpoint or Uncertainty Req. (current cycle)	EPU Setpoint or Uncertainty Requirement	Comments
RPS PZR Press Hi	2397.5 psia	≤ 2400 psia	± 22 psi (Normal) ± 80 psi (Accident)	± 40 psi (Normal) ± 80 psi (Accident)	Current cycle safety analysis parameter document includes a target analysis value of ± 40 psi (Normal)
RPS Cont. Press Hi	3.175 psig	≤ 3.3 psig	± 1.3 psi	± 1.3 psi	----------
RPS S/G Press Lo	626.1 psia	≥ 600 psia	± 32 psi (Normal)	± 40 psi (Normal) ± 80 psi (Worst Normal)	Current cycle safety analysis parameter document includes target analysis value of ± 80 psi (Worst Normal). Worst Normal defined as Containment Temperature > 111^{0}F but < 200^{0}F.
RPS S/G Level Lo	21.0%	≥ 20.5%	± 3% (Normal) ± 14% (Accident)	± 5% (Normal) ± 14% (Accident)	Current cycle safety analysis parameter document includes a target analysis value of ± 5% (Normal)
RPS RCS Low Flow		≥ 95% Design Flow	3.5%	4%	
SIAS/CIS Cont. Press Hi	4.375 psig	≤ 5.0 psig	± 1.3 psi	± 1.3 psi	----------
CSAS Cont. Press Hi-Hi	9.375 psig	≤ 10.0 psig	± 1.3 psi	± 1.3 psi	----------
SIAS PZR Press Lo	1612.5 psia	≥ 1600 psia	± 22 psi (Normal) ± 80 psi (Accident)	± 40 psi (Normal) ± 80 psi (Accident)	----------
MSIS S/G Press Lo	600 psig	≥ 585 psig	± 32 psi (Normal)	± 40 psi (Normal) ± 80 psi (Worst Normal)	Current cycle safety analysis parameter document includes a target analysis value of ± 80 psi (Worst Normal). Worst Normal is defined as Containment Temperature > 111^{0}F but < 200^{0}F.
RAS RWT Level Lo	48 inches	48 inches	± 6 inches	± 6 inches	----------
AFAS S/G Level Lo	19.5%	≥ 19.0%	± 3% (Normal) ± 14% (Accident)	± 5% (Normal) ± 14% (Accident)	Current cycle safety analysis parameter document includes a target analysis value of ± 5% (Normal)
AFAS S/G Press DP Hi	270 psid	≤ 275 psid	Not specified	± 64 psi (Normal) ± 160 psi (Worst Normal)	Worst Normal is defined as Containment Temperature > 111^{0}F but < 200^{0}F.
AFAS FW Press DP Hi	142.5 psid	≤ 150.0 psid	Not specified	≤ 245 psid (setpoint)	----------
AFAS logic time delay (minimum act. time)	235 sec		170 sec	170 sec	
PORV Open Pressure	N/A		2400 psia (nominal)	2400 psia (nominal) (setpoint)	For non-LTOP conditions, PORVs operate on RPS PZR Press Hi
Main Steam Safety RV	N/A	1000 psia (nominal) 1040 psia (nominal)	+ 1%, - 3% (tolerance) 3% (accumulation)	3% (tolerance) 3% (accumulation)	Current cycle safety analysis parameter document includes a target analysis value of ± 3% (tolerance)
PZR Safety RV	N/A	2500 psia (nominal)	+ 3%, - 2.5% (tolerance) 3% (accumulation)	+ 3%, - 2.5% (tolerance) 3% (accumulation)	----------

Note: When revised, Safety Analysis limits are set equal to the Tech Spec setpoint plus or minus the defined uncertainty.

TABLE 12

ST. LUCIE UNIT 1 - HIGH PRESSURE SAFETY INJECTION PUMP

DELIVERY FLOW/PUMP

	DEGRADED PUMP					NON-DEGRADED PUMP			
	NOMINAL		MINIMUM			NOMINAL		MAXIMUM	
RCS PRESSURE (psia)	4-LOOP TOTAL (gpm)	LOWEST 3-LOOPS (gpm)	4-LOOP TOTAL MIN (gpm)	3-LOOP MINIMUM ANALYSIS (gpm)	RCS PRESSURE (psia)	4-LOOP TOTAL (gpm)	HIGHEST 3-LOOPS (gpm)	4-LOOP TOTAL MAX (gpm)	3-LOOP MAXIMUM ANALYSIS (gpm)
15	647	479	615	455	15	704	563	**740**	**592**
315	555	411	527	390	324	617	493	**648**	**518**
615	442	327	420	311	633	514	412	**540**	**432**
815	346	256	329	244	839	432	346	**455**	**364**
1015	208	154	197	146	1045	329	263	**351**	**281**
1115	66	48	62	46	1148	261	209	**286**	**229**
1125	26	18	25	17	1158	254	203	**279**	**223**
1129	0	0	0	0	1162	250	200	**276**	**221**
1215	0	0	0	0	1251	168	134	**200**	**160**
1265	0	0	0	0	1303	89	72	**138**	**110**

Table 13. ST. LUCIE UNIT 1 - LOW PRESSURE SAFETY INJECTION PUMP DELIVERED

Min Degraded LPSI Flow/Pump (4 Valves)

RCS PRESSURE (PSIA)	TOTAL FLOW (GPM)	3-LOOP MINIMUM (GPM)
144.44	0	0
144.42	61	45
144.29	161	119
143.22	461	340
141.54	711	525
138.92	961	709
134.83	1211	894
129.61	1461	1078
123.24	1712	1263
115.69	1962	1447
106.95	2212	1632
96.99	2463	1817
85.78	2713	2002
73.31	2964	2187
44.47	3466	2557
10.30	3968	2927

Max LPSI Flow/Pump (4 Valves)

RCS PRESSURE (PSIA)	TOTAL FLOW (GPM)	3-LOOP MAXIMUM (GPM)
202.48	0	0
202.46	56	43
202.34	156	119
201.30	456	348
199.65	706	540
197.01	956	731
192.68	1206	922
187.10	1456	1114
180.25	1706	1305
172.10	1957	1497
162.61	2207	1688
151.76	2458	1880
139.52	2708	2071
125.86	2959	2263
94.14	3461	2647
56.39	3963	3031

Max LPSI Flow with Two Pumps (4 Valves)

RCS PRESSURE (PSIA)	TOTAL FLOW (GPM)	3-LOOP MAXIMUM (GPM)
202.48	0	0
202.41	111	85
201.96	311	238
198.03	911	697
191.81	1411	1079
182.62	1911	1462
169.77	2412	1844
153.70	2912	2227
134.38	3413	2610
111.78	3913	2993
85.86	4414	3376
56.60	4915	3759
23.96	5416	4143
17.02	5517	4219

Min Degraded LPSI Flow/Pump (2 Valves)

RCS PRESSURE (PSIA)	TOTAL FLOW (GPM)	1-LOOP MINIMUM (GPM)
144.44	0	0
144.37	61	30
143.98	161	79
140.64	461	225
135.41	711	347
127.72	961	469
117.05	1211	591
103.73	1461	713
87.73	1712	835
69.04	1962	957
52.14	2162	1055
47.64	2212	1080
43.02	2262	1104
33.47	2363	1153
23.48	2463	1202
18.32	2513	1226

Each LPSI and HPSI provides injection flow to all four legs.

Failure of a Diesel Generator will take 1 LPSI with 2 Valves and 1 HPSI Off.
For Max with (LPSI and HPSI), Use (LPSI Max + HPSI Max)
For Min with (1 LPSI and 1 HPSI), Use Maximum of (Degraded Minimum LPSI, HPSI)

ST. LUCIE UNIT 2 EPU Input Data Request to NRC for LOCA Model

Item No.	Parameter –Description	Units	Value	Comments
1.	**Plant Operating Conditions**			
1a.	For rated power conditions (Current):			
	1. Primary and Secondary Flow rates:			
	1.1. Core flow	gpm	412,000	Unc: ± 14,500 gpm and min flow is 335,000.
	1.2. Main coolant pumps	gpm	97,500 (2A1) 96,000 (2A2) 95,000 (2B1) 94,000 (2B2)	RCP Pump Test Data
	1.3. Steam flow	lbm/hr	See Item 1a 7.1	--------
	1.4. Feedwater flow	lbm/hr	See Item 1a 7.1	--------
	1.5. SG recirculation ratio/boiler section flow	Power- %CircRatio	Power %Circ Ratio 20 18.41 50 7.91 70 5.42 90 3.96 100 3.46	--------
	2. Primary and Secondary Pressures:			
	2.1. Pressurizer	psia	2250	Nominal Operating Pressure is 2250 psia. Pressure range is 2225 to 2275, with Unc: ± 45 Normal, ± 90 Accident.

Item No.	Parameter –Description	Units	Value	Comments
	2.2. Core inlet	psia	2286	Based on 2250 psia core outlet and 35.5 psi core pressure drop (UFSAR Table 4.4-4).
	2.3. Core outlet	psia	2250	Assumed to be the same as the pressurizer.
	2.4. Reactor coolant pump discharge	psia	2287	Assume a 1 psi pressure drop from RCP discharge to core inlet.
	2.5. Steam generator dome	psia	886.81	SG outlet pressure from benchmark heat balance plus dP to upstream of flow restrictor
	2.6. Turbine control valve inlet	psia	See Item 1a 7.3	--------
	2.7 Detailed primary loop pressure drop distribution	psi	Later	Later
	3. Primary and Secondary Temperatures:			
	3.1. Hot leg	°F	600	Assumed to be the same as the core outlet temperature since the Rx vessel does not have upper head injection.
	3.2. Cold leg	°F	549 Unc: ± 3°F	Tcold temperature at full power.
	3.3. Core outlet	°F	600	Based on Tcold of 549F and Tave of 574.5F.
	3.4. Upper Head	°F	600	Assumed to be the same as the core outlet temperature since the Rx vessel does not have upper head injection.
	4. Water levels in the pressurizer and steam generators,			
	4.1. Pressurizer	% Tap Span	See Figure 1	--------

Item No.	Parameter –Description	Units	Value	Comments
	4.2. Steam Generators	in	411.3	Level above tubesheet
	5. Leakage flows (Bypass):	% of vessel flow	3.7	This is the total core bypass maximum value for minimum core flow rate.
	5.1. Outlet nozzle clearances	percent	1.12	Assume bypass breakdown documented in Unit 1 UFSAR due to unit similarities.
	5.2. Downcomer to upper head	percent	0.16	Assume bypass breakdown documented in Unit 1 UFSAR due to unit similarities.
	5.3. CEA shrouds	percent	N/A	Equivalent to a fraction of the leakage through guide tubes (item 1a.5.5.1). This has not been quantified.
	5.4. Upper head to upper plenum (guide structure holes)	percent	N/A	This has not been quantified.
	5.5. Core bypass (guide tubes, barrel-baffle)			
	5.5.1. Guide tubes	percent	1.76	Assume bypass breakdown documented in Unit 1 UFSAR due to unit similarities.
	5.5.2. Barrel-baffle	percent	0.47	Assume bypass breakdown documented in Unit 1 UFSAR due to unit similarities.
	6. Steam generator recirculation ratio	Power-%CircRatio	See Item 1a 1.5	--------
	7. Heat balance information such as:			
	7.1. Feed and steam flows	lbm/hr	11,905,010 11,806,740	Benchmark Heat Balance
	7.2. Feedwater temperature	°F	435	Benchmark Heat Balance

Item No.	Parameter –Description	Units	Value	Comments
	7.3. Turbine inlet pressure.	psia	852.7	Benchmark Heat Balance, Turbine Inlet Valve
1.	**Plant Operating Conditions**			
1b.	For EPU conditions.			
	1. Primary and Secondary Flow rates:			
	1.1. Core flow	gpm	412,000	Minimum flow is 375,000 gpm.
	1.2. Reactor coolant pumps	gpm	97,500 (2A1) 96,000 (2A2) 95,000 (2B1) 94,000 (2B2)	RCP Pump Test Data
	1.3. Steam flow	lbm/s	See Item 1b 7.1	--------
	1.4. Feedwater flow	lbm/hr	See Item 1b 7.1	--------
	1.5. SG recirculation ratio/boiler section flow	Power- %CircRatio	Power %Circ Ratio 25 13.86 50 7.06 75 4.40 100 3.02	
	2. Primary and Secondary Pressures (absolute pressures):			
	2.1. Pressurizer	psia	2250	Range: 2225 to 2275 psia. Unc.: ± 45 psi normal, ± 90 psi harsh.
	2.2. Core inlet	psia	2286	Assumed to remain similar to current conditions.
	2.3. Core outlet	psia	2250	Assumed to remain similar to current conditions.
	2.4. Reactor coolant pump discharge	psia	2287	Assumed to remain similar to current conditions.
	2.5. Steam generator dome	psia	Later	Later
	2.6. Turbine control valve inlet	psia	See Item 1b.7.3	--------

Item No.	Parameter –Description	Units	Value	Comments
	2.7 Detailed primary loop pressure drop distribution	psi	Later	Later
	3. Primary and Secondary Temperatures:			
	3.1. Hot leg	°F	Later	Safety analysis will determine value during EPU analysis.
	3.2. Cold leg	°F	551 Unc: ± 3F	Corresponds to 100% Power. Tcold at zero power is 532F.
	3.3 Core outlet	°F	Later	Safety analysis will determine value during EPU analysis.
	3.4 Upper Head	°F	Later	Assume to be the same as the core outlet temperature since the Rx vessel does not have upper head injection.
	4. Water levels in the pressurizer and steam generators			
	4.1. Pressurizer	% Tap Span	See Figure 1 below	--------
	4.2. Steam Generators	in	411.3	Level above tubesheet
	5. Leakage flows:	% of vessel flow	3.7	--------
	5.1. Outlet nozzle clearances	percent	1.12	Assumed to be similar to current operating value.
	5.2. DC to upper head	percent	0.16	Assumed to be similar to current operating value.
	5.3. CEA shrouds	percent	N/A	This has not been quantified.
	5.4. Upper head to upper plenum (guide structure holes)	percent	N/A	This has not been quantified.
	5.5. Core bypass (guide tubes, barrel-baffle)			
	5.5.1. Guide tubes	percent	1.76	Assumed to be similar to current operating value.
	5.5.2. Barrel-baffle	percent	0.47	Assumed to be similar to current operating value.
	6. Steam generator recirculation ratio	Power-%CircRatio	See Item 1b.1.5	--------
	7. Heat balance information such as:			
	7.1 Feedwater and steam flows	lbm/hr	13,345,230	Draft Heat Balance

Item No.	Parameter –Description	Units	Value	Comments
			13,246,890	
	7.2 Feedwater temperature	°F	436.1	Draft Heat Balance
	7.3 Turbine inlet pressure.	psia	853.1	Draft Heat Balance, Turbine Inlet Valve
2.	**Analysis Topical Reports**			
	1. Topical Report on the licensing analysis of record for LOCA at rated power and EPU conditions.	See Comment	See Comment	See References provided below applicable to rated power: • CENPD-132, through Suppl. 4-P-A, "Calculative Method for the CE Nuclear Power Large Break LOCA Evaluation Model", March 2001. • CENPD-137, through Suppl. 2-P-A, "Calculative Method for the ABB CE Small Break LOCA Evaluation Model", "April 1998. No new Topical Reports for EPU analyses. Analysis results are in the UFSAR.
3.	**Safety System Logic, Setpoints and Delay Times**			
	Critical Safety Parameters List (also called "Groundrules document") for the last reload for:			
	1. ESFAS	See Table 5	See Table 5	See Table 5
	2. RPS	See Table 5	See Table 5	See Table 5
	3. SGIS/MSIS	See Table 5	See Table 5	See Table 5
	4. PORV	See Table 5	See Table 5	See Table 5
	5. SRV.	See Table 5	See Table 5	See Table 5

Item No.	Parameter –Description	Units	Value	Comments
4.	**Primary and Secondary Pressure Drops**			
	1. Primary side pressure drop distribution with corresponding flow rate, including leakage flows (from design data or vendor analyses).	Later	Later	Later
	2. Secondary side pressure drop distribution with corresponding flow rate, including leakage flows (from design data or vendor analyses).	Later	Later	Later
5.	**Core and Fuel Design**			
	1. Number of assemblies	N/A	217	--------
	2. Dimensions	N/A	Array: 16 x 16, Pitch: 8.180 in, Length: 158.5 in	The pitch is the sum of 7.972 and 0.208 = 8.180 in.
	3. Spacer grid locations and K-factors	N/A	See Table 4 for grid locations.	Spacer grid K-factors to be provided later.
	4. Vessel pressure drops	psi	a) 5.0 b) 10.4 c) 13.4 d) 6.7	Current values: a) Inlet nozzle & 90 degree turn, b) Downcomer, lower plenum, support structure, c) Fuel assembly, d) Fuel assembly outlet to outlet nozzle.
	5. Bypass and leakage flows	% of total flow	See item 1a.5.5 above	Similar to Item 1a.5.5 above.
	6. Number and location of fuel rods.	N/A	236 per assy 51,212 total. See Figs. 3 and 4 below for location.	Some fuel rods contain burnable absorber material.
	7. Number and location of guide tubes.	N/A	5 guide tubes per assy. See Fig. 3 below for location.	--------

Item No.	Parameter –Description	Units	Value	Comments
6.	**Equipment Drawings and Design Reports**			
	To confirm the calculation of flow path lengths and elevations, flow areas, volumes, metal mass and surface areas (including pipe schedules), and form loss (due to bends, contractions, expansions, orifices, etc.) for the following equipment:			
	1. Reactor vessel and internals (identification of all core bypass flow paths and flow rates, including upper plenum or head to downcomer, if available).	---	See Table 3	---
	2. Primary loop piping (hot leg, cold leg, pump suction)	---	See Table 3	---
	3. Reactor coolant pumps	---	See Table 3	---
	4. Steam generators and internals (U-tube lengths, separators, inlet and outlet plenum, etc.), (TH Design Report)	---	See Table 3	---
	5. Pressurizer, surge line, spray lines, safety and relief valves and connecting lines, etc.	---	See Table 3	---
	6. Main steam lines out to the turbine stop valves, including safety and relief valves and connecting lines, main steam isolation valves, flow restrictors, etc.	---	See Table 3	---
	7. Main feedwater lines from the isolation valves to the steam generator inlet.	---	See Table 3	---
	8. Auxiliary feedwater lines and feedwater pump type, configuration and capacity.	---	See Table 3	---
	9. Safety injection equipment including SITs, high and low pressure injection systems and connecting piping.	---	See Table 3	---
	10. Charging and letdown system (CVCS).	---	See Table 3	---
	11. Residual heat removal system.	---	See Comments	See Item 6.9 for LPSI System. LPSI

Item No.	Parameter –Description	Units	Value	Comments
				and RHR are the same system.
7.	**Reactor Vessel Internals**			
	Weight and surface area of reactor vessel internal structures:			
	1. Core support barrel	Lbs / sq. ft.	136,600 / Later	Dry weight. Wet weight equals to 119,500 lbs.
	2. Core shroud	Lbs / sq. ft.	33,800 / Later	Dry weight. Wet weight equals to 29,600 lbs.
	3. Upper and lower core support plates	Lbs / sq. ft.	Later / Later	Lower core plate included below for weight of core support assy.
	4. Fuel alignment plate	Lbs / sq. ft.	Later / Later	---
	5. Upper guide structure	Lbs / sq. ft.	122,200 / Later	Dry weight. Includes the FAP, CEA shrouds and shroud extensions. Wet weight equals to 106,900 lbs.
	6. Core support assembly	Lbs / sq. ft.	45,500 / Later	Dry weight. Includes the lower core plate. Wet weight equals to 39,800 lbs.
	7. Flow skirt	Lbs / sq. ft.	5,000 / ---	Identified as flow baffle.
	8. Control element assembly (CEA) shrouds	Lbs / sq. ft.	Later / Later	---
	9. Shroud extensions	Lbs / sq. ft.	Later / Later	---
	10. Grid assemblies	Lbs / sq. ft.	19 per Assy / Later	Top grid = 2 lbs, 8 spacers @ 1.8 lbs each, bottom grid = 2.6 lbs.
8.	**Steam Generator Internals**			
	1. Weight of steam generator tube sheet and surface area of tube sheet exposed to primary side fluid.			
	1.1. Weight of Tube Sheet	lbm	93,230	Weight with integral forged lower cylindrical ring and cladding
	1.2. Surface area of Tube Sheet (Primary Side)	ft^2	Later	Later
	2. Weight and surface area of steam generator wrapper.			
	2.1. Weight of SG wrapper	lbm	34,730	Includes wrapper roof

Item No.	Parameter –Description	Units	Value	Comments
	2.2. Surface area of SG wrapper	ft^2	Later	Later
9.	**Steam Generator Fluid Volumes**			
	1. Inlet plenum	ft^3	338.4	Includes Manway
	2. Outlet plenum	ft^3	332.0	Includes Manway
	3. Active and inactive (within tube sheet) tubes	ft^3	1230.0 41.3	
	4. Number of steam generator tubes	-	8999	
	5. Length of shortest and longest	ft	Later	Later
10.	**Steam Generator Parameters**			
	1. Inventory and recirculation ratio versus load (essential at rated power conditions)	Later	Later	Later
	2. SG flow areas, K-factors and flows	Later	Later	Later
11.	**MS Line Flow Restrictor**			
	1. Restrictor flow area	ft^2	3.791 to 3.803 per SG, 2.27 per SG	Outlet Nozzle Area, Flow Venturi Area
12.	**Steam Generator and Reactor Vessel Heights**			
	1. Volume versus height relationship for the steam generators with downcomer and boiler regions provided separately	See Table 6	See Table 6	--------

Item No.	Parameter –Description	Units	Value	Comments
	2. Volume versus height for the reactor vessel with internals installed	See Table 6	See Table 6	--------
13.	**Reactor Coolant Pump Rated Conditions**			
	1. Head	ft	296.75	The value is the average of the four pump-specific values (303, 296, 293 & 295 ft)
	2. Flow	gpm	87,750	The value is the average of the four pump-specific values (85,000 - 87,500 - 91,000 & 87,500 gpm)
	3. Torque	lbf-ft	33,950	The value is the average of the four pump-specific values (33,860 – 34,000 – 34,720 & 33,230 ft-lbf)
	4. Speed	rpm	900	Synchronous speed
	5. Density	lbm/ ft^3	47.5	The value is the average of the four pump-specific values (47.3, 47.4, 46.9 and 48.4 lbm/ ft^3)
	6. Homologous pump curves (four quadrant)	N/A	See Table 7	--------
	7. Pump inertia and friction (coefficients of polynomial in pump speed)	lbm-ft^2 ft-lbf	102,000 2735	Uncertainty value of $\pm$ 1% may be applied to pump inertia in the analysis to gain operating margin. - Constant for friction and windage torque.
	8. Coolant primary system fluid volume within pump	ft^3	112	--------
	9. RCP metal mass, excluding motor	lbs	75,000	Dry weight.
	10. Reverse rotation device operational for RCPs	N/A	Yes	RCP design torque for anti-reverse rotation device equal to 62,000 ft-lbf.
	11. Pump power to primary fluid	MWt	14.2 (nominal), 20 (max)	--------
	12. Coastdown characteristics	N/A	Figure 2	--------

Item No.	Parameter –Description	Units	Value	Comments
	13. Pump trip setpoints	N/A	Overcurrent	Overload Trip
	14. Pump time delays and logic	N/A	N/A	No safety related RCP trips.
14.	**Core Cooling System**			
	1. HPSI and LPSI delivery curves	gpm	See Tables 8, 9, 10, 11	--------
	2. SIT total volume	ft^3	1855	Four tanks, each with this capacity.
	3. SIT initial pressure and liquid volume	• psia • ft^3	• (500 to 650 ± 15) • (1420 to 1556 ± 32)	TS ranges for SIT pressure and liquid volume.
	4. CST minimum capacity	gal	276,200	--------
	5. Charging pump flow versus pressure	gpm	40 (nominal) to 49 (maximum) 35 minimum, after uncertainties	Reciprocal pump. Flow is per charging pump. Nominal value does not include 4 gpm for RCP bleed-off.
15.a	**Control Systems**			
	Rated power operation of the primary and secondary control systems for:			
	1. SG water level instrumentation and control (three-element)	Later	Later	Later
	2. SG pressure (including bypass and ADV)	Later	Later	Later
	3. Pressurizer heaters and sprays	Later	Later	Later
	4. Pressurizer level	Later	Later	Later
	5. Auxiliary feedwater	Later	Later	Later
	6. CVCS (charging and letdown)	Later	Later	Later
15.b	**Control Systems**			
	EPU condition operation of the primary and secondary control systems for:			

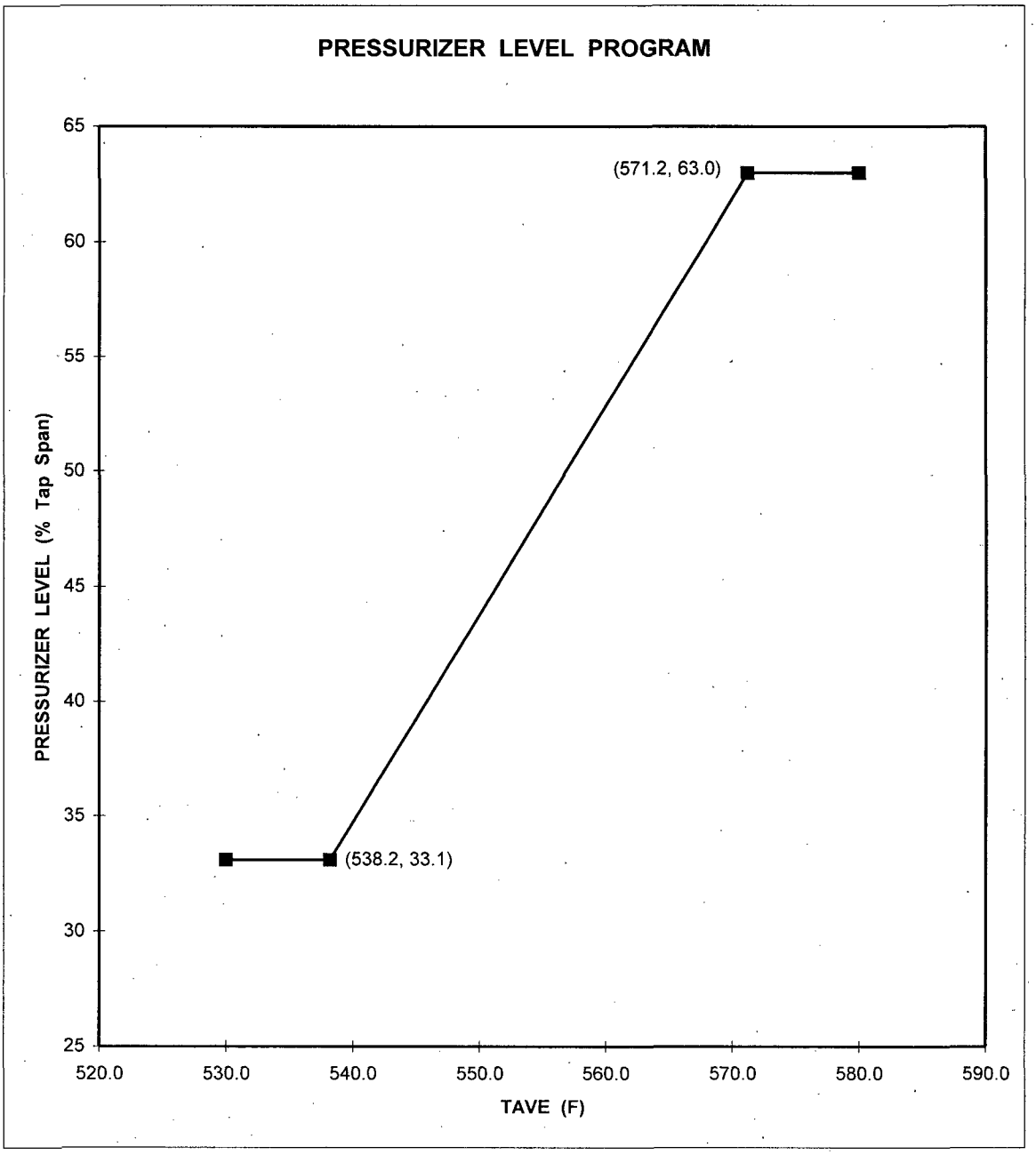
Item No.	Parameter –Description	Units	Value	Comments
	7. SG water level instrumentation and control (three-element)	Later	Later	Later
	8. SG pressure (including bypass and ADV)	Later	Later	Later
	9. Pressurizer heaters and sprays	Later	Later	Later
	10. Pressurizer level	Later	Later	Later
	11. Auxiliary feedwater	Later	Later	Later
	12. CVCS (charging and letdown)	Later	Later	Later
16.	**Reactor Vessel Upper Head**			
	1. Upper head fluid temperature at normal operating conditions.	°F	Later	Assume to be the same as the core outlet temperature since the Rx vessel does not have upper head injection.
17.	**Essential Valve Characteristics**			
	Number of valves, full open flow area, forward/ reverse flow coefficients (CV's), open/close rate, minimum flow at rated conditions, logic for opening and closing the valves for:			
	1. Pressurizer PORVs	--------	See Table 12	--------
	2. Pressurizer safety valves	--------	See Table 12	--------
	3. Main steam safety valves	--------	See Table 12	--------
	4. Atmospheric dump valves	--------	See Table 12	--------
	5. TCVs (turbine control valves)	--------	See Table 12	--------
	6. Turbine bypass valves	--------	See Table 12	--------
	7. TSVs, (turbine stop valves)	--------	See Table 12	--------
	8. MFIVs	--------	See Table 12	--------
	9. MSIVs	--------	See Table 12	--------

Item No.	Parameter –Description	Units	Value	Comments
18. to 20.	**Reactor Core Parameters**			
	1. Control rod insertion versus time after scram	Later	Later	Later
	2. CEA worth versus insertion (with and without highest worth rod stuck out of core)	Later	Later	Later
	3. Reactivity versus fuel temperature and reactivity versus moderator density	Later	Later	Later
	4. Moderator temperature coefficient	Later	Later	Later
	5. Typical top peaked axial power profile	Later	Later	Later
	6. Minimum and maximum average fuel clad gap conductivity at rated power conditions	Later	Later	Later
	7. Minimum local gap conductance as a function of LHGR	Later	Later	Later
	8. Gap conductance	Later	Later	Later
	9. Linear heat rate	Later	Later	Later
	10. Fuel average and centerline temperature as a function of burnup for the hot rod in the hot bundle.	Later	Later	Later
21.	**Operator Actions During LOCA**			
	1. Reactor coolant pump trips (conditions to trip pumps – automatic or manual)	None	Pumps automatically trip on LOOP	Accident analysis assumes LOOP concurrent with LOCA, and pumps are not loaded into EDGs or manually operated. Same assumption for EPU analysis.
	2. HPSI throttling criteria	None	See Comments Section.	If HPSI pumps are operating, and **ALL** of the following conditions are satisfied: • RCS subcooling is greater than or

Item No.	Parameter –Description	Units	Value	Comments
				equal to minimum subcooling • Pressurizer level is at least 30% and NOT lowering, • At least **ONE** S/G is available for RCS heat removal with level being restored to or maintained between 60 and 70% NR, • Rx Vessel level indicates sensors 4 through 8 are covered, or NO abnormal differences (greater than 20°F) between THOT and Rep CET temperature, Then, THROTTLE SI flow. Same assumption for EPU analysis.
	3. MS line break auxiliary feedwater control	N/A	See comment	Due to the design of the AFW system that automatically isolates the AFW from the broken loop, no auxiliary feedwater was assumed to be delivered during the post-trip MSLB event. No flow delivered for pre-trip MSLB either.
22.	**Core Operating Limits Report**	See Comment	See Comment	Most recent COLR provided to NRC via FPL letter L-2007-183, dated 11-19-2007. EPU COLR to be provided later after it is issued.
23.	**RCS Material Property Data**			
	For the various materials in the reactor coolant system (stainless steel, inconel, etc.):			
	1. Density	Later	Later	Later
	2. Specific heat	Later	Later	Later
	3. Thermal conductivity	Later	Later	Later
	4. Emissivity versus temperature	Later	Later	Later

Figure 1
ST. LUCIE UNIT 2
PRESSURIZER LEVEL PROGRAM

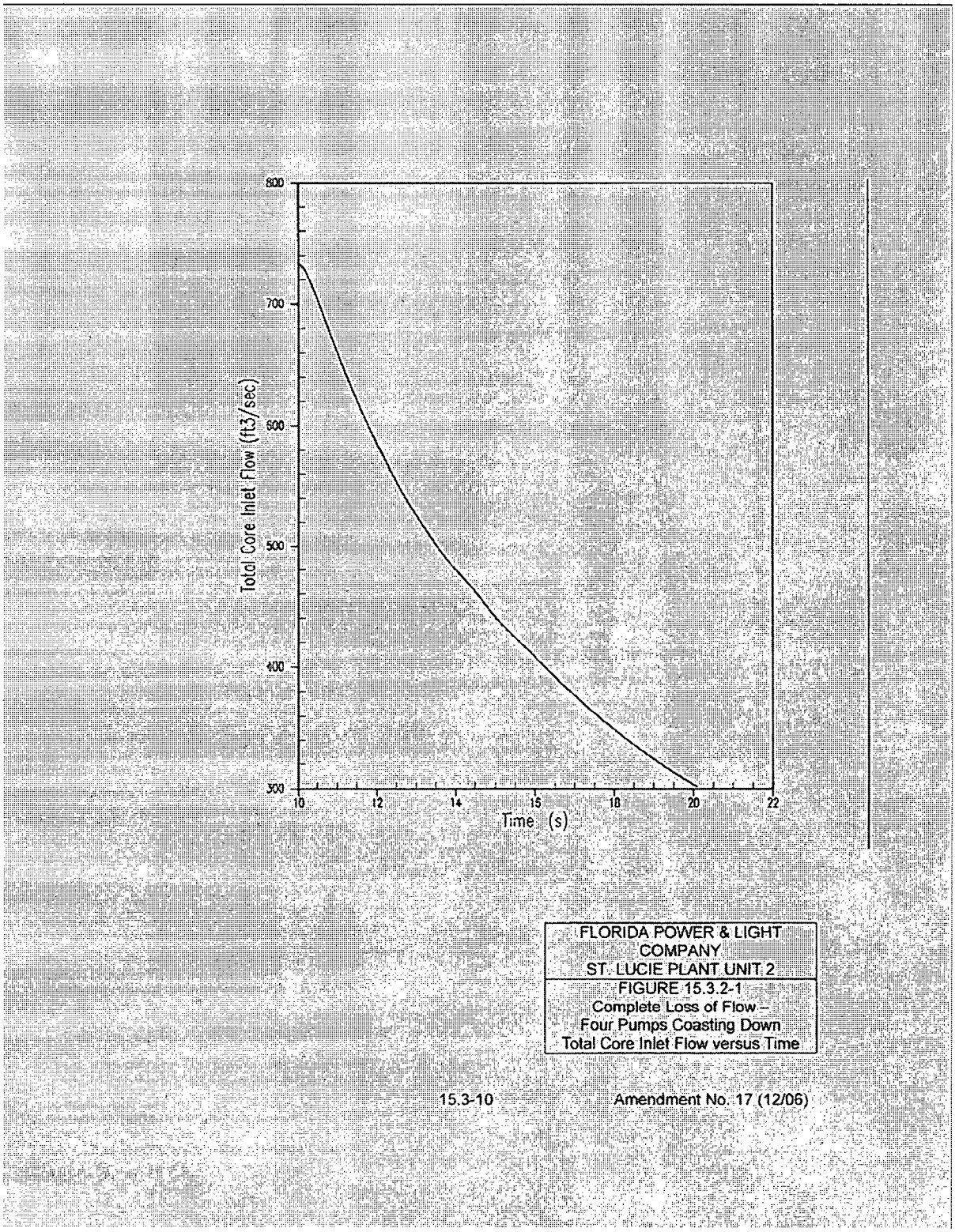
Note: The Values Refer to the Actual Plant Settings



Pressurizer Volume at 63.0% Span is 914 Cu. Ft.

Pressurizer Volume at 33.1% Span is 463 Cu. Ft.

Figure 2 – RCP Coastdown



Note: Curve represents current analyses.

Figure 3

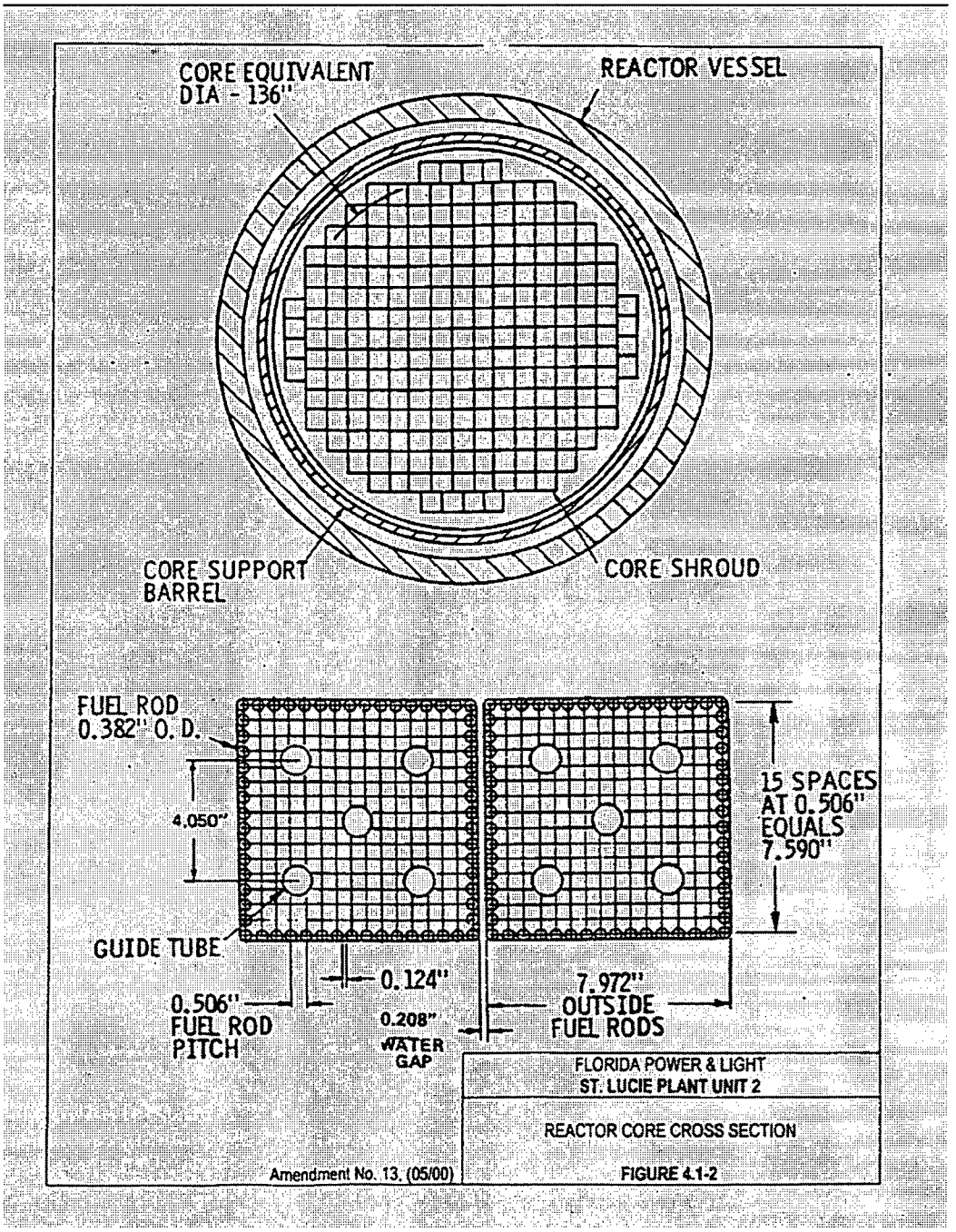

CORE EQUIVALENT
DIA - 136"
REACTOR VESSEL
CORE SUPPORT
BARREL
CORE SHROUD
FUEL ROD
0.382" O. D.
4.050"
GUIDE TUBE
0.506"
FUEL ROD
PITCH
0.124"
0.208"
WATER
GAP
15 SPACES
AT 0.506"
EQUALS
7.590"
7.972"
OUTSIDE
FUEL RODS
FLORIDA POWER & LIGHT
ST. LUCIE PLANT UNIT 2
REACTOR CORE CROSS SECTION
Amendment No. 13, (05/00)
FIGURE 4.1-2

Figure 4

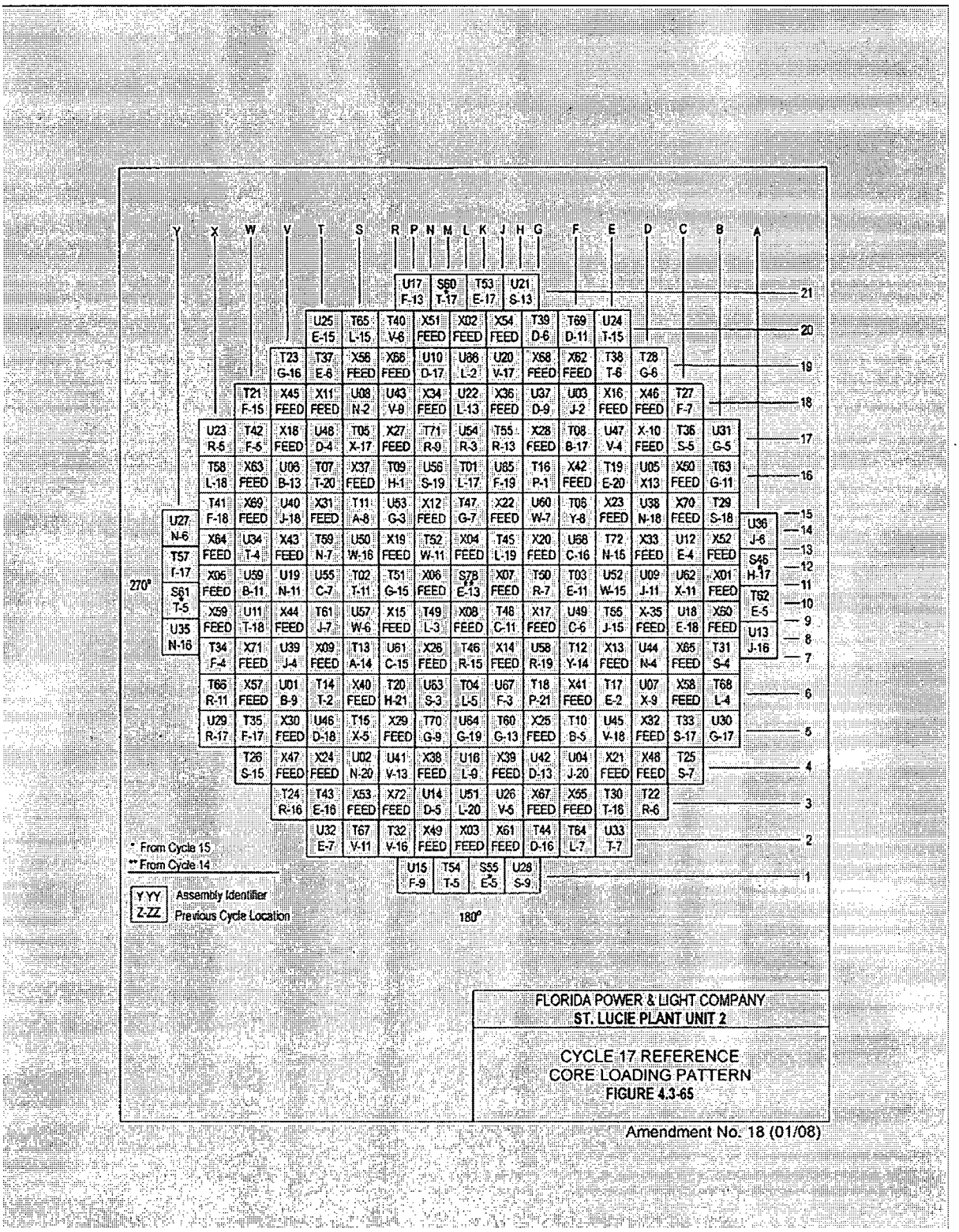

Y X W V T S R P N M L K J H G F E D C B A
21
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
270°
180°
U27 N-6
T57 F-17
S61* T-5
U35 N-16
U36 J-6
S46* H-17
T52 E-5
U13 J-16
U17 F-13
S60* T-17
T53 E-17
U21 S-13
U15 F-9
T54 T-5
S55* E-5
U28 S-9
* From Cycle 15
** From Cycle 14
Y YY Z-ZZ Assembly Identifier Previous Cycle Location
FLORIDA POWER & LIGHT COMPANY
ST. LUCIE PLANT UNIT 2
CYCLE 17 REFERENCE
CORE LOADING PATTERN
FIGURE 4.3-65
Amendment No. 18 (01/08)

Table 1 (Later)

Table 2 (Later)

Table 3
Unit 2 Piping Isometric Drawings by P&ID

Flow Diagram	Component/Isometric Drawing
Reactor Vessel	
2998-G-078, Sheet 110, Rev. 08	2998-769, Rev. 2
Primary Loop Piping (RCS)	
2998-G-078, Sheet 110, Rev. 08	2998-2662, Rev. 4 2998-2132, Rev. 6 2998-3793, Rev. 1 2998-1887, Rev. 3 2998-1886, Rev. 6
Reactor Coolant Pumps	
2998-G-078, Sheet 111A, Rev. 11 2998-G-078, Sheet 111B, Rev. 10 2998-G-078, Sheet 111C, Rev. 13 2998-G-078, Sheet 111D, Rev. 10	2998-455, Rev. 6 2998-457, Rev. 8
Steam Generators	
2998-G-078, Sheet 110, Rev. 8 2998-G-079, Sheet 1, Rev. 41 2998-G-080, Sheet 2A, Rev. 43	2998-21342 Rev 0 (Later)
Pressurizer/Surge Line/Spray Lines/Relief Lines	
2998-G-078, Sheet 109, Rev. 18 2998-G-078, Sheet 108, Rev. 5	2998-506, Rev 4 2998-G-125, Sheet RC-AB-1, Rev 13 2998-G-125, Sheet RC-AB-2, Rev 11 2998-2048, Rev 5
Main Steam Lines Out to the Turbine Stop Valves	
2998-G-079, Sheet 1, Rev. 41 2998-G-079, Sheet 2, Rev. 35	2998-G-125, Sheet MS-L-1, Rev. 22 2998-G-125, Sheet MS-L-2, Rev. 22 2998-G-125, Sheet MS-L-3, Rev. 10 2998-G-125, Sheet MS-L-4, Rev. 16 2998-G-125, Sheet MS-L-13, Rev. 11 2998-G-125, Sheet MS-L-14, Rev. 16
Main Feedwater Lines from the Isolation Valves to the Steam Generator Inlet	
2998-G-080, Sheet 2A, Rev. 43	2998-G-125, Sheet BF-M-6, Rev. 17
Auxiliary Feedwater Lines	
2998-G-080, Sheet 2B, Rev. 36	2998-G-125, Sheet BF-M-7, Rev. 18 2998-G-125, Sheet BF-M-8, Rev. 20 2998-G-125, Sheet BF-M-9, Rev. 16
Safety Injection	
2998-G-078, Sheet 130A, Rev. 19 2998-G-078, Sheet 130B, Rev. 28 2998-G-078, Sheet 131, Rev. 20 2998-G-078, Sheet 132, Rev. 09 2998-G-078, Sheet 110, Rev. 08	2998-G-125, Sheet SI-N-4, Rev. 20 2998-G-125, Sheet SI-N-5, Rev. 19 2998-G-125, Sheet SI-N-6, Rev. 18 2998-G-125, Sheet SI-N-7, Rev. 15 2998-G-125, Sheet SI-N-8, Rev. 18

	2998-G-125, Sheet SI-N-9, Rev. 20 2998-G-125, Sheet SI-N-14, Rev. 25 2998-G-125, Sheet SI-N-16, Rev. 17 2998-G-125, Sheet SI-N-17, Rev. 14 2998-G-125, Sheet SI-N-18, Rev. 12 2998-G-125, Sheet SI-N-19, Rev. 15 2998-G-125, Sheet SI-N-20, Rev. 14 2998-G-125, Sheet SI-N-21, Rev. 13 2998-G-125, Sheet CS-K-1, Rev. 19 2998-G-125, Sheet CS-K-2, Rev. 20 2998-C-124, Sheet SI-1, Rev. 12 2998-C-124, Sheet SI-2, Rev. 10 2998-C-124, Sheet SI-3, Rev. 12 2998-C-124, Sheet SI-4, Rev. 13 2998-C-124, Sheet RC-1, Rev. 9 2998-C-124, Sheet RC-2, Rev. 13
Charging and Letdown System (CVCS)	
2998-G-078, Sheet 110, Rev. 08 2998-G-078, Sheet 120, Rev. 17 2998-G-078, Sheet 121A, Rev. 31 2998-G-078, Sheet 122, Rev. 25	2998-G-125, Sheet CH-G-1, Rev. 21 2998-G-125, Sheet CH-G-2, Rev. 19 2998-G-125, Sheet CH-G-3, Rev. 16 2998-G-125, Sheet CH-G-4, Rev. 21 2998-G-125, Sheet CH-G-10, Rev. 12 2998-G-125, Sheet CH-G-14, Rev. 11 2998-G-125, Sheet CH-G-15, Rev. 15 2998-G-125, Sheet CH-G-16, Rev. 06 2998-G-125, Sheet CH-G-17, Rev. 13 2998-C-124, Sheet CH-1, Rev. 11 2998-C-124, Sheet CH-3, Rev. 12 2998-C-124, Sheet CH-4, Rev. 09 2998-C-124, Sheet CH-6, Rev. 8 2998-C-124, Sheet CH-33, Rev. 7 2998-C-124, Sheet CH-72, Rev. 15 2998-C-124, Sheet CH-75, Rev. 14 2998-C-124, Sheet CH-78, Rev. 12 2998-C-124, Sheet CH-103, Rev. 9 2998-C-124, Sheet CH-104, Rev. 8 2998-C-124, Sheet CH-105, Rev. 6 2998-C-124, Sheet CH-106, Rev. 13 2998-C-124, Sheet CH-108, Rev. 7 2998-C-124, Sheet CH-109, Rev. 17 2998-C-124, Sheet CH-110, Rev. 14 2998-C-124, Sheet CH-111, Rev. 11 2998-C-124, Sheet CH-112, Rev. 13 2998-C-124, Sheet CH-129, Rev. 0 2998-C-124, Sheet RC-2, Rev. 13

Table 4
Spacer Grid Locations

Grid #	Distance (in)
1	5.175
2	22.375
3	38.188
4	54.000
5	69.812
6	85.625
7	101.438
8	117.250
9	133.062
10	148.875

Notes: Measured from bottom of fuel assembly to top of grid.

Table 5
RPS, ESFAS and AFAS Setpoints and Safety Analysis Limits

Functional Description	Monthly Surveillance Setpoint	Tech Spec Setpoint	Current Setpoint or Uncertainty Requirement (current cycle)	EPU Setpoint or Uncertainty Requirement	Comments
RPS PZR Press Hi	2360 psia	≤ 2370 psia	± 45 psi (Normal) ± 90 psi (Accident)	± 45 psi (Normal) ± 90 psi (Accident)	
RPS Cont. Press Hi	2.5 psig	≤ 3.0 psig	± 1.65 psi	± 1.65 psi	
RPS S/G Press Lo	626 psia	≥ 626 psia	± 40 psi (Normal) ± 80 psi (Accident)	± 40 psi (Normal) ± 80 psi (Accident)	
RPS S/G Level Lo	20.5%	≥ 20.5%	± 5% (Normal) ± 14% (Accident)	± 5% (Normal) ± 14% (Accident)	
RPS RCS Low Flow		≥ 95.4% Design Flow	3.5%	3.5% (Normal) 7.5% (Accident)	
SIAS/CIS Cont. Press Hi	3.41 psig	≤ 3.5 psig	± 1.65 psi	± 1.65 psi	
CSAS Cont. Press Hi-Hi	5.31 psig	≤ 5.4 psig	± 1.65 psi	± 1.65 psi	
SIAS PZR Press Lo	1740 psia	≥ 1736 psia	± 45 psi (Normal) ± 90 psi (Accident)	± 45 psi (Normal) ± 90 psi (Accident)	
MSIS S/G Press Lo	600 psia	≥ 600 psia	± 40 psi (Normal) ± 80 psi (Accident)	± 40 psi (Normal) ± 80 psi (Accident)	
RAS RWT Level Lo	5.67 feet	5.67 feet	± 6 inches	± 6 inches	
AFAS S/G Level Lo	19.5%	≥ 19.0%	± 5% (Normal) ± 14% (Accident)	± 5% (Normal) ± 14% (Accident)	
AFAS S/G Press DP Hi	270 psid	≤ 275 psid	Not specified	± 60 psi (Normal) ± 115 psi (Accident)	
AFAS FW Press DP Hi	142.5 psid	≤ 150.0 psid	Not specified	≤ 245 psid (setpoint)	EPU setpoint requirement based on ± 85 psi (Normal) uncertainty
AFAS logic time delay (minimum actuation time)	210 sec		120 sec	120 sec	
PORV Open Pressure	N/A		2370 psia (nominal)	2370 psia (nominal) (setpoint)	For non-LTOP conditions, PORVs operate on RPS PZR Press Hi
Main Steam Safety RV	N/A	1000 psia (nominal) 1040 psia (nominal)	± 3% (Bank 1 tolerance) +2%, -3% (Bank 2 tol.) 3% (accumulation)	± 3% (Bank 1 tolerance) +2%, -3% (Bank 2 tol.) 3% (accumulation)	
PZR Safety RV	N/A	2500 psia (nominal)	± 3% (tolerance) 3% (accumulation)	± 3% (tolerance) 3% (accumulation)	

Note: When revised, Safety Analysis limits are set equal to the Tech Spec setpoint plus or minus the defined uncertainty.

Table 6

REACTOR COOLANT SYSTEM GEOMETRY

Component	Flow Path Length (ft)	Top Elevation (ft) (d)	Bottom Elevation (ft) (d)	Minimum Flow Area (ft^2)	Volume (ft^3)
Hot Leg	14.53	2.38	-1.75	9.62	139.81
Suction Leg	22.83	1.04	-7.25	4.91	112.07
Discharge Leg					
Parallel	16.39	1.25	-1.25	4.91	80.46
Non-parallel	16.42	1.25	-1.25	4.91	80.52
Reactor Coolant Pump	22.81	1.25	-1.79	4.91[f]	112
Pressurizer	----	47.20	10.83	----	1500
Liquid level	----	30.66	10.83	50.07[e]	800
Surge Line	54.51	10.83	1.75	0.56	29.30
Steam Generator					
Inlet nozzle (ea)	2.23	2.24	0.95[e]	9.62	21.77
Inlet plenum	4.64	6.91	0.36	61.04	342.94
Tubes (active and passive)	56.81	37.65	6.91	0.0024[c]	1247.71
Outlet plenum	5.50	6.91	0.36	61.04	337.95
Outlet nozzle (ea)	1.72	1.39	0.16[e]	4.91	8.58
Reactor Vessel					
Inlet nozzles	3.6	1.5	-1.5	4.9	78
Downcomer	20.9	1.5	-20.9	30.3	674
Lower plenum	6.4[b]	-20.9	-27.0	43.7	702
Lower support structure and inactive core	3.5	-17.4	-20.9	28.0	473
Active core	11.4	-6.0	-17.4	54.8	669
Upper inactive core	1.5	-4.5	-6.0	47.1	85
Outlet plenum	11.0[g]	2.0	-4.5	23.45	524
CEA shroud	12.2[g]	9.8	2.0	----	430
UGS annulus, outside CEA shroud	4.5	6.5	2.0	----	122
Top Head	----	13.0	6.5	----	753
Outlet nozzles	4.1	2.0	-2.0	9.62	105

Table 6 - Continuation

TABLE 4.4-8 (Cont'd)

Notes:

(a) For the cylinder

(b) Represents a geometrical rather than an actual flow path length

(c) Flow path area per tube

(d) Reactor vessel nozzle centerline is the reference elevation; it has an elevation of 0.0 ft.

(e) Nozzle centerline

(f) RCP outlet

(g) Approximate flow path length

Table 7

Table 2 - Reactor Coolant Pump Homologous Curves

VALPHA	HAN	HVN	BAN	BVN	HAD	HVD	BAD	BVD
0.0000	1.5800	-1.4200	0.7700	-1.4500	1.5800	1.2200	0.7700	1.3150
0.1000	1.5000	-1.2150	0.8020	-1.1120	1.6600	1.2850	0.8100	1.3800
0.2000	1.4200	-1.0820	0.8450	-0.8720	1.7600	1.3450	0.8800	1.4500
0.3000	1.3700	-0.9120	0.8660	-0.6480	1.8700	1.4400	0.9800	1.5100
0.4000	1.3300	-0.7280	0.8850	-0.4420	2.0000	1.5500	1.0900	1.5800
0.5000	1.2950	-0.4940	0.9100	-0.2700	2.1300	1.7200	1.2350	1.6400
0.6000	1.2700	0.0000	0.9300	0.2600	2.3000	1.9300	1.3900	1.7200
0.7000	1.2400	0.2080	0.9530	0.4300	2.4700	2.1800	1.5800	1.8300
0.8000	1.1820	0.4350	0.9730	0.6130	2.7000	2.4900	1.7850	1.9600
0.9000	1.1050	0.7080	0.9890	0.8000	2.9300	2.8100	2.0400	2.1200
1.0000	1.0000	1.0000	1.0000	1.0000	3.1500	3.1500	2.2900	2.2900
VALPHA	**HAT**	**HVT**	**BAT**	**BVT**	**HAR**	**HVR**	**BAR**	**BVR**
0.0000	0.4330	1.2200	-1.4400	1.3150	0.4330	-1.4200	-1.4400	-1.4500
0.1000	0.4740	1.1820	-0.9200	1.2450	0.3430	-1.7150	-1.6600	-1.8500
0.2000	0.5020	1.1400	-0.6300	1.1800	0.0112	-1.9600	-1.9100	-2.2000
0.3000	0.5120	1.0850	-0.4200	1.1100	-0.2460	-2.1500	-2.1900	-2.5200
0.4000	0.5240	1.0450	-0.2500	1.0420	-0.5130	-2.3400	-2.4900	-2.8500
0.5000	0.5460	1.0000	-0.1000	0.9750	-0.8300	-2.5200	-2.8300	-3.1500
0.6000	0.5830	0.9500	0.0200	0.9050	-1.0350	-2.6900	-3.2400	-3.4900
0.7000	0.6410	0.9000	0.1300	0.8170	-1.6000	-2.8100	-3.6000	-3.8400
0.8000	0.7120	0.8700	0.2510	0.7280	-2.0500	-2.9300	-4.0500	-4.2300
0.9000	0.8000	0.8650	0.3900	0.6280	-2.5500	-3.0100	-4.5400	-4.6100
1.0000	0.9080	0.9080	0.5620	0.5620	-3.1000	-3.1000	-5.0300	-5.0300

Note: According to WEC, the definition of the column headings can be found in the reactor coolant pump model input description in the CEFLASH-4A topical report.

Table 8 (Sheet 1 of 2)

SL-2 UFSAR ECCS PERFORMANCE DATA
ONE LPSI PUMP FAILED TO START
EFFECTIVE FOR LARGE BREAK ANALYSIS

(LPSIP B Off, Other Pumps On)

MAXIMUM			MINIMUM	
RCS Pressure (psia)	Flow to Loop A1 or A2 (gpm)		RCS Pressure (psia)	Flow to Loop A1 or A2 (gpm)
1408	0		1165	0
1399	28		1158	23
1382	55		1142	45
1337	83		1105	68
1230	110		1068	90
1160	138		1008	113
1070	165		929	135
948	193		824	158
819	220		711	180
680	248		591	203
511	275		445	225
334	303		290	248
184	700		166	261
178	800		162	262
173	850		157	262
166	950		150	263
158	1050		143	264
149	1150		135	370
139	1250		125	660
128	1350		116	825
116	1450		105	990
103	1550		93	1080
89	1650		81	1170
74	1750		67	1260
58	1850		52	1350
39	1900		35	1440
20	2000		18	1530
0	2050		0	1620

Table 8 (Sheet 2 of 2)

SL-2 UFSAR ECCS PERFORMANCE DATA
ONE LPSI PUMP FAILED TO START
EFFECTIVE FOR LARGE BREAK ANALYSIS

(LPSIP B Off, Other Pumps On)

MAXIMUM			MINIMUM	
RCS Pressure (psia)	Flow to Loop B1 or B2 (gpm)		RCS Pressure (psia)	Flow to Loop B1 or B2 (gpm)
1408	0		1165	0
1399	28		1158	23
1382	55		1142	45
1337	83		1105	68
1230	110		1068	90
1160	138		1008	113
1070	165		929	135
948	193		824	158
819	220		711	180
680	248		591	203
511	275		445	225
334	303		290	248
121	330		105	270
0	341		0	279

Table 9 (Sheet 1 of 2)

SL-2 SAFETY INJECTION DATA
ONE EMERGENCY GENERATOR FAILED TO START
EFFECTIVE FOR NON-LOCA ANALYSES

(HPSIP B & LPSIP B Off, Other Pumps On)

MAXIMUM			MINIMUM	
RCS Pressure (psia)	Flow to Loop A1 or A2 (gpm)		RCS Pressure (psia)	Flow to Loop A1 or A2 (gpm)
1408	0		1165	0
1399	14		1158	12
1382	28		1142	23
1337	42		1105	34
1230	55		1068	45
1160	69		1008	57
1070	83		929	68
948	97		824	79
819	110		711	90
680	124		591	102
511	138		445	113
334	152		290	124
184	650		167	130
183	700		165	130
177	750		161	130
170	850		154	131
162	950		146	131
151	1100		137	280
141	1250		127	570
128	1400		116	760
116	1500		105	900
101	1600		91	990
85	1700		77	1080
68	1750		62	1170
49	1850		45	1260
30	1950		28	1350
8	2000		7	1440
0	2050		0	1535

Table 9 (Sheet 2 of 2)

SL-2 SAFETY INJECTION DATA
ONE EMERGENCY GENERATOR FAILED TO START
EFFECTIVE FOR NON-LOCA ANALYSES

(HPSIP B & LPSIP B Off, Other Pumps On)

MAXIMUM			MINIMUM	
RCS Pressure (psia)	Flow to Loop B1 or B2 (gpm)		RCS Pressure (psia)	Flow to Loop B1 or B2 (gpm)
1408	0		1165	0
1399	14		1158	12
1382	28		1142	23
1337	42		1105	34
1230	55		1068	45
1160	69		1008	57
1070	83		929	68
948	97		824	79
819	110		711	90
680	124		591	102
511	138		445	113
334	152		290	124
122	165		105	135
0	168		0	138

Table 10

SL-2 SAFETY INJECTION DATA
NO FAILURE IN ECCS
EFFECTIVE FOR NON-LOCA ANALYSIS

(All Pumps On)

MAXIMUM			MINIMUM	
RCS Pressure (psia)	Flow to Loop A1, A2 B1 or B2		RCS Pressure (psia)	Flow to Loop A1, A2 B1 or B2
1408	0		1165	0
1399	28		1158	23
1382	55		1142	45
1337	83		1105	68
1230	110		1068	90
1160	138		1008	113
1070	165		929	135
948	193		824	158
819	220		711	180
680	248		591	203
511	275		445	225
334	303		290	248
184	700		166	261
178	800		162	262
173	850		157	262
166	950		150	263
158	1050		143	264
149	1150		135	370
139	1250		125	660
128	1350		116	825
116	1450		105	990
103	1550		93	1080
89	1650		81	1170
74	1750		67	1260
58	1850		52	1350
39	1900		35	1440
20	2000		18	1530
0	2050		0	1620

Table 11 (Sheet 1 of 2)

SL-2 UFSAR ECCS PERFORMANCE DATA
ONE EMERGENCY GENERATOR FAILED TO START
EFFECTIVE FOR SMALL BREAK ANALYSIS

(HPSIP B & LPSIP B Off, Other Pumps On)

MAXIMUM		MINIMUM	
RCS Pressure (psia)	Flow to Loop A1 or A2 (gpm)	RCS Pressure (psia)	Flow to Loop A1 or A2 (gpm)
1408	0	1198	0
1399	14	1177	25
1382	28	1104	50
1337	42	1035	62.5
1230	55	943	75
1160	69	829	87.5
1070	83	699	100
948	97	551	112.5
819	110	393	125
680	124	217	137.5
511	138	167	140.6
334	152	165	140.7
184	650	161	141.0
183	700	154	141.4
177	750	146	141.9
170	850	137	291
162	950	127	580
151	1100	116	770
141	1250	105	910
128	1400	91	1000
116	1500	77	1090
101	1600	62	1181
85	1700	45	1271
68	1750	28	1362
49	1850	7	1453
30	1950	0	1548
8	2000		
0	2050		

Table 11 (Sheet 2 of 2)

SL-2 UFSAR ECCS PERFORMANCE DATA
ONE EMERGENCY GENERATOR FAILED TO START
EFFECTIVE FOR SMALL BREAK ANALYSIS

(HPSIP B & LPSIP B Off, Other Pumps On)

MAXIMUM		MINIMUM	
RCS Pressure (psia)	Flow to Loop B1 or B2 (gpm)	RCS Pressure (psia)	Flow to Loop B1 or B2 (gpm)
1408	0	1198	0
1399	14	1177	25
1382	28	1104	50
1337	42	1035	62.5
1230	55	943	75
1160	69	829	87.5
1070	83	699	100
948	97	551	112.5
819	110	393	125
680	124	217	137.5
511	138	0	151
334	152		
122	165		
0	168		

Table 12
Component Data Required

Component	Flow Diagram	Component Information
Pressurizer PORVs		
V1474 V1475	2998-G-078 Sheet 108 Rev. 5	2998-18810 Rev. 3
Pressurizer Safety Valves		
V1200 V1201 V1202	2998-G-078 Sheet 109 R18	2998-19690 Rev. 1 2998-19691 Rev. 1
Main Steam Safety Valves		
V8201 V8202 V8203 V8204 V8205 V8206 V8207 V8208 V8209 V8210 V8211 V8212 V8213 V8214 V8215 V8216	2998-G-079, Sheet 1, Rev. 41	2998-2381, Rev 11
Atmospheric Dump Valves		
MV-08-18A MV-08-19A MV-08-18B MV-08-19B	2998-G-079, Sheet 1, Rev. 41	2998-11458 Rev. 10
Turbine Control Valves (Governor)		
FCV-08-644 FCV-08-645 FCV-08-646 FCV-08-647	2998-G-079 Sheet 2, Rev.35	2998-2184 Rev. 10 2998-31, Rev 17
Turbine By-Pass Valves		
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