FLORIDA POWER & LIGHT CO

ENGINEERING EVALUATION OF THE APPLICATION OF THERMO-LAG TO MEET R.G. 1.75 REQUIREMENTS

ST. LUCIE NUCLEAR PLANT

UNIT 2

JPN-PSL-SEES-96-059

REVISION 0

SAFETY RELATED

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REVIEW AND APPROVAL RECORD

PLANT ST. LUCIE UNIT 1 & 2

TITLE ENGINEERING EVALUATION OF THE APPLICATION OF THERMO-LAG TO MEET R.G. 1.75 REQUIREMENTS

LEAD DISCIPLINE ELECTRICAL

ENGINEERING ORGANIZATION ST. LUCIE PRODUCTION ENGINEERING GROUP

REVIEW/APPROVAL:

GROUP	INTERFACE TYPE			PREPARED	VERIFIED	APPROVED	FPL APPROVED*
	INPUT	REVIEW	N/A				
MECH			X	N/A	N/A	N/A	N/A
ELECT	X			[redacted]	[redacted]	[redacted]	N/A
I&C			X	N/A	N/A	N/A	N/A
CIVIL			X	N/A	N/A	N/A	N/A
LIC**		X		N/A	N/A	[redacted]	N/A
CSI			X	N/A	N/A	N/A	N/A
FUELS			X	N/A	N/A	N/A	N/A

* For Contractor Evals As Determined By Projects ** Review Interface As A Min On All 10CFR50.59 Evals and PLAs

FPL PROJECTS APPROVAL: [redacted] DATE: 8/27/96

OTHER INTERFACES

NONE

1.0 PURPOSE AND SCOPE

The purpose of this evaluation is to review the application and acceptability of Thermo-Lag 330-1 to the St. Lucie Unit 2 electrical conduits as a means of meeting the separation criteria of R.G. 1.75; "Physical Independence of Electric Systems" (Ref. 6.1). The scope encompasses the review of conduit and tray layout drawings to determine the locations where Thermo-Lag 330-1 was applied to conduits for R.G. 1.75 (Ref. 6.1) separation purposes.

2.0 BACKGROUND

St. Lucie Unit 2 is committed to meet the requirements of R.G. 1.75 (Ref. 6.1), as discussed in Section 8.3 of the FSAR (Ref. 6.3). R.G. 1.75 (Ref. 6.1) essentially adopts the separation criteria presented in IEEE Standard 384-1974 (Ref. 6.2) with a few modifications. These requirements are as follows:

> "In plant areas from which potential hazards such as missiles, external fires, and pipe whip are excluded, the minimum separation distance between redundant cable trays shall be ... 3 ft between trays separated horizontally and 5 ft between trays separated vertically. ... Where plant arrangements preclude maintaining the minimum separation distance, the redundant circuits shall be run in enclosed raceways that qualify as barriers or other barriers shall be provided between redundant circuits. The minimum distance between these redundant enclosed raceways and between barriers and raceways shall be 1 in."
>
> A lesser separation distance may be used in areas "where the damage potential is limited to failures or faults internal to the electric equipment or circuits." In these cases, the minimum separation distance can be established by analysis of the cable installation and "shall be based on tests performed to determine the flame retardant characteristics ... considering features such as cable insulation and jacket materials, cable tray fill and cable tray arrangement."

Also given in IEEE 384-1974 (Ref. 6.2) is the definition of barrier:

> "**Barrier.** A device or structure interposed between Class IE equipment or circuits and a potential source of damage to limit damage to Class IE systems to an acceptable level."

It should be noted that there are no requirements established in IEEE 384-1974 (Ref. 6.2) for fire withstand capabilities for a barrier.

The interpretation of these requirements is that if one or both redundant raceways is not enclosed, the separation must be 3 ft horizontal and 5 ft vertical of open air. If this separation cannot be attained, a barrier must be installed between the raceways, with a minimum separation of 1 inch between either raceway and the barrier. Where both raceways are enclosed, then

the minimum separation between them is 1 inch, since the enclosures act as barriers. Enclosed raceways consist of conduits and covered solid-bottom trays. The one inch separation requirement between raceway and barrier is evidently intended to act as insulation to prevent the transfer of energy which may damage the cables. *In situations where there are no other external combustion sources, a lesser separation can be justified based on an analysis of the circuits and cables involved to demonstrate a low probability of fault-induced fires and adequate fire retardant characteristics of the cable insulation and jacket.*

In many cases, Thermo-Lag 330-1 is used in St. Lucie Unit 2 as a barrier between conduits carrying electrical safety related cables and cable trays or conduits carrying non-safety related cables or redundant train safety related cables where there is insufficient physical separation to meet the IEEE 384-1974 (Ref. 6.2) requirements for separation without barriers.

3.0 EVALUATION

The required minimum 3 ft horizontal and 5 ft vertical separation between a safety-related conduit and a redundant safety-related or non-safety cable tray could not be maintained in some areas of St. Lucie Unit 2 due to plant configuration. Conduit and cable tray layout drawings were reviewed to determine the type and location of these cable tray/conduit interfaces. The results of this search are shown in Attachment 1. A generalized summary of the types of cable tray/conduit interfaces is shown in Attachment 2. Thermo-Lag 330-1 was applied to many conduits in an effort to establish a barrier to permit separations less than the R.G. 1.75 (Ref. 6.1) and IEEE 384-1974 (Ref. 6.2) required 3 ft horizontal and 5 ft vertical. Thermo-Lag is directly applied to the conduit to a minimum of 1/2 inch thickness.

Thermo-Lag 330-1 provides fire protection by subliming when exposed to heat. Temperature rise of the substrate material (conduit) is limited to the temperature of sublimation. This is associated with the absorption of approximately 750 Btu's per pound. The sublimate vapors are subjected to further energy absorbing reactions through endothermic decomposition, which can absorb as much as 6000 Btu's per pound. During this process, a char layer is formed, which increases the efficiency of the endothermic decomposition and performs an insulative function (Ref. 6.4). The net result is that Thermo-Lag 330-1 acts as an energy barrier by effectively preventing the transfer of significant amounts of energy from one side to the other.

Areas where Thermo-Lag 330-1 was applied to conduits as a R.G. 1.75 (Ref. 6.1) barrier are elevation -0.5′ of the Reactor Auxiliary Building (RAB), the electrical penetration room and other areas of elevation 19.5′ of the RAB, the electrical equipment/cable spreading room on elevation 43′ of the RAB, and one location on elevation 45′ of the Reactor Containment Building. Review of FSAR Appendices 3.6A, "High Energy Pipe Rupture Analysis - Inside Containment," and 3.6B, "High Energy Pipe Rupture Analysis - Outside Containment," shows that there are no high energy pipe lines routed in the areas where the R.G. 1.75 Thermo-Lag applications are located.

The only source of missiles which could affect safety related cables and raceways in the RAB is from the CEA MG sets and 4.16kV Switchgear 2AB, located on elevation 19.5′. Only one R.G. 1.75 Thermo-Lag installation is found in this immediate area (conduit 25036W-2(SB)). This installation is located at a significant distance from the 4.16kV switchgear and is oriented in such a way with respect to the CEA MG sets that any missiles generated would not impact it. All other R.G. 1.75 Thermo-Lag installations are located in areas which have no sources of missile hazards or high energy lines.

The cables installed in raceways and conduits in St. Lucie Unit 2 were procured as qualified to the fire retardancy requirements of IEEE 383-1974 or have been coated with Flammastic flame retardant material. Thus, ignition of a fire in the raceways would self-extinguish. Many of the R.G. 1.75 cable tray/conduit interfaces contain instrumentation, signal or control cables; these are low energy circuits that do not have sufficient energy to act as a significant source of ignition. Power circuits, consisting of 120Vac, 125Vdc, 480Vac, and 4160Vac, could have sufficient energy to act as a source of ignition. These circuits are routed either in conduits or trays limited to 40% fill. Also, power circuits are protected by coordinated circuit breakers or fuses, which would act to limit the energy in the event of a cable fault. Other sources of combustion in the areas reviewed consist of limited quantities of lubricating oil for motors and pumps, paper and plastics used for housekeeping, and other minor incidentals; no significant source of combustion exists in these areas. Therefore, considering the flame-retardant characteristics of the cable insulation and jackets and the limited combustible material and limited availability of energy to act as a source of ignition, any fires in the areas under review would be the result of cable faults and would be small in nature.

These areas are therefore considered limited hazard areas under the definition in Section 6.1.4 of IEEE 384-1974 (Ref. 6.2), since there are no sources of missiles, exposure fires, and no high-energy pipes are routed in these areas. The only hazards are limited to faults internal to the electrical equipment or cables.

Conduits installed at St. Lucie consist of rigid, galvanized steel. Thus, any fault occurring in a cable routed in a conduit would be contained in the conduit and would not pose a hazard to cables in a nearby cable tray. A potential hazard could exist from a fault in a cable in a tray and subsequent fire near a safety related conduit. Since Thermo-Lag 330-1 has been demonstrated to act as a barrier preventing the transfer of sufficient energy from one side to the other to cause damage to a cable, it can be considered a suitable barrier for R.G. 1.75 purposes. Also, since Thermo-Lag 330-1 limits the amount of energy transfer, a lesser separation distance than one inch between the conduit and the barrier (Thermo-Lag) is justified, as permitted in IEEE 384-1975.

4.0 CONCLUSION

Application of Thermo-Lag 330-1 to conduits in St. Lucie Unit 2 to act as a barrier in order to meet the requirements of R.G 1.75 (Ref. 6.1) and IEEE 384-1974 (Ref. 6.2) is acceptable.

5.0 VERIFICATION SUMMARY

The scope of this verification was to review the inputs and references to determine if the conclusions were reasonable in comparison to the inputs and references. The method used for this verification consisted of ensuring that the applicable references, codes and standards, and regulatory requirements were addressed and properly reflected in the evaluation. The verifier concurs with the Safety Related classification of this evaluation.

6.0 REFERENCES

6.1 NRC Regulatory Guide 1.75; Physical Independence of Electric Systems;" Revision 1, January, 1975.

6.2 IEEE Standard 384-1974; "IEEE Trial-Use Standard Criteria for Separation of Class IE Equipment and Circuits."

6.3 St. Lucie Unit 2 FSAR through amendment 10

6.4 TSI Technical Note 90181; "Engineering Design Information, Thermo-Lag 330-1 Subliming Coating Envelope System for Fire Resistive Enhancement of Critical Components of Nuclear Generating Facilities;" September, 1981.

6.5 Conduit and tray layout drawings reviewed are listed at the end of Attachment 1.

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH [EST. WRAPPED LENGTH] (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. 2998-G-
20206C-1(MC)	50 [22]	39'-1"; DOWN TO 33'	A/22	20206C	L	V2417(NA).7420 [39'], P2315(NA).7420 [36'-4"], C2415(NA).7420 [35'-6"], C2417(NA).7420 [34'-8"], C2313(SA).7420 [33'-10"], L2317(MC).7420*[33']; L2311(NA).7420 [32'-2"]	Safety - non-safety separation. Type II & III. Electrical penetration area.	411 Sh. 20; 374 Sh. 1
20597B-2(SA)	19 [16]	38'-8"	A/22	20597B,D	L	V2417(NA).7420 [39'], P2315(NA).7420 [36'-4"], C2415(NA).7420 [35'-6"], C2417(NA).7420 [34'-8"], C2313(SA).7420 [33'-10"]; P2411(NA).7424* [36'-7"]; C2411(NA).7424* [35'-9"]; C2419(NA).7424* [34'-11"]; L2411(NA).7424* [33'-3"]; P2413(SA).7424 [34'-1"]	Not shown on original list. Safety - non-safety separation. Type III. Electrical penetration area.	411 Sh. 20; 374 Sh. 1
20597N-4(SA)	18 [16]	38'-2"; DOWN TO 34'-1"	A/22	20597J, N	P	V2417(NA).7420 [39'], P2315(NA).7420 [36'-4"], C2415(NA).7420 [35'-6"], C2417(NA).7420 [34'-8"], C2313(SA).7420 [33'-10"]; P2411(NA).7424* [36'-7"]; C2411(NA).7424* [35'-9"]; C2419(NA).7424* [34'-11"]; L2411(NA).7424* [33'-3"]; P2413(SA).7424 [34'-1"]	Safety - non-safety separation. Type II & III. Electrical penetration area.	411 Sh. 20; 374 Sh. 1
20597N-4(SA)						L2317(MC).7420*[33']; L2311(NA).7420 [32'-2"]		
21520-2(SA)	36 [15]	? DOWN TO 32'-6"	A/22	20289A	P	P2311(NA).7431* [32'-6"]; P2413(SA).7425 [32'-6"]; C2313(SA).7431 [29'-6"]; P2411(NA).7428* [32'-4"]; C2411(NA).7428 [31'-6"]; C2315(NA).7428* [29'-6"]	Safety - non-safety separation. Type II & III. Electrical penetration area.	411 Sh. 20; 374 Sh. 1
21642Q-2(MC)	73 [3]	39'-2.5"	A/22	21642S	L	V2417(NA).7420 [39'-0"], P2315(NA).7420 [36'-4"], C2415(NA).7420 [35'-6"]; C2417(NA).7420 [34'-8"]	Safety - non-safety separation. Type I. Passes thru opening in wall. Electrical penetration area.	411 Sh. 4,20; 374 Sh. 1

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH (BET. WRAPPED LENGTH) (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. 2998-G-
21886-2(SA)	35 [15]	? DOWN TO 29'-6"	A/22	20289C, D, F; 20317G, H; 21256E	C	P2311(NA).7431* [32'-6"]; P2413(SA).7425 [32'-6"]; C2313(SA).7431 [29'-6"]; P2411(NA).7428* [32'-4"]; C2411(NA).7428 [31'-6"]; C2315(NA).7428* [29'-6"]	Safety - non-safety separation. Type II & III. Electrical penetration area.	411 Sh. 20; 374 Sh. 1
22022G-2(SA)	53 [22]	37'-6" TO 36'-4" Dn to 26'	A/22	21629C, E	P	V2417(NA).7420, .7421[39']; P2315(NA).7420, .7421*[36'-4"]; C2415(NA).7420, .7421*[35'-6"]; C2417(NA).7420, .7421*[34'-8"]; C2313(SA).7420[33'-10"]; L2317(MC).7420, .7421*[33']; P2413(SA).7425[32'-6"]; L2411(NA).7425*[26'-6"]; L2311(NA).7425* [23'-6"]	Safety - non-safety separation. Types I, II & III. Electrical penetration area.	411 Sh. 4,20; 374 Sh. 1
28058D-4(SA)	57 [4.5]	32'-2"	A/22	21801Y, Z	P	Conduits 25008V-4(NA), 25008U-4(NA), 25008T-4(NA)	Not shown on original list. Conduit - conduit separation; Thermo-Lag not required. Electrical penetration area.	411 Sh. 20; 374 Sh. 1
28058J-4(SA)	57 [4.5]	33'	A/22	21801W, X	P	Conduits 25008V-4(NA), 25008U-4(NA), 25008T-4(NA)	Not shown on original list. Conduit - conduit separation; Thermo-Lag not required. Electrical penetration area.	411 Sh. 20; 374 Sh. 1
28126S-2(NA)	2 [2]	34'-8"	A/22	21231E	C	V2417(NA).7421 [39']; P2315(NA).7421* [36'-4"]; C2415(NA).7421* [35'-6"]; C2417(NA).7421* [34'-8"]; L2317(MC).7421* [33']; conduits 22022G & 28058D, J	Conduit non-safety, all trays except L2317(MC) are non-safety. Tray L2317(MC) has a cover, forming second barrier. Thermo-Lag not required. Electrical penetration area. Also conduit/conduit interface.	411 Sh. 20; 374 Sh. 1
21641-3(SB)	39 [6]	58'-5" - 61'	A/37	20202K; 20211P, Q; 20477F, G; 20494D, F, J, K	L	P2326(NB).9447 [57'-9"]; C2528(NB).9447 [56'-11"]; L2424(SB).9447 [55'-10"]; L2326(MB).9447* [53'-7"]; L2324(NB).9447* [52'-9"]; C2425(NA).9424 [55'-10"]	Safety- non-safety separation. Type II & III. Conduit passes thru wall. RAB el. 43', electrical equipment room.	411 Sh. 35, 39; 372 Sh. 11

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH (EXT, WRAPPED LENGTH) (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS, 2998-G-
25066E-4(SA)	7(4)	54'-6"	A/37	20157E, F, J, K, U; 20176E, F, J, K, P;20189A, B, H, J;20194J, K, L, N, P;20603J; 20613F, L; 20954X; 21606A, C, E, F	C	P2321(NA).9420* [57'-6"]; C2321(NA).9420* [56'-8"]; C2329(NA).9420* [55'-10"]; P2323(SA).9420* [55']; C2323(SA).9420* [54'-2"]; C2327(SA).9420 [53'-4"]; L2321(NA).9420* [52'-6"]; C2425(N/A).9420* [55'-10"]	Safety - non-safety separation. Type I. RAB el. 43', electrical equipment room.	411 Sh. 30; 372 Sh. 11
26034Y-2(SB)	75 [10]	58'-5" TO 56'-6"	A/37	20603B, Q, R, V; 20654F, G, H, J	L	P2326(NB).9447 [57'-9"]; C2528(NB).9447 [56'-11"]; L2424(SB).9447 [55'-10"]; L2326(MB).9447* [53'-7"]; L2324(NB).9447* [52'-9"]; C2425(NA).9424 [55'-10"]	Safety - non-safety separation. Type II. Conduit passes thru wall. RAB el. 43', electrical equipment room.	411 Sh. 35, 39; 372 Sh. 11
20206B-1(MB)	60 [3]	39'-3"	A/51*	20206B	L	C2313(SA).9236* [33'-10"]; L2311(NA).9236* [32'-2"]; P2316(NB).9256 [37'-5"]; C2518(NB).9256 [36'-4"]; L2414(SB).9256* [35'-3"]; L2316(MB).9256* [34'-2"]; L2314(NB).9256* [33'-4"]	K5 on Dwg. 411 Sh. 10. Safety - non-safety & redundant train separation. Type I. RAB el. 19.5'	411 Sh. 9,10; 372 Sh. 9, 10
20206B-1(MB)	60 [3]	39'-3"	A/51*	20206B	L	P2411(NA).9242* [38'-3"]; C2411(NA).9242* [37'-5"]; C2419(NA).9242* [36'-7"]; V2411(SA).9242 [35'-9"]; P2413(SA).9242 [34'-11"]	F2 on Dwg. 411 Sh. 10; F15 on Dwg. 411 Sh. 4. Redundant train separation. Type I & II. RAB el. 19.5'	411 Sh. 9,10; 372 Sh. 9, 10
22016H-4(SA)	42 [3]	37'	A/51*	21643G	L	C2313(SA).9236* [33'-10"]; L2311(NA).9236* [32'-2"]; P2316(NB).9256 [37'-5"]; C2518(NB).9256 [36'-4"]; L2414(SB).9256* [35'-3"]; L2316(MB).9256* [34'-2"]; L2314(NB).9256* [33'-4"]	Continues into I/51W. Safety - non-safety & redundant train separation. Type I. RAB el. 19.5'	411 Sh. 9,10; 372 Sh. 9, 10
25023H-3(MC)	66 [17]	32'-8"	A/51*	20029SG; 21635J, M	L	C2415(NA).9231, .9246* [35'-6"]; P2413(SA).9231, .9246 [39']; P2411(NA).9246* [34'-2"]; C2411(NA).9246* [33'-4"]; V2411(SA).9246 [32'-6"]; P2413(SA).9246 [31'-8"]; P2415(SA).9246 [30'-10"]; C2413(SA).9246 [30']	Safety - non-safety separation. Type I. RAB el. 19.5'	411 Sh. 10, 19; 372 Sh. 9,10

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH [EST, WRAPPED LENGTH] (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. 2998-G-
28148B-2(SB)	48 [34]	35' - 37'	A/51*	28147P, T	L	P2411(NA).9242* [38'-3"]; C2411(NA).9242* [37'-5"]; C2419(NA).9242* [36'-7"]; V2411(SA).9242 [35'-9"]; P2413(SA).9242 [34'-11"]; P2415(SA).9242 [34'-1"]; L2411(NA).9242* [32'-2"]; V2413(SA).9242 [30"];	Redundant train separation. Types I & III. RAB el. 19.5'	411 Sh. 4, 10; 372 Sh. 9, 10
28148B-2(SB)						C2415(NA).9238, 9236, 9235, 9234, 9230* [35'-6"]; C2417(NA).9238, 9236, 9235, 9234, 9230* [34'-8"]; P2315(NA).9238* [36'-4"]; C2313(SA).9238, 9236, 9235, 9234, 9230* [33'-10"]; L2311(NA).9238, 9236, 9235, 9234, 9230* [32'-2"]; C2413(SA).9243, 9244 [30']		
21220B-1(SB)	68 [20]	58"-10", 59'-9"	B/52	21220B	C	P2326(NB).9445 [57'-9"]; C2528(NB).9445 [56'-11"]; L2424(SB).9445* [55'-10"]; L2326(MB).9445* [53'-7"]; L2324(NB).9445* [52'-9"]	Safety - non-safety separation. Types II & III. RAB el. 43', electrical equipment room.	411 Sh. 29; 372 Sh. 11
21755E-1.5(MA)	37 [20]	59'	B/52	21755E, F; 21756E, F	L	P2326(NB).9445 [57'-9"]; C2528(NB).9445 [56'-11"]; L2424(SB).9445* [55'-10"]; L2326(MB).9445* [53'-7"]; L2324(NB).9445* [52'-9"]	Safety - non-safety & redundant train separation. Types II & III. RAB el. 43', electrical equipment room.	411 Sh. 29; 372 Sh. 11
21755J-2(SA)	44 [21]	58'-8"	B/52	21755J, M; 21756J, M	L	P2326(NB).9445 [57'-9"]; C2528(NB).9445 [56'-11"]; L2424(SB).9445* [55'-10"]; L2326(MB).9445* [53'-7"]; L2324(NB).9445* [52'-9"]	Safety - non-safety & redundant train separation. Types II & III. RAB el. 43', electrical equipment room.	411 Sh. 29; 372 Sh. 11
21755W-1.5(SA)	[21]	58' -5"	B/52	Not listed in CCL	--	P2326(NB).9445 [57'-9"]; C2528(NB).9445 [56'-11"]; L2424(SB).9445* [55'-10"]; L2326(MB).9445* [53'-7"]; L2324(NB).9445* [52'-9"]	Not on original list. Safety - non-safety & redundant train separation. Types II & III. RAB el. 43', electrical equipment room.	411 Sh. 29; 372 Sh. 11
21751W-1.5(SA)	[21]	58' -5"	B/52	None	--	P2326(NB).9445 [57'-9"]; C2528(NB).9445 [56'-11"]; L2424(SB).9445* [55'-10"]; L2326(MB).9445* [53'-7"]; L2324(NB).9445* [52'-9"]	Not on original list. Safety - non-safety & redundant train separation. Types II & III. RAB el. 43', electrical equipment room. Empty conduit.	411 Sh. 29; 372 Sh. 11

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH (FEET, WRAPPED LENGTH) (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. 2998-G
21751X-2(SA)	31 [21]	58'-7"	B/52	21751A, E, W, X	P	P2326(NB).9445 [57'-9"]; C2528(NB).9445 [56'-11"]; L2424(SB).9445* [55'-10"]; L2326(MB).9445* [53'-7"]; L2324(NB).9445* [52'-9"]	Not on original list. Safety - non-safety & redundant train separation. Types II & III. RAB el. 43', electrical equipment room.	411 Sh. 29; 372 Sh. 11
21810A-2(MA)	47 [20]	58'-5"	B/52	21810A; 21756Y	L	P2326(NB).9445 [57'-9"]; C2528(NB).9445 [56'-11"]; L2424(SB).9445* [55'-10"]; L2326(MB).9445* [53'-7"]; L2324(NB).9445* [52'-9"]	Safety - non-safety & redundant train separation. Types II & III. RAB el. 43', electrical equipment room.	411 Sh. 29; 372 Sh. 11
21810C-2(MC)	51 [20]	58'-8"	B/52	28881	L	P2326(NB).9445 [57'-9"]; C2528(NB).9445 [56'-11"]; L2424(SB).9445* [55'-10"]; L2326(MB).9445* [53'-7"]; L2324(NB).9445* [52'-9"]	Given in original list as 21810C-2(MA). Safety - non-safety & redundant train separation. Types II & III. RAB el. 43' electrical equipment room.	411 Sh. 29; 372 Sh. 11
25068U-4(SB)	137 [17]	57'-8"	B/52	21802W	P	P2326(NB).9445 [57'-9"]; C2528(NB).9445 [56'-11"]; L2424(SB).9445* [55'-10"]; L2326(MB).9445* [53'-7"]; L2324(NB).9445* [52'-9"]	Not on original list Safety - non-safety separation. Type I. RAB el. 43', electrical equipment room.	411 Sh. 29; 372 Sh. 11
25068V-4(SB)	137 [17]	57'-8"	B/52	21802Y	P	P2326(NB).9445 [57'-9"]; C2528(NB).9445 [56'-11"]; L2424(SB).9445* [55'-10"]; L2326(MB).9445* [53'-7"]; L2324(NB).9445* [52'-9"]	Not on original list Safety - non-safety separation. Type I. RAB el. 43', electrical equipment room.	411 Sh. 29; 372 Sh. 11
20442T-1.5(SB)	81 [5]	58'-1"	C/34	20442T, V, W, X	L	P2322(NB).9465* [56'-11"]; C2322(NB).9465* [56'-1"]; P2324(SB).9465 [55'-3"]; C2324(SB).9465 [54'-5"]; L2322(NB).9465* [53'-7"]	Safety - non-safety separation. Type I. RAB el. 43', electrical equipment room.	411 Sh. 37, 38; 372 Sh. 11
20453J-2(SB)	32 [2]	60'-6"	C/34	20453H, J, K, L, M, N, P	L	P2322(NB).9465* [56'-11"]; C2322(NB).9465* [56'-1"]; P2324(SB).9465 [55'-3"]; C2324(SB).9465 [54'-5"]; L2322(NB).9465* [53'-7"]	Not on original list Safety - non-safety separation. Type I. RAB el. 43', electrical equipment room.	411 Sh. 37; 372 Sh. 11
20944F-3(SB)	24 [9]	59'-1" - 55'-6"	C/34	20944F	L	P2322(NB).9437 [57'-9"]; C2326(NB).9437* [56'-1"]; P2324(SB).9437 [55'-3"]; C2324(SB).9437 [54'-5"]; C2328(NB).9437 [53'-7"]	Shown on layout dwg as 20944F-2(SB). Safety - non-safety separation. Types I & II. RAB el. 43', electrical equipment room.	411 Sh. 38; 372 Sh. 11

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH FEET, WRAPPED LENGTH] (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. 2998-G-
20948A-5(SB)	41 [5]	56'-8" - 55'	C/34	20948A	P	P2321(NA).9695, 9694* [57'-8" - 60']; C2321(NA).9695, 9691* [56'-10" - 59'-2"]; P2323(SA).9695, 9691* [56' - 53'-10"]; C2323(SA).9695, 9691* [55'-2" - 53']; L2321(NA).9695, 9688* [54'-4" - 53'-10"]; L2425(SA).9695, 9688* [54'-4" - 53']	Safety - non-safety & redundant train separation. Type III. RAB el. 43', electrical equipment room.	411 Sh. 38; 372 Sh. 11
20948F-5(SB)	67 [12]	56'-9"	C/34	20948F	P	P2321(NA).9695, 9694 [57'-8"]; C2321(NA).9695, 9691 [56'-10"]; P2323(SA).9695, 9691 [56']; C2323(SA).9695, 9691 [55'-2"]; L2321(NA).9695, 9688* [54'-4"]; L2425(SA).9695, 9688* [54'-4"]	Safety - non-safety & redundant train separation. Type I. RAB el. 43', electrical equipment room.	411 Sh. 37,38; 372 Sh. 11
25046Y-4(SA)	80 [10]	58'-7" - 58'	C/34	None Listed in CCL	--	P2322(NB).9469* [56'-11"]; C2322(NB).9469* [56'-1"]; P2324(SB).9469* [55'-3"]; C2324(SB).9469* [54'-5"]	Spare conduit .	411 Sh. 37; 372 Sh. 11
25061B-4(SA)	73 [5]	57'-3" - 54'	C/34	20478A, B, C, D, E, F, T, U; 20482A, C; 20487A, C; 20503K;20513M; 20517L; 20529J; 21138B;21140A, D; 21165A, B, C, D	L	P2322(NB).9432* [57'-9"]; C2322(NB).9432* [56'-11"]; C2326(NB).9432* [56'-1"]; P2324(SB).9432 [55'-3"]; C2324(SB).9432 [54'-5"]; C2328(SB).9432 [53'-7"]; L2322(NB).9432* [52'-9"]; L2424(SB).9475* [51'-11"]	Safety - non-safety & redundant train separation. Types II & III. RAB el. 43' electrical equipment room.	411 Sh. 35; 372 Sh. 11
25061C-4(SA)	73 [6]	57'-3" - 54'	C/34	20478N, P, Q, R, S; 20481B, C, F; 20483A, C, D, E, G, H, J, K; 21138A; 21166D, L, M; 28606	L	P2322(NB).9432* [57'-9"]; C2322(NB).9432* [56'-11"]; C2326(NB).9432* [56'-1"]; P2324(SB).9432 [55'-3"]; C2324(SB).9432 [54'-5"]; C2328(SB).9432 [53'-7"]; L2322(NB).9432* [52'-9"]; L2424(SB).9475* [51'-11"]	Not on original list. Safety - non-safety & redundant train separation. Types II & III. RAB el. 43' electrical equipment room.	412 Sh. 35; 372 Sh. 11
25061W-3(SB)	17 [12]	53'-1" - 61'	C/34	20479V, W, X, Y; 20461L; 21139D; 21167F, G, H, J; 21171H	L	P2322(NB).9465* [56'-11"]; C2322(NB).9465 [56'-1"]; P2324(SB).9465 [55'-3"]; C2324(SB).9465 [54'-5"]; L2322(NB).9465 [53'-7"]	Safety - non-safety separation. Types I & II. RAB el. 43' electrical equipment room.	411 Sh. 37 372 Sh. 11

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH [EST. WRAPPED LENGTH] (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. 2998-G-
25061X-4(SA)	62 [10]	58' -0" - 58' -7"	C/34	20499A, B, C, D	C	P2322(NB).9469* [56'-11"]; C2322(NB).9469* [56'-1"]; P2324(SB).9469* [55'-3"]; C2324(SB).9469* [54'-5"]	Safety - non-safety & redundant train separation. Type III. RAB el. 43' electrical equipment room.	411 Sh. 37; 372 Sh. 11
25061Y-4(SA)	71 [16]	58' -7"	C/34	20478V, W, X, Y; 20490L; 21139A; 21167A, B, C, D, E	L	P2321(NA).9699, 9698* [57'-8"]; C2321(NA).9699, 9698* [56'-10"]; P2323(SA).9699, 9698 [56']; C2323(SA).9699, 9698 [55'-2"]; L2321(NA).9699, 9698* [54'-4"]; L2425(SA).9699, 9698* [54'-4"]	Safety - non-safety separation. Type I. RAB el. 43' electrical equipment room.	411 Sh. 37; 372 Sh. 11
26034Y-2(SB)	75 [14]	59'-4"	C/34	20603B, Q, R, V; 20654F, G, H, J	L	P2322(NB).9437 [57'-9"]; C2322(NB).9437 [56'-11"]; C2326(NB).9437 [56'-1"]; P2324(SB).9437 [55'-3"]; C2324(SB).9437 [54'-5"]; C2328(NB).9437 [53'-7"]; L2322(NB).9437* [52'-9"]	Safety - non-safety separation. Types I & II. RAB el. 43' electrical equipment room.	411 Sh. 38; 372 Sh. 11
20525G-2(SB)	19 [25]	27' - 39'-8" - 36'	I/23	20525G, H	C	P2312(NB).7403* [37']; C2312(NB).7401 [36'-2"]; C2316(NB).7401 [35'-4"]; C2410(NB).7403* [34'-6"]; V2418(NB).7407 [38'-6"]; C2412(NB).7407 [36'-4"]; P2414(SB).7407 [35'-3"]; C2414(SB).7407 [34'-2"]; L2412(NB).7407* [32'-2"]; L2414(SB).7407* [33'-4"]	Safety - non-safety separation. Types II & III. Electrical penetration area.	411 Sh. 20; 374 Sh. 1
20525G-2(SB)						L2312(NB).7403 [32']		

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH [EST. WRAPPED LENGTH] (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. 2998-G-
21530-2(MD)	82 [45]	34'-8" Dn to 26'	I/23	20206D; 20296F	L	P2312(NB).7403* [37']; C2312(NB).7401 [36'-2"]; C2316(NB).7401 [35'-4"]; C2410(NB).7403* [34'-6"]; L2318(MD).7401* [32'-10"]; L2312(NB).7401* [32']; V2418(NB).7407 [38'-6"]; C2412(NB).7407* [36'-4"];	Safety - non-safety separation. Types II & III. Electrical penetration area.	411 Sh. 20; 374 Sh. 1
21530-2(MD)						P2414(SB).7407 [35'-3"]; C2414(SB).7407 [34'-2"]; L2412(NB).7407 [32'-2"]; P2316(NB).7412 [38'-6"]; C2518(NB).7412 [36'-4"]; L2414(SB).7407 [33'-4"]; L2316(MB).7412 [34'-2"]; L2314(NB).7412 [33'-4"]		
21642J-2(MB)	45 [2]	32'-4"	I/23	21642P	L	P2312(NB).7400* [37']; C2312(NB).7400 [36'-2"]; C2316(NB).7400 [35'-4"]; C2410(NB).7400* [34'-6"]; C2314(SB).7400 [33'-8"]; L2318(MD).7400 [32'-10"]; L2312(NB).7400 [32']	Safety - non-safety separation. Type I. Conduit passes thru opening in wall. RAB el. 19.5' & electrical penetration area.	411 Sh. 3,20; 374 Sh. 1
21648R-2(MD)	39 [2]	32'	I/23	21648U	L	P2312(NB).7400* [37']; C2312(NB).7400 [36'-2"]; C2316(NB).7400 [35'-4"]; C2410(NB).7400* [34'-6"]; C2314(SB).7400 [33'-8"]; L2318(MD).7400 [32'-10"]; L2312(NB).7400 [32']	Safety - non-safety separation. Type I. Conduit passes thru opening in wall. RAB el. 19.5' & electrical penetration area..	411 Sh. 3,20; 374 Sh. 1
21649C-2(MB)	14 [2]	33'-4"	I/23	21649C, D	L	P2316(NB).7411 [38'-6"]; C2518(NB).7411 [36'-4"]; L2414(SB).7411 [35'-3"]; L2316(MB).7411 [34'-2"]; L2314(NB).7411 [33'-4"]	Safety - non-safety separation. Type I. Conduit passes thru opening in wall. RAB electrical penetration area.	411 Sh. 3,20; 374 Sh. 1

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH (EST. WRAPPED LENGTH) (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. 2998-S-
22022K-2(SB) 22022K-2(SB)	65 [31]	37'-6", 37'-10" Dn to 26'	I/23	21630C, E	C	V2418(NB).7405, .7407, .7408 [38'-6"]; C2412(NB)).7405, .7407, .7408 [36'-4"]; P2414(SB).7405, .7407, .7408 [35'-3"]; C2414(SB).7405, .7407, .7408 [34'-2"]; L2412(NB).7405, .7407, .7408* [33'-4"]; P2316(NB).7407, .7408 [38'-6"]; L2414(SB).7407, .7408* [33'-4"]; P2316(NB).7436 [38'-6"]; C2518(NB).7436 [36'-4"]; L2316(MB).7436* [34'-2"]; L2314(NB).7436* [33'-4"]	Safety - non-safety separation. Type III & IV. RAB electrical penetration area.	411 Sh. 20; 374 Sh. 1
25021Y-2(SB)	23 [25]	39'	I/23	20598B, D	L	P2312(NB).7401* [37']; C2312(NB).7401 [36'-2"]; C2316(NB).7401 [35'-4"]; C2410(NB).7401* [34'-6"]; V2418(NB).7406 [38'-6"]; C2412(NB).7406 [36'-4"]; P2414(SB).7406 [35'-3"]; C2414(SB).7406 [34'-2"]; L2412(NB).7406* [32'-2"]; L2414(SB).7407* [33'-4"]	Safety - non-safety separation. Type II & III. RAB electrical penetration area.	411 Sh. 20; 374 Sh. 1
20206B-1(MB)	60 [5]	39'-3"	I/51W	20206B	L	P2316(NB).9256 [37'-5"]; C2518(NB).9256 [36'-4"]; L2414(SB).9256* [35'-3"]; L2316(MB).9256* [34'-2"]; L2314(NB).9256* [33'-4"]	Given in list as 20206B-1(SA). Safety - non-safety & redundant train separation. Type I. RAB el. 19.5'	411 Sh. 9,10; 372 Sh. 9
20416L-2(SA)	38 [17]	39'-7" - 35'	I/51W	20319N, Q; 20461L, M	C	V2414(SB).9292, 9293* [35'-3"]; V2412 (SB).9292* [34'-2", 32'-6"]; V2416(SB).9294* [35'-3"]	Redundent train separation Type III. RAB el19.5'. All trays covered.	411 Sh. 19; 372 Sh. 9, 10
21002A-2(SB)	[14]	35'-6" + to ceiling	I/51W	21002A	P	C2316(NB).9270, 9273 [37'-6"]; C2312(NB).9270, 9273 [36'-8"]; C2310(NB).9270, 9273 [35'-10"]; P2414(SB).9270 [35']; C2318(SB).9270 [34'-2"]; L2312(NB).9270* [32]	Not on original list. Safety - non-safety separation. Type II. RAB el. 19.5'	411 Sh. 13; 372 Sh. 9

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH [EST. WRAPPED LENGTH] (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. 2998-G-
21002K-3(SB)	[15]	35'-6" + to ceiling	I/51W	21002C, E, K, R	C	C2316(NB).9270, 9273 [37'-6"]; C2312(NB).9270, 9273 [36'-8"]; C2310(NB).9270, 9273 [35'-10"]; P2414(SB).9270 [35']; C2318(SB).9270 [34'-2"]; L2312(NB).9270* [32]	Not on original list. Safety - non-safety separation. Type II. RAB el. 19.5'.	411 Sh. 13; 372 Sh. 9
21010A-1.5(MD)	39 [7]	39'-7" - 41'-6"	I/51W	21010A		C2412(NB).9266* [35'-10"]; C2414(SB).9266* [34'-2"]; P2414(SB).9267* [35']; C2310(NB).9267* [35'-10"]; C2318(SB).9267* [34'-2"]; L2412(NB).9266* [32']; L2412(NB).9267* [32']; C2316(NB).9267 [37'-6"]; C2312(NB).9267 [36'-8"]	Not on original list. Safety - non-safety & redundant train separation. Type III. RAB el. 19.5'.	411 Sh. 7; 372 Sh. 9
21010H-2(MD)	30 [10]	39'-3", 39" up to ceiling	I/51W	21010U	L	C2316(NB).9270, 9273 [37'-6"]; C2312(NB).9270, 9273 [36'-8"]; P2412(NB).9270, 9273* [36'-5"]; C2310(NB).9270, 9273 [35'-10"]; P2414(SB).9270 [35']; C2318(SB).9270 [34'-2"]	Safety - non-safety & redundant train separation. Types I & IV. RAB el. 19.5'	411 Sh. 7, 13; 372 Sh. 9
21010P-3(MD)	13 [15]	39'-2" up to ceiling	I/51W	21010P; 21642U	L	C2412(NB).9266* [35'-10"]; C2414(SB).9266* [34'-2"]; C2316(NB).9266 [37'-6"]; C2312(NB).9267 [36'-8"]; C2310(NB).9267* [35'-10"]; P2414(SB).9267* [35']; C2318(SB).9267* [34'-2"]	Safety - non-safety & redundant train separation. Types I & III. RAB el. 19.5'	411 Sh. 7; 372 Sh. 9
21642B-2(SA)	57 [30]	39'-4"	I/51W	21642A	C	V2414(SB).9295, 9292, 9293 [35'-3"]; V2412 (SB).9295, 9292 [34'-2", 32'-6"]; V2416(SB).9296, 9294 [35'-3"]	Redundant train separation. Types I & IV. RAB el. 19.5'	411 Sh. 18, 19; 372 Sh. 9, 10
21649C-2(MB)	14 [3]	33'-4"	I/51W	21649C, D	L	P2316(NB).7411 [38'-6"]; C2518(NB).7411 [36'-4"]; L2414(SB).7411* [35'-3"]; L2316(MB).7411* [34'-2"]; L2314(NB).7411* [33'-4"]	Safety - non-safety separation. Type I. Through opening in wall. RAB el. 19.5'	411 Sh. 3; 374 Sh. 1

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH (EST. WRAPPED LENGTH) (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. [illegible]
023C-4(MD)	71 [54]	38'-10"	I/51W	20296G; 21635E, H	L	C2415(NA).9228 [34']; C2412(NB).9264, .9284* [36'-4", 32'-6"]; P2414(SB).9264, .9284 [35'-3", 31'-8"]; C2414(SB).9264, .9284* [34'-2", 30']; V2418(NB).9264* [38'-6", 34'-2"]; P2412(NB).9284* [33'-4"]; P2416(SB).9284 [30'-10"]; L2412(NB).9284* [33'-4"];	Safety - non-safety & redundant train separation. Types I & III. RAB el. 19.5'	411 Sh. 9, 15; 372 Sh. 9
023C-4(MD)						P2312(NB).9262**; C2312(NB).9262**; C2316(NB).9262**; C2314(SB).9262 **; L2318(NB).9262**; L2312(NB).9262** ** TRAY RISER		
036W-2(SB)	18 [23]	41'-5" - 31'-6"	I/51W	20300D; 20466T, X	C	P2411(NA).9300 [34'-2"]; C2411(NA).9300 [33'-4"]; V2411(SA).9300 [32'-6"]; P2413(SA).9300 [31'-8"]; C2413(SA).9300 [29'-6"]; L2411(NA).9300* [28'-5"];	Conduits are more than 5' vertical separation above trays. Safety - non-safety & redundant train separation. Types II & III. RAB el. 19.5' in hallway. CEA MG sets are a potential missile source; however, conduit is not in path of potential missile.	411 Sh. 16; 393
036W-2(SB)	19 [9]	40' - 31'-6"	I/51W	20300D; 20466T, X	C	P2412(NB).9310 [33'-4"]; C2412(NB).9310 [32'-6"]; P2414(SB).9310 [31'-8"]; C2414(SB).9310 [30']; L2412(NB).9310* [29'-2"]	Safety - non-safety separation. Type II. RAB el. 19.5' in hallway. CEA MG sets are a potential missile source; however, conduit is not in path of potential missile.	411 Sh. 16; 393
5067M-2(SB)	17 [7]	39'-1" up to ceiling	I/51W	25050W	C	C2412(NB).9266* [35'-10"]; C2414(SB).9266* [34'-2"]; C2316(NB).9266 [37'-6"]; C2312(NB).9267 [36'-8"]; C2310(NB).9267* [35'-10"]; P2414(SB).9267* [35']; C2318(SB).9267* [34'-2"]	Not on original list. Safety - non-safety separation. Types I & II. RAB el. 19.5'	411 Sh. 7; 372 Sh. 9

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH (EST. WRAPPED LENGTH) (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. 2998-G-
26034X-4(SB)	42 [11]	37'-4"	I/51W	20150D; 20181K; 20273D; 20282D, E; 20283D, E; 20284B, E, G;20289H; 20286L; 20340B, C;	L	V2418(NB).9264, 9286* [38'-6", 34'-2"]; C2412(NB).9264, 9286* [36'-4", 32'-6"]; P2414(SB).9264, 9286 [35'-3", 31'-8"]; C2414(SB).9264, 9286* [34'-2", 30']; L2412(NB).9264, 9286* [33'-4", 29'-2"];	Given in the list as 26034X-4(MB). Safety - non-safety separation. Type I. RAB el. 19.5'	411 Sh. 9, 15; 372 Sh. 9, 10
26034X-4(SB)				20442L, M; 20487B, D; 20517M; 20744H; 21512B; 21513C; 21525P; 21526C,D; 21528C		P2316(NB).9263**; C2518(NB).9263**; L2414(SB).9264**; L2316(MB).9264**; L2314(NB)** ** TRAY RISER		
26036V-3(MD)	12 [12]	39'-2" up to ceiling	I/51W	20424H; 21004K	P	C2412(NB).9266* [35'-10"]; C2414(SB).9266* [34'-2"]; C2316(NB).9266 [37'-6"]; C2312(NB).9267 [36'-8"]; C2310(NB).9267* [35'-10"]; P2414(SB).9267* [35']; C2318(SB).9267* [34'-2"]	Safety - non-safety separation. Types I & III. RAB el. 19.5'	411 Sh. 7; 372 Sh. 9
27175-2(SB)	8 [2]	38'-10"	I/51W	27175	P	C2412(NB).9266* [35'-10"]; C2414(SB).9266* [34'-2"]; P2414(SB).9267* [35']	Not on original list. Safety - non-safety separation. Type I. All trays covered.	411 Sh. 7; 372 Sh. 9
28051W-2(SA)	87 [16]	39'-9"	I/51W	20136K; 20603W; 20654E; 21525S; 21528K	L	P2413(SA).9908* [29'-8"]; V2418(NB).9287 [38'-6"]; P2412(NB).9287 [37'-8"]; C2412(NB).9287 [36'-10"]; P2414(SB).9287 [36']; C2414(SB).9287 [35'-2"]	Safety - non-safety & redundant train separation. Types I & III. RAB el. 19.5'	411 Sh. 19; 372 Sh.9
28073P-4(SA)	48 [5]	33'-10", 36'-2"	I/51W	20455D; 20500B; 20532G; 21613B; 21694A; 21829A, B; 28333	C	C2412(NB).9265 [36'-4", 38'-6"]; P2414(SB).9265 [35'-3", 37'-6"]; C2414(SB).9265 [34'-2", 36'-5"]; L2412(NB).9265* [33'-4", 35'-4"]	Safety - non-safety & redundant train separation. Type III. RAB el. 19.5'	411 Sh. 9; 372 Sh. 9
28073Q-4(SA)	48 [5]	33'-10", 36'-2"	I/51W	20196H; 20211V, W, Y; 20319N, Q; 2044B, C, D; 20461L, M; 20500L; 21801E, K	C	C2412(NB).9265 [36'-4", 38'-6"]; P2414(SB).9265 [35'-3", 37'-6"]; C2414(SB).9265 [34'-2", 36'-5"]; L2412(NB).9265* [33'-4", 35'-4"]	Safety - non-safety & redundant train separation. Type III. RAB el. 19.5'	411 Sh. 9; 372 Sh. 9

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH (EST, WRAPPED LENGTH) (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. 2998-G-
28073R-4(SA)	48 [5]	34'-4", 36'-8"	I/51W	20318B; 21189N, U; 21255Z	C	C2412(NB).9265 [36'-4", 38'-6"]; P2414(SB).9265 [35'-3", 37'-6"]; C2414(SB).9265 [34'-2", 36'-5"]; L2412(NB).9265* [33'-4", 35'-4"]	Safety - non-safety & redundant train separation. Type III. RAB el. 19.5'	411 Sh. 9; 372 Sh. 9
28073S-4(SA)	48 [5]	34'-4", 36'-8"	I/51W	21529B, C, E	C	C2412(NB).9265 [36'-4", 38'-6"]; P2414(SB).9265 [35'-3", 37'-6"]; C2414(SB).9265 [34'-2", 36'-5"]; L2412(NB).9265* [33'-4", 35'-4"]	Safety - non-safety & redundant train separation. Type III. RAB el. 19.5'	411 Sh. 9; 372 Sh. 9
28141H-2(MD)	[13]	39' up to ceiling	I/51W	Not listed in CCL	--	C2316(NB).9270, 9273 [37'-6"]; C2312(NB).9270, 9273 [36'-8"]; P2412(NB).9270, 9273* [36'-5"]; C2310(NB).9270, 9273 [35'-10"]; P2414(SB).9270 [35']; C2318(SB).9270 [34'-2"]	Safety - non-safety & redundant train separation. Types I & IV. RAB el. 19.5'	411 Sh. 7, 13; 372 Sh. 9
28148L-2(SA).	74 [8]	41'-2" - 33'-6"	I/51W	28147Q, U; 28148E, H	L	V2414(SB).9292 [35'-3"]; V2412 (SB).9292 [34'-2", 32'-6"]; V2416(SB).9294 [35'-3"]	Not given in original list. Redundant train separation. Remainder of conduit >5' above trays or is below trays. Type II. RAB el. 19.5'	411 Sh. 19; 372 Sh. 10
28149Y-2(SA)	58 [26]	38'-1"	I/51W	28148X; 28149A	C	V2414(SB).9295, 9292, 9293 [35'-3"]; V2412 (SB).9295, 9292 [34'-2", 32'-6"]; V2416(SB).9296, 9294 [35'-3"]	Not given in original list. Redundant train separation. Types I & III. RAB el. 19.5'	411 Sh. 18, 19; 372 Sh. 9
23284-2(SA)	23 [11]	52'-10" - 63'	K/14	23507D, E, P; 23931G	C	P2221(NA).6623 [56'-2"]; C2225(NA).6623 [55'-4"]; C2227(NA).6623 [54'-6"]; C2229(NA).6623 [53'-8"]; C2221(NA).6623* [52'-10"]; C2223(SA).6623 [52'-10"]; L2221(NA).6623 [52']; L2223(SA).6623 [52']	Safety - non-safety separation. Types I & II. RCB el. 45' near stairs; no immediate missile hazard or high energy pipes.	366

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH (EXT. WRAPPED LENGTH) (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. 2998-G-
20466J-1(SA)	[15]	9'-5" +	O/19	20466J	C	L2301(SA).9166* [8'-8"]; L2405(MA).9166* [7'-11"]; P2401(NA).9170* [13'-2"]; C2401(NA).9170* [12'-5"]; V2401(SA).9170 [11'-8"]; P2403(SA).9170 [10'-11"]; P2405(SA).9170 [10'-2"]; C2403(SA).9170 [9'-5"]; L2407(MC).9170 [8'-8"]; L2401(NA).9170 [7'-11"];	Safety - non-safety & redundant train separation. Types I & II. RAB el. -0.5' in hallway; no missile hazards.	391
20466J-1(SA)						L2302(SB).9110 [8'-8"]; L2402(NB).9110 [7'-11"]; C2404(SB).9110* [9'-5" - 16']; P2402(NB).9110* [13'-2"]; C2402(NB).9110* [12'-5"]; V2406(SB).9110 [11'-8"]; P2404(SB).9110 [10'-11"]; P2406(SB).9110 [10'-2"];		
20466J-1(SA)						L2406(MB).9110* [8'-8"]; L2408(MD).9110* [7'-11"];		
20466M-1(SB)	[15]	9'-5" +	O/19	20466M	C	L2301(SA).9166* [8'-8"]; L2405(MA).9166* [7'-11"]; P2401(NA).9170* [13'-2"]; C2401(NA).9170* [12'-5"]; V2401(SA).9170 [11'-8"]; P2403(SA).9170 [10'-11"]; P2405(SA).9170 [10'-2"]; C2403(SA).9170 [9'-5"]; L2407(MC).9170 [8'-8"]; L2401(NA).9170 [7'-11"];	Safety - non-safety & redundant train separation. Types I & II. RAB el. -0.5' in hallway; no missile hazards.	391
20466M-1(SB)						C2404(SB).9119 [9'-5" - 16']; L2302(SB).9110 [8'-8"]; L2402(NB).9110 [7'-11"]; P2402(NB).9110* [13'-2"]; C2402(NB).9110* [12'-5"]; V2406(SB).9110 [11'-8"]; P2404(SB).9110 [10'-11"]; P2406(SB).9110 [10'-2"]; C2404(SB).9110 [9'-5"];		
20466M-1(SB)						L2406(MB).9110* [8'-8"]; L2408(MD).9110* [7'-11"];		

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH (EST. WRAPPED LENGTH) (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. 2998-G-
20482G-2(SB)	61 [27]	9'-8" Up To Ceiling	0/19	20289H; 20296L; 20482G, K; 20529K	C	L2301(SA).9100° [8'-8"]; L2405(MA).9100° [7'-11"]; P2401(NA).9100° [13'-2"]; C2401(NA).9100° [12'-5"]; V2401(SA).9100 [11'-8"]; P2403(SA).9100 [10-11]; P2405(SA).9100 [10'-2"]; C2403(SA).9100 [9'-5"]; L2407(MC).9100° [8'-8"]; L2401(NA).9100° [7'-11"];	Safety - non-safety & redundant train separation. Types II & III. RAB el. -0.5' in hallway; no missile hazards.	391
20482G-2(SB)						L2302(SB).9111° [9'-8"]; L2402(NB).9111° [8'-11"]; P2402(NB).9111° [14'-2"]; C2402(NB).9111° [13'-5"]; V2406(SB).9111 [12'-8"]; P2404(SB).9111 [11'-11"]; P2406(SB).9111 [11'-2"]; C2404(SB).9111 [10'-5"]; L2406(MB).9111° [9'-8"]; L2408(MD).9111° [8'-11"];		
20487B-1.5(SB)	[15]	9'-8" Up To Ceiling	0/19	Not listed in CCL	--	L2302(SB).9112° [9'-8"]; L2402(NB).9112° [8'-11"]; P2402(NB).9112° [14'-2"]; C2402(NB).9112° [13'-5"]; V2406(SB).9112 [12'-8"]; P2404(SB).9112 [11'-11"]; P2406(SB).9112 [11'-2"]; C2404(SB).9112 [10'-5"]; L2406(MB).9112° [9'-8"]; L2408(MD).9112° [8'-11"]	Safety - non-safety separation. Types II & III. RAB el. -0.5', in hallway adjacent to MCC 2B2; no missile hazards.	391
21161-4(MD)	63 [17]	14'-1" - 12'	0/19	20296G	L	C2402(NB).9172 [16'-3]; C2404(SB).9172 [16'-5"]; L2302(SB).9172° [14'-7"]; L2402(NB).9172° [13'-9"]	Safety - non-safety separation. Types II & III. RAB el. -0.5' in Boric Acid Cond. Tank Room; no missile hazards. Conduit passes under trays.	391

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH (EST. WRAPPED LENGTH) (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. 2998-G-
25004N-4(MB)	91 [12]	8'-8" Up To Ceiling	O/19	N/A	L	L2302(SB).9107* [8'-8"]; L2402(NB).9107* [7'-11"]; P2402(NB).9107 [13'-2"]; C2402(NB).9107 [12'-5"]; V2406(SB).9107 [11'-8"]; P2404(SB).9107 [10'-11"]; P2406(SB).9107 [10'-2"]; C2404(SB).9107 [9'-5"]; L2406(MB).9107* [8'-8"]; L2408(MD).9107* [7'-11"]	Safety - non-safety & redundant train separation. Type II. RAB el. -0.5' in hallway; no missile hazards.	391
25004V-4(MD)	91 [12]	7'-11" Up To Ceiling	O/19	N/A	L	L2302(SB).9107* [8'-8"]; L2402(NB).9107* [7'-11"]; P2402(NB).9107 [13'-2"]; C2402(NB).9107 [12'-5"]; V2406(SB).9107 [11'-8"]; P2404(SB).9107 [10'-11"]; P2406(SB).9107 [10'-2"]; C2404(SB).9107 [9'-5"]; L2406(MB).9107* [8'-8"]; L2408(MD).9107* [7'-11"]	Safety - non-safety & redundant train separation. Type II. RAB el. -0.5' in hallway; no missile hazards.	391
25026K-1.5(SA)	[10]	9'-8" Up To Ceiling	O/19	Not listed in CCL	--	L2301(SA).9103* [9'-8"]; L2405(MA).9103* [8'-11"]; P2401(NA).9103 [14'-2"]; C2401(NA).9103 [13'-5"]; V2401(SA).9103 [12'-8"]; P2403(SA).9103 [11-11]; P2405(SA).9103* [11'-2"]; C2403(SA).9103* [10'-5"]; L2407(MC).9103* [9'-8"]; L2401(NA).9103* [8'-11"];	#NAME?	391

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH (EST. WRAPPED LENGTH) (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. 2998-G-
25073D-2(SB)	47 [17]	8'-8" +	0/19	20150D	L	L2301(SA).9103* [8'-8"]; L2405(MA).9103* [7'-11"]; P2401(NA).9103 [13'-2"]; C2401(NA).9103 [12'-5"]; V2401(SA).9103 [11'-8"]; P2403(SA).9103 [10-11]; P2405(SA).9103 [10'-2"]; C2403(SA).9103 [9'-5"]; L2407(MC).9103* [8'-8"]; L2401(NA).9103* [7'-11"];	Safety - non-safety & redundent train separation. Type I. RAB el. -0.5 in hallway adjecent to MCC 2A2; no missile hazards. Conduit passes under trays.	391
25073D-2(SB)						L2302(SB).9113* [8'-8"]; L2402(NB).9113* [7'-11"]; P2402(NB).9113* [13'-2"]; C2402(NB).9113* [12'-5"]; V2406(SB).9113* [11'-8"]; P2404(SB).9113* [10'-11"]; P2406(SB).9113* [10'-2"]; C2404(SB).9113* [9'-5"]; L2406(MB).9113* [8'-8"]; L2408(MD).9113* [7'-11]		
26082X-2(SB)	15 [20]	9' Up To Ceiling	0/19	20465T, U	C	L2301(SA).9100* [8'-8"]; L2405(MA).9100* [7'-11"]; P2401(NA).9100* [13'-2"]; C2401(NA).9100* [12'-5"]; V2401(SA).9100 [11'-8"]; P2403(SA).9100 [10-11]; P2405(SA).9100 [10'-2"]; C2403(SA).9100 [9'-5"]; L2407(MC).9100* [8'-8"]; L2401(NA).9100* [7'-11"];	Safety - non-safety & redundent train separation. Types II & III. RAB el. -0.5' in hallway; no missile hazards.	391
26082X-2(SB)						L2302(SB).9111* [9'-8"]; L2402(NB).9111* [8'-11"]; P2402(NB).9111* [14'-2"]; C2402(NB).9111* [13'-5"]; V2406(SB).9111 [12'-8"]; P2404(SB).9111 [11'-11"]; P2406(SB).9111 [11'-2"]; C2404(SB).9111 [10'-5"]; L2406(MB).9111* [9'-8"]; L2408(MD).9111* [8'-11"];		

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH (EST. WRAPPED LENGTH) (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. 2998-G-
8092E-1.5(SA)	35 [12]	8'-8" Up To Ceiling	O/19	21609B	C	L2301(SA).9104* [8'-8"]; L2405(MA).9104* [7'-11"]; P2401(NA).9104 [13'-2"]; C2401(NA).9104 [12'-5"]; V2401(SA).9104 [11'-8"]; P2403(SA).9104 [10-11]; P2405(SA).9104 [10'-2"]; C2403(SA).9104 [9'-5"]; L2407(MC).9104* [8'-8"]; L2401(NA).9104* [7'-11"];	Given in list as 26092E-1.5(SA). Safety - non-safety separation. Types I & II. RAB el. -0.5 in hallway adjacent to MCC 2A2; no missile hazards. Conduit passes under trays.	391
8134D-1.5(SA)	63 [12]	8'-8" Up To Ceiling	O/19	SP2-775	L	L2301(SA).9104 [8'-8"]; L2405(MA).9104 [7'-11"]; P2401(NA).9104 [13'-2"]; C2401(NA).9104 [12'-5"]; V2401(SA).9104 [11'-8"]; P2403(SA).9104 [10-11]; P2405(SA).9104 [10'-2"]; C2403(SA).9104 [9'-5"]; L2407(MC).9104* [8'-8"]; L2401(NA).9104* [7'-11"];	Safety - non-safety separation. Types I & II. RAB el. -0.5 in hallway adjacent to MCC 2A2; no missile hazards. Conduit passes under trays.	391
20292A-1.5(SB)	33 [9]	10'-11"	O/20	20292A	P	P2402(NB).9035 [13'-2"]; C2402(NB).9035 [12'-5"]; V2406(SB).9035 [11'-8"]; P2404(SB).9035 [10'-11"]; C2404(SB).9035 [9'-5"]; L2406(MB).9035* [8'-8"]; L2302(SB).9035* [8'-8"]; L2408(MD).9035* [7'-11"]; L2402(NB).9035* [7'-11"]	Safety - non-safety separation. Type I. RAB el. -0.5' in area outside S.D. Heat Exch. Room; no missile hazards.	390
20292B-3(SB)	30 [10]	9'-5" to 6'6"	O/20	20292B, C, E; 20306H,J, K, L, N, P	C	P2402(NB).9035 [13'-2"]; C2402(NB).9035 [12'-5"]	Safety - non-safety separation. Type III. RAB el. -0.5' in area outside Equip. Drain Pump 2A room; no missile hazards.	390

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH (EST. WRAPPED LENGTH) (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. 2998-G-
20326-4(SB)	220 [10]	8'-8"	O/20	20601C, D, G; 20603Q, V; 20654F, G	L	P2402(NB).9035 [13'-2"]; C2402(NB).9035 [12'-5"]; V2406(SB).9035 [11'-8"]; P2404(SB).9035 [10'-11"]; C2404(SB).9035 [9'-5"]; L2406(MB).9035* [8'-8"]; L2302(SB).9035* [8'-8"]; L2408(MD).9035* [7'-11"]; L2402(NB).9035* [7'-11"]	Safety - non-safety separation. Types I & IV. RAB el. -0.5' in area outside S.D. Heat Exch. Room; no missile hazards.	390
28070Y-4(SB)	[10]	15'-8" +	O/19	All spare cables	--	C2402(NB).9173 [16'-3"]; C2402(SB).9173 [15'-5"]; L2402(NB).9173 [13'-9"];L2302(SB).9173 [14'-7"]	Safety - non-safety separation. Types II & III. RAB el. -0.5' outside Boric Acid Precons. Filters; no missile hazards.	391
21204-2(SB)	24 [3]	16'-3" - 8' 8"	O/20	21525R	L	P2402(NB).9035 [13'-2"]; C2402(NB).9035 [12'-5"]; V2406(SB).9035 [11'-8"]; P2404(SB).9035 [10'-11"]; C2404(SB).9035 [9'-5"]; L2406(MB).9035* [8'-8"]; L2302(SB).9035* [8'-8"]; L2408(MD).9035* [7'-11"]; L2402(NB).9035* [7'-11"]	Safety - non-safety separation. Type I. RAB el. -0.5' in area outside S.D. Heat Exch. Room; no missile hazards.	390
21207-2(SB)	23 [3]	16'-8" - 8' 8"	O/20	20218C; 20293L; 20294B, C; 21525Q	L	P2402(NB).9035 [13'-2"]; C2402(NB).9035 [12'-5"]; V2406(SB).9035 [11'-8"]; P2404(SB).9035 [10'-11"]; C2404(SB).9035 [9'-5"]; L2406(MB).9035* [8'-8"]; L2302(SB).9035* [8'-8"]; L2408(MD).9035* [7'-11"]; L2402(NB).9035* [7'-11"]	Safety - non-safety separation. Type I. RAB el. -0.5' in area outside S.D. Heat Exch. Room; no missile hazards.	390
21553-4(SB)	433 [4]	11'-8"	O/20	20833A	P	P2402(NB).9035 [13'-2"]; C2402(NB).9035 [12'-5"]; V2406(SB).9035 [11'-8"]; P2404(SB).9035 [10'-11"]; C2404(SB).9035 [9'-5"]; L2406(MB).9035* [8'-8"]; L2302(SB).9035* [8'-8"]; L2408(MD).9035* [7'-11"]; L2402(NB).9035* [7'-11"]	Safety - non-safety separation. Type I. RAB el. -0.5' in area outside S.D. Heat Exch. Room; no missile hazards.	390

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

CONDUIT ID	CONDUIT LENGTH (CBT, WRAPPED LENGTH) (FT)	ELEV.	FIRE ZONE	CABLE ID	CABLE VOLTAGE TYPE	NEAREST RACEWAYS	NOTES	REFERENCE DWGS. 2998-G-
21629-4(SB)	51 [15]	15' - 8'-8"	O/20	20744H; 20831B	L	P2402(NB).9035 [13'-2"]; C2402(NB).9035 [12'-5"]; V2406(SB).9035 [11'-8"]; P2404(SB).9035 [10'-11"]; C2404(SB).9035 [9'-5"]; L2406(MB).9035* [8'-8"]; L2302(SB).9035* [8'-8"]; L2408(MD).9035* [7'-11"]; L2402(NB).9035* [7'-11"]	Safety - non-safety separation. Types I, II. II & IV. RAB el. -0.5' in area outside S.D. Heat Exch. Room; no missile hazards.	390
28093C-4(SB)	37 [3]	11'-8"	O/20	20630A	P	P2402(NB).9035 [13'-2"]; C2402(NB).9035 [12'-5"]; V2406(SB).9035 [11'-8"]; P2404(SB).9035 [10'-11"]; C2404(SB).9035 [9'-5"]; L2406(MB).9035* [8'-8"]; L2302(SB).9035* [8'-8"]; L2408(MD).9035* [7'-11"]; L2402(NB).9035* [7'-11"]	Safety - non-safety separation. Type I. RAB el. -0.5' in area outside S.D. Heat Exch. Room; no missile hazards.	390

NOTES:
1. Trays with covers installed are indicated by *.
2. Nearest raceways include all raceways within 3 ft. horizontal and 5 ft. vertical of the conduit.
3. Cable voltage types: P = Power, C = Control, L = Low Level Signal.

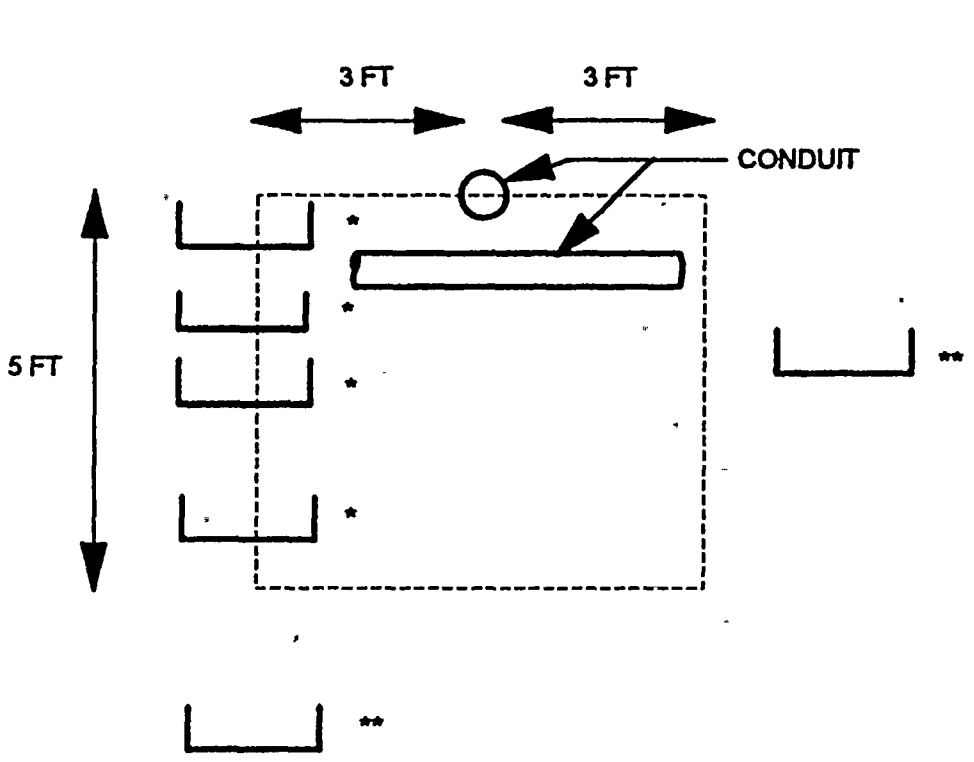
REFERENCE DRAWINGS:
1. 2998-G-366; Reactor Containment Bldg. - Cond Trays and Grdg Plan - El. 45'; Rev. 014.
2. 2998-G-372 SH. 10; Reactor Aux. Bldg El 19.5 Cable Tray Support Sh. 10; Rev. 04.
3. 2998-G-372 SH. 11; Reactor Aux. Bldg El 43'-0 Cable Tray Support Sh. 11; Rev. 05.
4. 2998-G-372 SH. 9; Reactor Aux. Bldg El 74.0 Cable Tray Support Sh. 14; Rev. 07.
5. 2998-G-374 SH. 1; Reactor Aux. Bldg Penetration Area Conduit Trays and Grounding Sh. 1; Rev. 09.
6. 2998-G-390; Reactor Aux. Bldg El. -0.50' Conduit, Trays and Grounding, Sh. 1 ; Rev. 16.
7. 2998-G-391; Reactor Aux. Bldg El. -0.50' Conduit, Trays and Grounding, Sh. 2 ; Rev. 17.
8. 2998-G-393; Reactor Aux. Bldg El. 19.6 Conduit, Trays and Grounding, Sh. 2 ; Rev. 14.
9. 2998-G-411 SH. 3; RAB El 19.5 Conduit Layout; Rev. 04.
10. 2998-G-411 SH. 4; RAB El 19.5 Conduit Layout; Rev. 04.
11. 2998-G-411 SH. 7; RAB El 19.5 Conduit Layout Sh. 7; Rev. 07.
12. 2998-G-411 SH. 9; RAB El. 19.5' Conduit Layout; Rev. 05.
13. 2998-G-411 SH. 10; RAB El 19.5' Conduit Layout ; Rev. 04.
14. 2998-G-411 SH. 13; RAB El 19.5' Conduit Layout Sh. 13; Rev. 03.

ST. LUCIE UNIT 2
R.G. 1.75 TRAY/CONDUIT INTERFACES

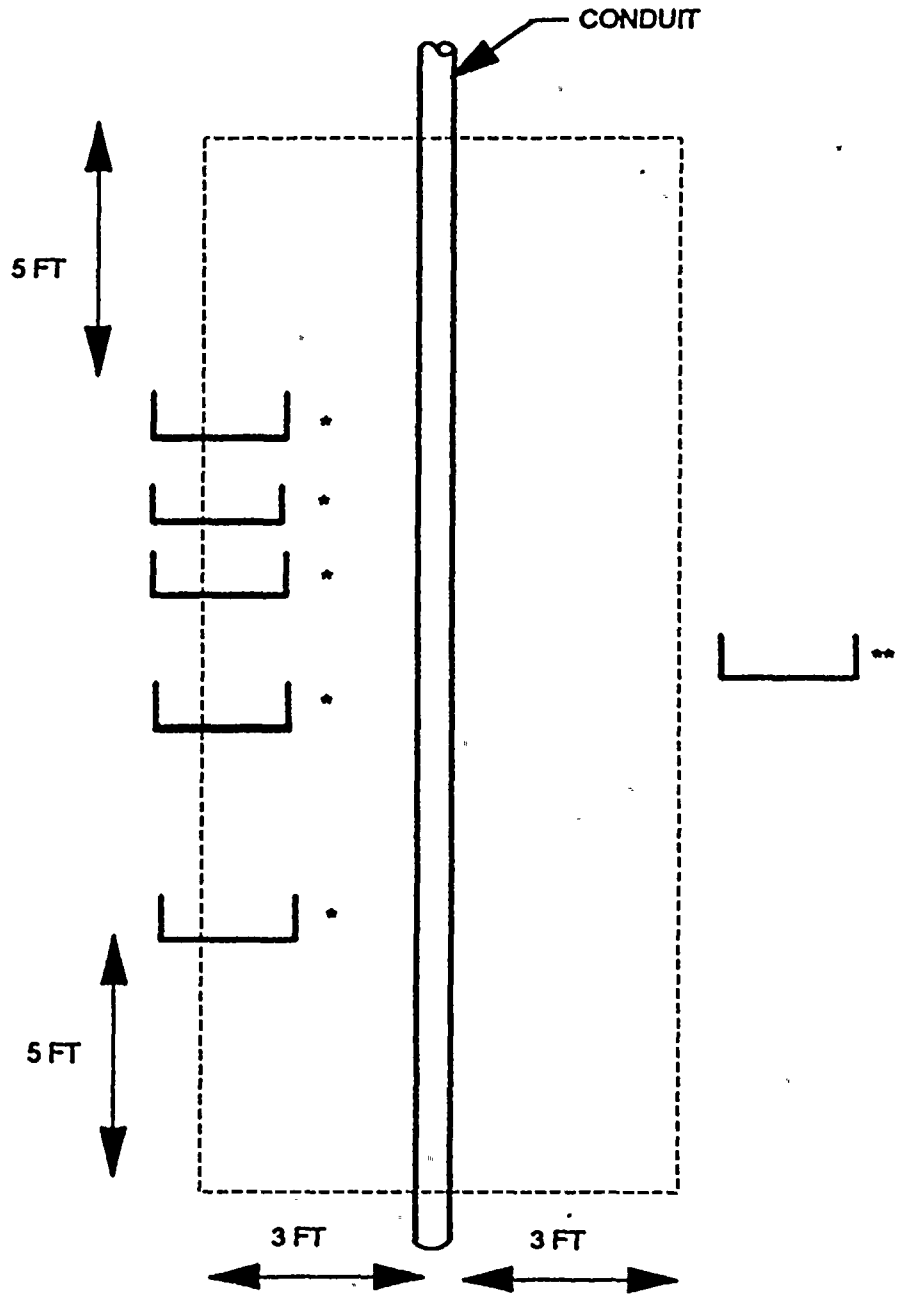
ERENCE DRAWINGS (cont'd):

2998-G-411 SH. 16; RAB El 19.5' Conduit Layout Sh. 16; Rev. 02.
2998-G-411 SH. 18; RAB El 19.5' Conduit Layout Sh. 18; Rev. 02.
2998-G-411 SH. 19; RAB El 19.5' Conduit Layout Sh. 19; Rev. 04.
2998-G-411 SH. 20; Reactor Auxiliary Building Electrical Penetration Area Conduit Layout Sh. 20; Rev. 07.
2998-G-411 SH. 29; Reactor Auxiliary Building El. 43.0' Conduit Layout Sh. 29; Rev. 09.
2998-G-411 SH. 30; RAB El 43.00 Conduit Layout; Rev. 07.
2998-G-411 SH. 35; RAB El 43.00 Conduit Layout; Rev. 09.
2998-G-411 SH. 37; Reactor Auxiliary Building El. 43.0' Conduit Layout Sh. 37; Rev. 06.
2998-G-411 SH. 38; Reactor Auxiliary Building El. 43.0' Conduit Layout Sh. 38; Rev. 07.
2998-G-411 SH. 39; RAB El. 43.00 Conduit Layout; Rev. 08.

TRAY/CONDUIT INTERFACE TYPES



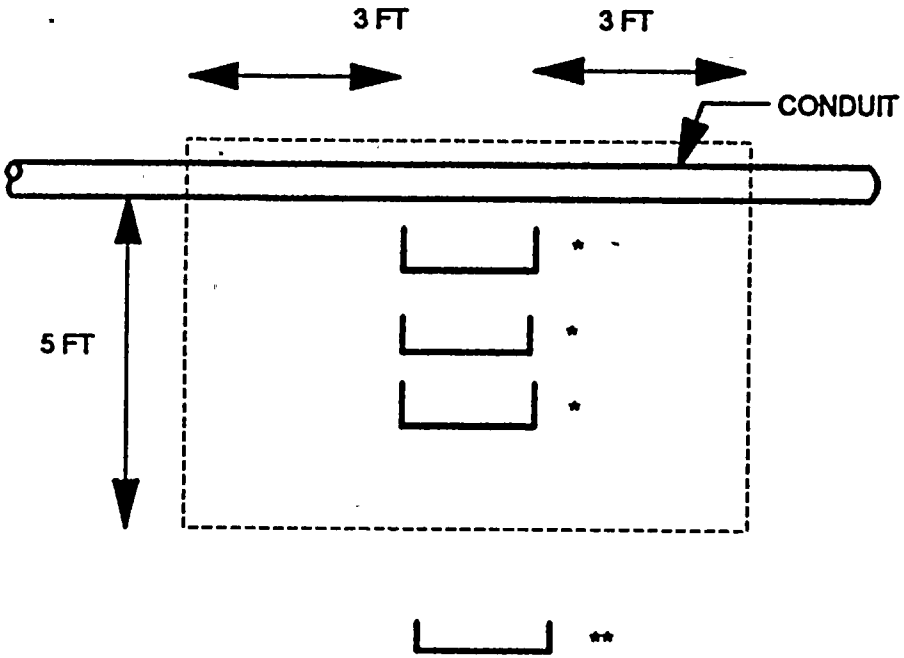
TYPE I: HORIZONTAL CONDUIT ADJACENT TO TRAY



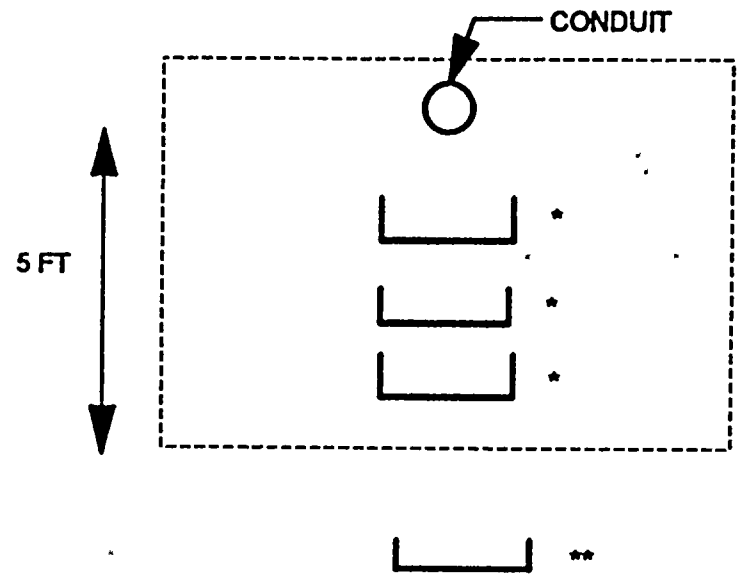
TYPE II: VERTICAL CONDUIT ADJACENT TO TRAY

* Protection required from these trays
** Protection not required from these trays

TRAY/CONDUIT INTERFACE TYPES



TYPE III: HORIZONTAL CONDUIT CROSSING TRAYS



TYPE IV: HORIZONTAL CONDUIT PARALLEL AND ABOVE TRAYS

* Protection required from these trays
** Protection not required from these trays