



LONG ISLAND LIGHTING COMPANY

SHOREHAM NUCLEAR POWER STATION

P.O. BOX 618, NORTH COUNTRY ROAD • WADING RIVER, N.Y. 11792

JOHN D. LEONARD, JR.
VICE PRESIDENT - NUCLEAR OPERATIONS

April 5, 1985

SNRC-1158

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

Submittal of FHAR Revision
Shoreham Nuclear Power Station - Unit 1
Docket No. 50-322

Reference: 1. Letter SNRC-1141, dated January 29, 1985
2. NRC Inspection Report 50-322/84-46

Dear Mr. Denton:

In accordance with commitments made in the reference (1) letter, attached please find revised FHAR sections covering the following items from the reference (2) inspection:

- 1) Item 84-46-10 - Design concentration of CO₂ in Battery Rooms and cable tunnel,
- 2) Item 84-46-13 - Lack of Fire Hazards Analysis for Electric Manhole #1 and Control Building corridors No. 8 and No. 9,
- 3) Item 84-46-09 - Lack of fire damper in duct between HVAC Equipment Room and Chiller Room.

Revisions are identified by a bar in the right hand margin.

Consistent with license condition 2.C.(4) of Operating License No. NPF-19, a determination has been made that these changes do not decrease the level of fire protection at Shoreham.

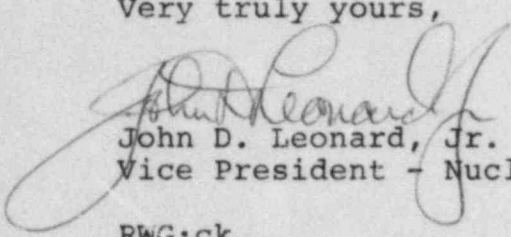
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1/40

This information should be suitable to close inspection item 84-46-10. Plant modifications associated with items 84-46-13 and 84-46-09 are presently in progress.

Should you have any questions, please contact this office.

Very truly yours,



John D. Leonard, Jr.
Vice President - Nuclear Operations

RWG:ck

cc: Dr. T. Murley
P. Eselgroth

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INSERTION INSTRUCTIONS

FOR REVISION 2 TO THE FHAR

The following text, tables, and figures are to be inserted in the FHAR. These pages are either replacement pages or new pages as indicated below.

All replacement pages which differ from existing pages are identified with the revision number and date in the lower right-hand corner. Bars located in the margin of a particular page indicate material which is new in the revision indicated at the bottom of the page.

Remove Old (Pages)

EP 1-1 through EP 1-2
iii through vi
1-23 through 1-24
1-29 through 1-31
2-25 through 2-26
2-57
Table 1 (5 of 5)
Figure 1

Figure 2A

Insert New (Pages)

EP 1-1 through EP 1-2
iii through vi
1-23 through 1-24a/b
1-29 through 1-32
2-25 through 2-26
2-57 through 2-63
Table 1 (5 of 5)
Figure 1
Figure 1B
Figure 2A

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LIST OF EFFECTIVE PAGES

<u>Page, Table, or Figure</u>	<u>Revision Number</u>
Title	1
LILCO SNRC-181 Letter of May 5, 1977	Original
ii and iii	1
iv and v	2
vi	1
1-1 through 1-22	1
1-23 and 1-24a/b	2
1-25 through 1-29	1
1-30 through 1-32	2
2-1 through 2-24	1
2-25 and 2-26	2
2-27 through 2-57	1
2-58 through 2-63	2
Table 1, sheets 1 through 4	1
Table 1, sheet 5	2
Table 2, sheets 1 through 6	1
Table 3, sheets 1 and 2	1
Table 4, sheet 1	1
Table 5, sheets 1 and 2	1
Table 6, sheet 1	1
Table 7, sheet 1	1
Figure 1	2
Figure 1A	1
Figure 1B	2
Figure 2	1
Figure 2A	2
Figure 3	1
Figure 3A	1
Figures 4 through 7	1
Figure 7A	1
Figure 8 through 14	1
1-1 and 1-2 (Question 1)	1
2-1(Question 2)	1
3-1 through 3-3	1
4-1 and 4-2	1
5-1	1
6-1	1
7-1 through 7-3	1
8-1	1
9-1	1
A1-1 through A1-15	1
Figure 9-1	1
10-1	1
11-1	1
12-1 and 12-2	1
13-1	1

LIST OF EFFECTIVE PAGES (CONT'D)

<u>Page, Table, or Figure</u>	<u>Revision Number</u>
14-1	1
15-1	1
Figure 15-1	1
16-1	1
Figure 16-1	1
17-1	1
18-1	1
19-1	1
20-1	1
21-1	1
22-1	1
23-1	1
24-1	1
25-1	1
26-1	1
E1-1	1
E2-1	1
E3-1 and E3-2	1
Figure E3-1	1
E4-1	1
E5-1	1
E6-1	1
E7-1	1
E8-1	1
Figures E8-1 and E8-2	1
Figures E8-3A, B, C, D and E	1
E9-1	1
Figures E9-1 and E9-2	1
E10-1	1
Figures E10-1 through E10-4	1
E11-1	1
Table E11-1, sheets 1 through 5	1
E12-1 and E12-2	1
E13-1	1
E14-1	1

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LIST OF TABLES

<u>No.</u>	<u>Title</u>
1	Fire Analysis Summary Sheet
2	Fire Detection - Ionization Detectors
3	Fire Detection - Air Duct Ionization Detectors
4	Rate Compensated Electric Thermostats (Area Mounted)
5	Photoelectric Detectors
6	Rate Compensated Electric Thermostats (Safety Related)
7	Fire Loading Chart

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LIST OF FIGURES

<u>No.</u>	<u>Title</u>
1	General Arrangement for the Shoreham Nuclear Power Station
1A	General Arrangement for the Shoreham Nuclear Power Station
1B	Electric Manhole No. 1
2	General Arrangement for the Shoreham Nuclear Power Station
2A	General Arrangement for the Shoreham Nuclear Power Station
3	General Arrangement for the Shoreham Nuclear Power Station
3A	General Arrangement for the Shoreham Nuclear Power Station
4	General Arrangement for the Reactor Building - Plan El. 8 ft-0 in.
5	General Arrangement for the Reactor Building - Plan El. 40 ft-0 in.
6	General Arrangement for the Reactor Building - Plan El. 63 ft-0 in. and 62 ft-8 in.
7	General Arrangement for the Reactor Building - Plan El. 78 ft-7 in.
7A	Hydraulic Control Units El. 78 ft-7 in. Reactor Building
8	General Arrangement for the Reactor Building - Plan El. 112 ft-9 in.
9	General Arrangement for the Reactor Building - Plan El. 101 ft-6 in., 95 ft-3 in., and 126 ft-9 in.
10	General Arrangement for the Reactor Building - Plan El. 150 ft-9 in.
11	General Arrangement for the Reactor Building - Plan El. 175 ft-9 in.

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LIST OF FIGURES (Cont'd)

<u>No.</u>	<u>Title</u>
12	General Arrangement for the Reactor Building Section 1-1
13	General Arrangement for the Reactor Building Section 2-2
14	General Arrangement for the Turbine Building

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FOREWORD

In response to a letter to Mr. A. W. Wofford of Long Island Lighting Company from Mr. Roger S. Boyd of the Nuclear Regulatory Commission dated September 30, 1976, this report contains the following:

- Section 1 comprises an assessment of the compliance of Shoreham Nuclear Power Station, Unit 1, to Appendix A, Branch Technical Position APCS 9.5-1 "Guidelines for Fire Protection for Nuclear Power Plants Docketed Prior to July 1, 1976."
- Section 2 contains an evaluation of the Shoreham Fire Protection Program, including a detailed Fire Hazards Analysis.
- Sections 3 and 4 contain tables and drawings in support of the Fire Hazards Analysis.
- Section 5 contains NRC Requests and Responses.

The results of this report demonstrate that the fire protection systems, building design, and station procedures developed for the Shoreham Nuclear Power Station are adequate to assure that a fire will not result in unacceptable effects on structures, systems, and components important to safety.

5. Carbon Dioxide Suppression System

Total flooding carbon dioxide fire protection suppression systems are provided for the following areas: diesel generator rooms, MG room, battery rooms⁽¹⁾, emergency switchgear rooms, computer room, relay room, electrical manhole No. 1, normal switchgear room, and the cable tunnel⁽¹⁾. The carbon dioxide fire protection system was designed in accordance with NFPA 12. As required by NFPA 12, consideration was given for soak time, toxicity, venting, and overpressurization. Provisions are made to allow for manual lockout of the system during periods of occupancy. The possibility of secondary thermal shock damage has been investigated and found not to be a problem in total flooded areas where CO₂ does not impinge on equipment. Therefore, this BTP is complied with fully.

Note (1) - CO₂ system test results for Battery Rooms A and B and the Cable Tunnel show that the design criteria of 50 percent concentration for a 20 minute period was met at the low and mid test points but not at the upper (mean ceiling) points. The representative inspectors of American Nuclear Insurers found the results acceptable and approved them since minimum combustible material is located at the upper level. Accordingly, decay of CO₂ concentration near the ceiling does not impact the effectiveness of the CO₂ fire suppression system. For the cable tunnel, this has been judged to be acceptable on the basis that no safety-related equipment is located in this area.

6. Portable Extinguishers

Portable fire extinguishers are provided in various areas throughout the plant, clearly marked and easily accessible. The extinguishers conform to NFPA 10. Therefore, this BTP is complied with fully.

F. Guidelines for Specific Plant Areas

1. Primary and Secondary Containment

a. Normal Operation

The fire protection and suppression systems for the primary and secondary containments, as is the case

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for the entire plant fire protection system, are designed, based on identified hazards, i.e., any combustible materials. An analysis of these hazards and the fire protection, including fire loading analyses of safety-related equipment required for safe shutdown, was performed. This analysis indicates that the required safety-related systems and the hazards to them have been adequately defined, and the calculated fire loading is less than the fire rating of the walls, floors, ceilings, and doors. The redundancy of the equipment plus the availability of automatic and manual fire protection, including manual hose stations, dry chemical, CO₂, and water portable hand extinguishers, are more than adequate to meet this BTP position.

A permanent second feed is provided for the reactor building fire water system from the yard fire loop and is connected into the reactor building seismically supported fire protection system. A seismic Category I safety-related service water line inside the reactor building is provided with a spare connection available for manual hookup to the fire suppression system. This alternate connection ensures that the fire suppression system is available following an SSE.

Operation of the fire protection system does not compromise containment integrity and/or other safety-related systems. The fire protection activities in the containment areas function in conjunction with total containment requirements, such as ventilation and control of contaminated liquid and gaseous releases.

The fire detection systems, as discussed previously, provide annunciation and alarm in the control room and locally via the plant page-party communication system. The fire detection system is designed with a minimum of four detectors on each level of the secondary containment. The particular type of fire detector most suitable for the identified hazard is installed in each area.

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The primary containment (inerted during plant operation) is protected by hose reels and portable extinguishers located outside the access hatches. Inside the primary containment, appropriately located temperature detection devices warn the control room operator in the unlikely event of a fire.

Although SNPS-1 complies with this BTP partially, the design is considered to fully meet the needs of adequate fire detection and suppression within the reactor building.

b. Refueling and Maintenance

Although additional potential hazards may be present during refueling and maintenance (temporary wiring, wood planking, welding, etc), adequate management procedures and controls are provided to ensure adequate fire protection, as previously discussed.

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Control room alarms are actuated by the automatic fire detection system and an alarm will be sounded by the control room operator via the plant page-party communication system. Combustibles in the area are kept to a minimum. Drainage is provided in the new fuel vaults and is sized to prevent water level buildup. Fuel elements are spaced to preclude criticality for any water density that might occur during fire protection water application. (Refer to FSAR Section 9.1.1.) Therefore, this BTP is complied with fully.

13. Spent Fuel Pool Area

Local hose stations and portable extinguishers are provided in the vicinity of the spent fuel pool. Automatic fire detection is provided which sounds an alarm in the main control room. An alarm will be sounded by the control room operator via the plant page-party communication system. Therefore, this BTP is complied with fully.

14. Radwaste Building

The radwaste building is separated from adjoining buildings by 3-hour fire rated walls and doors. Combustibles throughout the building are kept to a minimum. The radwaste bale preparation and handling area is protected by an automatic sprinkler system. The radwaste tanks exhaust charcoal filter train is protected by automatic fire detection and a manually initiated deluge system.

All drains throughout the building are routed to sumps which are monitored for radioactivity prior to discharge. Ventilation systems can be isolated.

Automatic fire detection is provided in the radwaste building and will sound an alarm in the main control room. An alarm will be sounded by the control room operator via the plant page-party communication system. The entire building is protected by manual hose stations with portable extinguishers as backup. Therefore, this BTP is complied with fully.

15. Decontamination Areas

There is one decontamination room located in the turbine building which is protected by automatic sprinklers with manual hose station and portable hand extinguishers as backup. All other areas are decontamination washdown

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areas with manual hose protection and portable hand extinguisher backup. All areas are equipped with either rate compensated thermostats or air duct ionization detectors, or a combination of both. All fire detector alarms sound in the main control room. An alarm will be sounded by the control room operator via the plant page-party communication system. Flammable liquids are not stored in any decontamination area. The turbine building ventilation systems serving these areas are capable of being isolated. Therefore, this BTP is complied with fully.

16. Safety-Related Water Tanks

Storage tanks which supply water for safe shutdown are protected by outside fire hydrants and portable extinguishers. No combustible material storage is permitted within 50 ft of these tanks. Therefore, this BTP is complied with fully.

17. Electric Manhole No. 1

Electric Manhole No. 1 is comprised of reinforced concrete walls, floor and ceiling having a fire rating exceeding 3 hours.

An automatic rate compensated temperature detection system for actuation of the total flooding low pressure CO₂ system and the actuation of local and remote alarm is provided. In addition, two ionization smoke detectors are provided which sound an alarm in the main control room. Notification of a fire alert will be sounded by the control room operator via the page-party communication system.

18. Corridors No. 8 and No. 9

Corridors Nos. 8 and 9 which are located on el 25 ft-0 in. of the control room building have been evaluated in the fire hazard analysis. Automatic fire detection is provided for each corridor. Detection alarms are provided in the main control room where, upon detector actuation, notification of a fire alert will be sounded by the control room operator via the plant page-party communication system. Portable fire extinguishers (both H₂O and CO₂) and water hose racks are provided in the northwest and southwest stairwells adjacent to these corridors as a double coverage for fire fighting. Therefore, this BTP is complied with fully.

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19. Cooling Towers

Not applicable.

20. Miscellaneous Areas

Miscellaneous areas such as records storage areas, shops, warehouses, and the auxiliary boiler room are located such that a fire or the effects of a fire, including smoke, will not adversely affect any safety-related system or equipment. The fuel oil storage tanks for the auxiliary boilers are buried. Wet pipe sprinklers are provided for the shop, computer terminal room, classroom, warehouse, and the auxiliary boiler room. Therefore, this BTP position is complied with fully.

G. Special Protection Guidelines

1. Welding and Cutting, Acetylene-Oxygen Fuel Gas Systems

Storage of welding and cutting, acetylene-oxygen fuel gas systems is not permitted within a safety-related structure. Storage is in an area protected by an automatic sprinkler system with hose reels and portable extinguishers as backup. NFPA 51 and NFPA 51B were used as a guide in the designation of storage areas, the safety procedures to be followed and the development of a permit system to be implemented to control usage. Therefore, this BTP is complied with fully.

2. Storage Areas for Dry Ion Exchange Resins

Ion exchange resins, to be used for the reactor water cleanup system, are stored in the reactor building El. 150 ft-9 in. The resin supply is stored in a moist condition in 25 lb plastic bags. Storage will be kept to a minimum. Smoke detection is provided with both local and remote alarms. Fire protection is provided by local hose racks with portable extinguishers as backup. With these storage and control requirements, an automatic wet pipe sprinkler system is not warranted. Therefore, the intent of this BTP is complied with fully.

3. Hazardous Chemicals

Hazardous chemicals are stored and protected in accordance with NFPA 49. Therefore, this BTP is complied with fully.

4. Materials Containing Radioactivity

Storage of radioactive materials will be kept to an absolute minimum. Spent ion-exchange resins are piped directly to the spent resin tank and then to the radwaste solidification system, eliminating the need for handling or storage. Items which can be decontaminated (clothing, tools, etc) are processed on a regular basis, thus eliminating a need for storage. Other items such as charcoal, HEPA filters, etc, are processed through the radwaste system, as required. If, in the unlikely event the need to store any contaminated items arises, due consideration will be given to potential fire sources. Therefore, this BTP is complied with fully.

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PLANT FIRE AREA DESCRIPTION - CHILLER EQUIPMENT ROOM - Control Building El. 44 ft (Refer to Figure 2)

Major Equipment/Safety Function

Station Ventilation Chilled Water System Water Chillers (non-safety-related)

Fire Protection

This area is equipped with automatic area and panel mounted ionization detectors which will sound an alarm in the main control room. An alarm will be sounded by the control room operator via the plant page-party communication system. A water hose rack is located outside the room. Portable extinguishers are located inside the room.

Design Features

	<u>Construction</u>	<u>Rating</u>
Walls: North:	8 in. Concrete Block	2 hr
East, West & South:	24 in. Reinforced Concrete	>4 hr
Floor:	12 in. Reinforced Concrete	>4 hr
Ceiling/Roof Assembly:	12 in. Reinforced Concrete	>4 hr
Doors:	1.5 hr Rated Class B - North Wall	
	1.5 hr Rated Class B - Exhaust Plenum	

Combustible Material

General area fire loading is considered low. Refer to Table 1 for details.

Postulated Fire

Ignition of cable or ignition of lube oil from one water chiller.

Consequences of a Fire without Active Fire Protection

Loss of one set of water chillers.

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Consequences of a Fire with Active Fire Protection

Due to the installed automatic fire detection system and the available portable extinguishers and water hose rack, prompt alarm and extinguishing of a fire is assured.

Effects of Safe Shutdown

A fire in this area will not affect a safe shutdown of the plant.

Comment

Adjacent to the chiller equipment room is the steam pipe tunnel which will present no hazard to this area.

Effects on Safe Shutdown

The reactor recirculation pumps are not required for a safe shutdown of the reactor. Due to the low quantity of combustibles, a fire inside the primary containment will not prevent or jeopardize a safe shutdown.

Comment

During normal operation the primary containment atmosphere is inerted with nitrogen. Therefore, the postulated fire could occur only during refueling outages or shutdown conditions.

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PLANT FIRE AREA DESCRIPTION - ELECTRIC MANHOLE NO. 1
(Refer to Figure 1B)

Major Equipment/Safety Function

Cables (Blue and orange) - safety-related

Fire Protection

Automatic fire detection by thermal detectors will actuate a total flooding CO₂ suppression system. An early warning system of area smoke detectors will sound an alarm in the main control room. Notification of a fire alert will be sounded by the control room operator via the plant page-party communication system.

Design Features

	<u>Construction</u>	<u>Rating</u>
Walls:	18 in. Reinforced Concrete	>4 hr
Floor:	18 in. Reinforced Concrete	>4 hr
Cover:	24 in. Reinforced Concrete	>4 hr
Ducts:	Sealed at both ends	

Construction Material

General area fire loading is considered low. Refer to Table 1 for details.

Postulated Fire

Ignition of cables within manhole.

Consequences of a Fire without Active Fire Protection

Loss of blue and orange cables in manhole. No spread of fire through duct lines to adjacent areas will occur since the ducts are sealed.

Consequences of a Fire with Active Fire Protection

Automatic CO₂ suppression system actuates and extinguishes the fire.

Effects on Safe Shutdown

Due to redundant (red) cable in duct 902 outside the area and the protective devices (breakers and/or fuses) at the orange cables in duct 900 (thus orange cables in duct 902 not affected), a

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plant safe shutdown will not be impaired by the loss of blue and orange cables in the manhole (see Figure 1B).

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PLANT FIRE AREA DESCRIPTION - CORRIDOR NO. 8, El. 25 ft-0 in. - CONTROL BUILDING (Refer to Figure 1)

Major Equipment/Safety Function

Panels and cables in conduits - safety-related.

Fire Protection

This corridor is equipped with automatic area photoelectric smoke detectors which sound an alarm in the main control room. An alarm will be sounded by the control room operator via the plant page-party communication system. Portable fire extinguishers (both H₂O and CO₂) are located outside the corridor in the north and south stairwells. Water hose racks are also located in these stairwells.

Design Features

	<u>Construction</u>	<u>Rating</u>
Walls:	12 in. hollow block walls	≥3
Doors:	3 hr rated	3
Ceiling:	6 in. concrete slab	≥3
Floor:	12 in. concrete slab	≥3

Combustible Material

None

Postulated Fire

None

Consequences of a Fire without Active Fire Protection

Assumed no fire in this corridor.

Consequences of a Fire with Active Fire Protection

No assumed fire in this corridor. However, an automatic fire detection system is provided and also portable extinguishers and water hose racks are available in the control room building northwest and southwest stairwells.

Effects on Safe Shutdown

There will not be any loss of the safe shutdown capability.

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Comment

There are minimum combustible materials located in this corridor. All cables are in conduits and panels are totally enclosed. Administrative controls are in place whenever transient fire loading is located within this area.

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PLANT FIRE AREA DESCRIPTION - CORRIDOR NO. 9, El. 25 ft-0 in. - CONTROL BUILDING (Refer to Figure 1)

Major Equipment/Safety Function

Panels and cables in conduits - safety-related.

Fire Protection

This corridor is equipped with automatic area photoelectric smoke detectors which sound an alarm in the main control room. Detection alarms are provided in the main control room where, upon detector actuation, notification of a fire alert will be sounded by the control room operator via the plant page-party communication system. Portable fire extinguishers (both H₂O and CO₂) are located outside the corridor in the stairwell which separates this corridor from corridor No. 8. Water base racks are also located in this stairwell.

Design Features

	<u>Construction</u>	<u>Rating</u>
Walls:	2 ft concrete walls	≥3
Doors:	3 hr rated (except exterior door)	3
Ceiling:	6 in. concrete slab	≥3
Floor:	12 in. concrete slab	≥3

Combustible Material

Nonsafety-related cables are in trays; however, the general area fire loading is very low. Refer to Table 1 for details.

Postulated Fire

Ignition of nonsafety-related cables.

Consequences of a Fire without Active Fire Protection

None, since safety-related cables are in conduits and physically separated from trays containing nonsafety-related cables. Panels are totally enclosed and adequately spaced.

Consequences of a Fire with Active Fire Protection

Due to the installed automatic fire detection system and the available portable extinguishers and water hose racks, prompt alarm and extinguishing of a fire is assured.

Effects on Safe Shutdown

Due to physical separation and low fire loading, a fire will not propagate to or render inoperable, redundant equipment. Therefore, there will not be any loss of the safe shutdown capability.

Comment

There are minimum combustibile materials located in this corridor. All safety-related cables are in conduits and panels are totally enclosed. Administrative controls are in place whenever transient fire loading is located within this area.

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TABLE 1 (CONT'D)

Identification	Figure Reference	Safety Function	Area Ft ²	Combustibles			Type of Fire Suppression			
				Material	Quantity Lb	Fire Loading Btu/Ft ²	Primary	Actuation	Backup	Detection
Reactor Bldg E1. 175'-9"	11	SR	13,300	Cable	Insignif- icant	Insignif- icant	Water hose	Manual	Portable ext.	PED
				Lube oil	75	Insignif- icant				
				Total		Insignificant				
Primary Containment	6	SR	4,360	Cable	3,942	10,000	****Water hose	Manual	Portable ext.	RCTA
				Lube oil	765	4,000				
				Total		14,000				
Electric Manhole No. 1	1B	SR	320	Cable	-	49,563	CO ₂	Automatic	CO ₂ hose	IDA
Corridor No. 8	1	SR	483	None	-	-	Water hose	Manual	Portable ext.	PED
Corridor No. 9	1	SR	595	Cable	384.2	4,665	Water hose	Manual	Portable ext.	PED

**** Available during shutdown periods only

Legend

Building

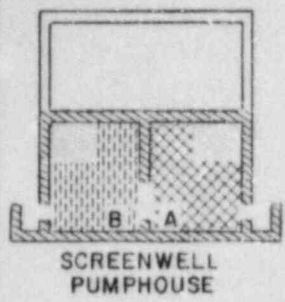
CR - Control Building
 O&S - Office and Service Building
 RB - Reactor Building
 RW - Radwaste Building
 SW - Screenwell Pump House
 TB - Turbine Building

Detection

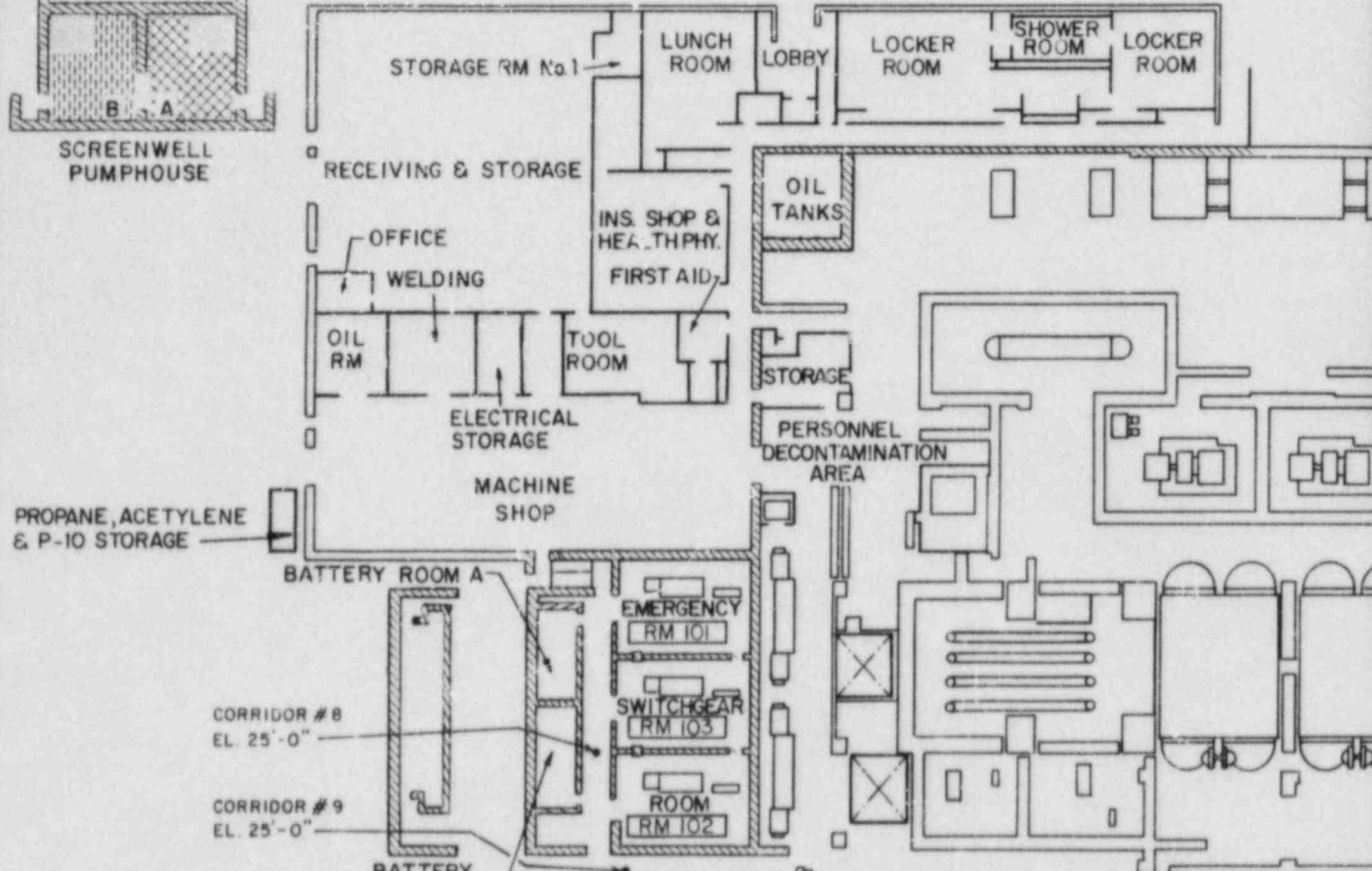
IDA - Ionization Detectors (General Area)
 IDD - Ionization Detectors (Duct Mounted)
 IDP - Ionization Detectors (Panel Mounted)
 PED - Photoelectric Detectors
 RCTA - Rate Compensated Electric Thermostats (General Area)
 RCTE - Rate Compensated Electric Thermostats (Equip. Mounted)

Safety Criteria

NSR - Nonsafety Related
 SR - Safety Related



OFFICE AND SERVICE BUILDING EL. 15'-0"

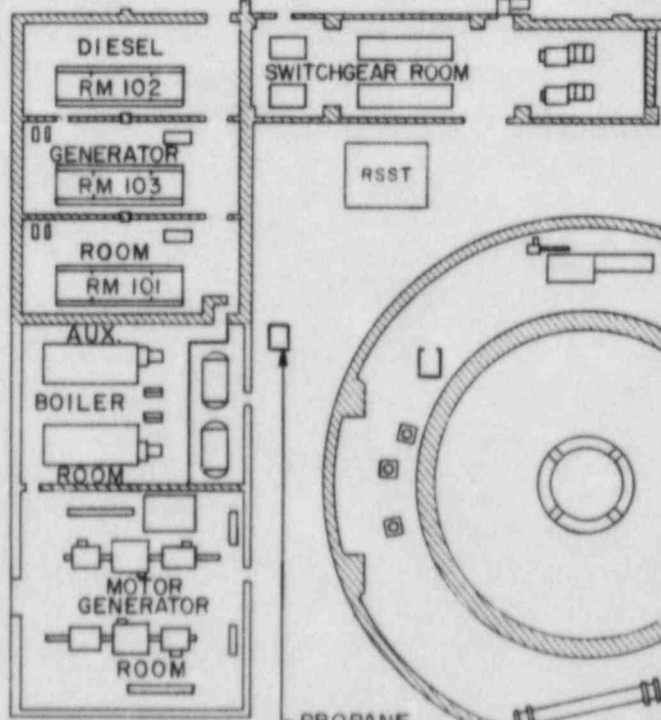
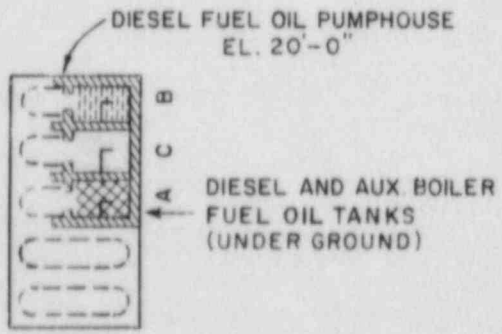


CORRIDOR # 8
EL. 25'-0"

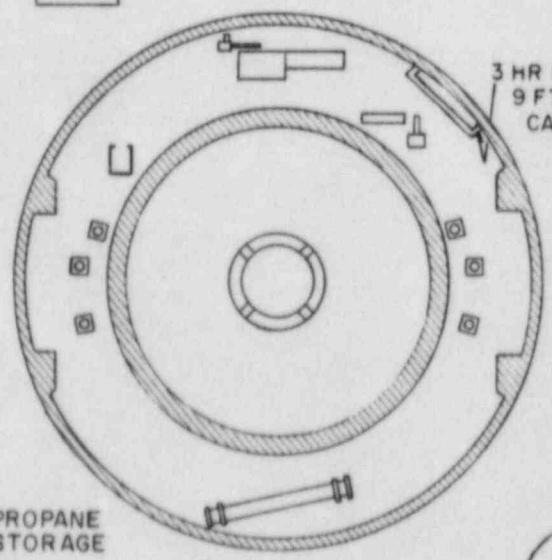
CORRIDOR # 9
EL. 25'-0"

BATTERY ROOM C
EL. 34

BATTERY ROOM B



CONTROL BUILDING
EL. 25'-0" AND
EL. 22'-6"

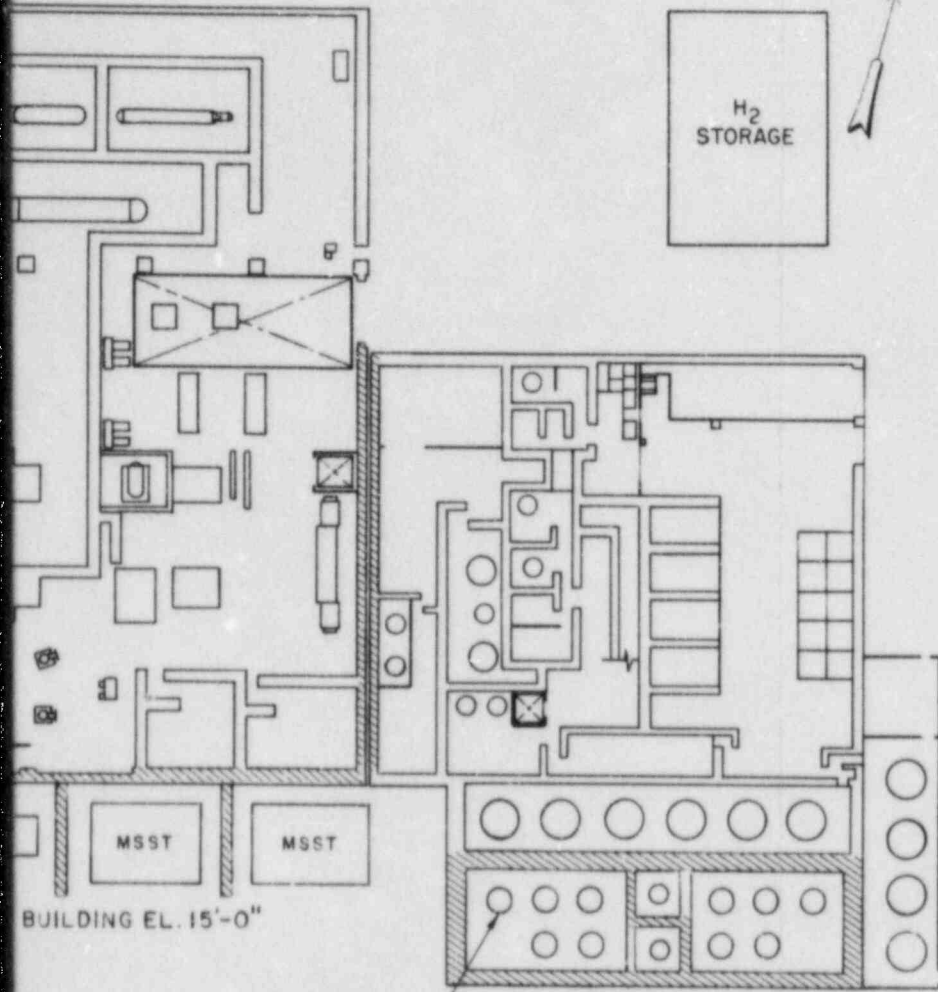


REACTOR BUILDING
EL. 8'-0"

Also Available On
Aperture Card

TI APERTURE CARD

NOTE:
SEE FIGURE 1A FOR DETAILS OF
THE BATTERY, EMERGENCY
SWITCHGEAR AND DIESEL
GENERATOR ROOMS



BUILDING EL. 15'-0"

RADWASTE BUILDING
EL. 15'-0"





CHARCOAL
DECAY TANKS

MSST

MSST

COMMUNICATIONS
TELECOMMUNICATIONS

LEGEND:

-  DIVISION I
-  DIVISION II
-  DIVISION III
-  INDICATES 3 HOUR FIREWALLS

MSST-MAIN STATION TRANSFORMER
NSST-NORMAL STATION TRANSFORMER
RSST-RESERVE STATION TRANSFORMER

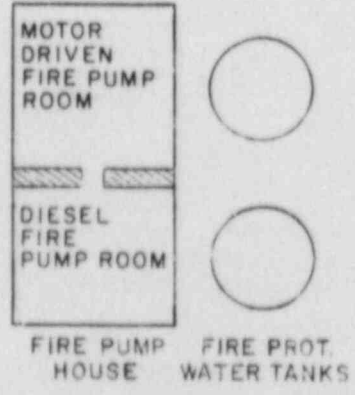
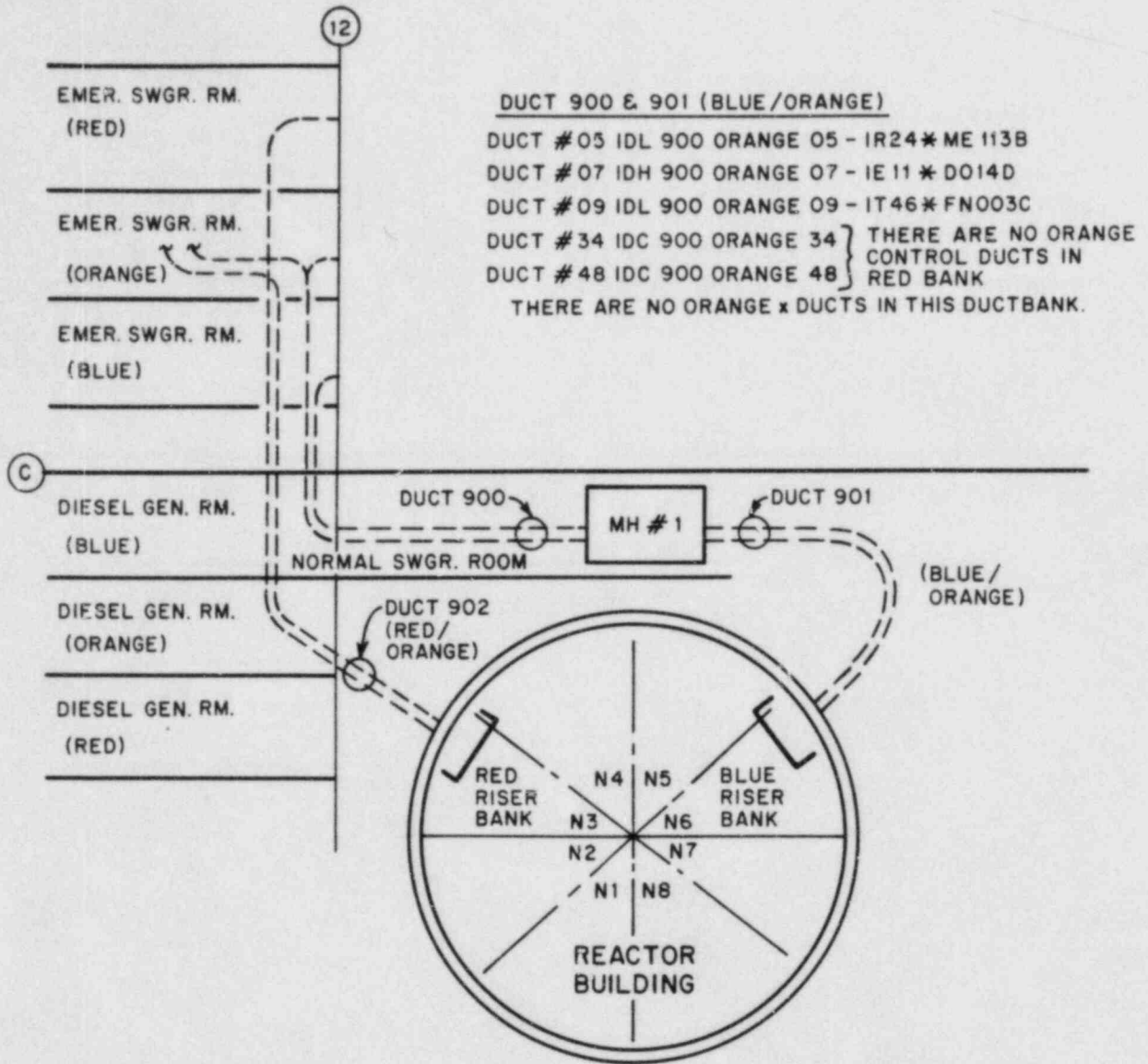


FIGURE 1
GENERAL ARRANGEMENT FOR THE
SHOREHAM NUCLEAR POWER STATION
SHOREHAM NUCLEAR POWER STATION-UNIT 1
FIRE HAZARD ANALYSIS REPORT



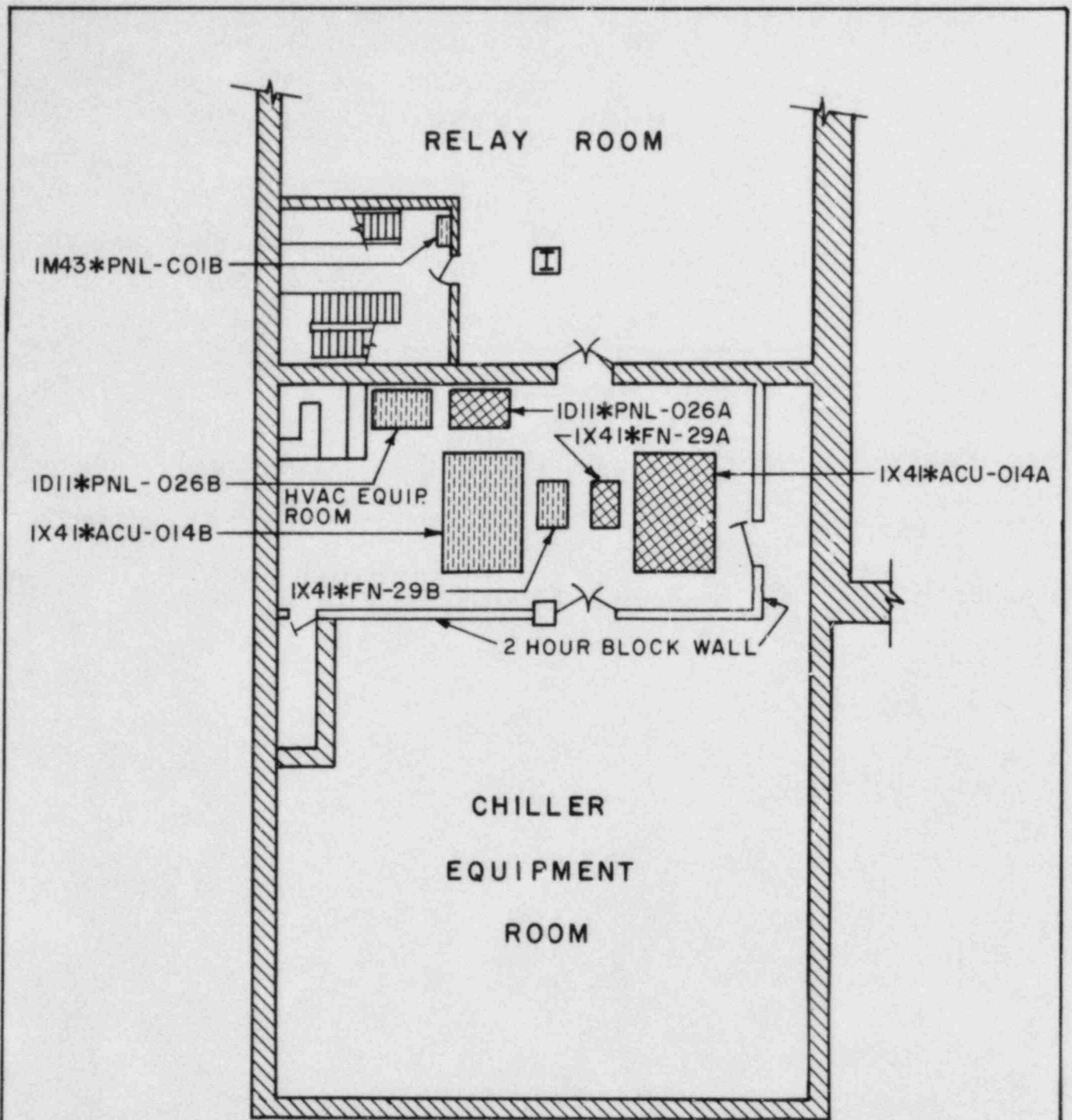
DUCT 900 & 901 (BLUE/ORANGE)

DUCT #05 IDL 900 ORANGE 05 - IR24*ME 113B
 DUCT #07 IDH 900 ORANGE 07 - IE 11 * DO14D
 DUCT #09 IDL 900 ORANGE 09 - IT46*FNO03C
 DUCT #34 IDC 900 ORANGE 34 } THERE ARE NO ORANGE CONTROL DUCTS IN RED BANK
 DUCT #48 IDC 900 ORANGE 48 }
 THERE ARE NO ORANGE x DUCTS IN THIS DUCTBANK.

DUCT 902 (RED/ORANGE)

DUCT #06 IDH 902 ORANGE 06 - IE 11 * DO14C
 DUCT #08 IDL 902 ORANGE 08 - IR24*MCC1131
 DUCT #09 IDL 902 ORANGE 09 - IR24*MG113A
 DUCT #83 IDX 902 ORANGE 83 - THERE ARE NO ORANGE x DUCTS IN BLUE BANK.
 THERE ARE NO ORANGE CONTROL DUCTS IN THIS DUCT BANK.

FIGURE 1B
 ELECTRIC MANHOLE No. 1
 SHOREHAM NUCLEAR POWER STATION-UNIT 1
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PLAN EL. 44'-0"

LEGEND



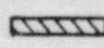
-  DIVISION I
-  DIVISION II
-  INDICATES 3 HOUR FIREWALLS

FIGURE 2A
 GENERAL ARRANGEMENT FOR THE
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REVISION 2 - APRIL 1985