

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8606240265 DOC. DATE: 86/06/18 NOTARIZED: NO DOCKET #
 FACIL: 50-400 Shearon Harris Nuclear Power Plant, Unit 1, Carolina 05000400
 AUTH. NAME AUTHOR AFFILIATION
 ZIMMERSON, S. R. Carolina Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION
 DENTON, H. R. Office of Nuclear Reactor Regulation, Director (post 851125)

SUBJECT: Forwards addl deviation to Branch Technical Position 9.5-1
 on NUREG-0800 re fire protection, per discussions at 860430
 meeting w/NRC.

DISTRIBUTION CODE: B002D COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 22
 TITLE: Licensing Submittal: Fire Protection

NOTES: Application for permit renewal filed. 05000400

	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
	PWR-A ADTS	1 1	PWR-A PD2 LA	1 0
	PWR-A PD2 PD	1 1	BUCKLEY, B 01	1 1
INTERNAL:	ADM/LFMB	1 0	ELD/HDS1	1 0
	NRR STANG, J	3 3	BEG FILES 04	1 1
	RGN2	1 1		
EXTERNAL:	LPDR 03	1 1	NRC PDR 02	1 1
	NSIC 05	1 1		

1. The first part of the document discusses the general principles of the program and the objectives of the study. It also outlines the scope of the work and the methods used to collect and analyze the data.

2. The second part of the document provides a detailed description of the program and the results of the study. It includes a discussion of the findings and their implications for the field.

Category	Sub-category	Value	Unit	Notes
A	1	100	kg	Weight of component
	2	50	kg	Weight of component
B	1	200	kg	Weight of component
	2	100	kg	Weight of component
C	1	300	kg	Weight of component
	2	150	kg	Weight of component
D	1	400	kg	Weight of component
	2	200	kg	Weight of component



Carolina Power & Light Company

JUN 18 1986

SERIAL: NLS-86-219

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
United States Nuclear Regulatory Commission
Washington, DC 20555

SHEARON HARRIS NUCLEAR POWER PLANT
UNIT NO. 1 - DOCKET NO. 50-400
FIRE PROTECTION - DEVIATIONS FROM BTP 9.5-1

Dear Mr. Denton:

Carolina Power & Light Company hereby submits additional deviations to the Branch Technical Position 9.5-1 to NUREG-0800. Attachment 1 provides the technical information needed for your review. The deviations were discussed with your staff at an April 30, 1986, meeting.

Should you have any questions concerning this letter, please contact Mr. Patrick Carrier at (919) 836-8165.

Yours very truly,

S. R. Zimmerman
Manager

Nuclear Licensing Section

SRZ/PPC/mmh

Attachment

cc: Mr. B. C. Buckley (NRC) (W/A)	Mr: John D. Runkle
Mr. G. F. Maxwell (NRC-SHNPP)	Dr. Richard D. Wilson
Dr. J. Nelson Grace (NRC-RII)	Mr. G. O. Bright (ASLB)
Mr. Travis Payne (KUDZU)	Dr. J. H. Carpenter (ASLB)
Mr. Daniel F. Read (CHANGE/ELP)	Mr. J. L. Kelley (ASLB)
Wake County Public Library	Mr. T. S. Moore (ASLAB)
Mr. Wells Eddleman	Dr. R. L. Gotchy (ASLAB)
	Mr. H. A. Wilber (ASLAB)

8606240265 860618
PDR ADOCK 05000400
F PDR

411 Fayetteville Street • P. O. Box 1551 • Raleigh, N. C. 27602

13002
1/1

Page 111

FIRE PROTECTION ADDITIONAL DEVIATIONS

SUMMARY

A deviation has been identified from BTP-9.5-1, Section C.5.a (1, 2, 4 and 5) of NUREG-0800 from having fire-rated dampers, doors, and penetration seals in walls and floors designated as 3-hour rated.

AREA DESCRIPTION

See Tables 1, 2, and 3 for area description.

DISCUSSION

Tables 1, 2 and 3 identify the location of the doors, HVAC and bus duct penetrations. For those penetrations and doors where safe shutdown equipment is within 20 feet, automatic suppression and detection has been provided on at least one side of the door or penetration. The combustible loading in the areas are considered low to moderate. The doors are manufactured to the same engineering specification as would a 3-hour rated door. The SSA equipment identified within 20 feet radius of the doors or penetrations do not have their redundant counterpart within 20 feet except for MCC-1A-35SA and MCC-1B-35SB (deviation previously identified in NLS-86-040, dated February 13, 1986).

CONCLUSION

CP&L believes that this deviation is justified for the following:

1. Low to moderate combustible loading in the zone.
2. Suppression and detection systems are provided on at least one side of the door or penetration.
3. The SSA equipment identified within 20 feet radius of the doors or penetrations do not have their redundant counterpart within 20 feet except as noted above.

Based on the fire prevention features provided, CP&L concluded that the addition of fire dampers and rated doors would not greatly enhance the fire protection in the these zones and provides an acceptable deviation to NUREG-0800, Section C.5.1 (1, 2, 4, and 5).



• • • • •

• • • • •

• • • • •

• • • • •

• • • • •

• • • • •

• • • • •

SUMMARY

A deviation has been identified from BTP-9.5-1, Section C.5.b(2) NUREG-0800 from having to consider intervening combustibles between the following: 1) the power and control cable feeding the CCW 1A-SA pump, and 2) the CCW 1B-SB pump and related cables.

AREA DESCRIPTION

Plant Location: Reactor Auxiliary Building Elevation 236 feet

Fire Area: 1-A-BAL

SSA Area: FAABL3

Fire Zone: 1-A-3-PB

Other Safe Shutdown Equipment in the SSA Area:

1. Air Handler AH-29
2. Motor Control Centers 1B22SB and 1A22SA
3. SW Booster Pumps
4. Air Handler AH-9
5. Air Handler AH-6 (Local)
6. Air Handler AH-7 (Local)
7. RHR Heat Exchangers
8. CCW Heat Exchangers
9. CCW Pumps
10. CVCS Charging Pumps
11. Air Handler AH-10
12. Air Handler AH-11 (Local)
13. Auxiliary Feedwater Pumps

DISCUSSION

The power and control cable is routed in conduit from CCW 1A-SA to cable tray raceway which is approximately 100 feet from the CCW 1B-SB pump and related cable.

Intervening combustibles are present between these components in the form of IEEE-383 cables located in cable trays approximately 8 feet away (see Figure 1). The location is provided with an automatic suppression system actuated by thermal detection. Ionization detectors are also provided in this location for fire detection. This zone has low combustible loading as described in the SHNPP fire hazard analysis, Section 9.5A.3, Page 9.5A-29. Additional information for this area is available in licensee submittal NLS-84-245, dated June 12, 1984.

CONCLUSION

CP&L believes that this deviation is justified for the following reasons:

1. Low combustible loading in the area.
2. Suppression and detection systems are provided in the area.



• • • • •

[The body of the document contains several paragraphs of text that are extremely faint and illegible due to the quality of the scan. The text appears to be organized into sections, possibly separated by headings or sub-headings, but the specific content cannot be discerned.]

3. Physically separated by approximately 100 feet.

Based on the fire prevention features provided, CP&L concluded that further consideration of intervening combustibles would not greatly enhance fire protection in this zone and provides an acceptable deviation to NUREG-0800, Section C.5.b(2).



• • • • •

Very faint, illegible text spanning the width of the page, possibly a header or a list of items.

TABLE 1

FIRE DOOR DEVIATION

DOOR NO.	FSAR FIGURE (ATTACHED)	SSA SK	INT/EXT DOOR	FIRE ZONE	AUTOMATIC PROTECTION	COMBUSTIBLE LOADING	SSA EQUIPMENT
D9	9.5A-8	S013	INT	1-A34-RHXA	NONE	15,495	RHR Heat Exchanger 1A-SA
	9.5A-8			1-A-4-CHLR	M,T&I	155,296	NONE
D14	9.5A-8	S013	INT	1-A-34-RHXA	NONE	NEGLIGIBLE	NONE
	9.5A-8			1-A-4-CHLR	M,T&I	155,296	NONE
D54	9.5A-8	S014	INT	1-A-4-COME	M,I,T	38,989	MCC-1A35-SA
	9.5A-8			1-A-4-CHFA	I	67,917	NONE

TABLE 2

FIRE DAMPER DEVIATION

FLOOR ELEVATION		+261'-0		(SEE ATTACHED FIGURE 9.5A-8)					
HVAC DUCT PENETRATION I.D. NO.:	DUCT SIZE(IN) HVAC DWG CAR-2168	HVAC DUCT CATEGORY	HVAC SYSTEM		FIRE ZONE	FIRE ZONE COMBUSTIBLE LOADING (BTU/SF)	DETECTION SUPPRESSION	DUCTWORK GUAGE ISOLATION VALVE	SAFE SHUTDOWN EQUIPMENT (20' RAD)
FD-W-1	40x46 BOT. EL. 275'-10 G-805 Rev 4	NNS	E-17(1X-NNS) E-18(1X-NNS) E-19(1X-NNS) E-20(1X-NNS)	E A S T	1-A-BAL 1-A-4-COME	38,514	I,T M(T)	16 No	MCC-1A35-SA
					W E S T	1-A-BAL 1-A-4-CHFA	114,699	I None	16 No
FD-W-2	20x14 BOT. EL. 272'-10 G-805 Rev 4	NNS	S-3(1A-NNS) S-3(1B-NNS)	E A S T	1-A-BAL 1-A-4-COME	38,514	I,T M(T)	20 No	MCC-1A35-SA
					W E S T	1-A-BAL 1-A-4-COMI	61,392	I,T M(T)	20 No
FD-W-3	20x14 BOT. EL. 272'-10 G-805 Rev 4	NNS	S-3(2A-NNS) S-3(2B-NNS)	E A S T	1-A-BAL 1-A-4-COME	38,514	I,T M(T)	20 No	MCC-1A35-SA
					W E S T	1-A-BAL 1-A-4-COMI	61,392	I,T M(T)	20 No
FD-W-4	30x24 EL. 270'-6 G-505S01	NNS	E-17(1X-NNS) E-18(1X-NNS) E-19(1X-NNS) E-20(1X-NNS)	N O T I I	1-A-BAL 1-A-4-CHLR	155,296	I,T M(T)	Transfer Grill No	None
					S O U T H	1-A-BAL 1-A-4-TA	Negligible	Manual Alarm Sta. None	Transfer Grill No

TABLE 2

FIRE DAMPER DEVIATION

HVAC DUCT PENETRATION I.E. NO.:		DUCT SIZE(IN) HVAC DWG CAR-2168	HVAC DUCT CATEGORY	HVAC SYSTEM		FIRE ZONE	FIRE ZONE COMBUSTIBLE LOADING (BTU/SF)	DETECTION SUPPRESSION	DUCTWORK GAUGE ISOLATION VALVE	SAFE SHUTDOWN EQUIPMENT (20' RAD)
FD-W-5	30x26 BOT. EL. 279'-2	NNS	E-17(1X-NNS) E-18(1X-NNS) E-19(1X-NNS) E-20(1X-NNS)	N O R T H	1-A-BAL 1-A-4-CHLR.	155,296	I, T	16	Chilled Water Pump P-4 (1A-SA) Closed Expansion Tank 1A-SA	
										S O U T H
FD-W-6	10x6 BOT. EL. 268'-3	SAFETY	E-6(1A-SA)	N O R T H	1-A-BAL 1-A-34-RHX	15,495	None	18	RHR Heat Exchanger 1A-SA	
										S O U T H
FD-W-7	10x6 BOT. EL. 268'-3	SAFETY	E-6(1A-SA)	N O R T H	1-A-BAL 1-A-34-RHX	15,495	None	18	RHR Heat Exchanger 1A-SA	
										S O U T H
FD-W-8	10x6 BOT. EL. 268'-4	SAFETY	E-6(1B-SB)	N O R T H	1-A-BAL 1-A-4-CHLR	155,296	I, T M(T)	18 Yes	None	
										S O U T H

(SEE ATTACHED FIGURE 9.5A-8)

TABLE 2

FIRE DAMPER DEVIATION

FLOOR ELEVATION		+261'-0		(SEE ATTACHED FIGURE 9.5A-8)					
HVAC DUCT PENETRATION I.D. NO.:	DUCT SIZE (IN) HVAC DWG CAR-2166	HVAC DUCT CATEGORY	HVAC SYSTEM	X	FIRE ZONE	FIRE ZONE COMBUSTIBLE LOADING (BTU/SF)	DETECTION SUPPRESSION	DUCTWORK GRADE ISOLATION VALVE	SAFE SHUTDOWN EQUIPMENT (20' RAD)
FD-W-9	10x6 BOT. EL. 274'-5	SAFETY	E-6(1B-SB)	N O R T H	1-A-BAL	155,296	I, T	18	None
					1-A-4-CHLR		M(T)	Yes	
G-505S01 Rev 6				S O U T H	1-A-BAL	Negligible	None	18	RHR Heat Exchanger 1B-SB
					1-A-34-RHXB		None	No	

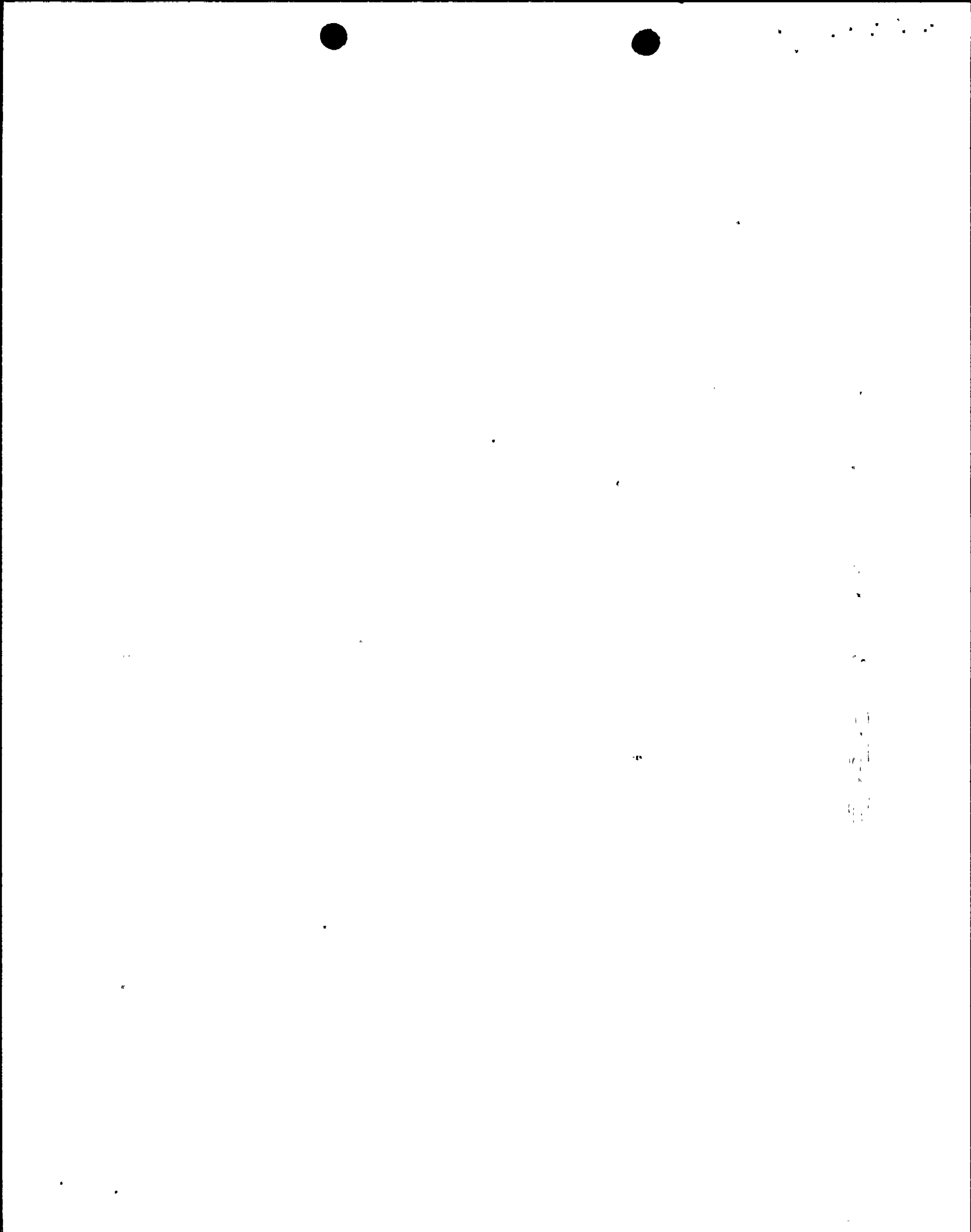


TABLE 2

FIRE DAMPER DEVIATION

FLOOR ELEVATION (SEE ATTACHED FIGURES 9.5A-9, 9.5A-15, 9.5B-1)					FIRE ZONE	FIRE ZONE COMBUSTIBLE LOADING (BTU/SF)	DETECTION SUPPRESSION	DUCTWORK- GUAGE ISOLATION VALVE	SAFE SHUTDOWN EQUIPMENT (20' RAD)
FD-W-10	60 X 24 BOT. EL. 328'-8" G-502503	SAFETY	AH-56 AH-57	ABOVE	12-A-7-1HV	15,440	I ----- NONE	16 ----- YES	NONE
				BELOW	5-F-4-BAL	INSIGNIFICANT FHA 9.5A.14	NONE ----- NONE	16 ----- NO	NONE
FD-W-11	100 X 26 BOT. EL. 328'-8" G-501502	SAFETY	E-23 E-24	ABOVE	12-A-7-1HV	15,440	I ----- NONE	16 ----- YES	NONE
				BELOW	5-F-4-BAL	INSIGNIFICANT FHA 9.5A.14	NONE ----- NONE	16 ----- NO	NONE
FD-W-12	100 X 26 BOT. EL. 328'-8" 5G-501502	SAFETY	E-25 E-26	ABOVE	12-A-7-1HV	15,440	I ----- NONE	16 ----- YES	NONE
				BELOW	5-F-4-BAL	INSIGNIFICANT FHA 9.5A.14	NONE ----- NONE	16 ----- NO	NONE
FD-W-13	52 X 24 BOT. EL. 328'-8" 5-G-502503	SAFETY	AH-58 AH-59	ABOVE	12-A-7-1HV	15,440	I ----- NONE	16 ----- YES	NONE
				BELOW	5-F-4-BAL	INSIGNIFICANT FHA 9.5A.14	NONE ----- NONE	16 ----- NO	NONE

TABLE 2

FIRE DAMPER DEVIATION

FLOOR ELEVATION		(SEE ATTACHED FIGURES 9.5A-9, 9.5A-15, 9.5B-1)							
HVAC DUCT PENETRATION I.D. NO.:	DUCT SIZE (IN HVAC DWG CAR-2168)	HVAC DUCT CATEGORY	HVAC SYSTEM	X	FIRE ZONE	FIRE ZONE COMBUSTIBLE LOADING (BTU/SF)	DETECTION SUPPRESSION	DUCTWORK GUAGE ISOLATION VALVE	SAFE SHUTDOWN EQUIPMENT (20' RAD)
FD-73	18x18	NNS	E-11	ABOVE	5-F-3-NF	INSIGNIFICANT FHA 9.5A.14	NONE ----- NONE	16 ----- NO	NONE
				BELOW	5-F-2-DEC	SAME AS ABOVE	I ----- NONE	16 ----- NO	NONE
FD-71	60x80 EL. 286	NNS	E-17	ABOVE	12-A-5-CHF	82,242	I,T ----- P	16 ----- NO	NONE
				BELOW	1-A-4-CHFA	112,960	I,T ----- M	16 ----- NO	NONE
FD-72	60x80 EL. 286	NNS	E-18	ABOVE	12-A-5-CHF	82,242	I,T ----- P	16 ----- NO	NONE
				BELOW	1-A-4-CHFA	112,960	I,T ----- M	16 ----- NO	MCC 1A-35 SA

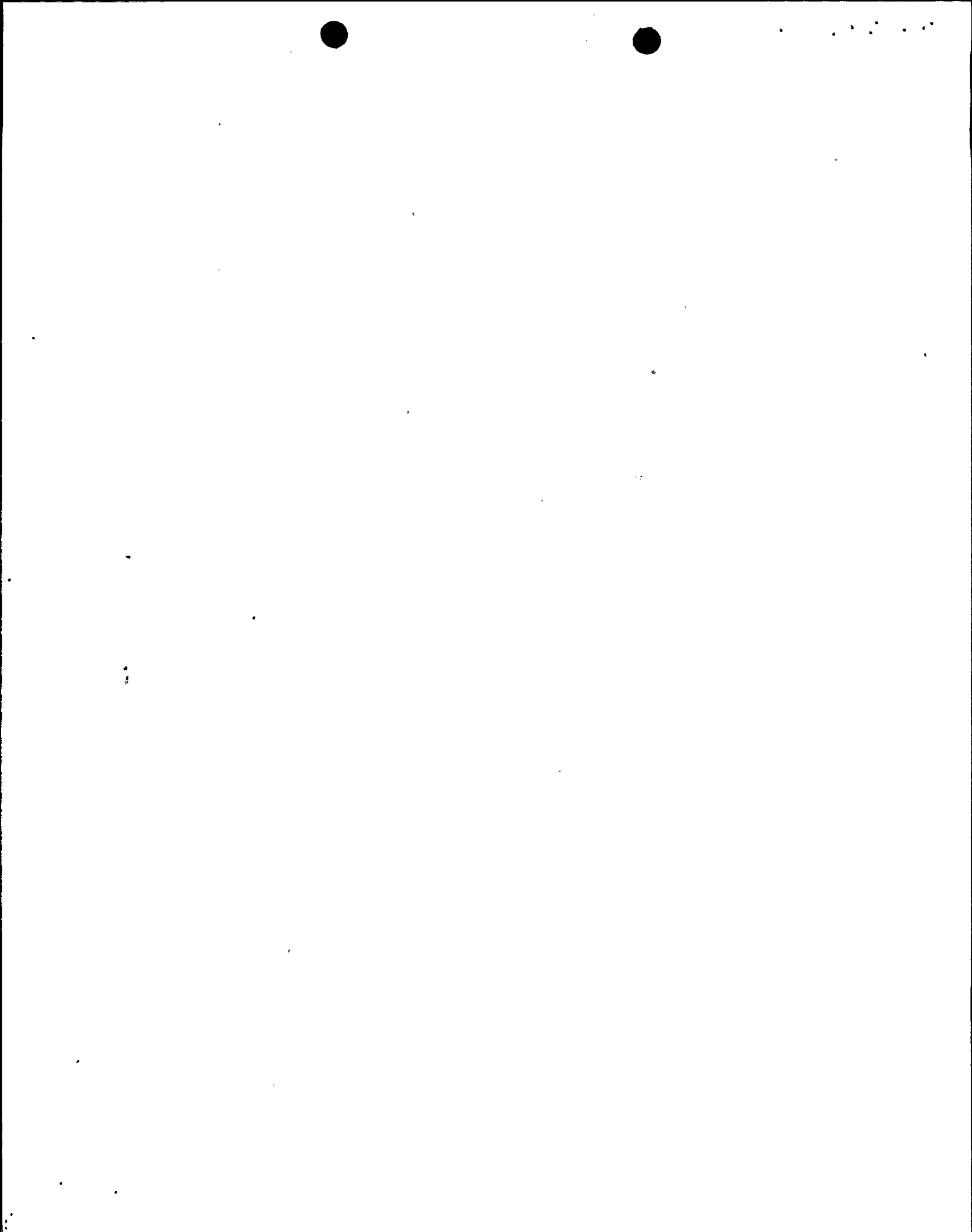
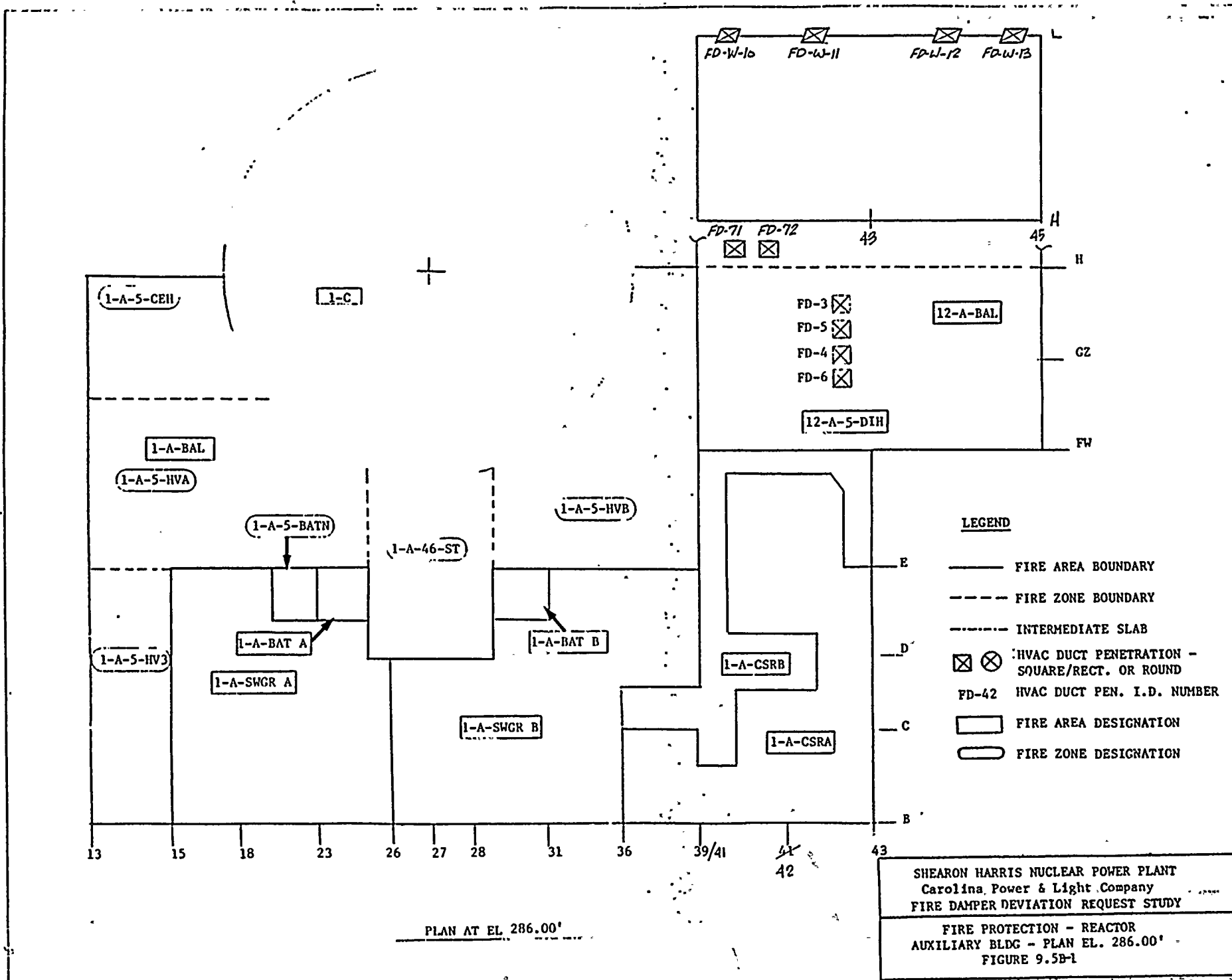


TABLE 3
BUS DUCT SEAL DEVIATION

BUS DUCT PENETRATION I.D. No.	DUCT SIZE	SSA SK	PSAR FIG	FIRE ZONE	AUTOMATIC PROTECTION	COMBUSTIBLE LOADING (BTU/SF)	BUS DUCT GAUGE	SSA EQUIPMENT (20' RAD)
BD-7	33x12	S13	9.5A-8	I-A-4-CHLR	M,T,I	152,223		3AF-F1-SA-1 3AF-F2-SA-1
		S17	9.5A-9	I-A-SWGR A	I	32,207		NONE
BD-8	33x12	S13	9.5A-8	I-A-4-CHLR	M,T,I	152,223		3AF-F1-SA-1 3AF-F2-SA-1
		S17	9.5A-9	I-A-SWGR A	I	32,207		NONE
BD-9	33x12	S13	9.5A-8	I-A-4-CHLR	M,T,I	152,223		3AF-F1-SA-1 3AF-F2-SA-1
		N/A	9.5A-35	EL.261 GND.FL.	M,T	78,478		NONE
BD-10	33x12	S13	9.5A-8	I-A-4-CHLR	M,T,I	152,223		3AF-F1-SA-1 3AF-F2-SA-1
		N/A	9.5A-35	EL.261 GND.FL.	M,T	78,478		NONE
BD-11	33x12	S13	9.5A-8	I-A-4-CHLR	M,T,I	152,223		3AF-F1-SA-1 3AF-F2-SA-1
		N/A	9.5A-35	EL.261 GND.FL.	NONE	78,478		NONE
BD-12	33x12	S13	9.5A-8	I-A-4-CHLR	M,T,I	152,223		3AF-F2-SA-1 3AF-F5-SB-1 3AF-F6-SB-1
		N/A	9.5A-35	EL.261 GND.FL.	NONE	78,478		NONE
BD-13	33x12	S13	9.5A-8	I-A-4-CHLR	M,T,I	152,223		3AF-F1-SA-1 3AF-F2-SA-1
		S17	9.5A-9	I-A-SWGR B	I	106,792		ESS SEQ PNL (18-SB) 480V SWGR 1B3-SB
BD-14	33x12	S13	9.5A-8	I-A-4-CHLR	M,T,I	152,223		3AF-F2-SA-1 3AF-F5-SB-1 3AF-F6-SB-1
		S17	9.5A-9	I-A-SWGR B	I	106,792		ESS SEQ PNL (18-SB) 480V SWGR 1B3-SB



LEGEND

- FIRE AREA BOUNDARY
- - - FIRE ZONE BOUNDARY
- · - · - INTERMEDIATE SLAB
- ⊗ ⊙ HVAC DUCT PENETRATION - SQUARE/RECT. OR ROUND
- FD-42 HVAC DUCT PEN. I.D. NUMBER
- ▭ FIRE AREA DESIGNATION
- FIRE ZONE DESIGNATION

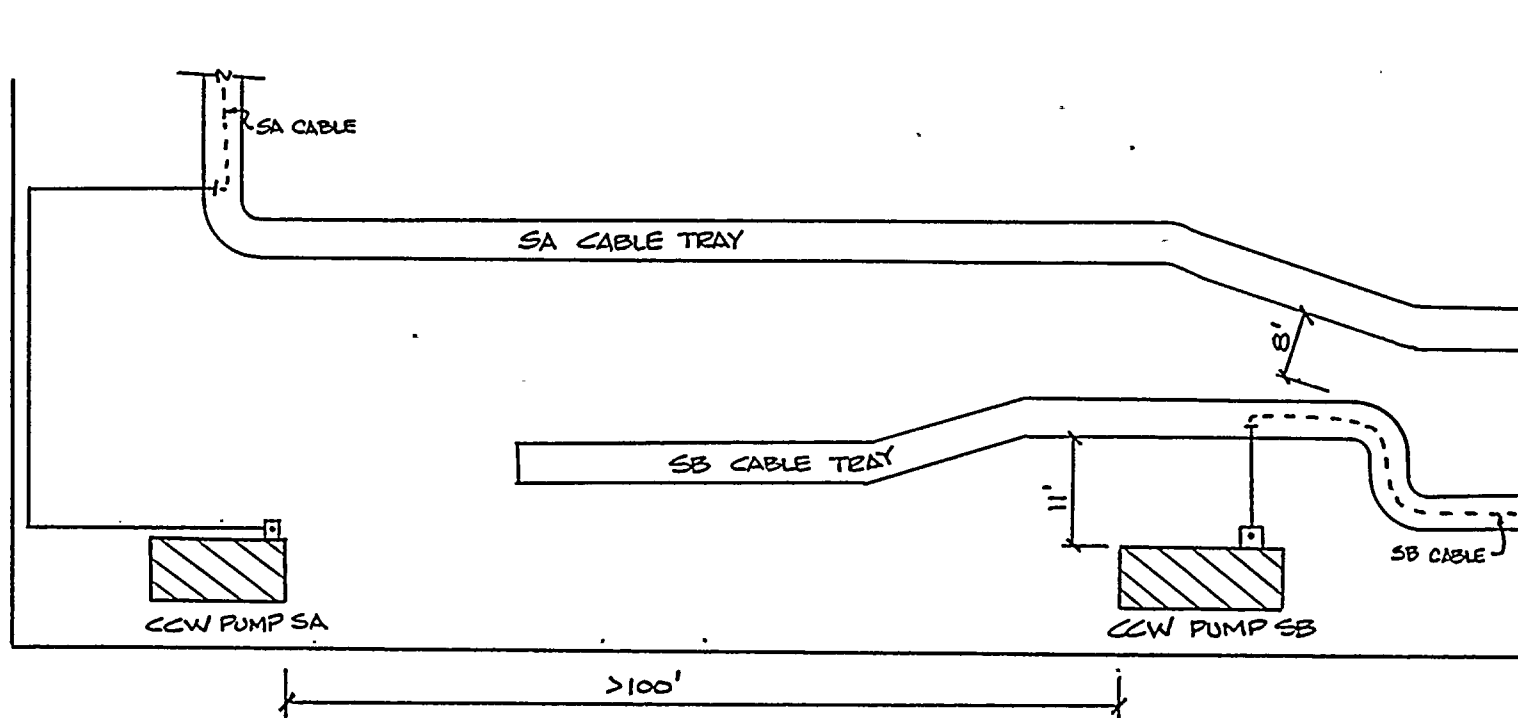
SHEARON HARRIS NUCLEAR POWER PLANT
 Carolina Power & Light Company
 FIRE DAMPER DEVIATION REQUEST STUDY

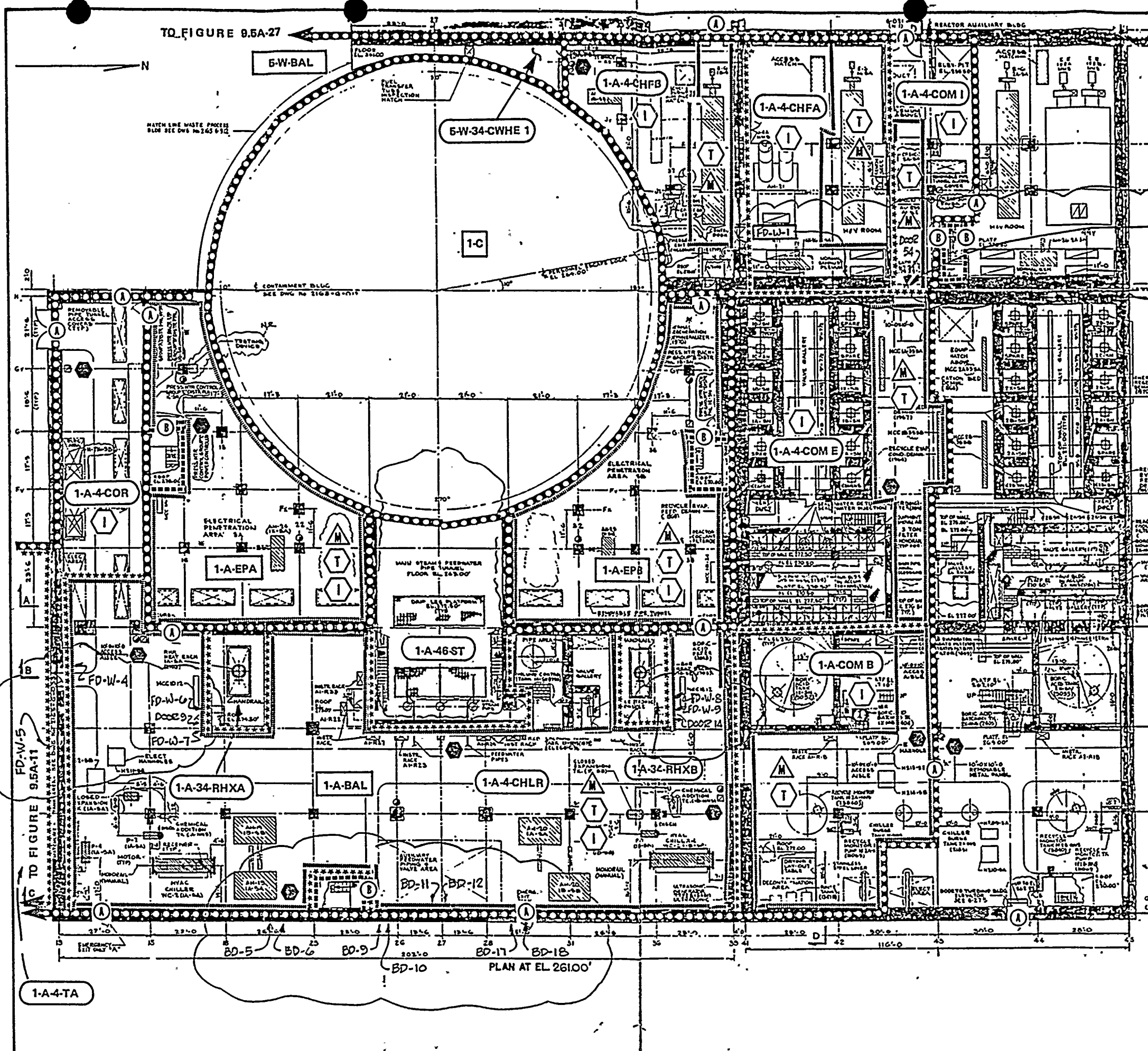
FIRE PROTECTION - REACTOR
 AUXILIARY BLDG - PLAN EL. 286.00'
 FIGURE 9.5B-1

PLAN AT EL. 286.00'

FIGURE 1

REACTOR AUXILIARY BUILDING
ELEVATION 236
PS&Z FIGURE 9.5A-7





TI
APERTURE
CARD

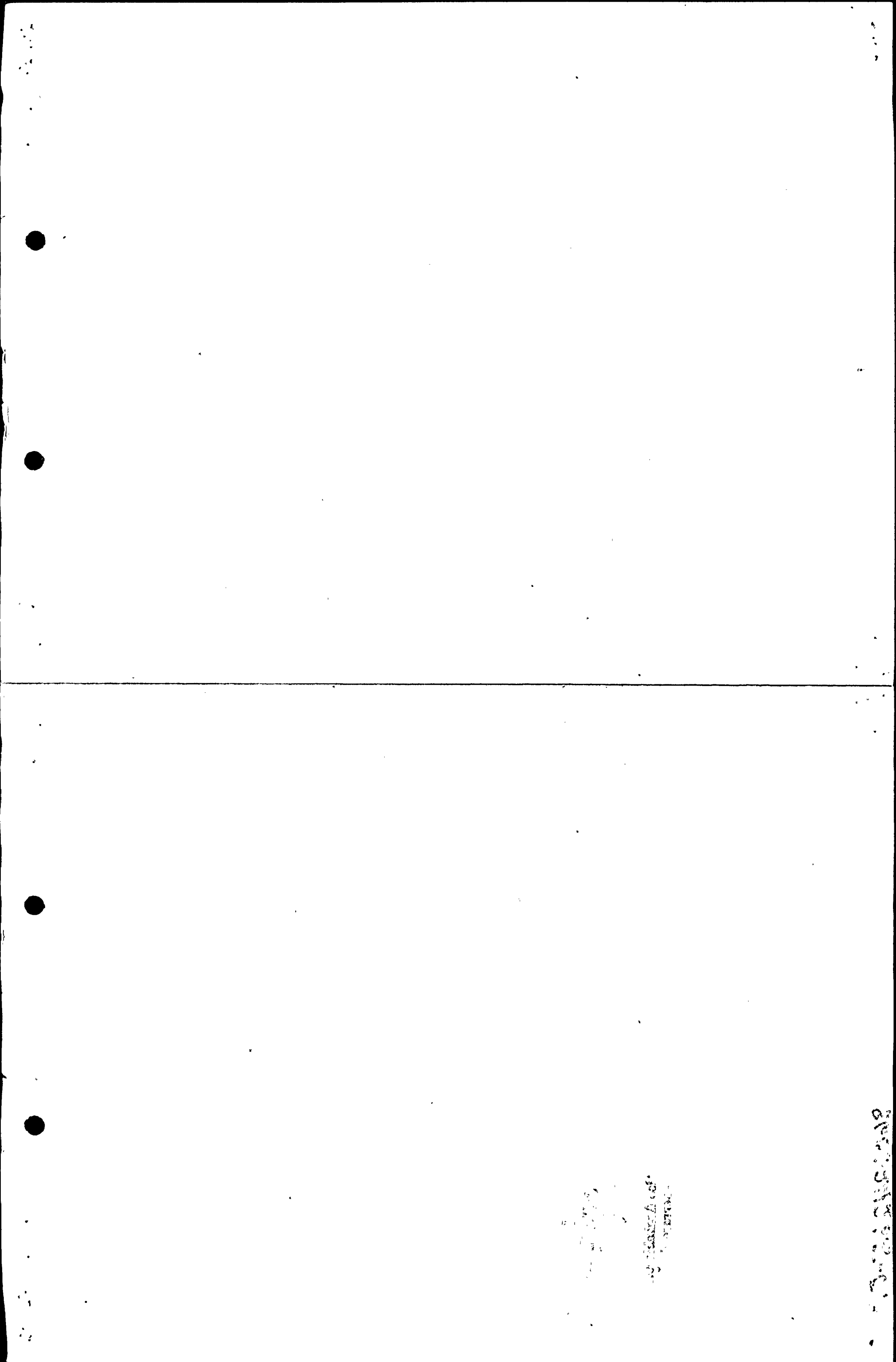
Also Available On
Aperture Card

AMENDMENT NO. 15

SHEARON HARRIS NUCLEAR POWER PLANT
Carolina Power & Light Company
FINAL SAFETY ANALYSIS REPORT
FIRE PROTECTION - REACTOR
AUXILIARY BLDG - PLAN EL 261.00'

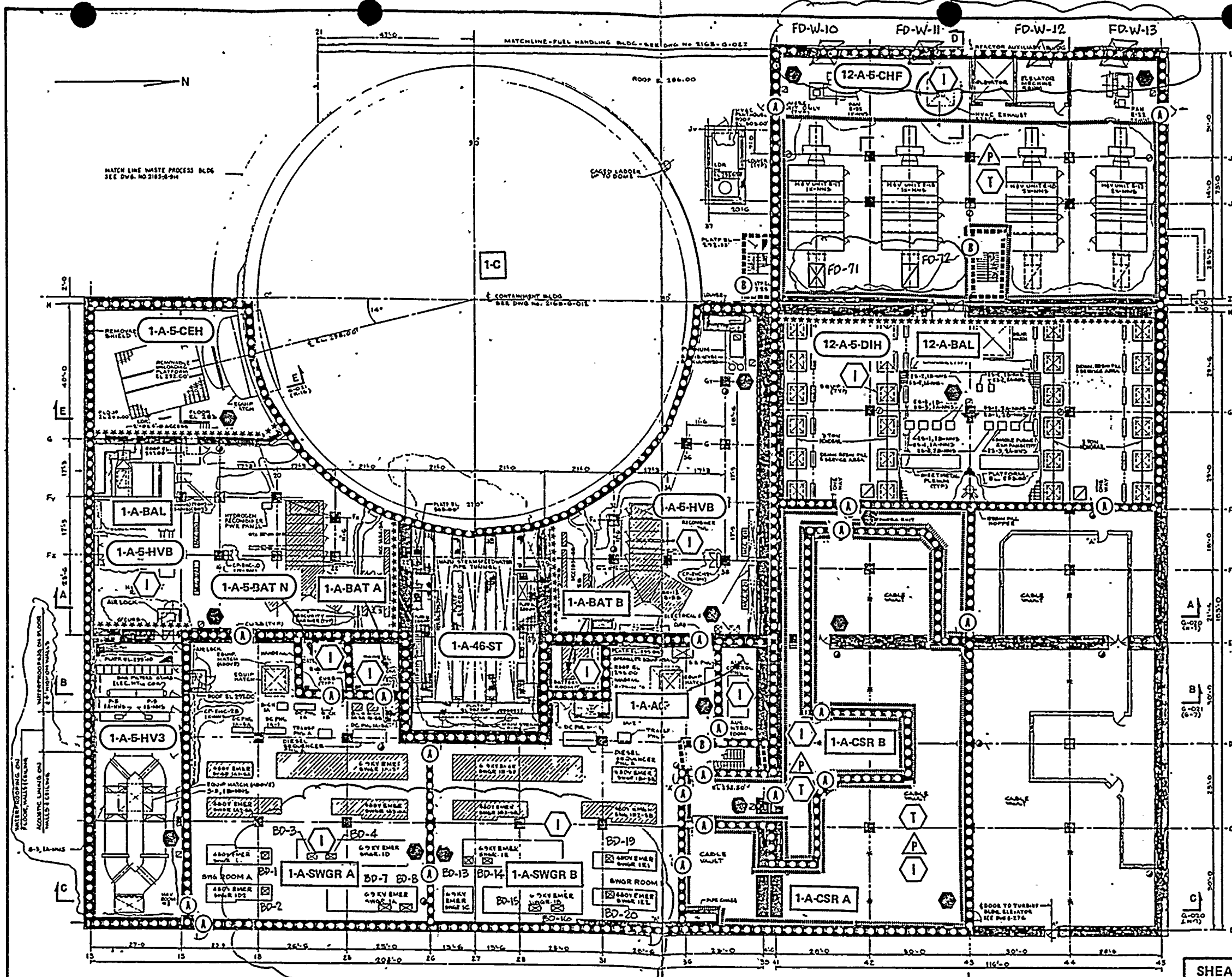
FIGURE 9.5A-8

860624265-01



RECEIVED
JAN 10 1964

61-100-100-100



PLAN AT EL 286.00

**TI
APERTURE
CARD**

Also Available On
Aperture Card

AMENDMENT NO. 15

SHEARON HARRIS NUCLEAR POWER PLANT
Carolina Power & Light Company
FINAL SAFETY ANALYSIS REPORT

FIRE PROTECTION - REACTOR
AUXILIARY BLDG - PLAN EL 286.00'

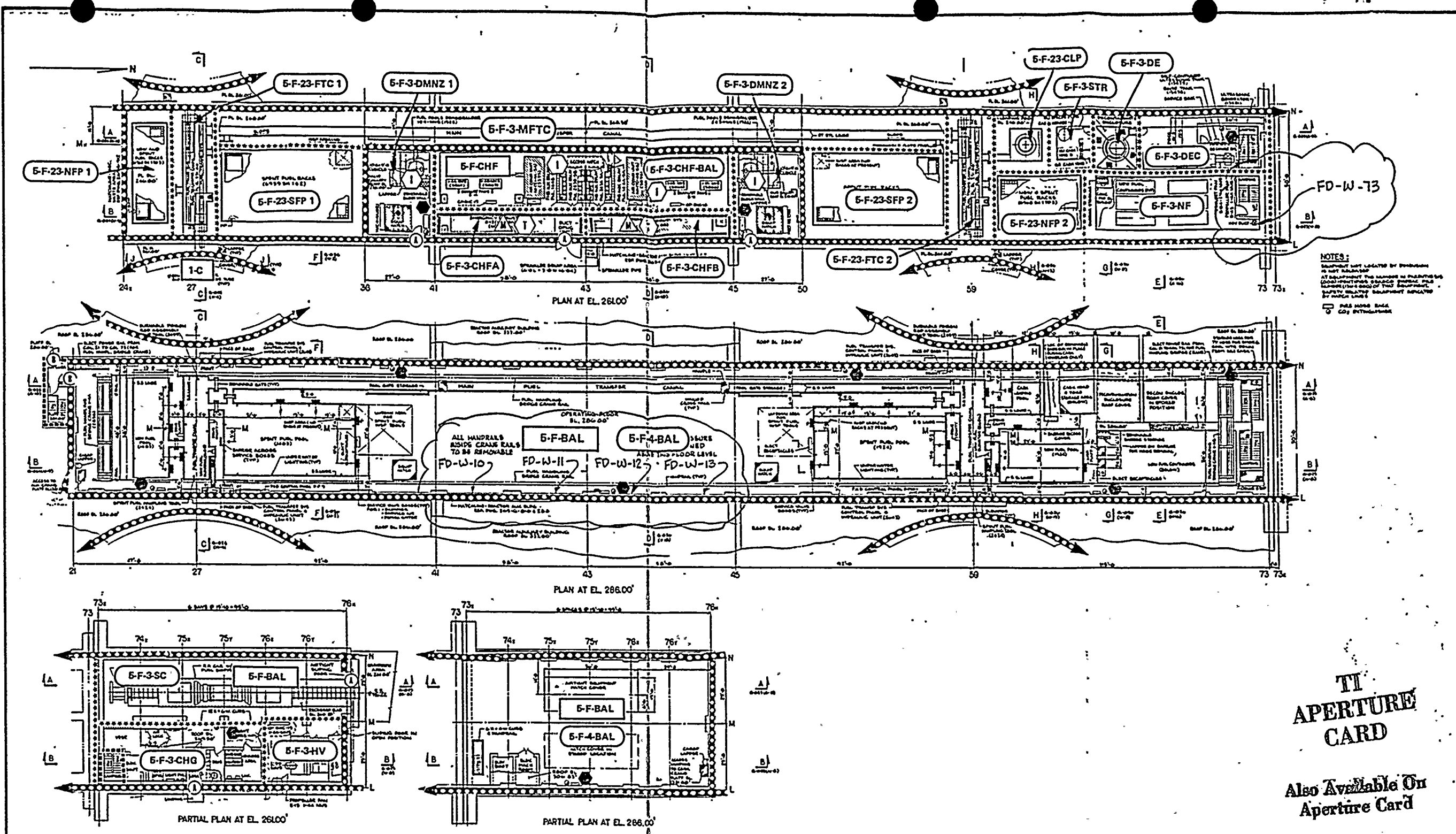
FIGURE 9.5A-9

8606240265-02

1000 1000 1000

FOR THE YEAR
1900

1000 1000



NOTES:
 EQUIPMENT NOT LOCATED BY PROVISION IS NOT INDICATED
 AT EQUIPMENT THE NUMBER IS INDICATED IN
 LOCAL IDENTIFICATION NUMBER PREFIXED
 EQUIPMENT (THE END) OF THIS EQUIPMENT
 SUPPLY QUALITY EQUIPMENT INDICATED
 BY MARCH LINE
 PLS MOVE BACK
 COY INTERFERE

TI
 APERTURE
 CARD
 Also Available On
 Aperture Card

AMENDMENT NO. 15
 SHEARON HARRIS NUCLEAR POWER PLANT
 Carolina Power & Light Company
 FINAL SAFETY ANALYSIS REPORT
 FIRE PROTECTION—FUEL HANDLING
 BUILDING—PLANS—SHEET 2

FIGURE 9.5A-15
 8606240265-03

