

Docket No. 50-206

JAN 17 1986

LICENSEE: Southern California Edison Company

FACILITY: San Onofre Nuclear Generating Station, Unit 1 (SONGS-1)

SUBJECT: SUMMARY OF MEETING TO DISCUSS APPENDIX R (FIRE PROTECTION) AT
SONGS-1

On November 14, 1985 the NRC staff met with licensee representatives to discuss the Appendix R compliance review for San Onofre, Unit 1. Discussions during the meeting centered around the area-by-area review for compliance with Section III.G of Appendix R, the design of the dedicated shutdown system (DSS), a review of exemptions from NRC requirements that have been submitted or are pending, and a discussion of possible deviations from NRC guidance. The licensee committed to submit additional information to the NRC in response to specific questions regarding the DSS design and to clarify certain exemption requests.

A list of attendees is provided as Enclosure 1. Copies of handouts provided are included as Enclosure 2.

151

Richard Dudley, Project Manager
Project Directorate #1
Division of PWR Licensing-A

Enclosures:

1. List of Attendees
2. Handouts

cc w/enclosures:
See next page

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Surname: *RD* RDudley/tg *CRM for* G. Lear
Date: 1/17/86 1/17/86

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PDR ADOCK 05000206
F PDR

JAN 17 1986

Mr. Kenneth P. Baskin
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San Onofre Nuclear Generating Station
Unit No. 1

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SAN ONOFRE FIRE PROTECTION MEETING

NOVEMBER 14, 1985

<u>NAME</u>	<u>AFFILIATION</u>
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James Conway	Impell
Richard Cupp	Impell
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APPENDIX R COMPLIANCE
SAN ONOFRE UNIT 1
NOVEMBER 14, 1985

- A. INTRODUCTION (SCE)
- B. SHUTDOWN METHODS USED (IMPELL)
- C. SECTION III.G COMPLIANCE REVIEW (IMPELL)
- D. DSS DESIGN (FLUOR)
- E. SUMMARY REVIEW OF SUBMITTED EXEMPTIONS (IMPELL)
- F. PENDING EXEMPTIONS (IMPELL)
- G. DEVIATIONS FROM NRC GUIDANCE (IMPELL)

APPENDIX R COMPLIANCE
SCE SUBMITTALS TO NRC
SAN ONOFRE UNIT 1

- 0 APRIL-24, 1984 - DEDICATED SHUTDOWN APPROACH
CONCEPTUAL DESIGN
DESIGN CALCULATIONS

- 0 MAY 21, 1985 - RESPONSE TO NRC QUESTIONS AND NEW DESIGN INFO
ADD CHARGING MINIFLOW
USE PRESSURIZER HEATERS
AFWS FLOW - 375 GPM

- 0 OCTOBER 4, 1985 - GL&I-12 INFORMATION AND EXEMPTIONS

- 0 JANUARY 15, 1986 - EXPECTED DATE OF FINAL SUBMITTAL

DSS PRESENTATION

T. L. ROELL

NOVEMBER 14, 1985

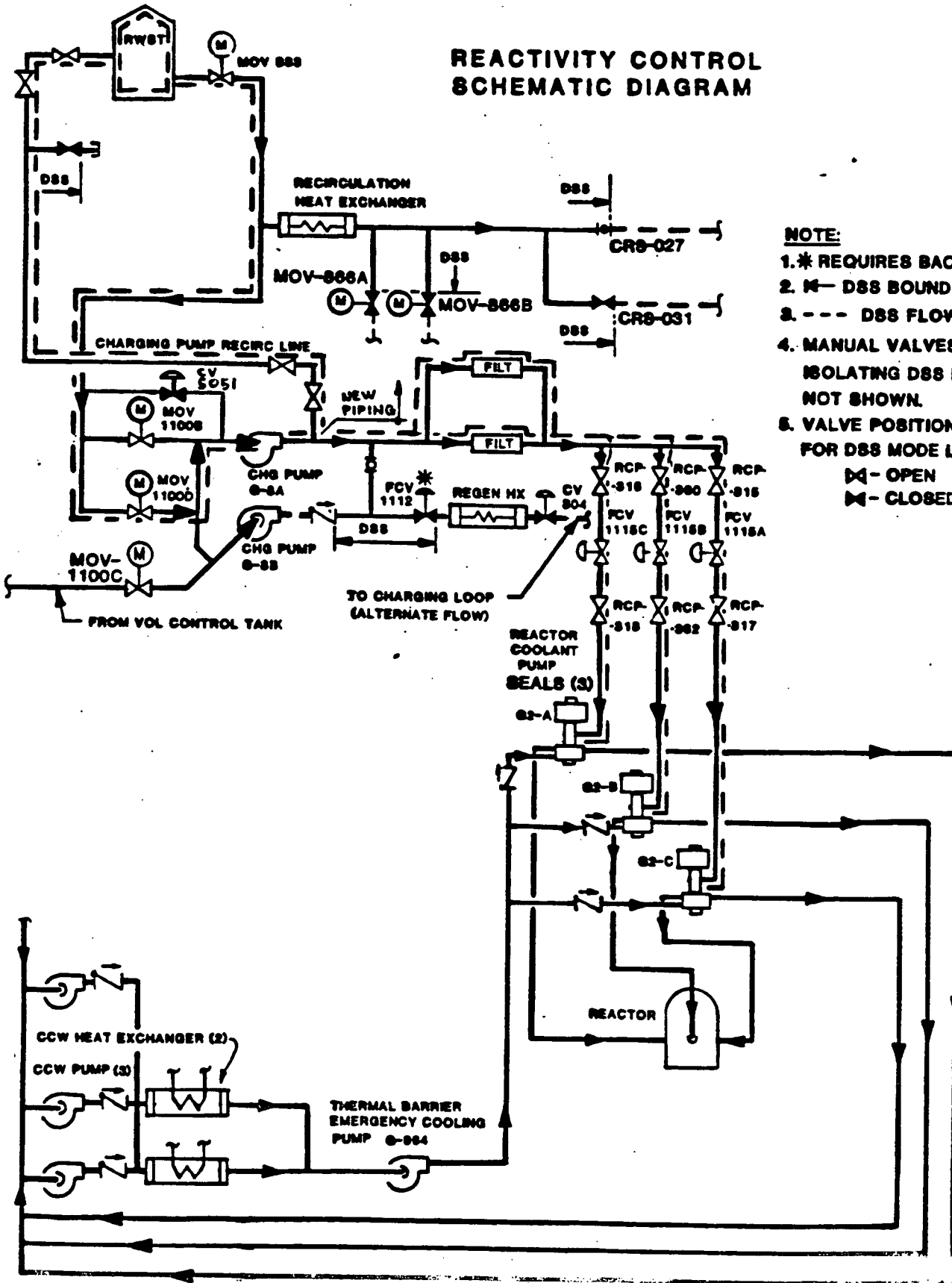
- O OBJECTIVE OF DSS (DSD)
- O DESIGN CRITERIA
 - O CHANGES SUBSEQUENT TO 4/84 SUBMITTAL
- O SYSTEM FUNCTIONAL DESIGN
- O BLOCK DIAGRAM
- O SYSTEM GENERAL ARRANGEMENTS
- O SUMMARY

11/11/85
015/923003/054



DSD KEY DESIGN FEATURES

- O CHARGING PUMP
- O AUXILIARY FEEDWATER PUMP
- O PRESSURIZER HEATERS
- O STEAM DUMP
- O SINGLE PHASE SECONDARY LETDOWN
- O DIESEL GENERATOR
- O CONTROL PANEL

REACTIVITY CONTROL SCHEMATIC DIAGRAM



NOTE:

- 1. * REQUIRES BACK-UP N2
 - 2. M - DSS BOUNDARY
 - 3. - - - DSS FLOW PATH
 - 4. MANUAL VALVES USED FOR ISOLATING DSS BOUNDARY. NOT SHOWN.
 - 5. VALVE POSITION SHOWN IN FOR DSS MODE Lc.
-  - OPEN
 - CLOSED

DSD DESIGN EVOLUTION FROM APRIL 1984

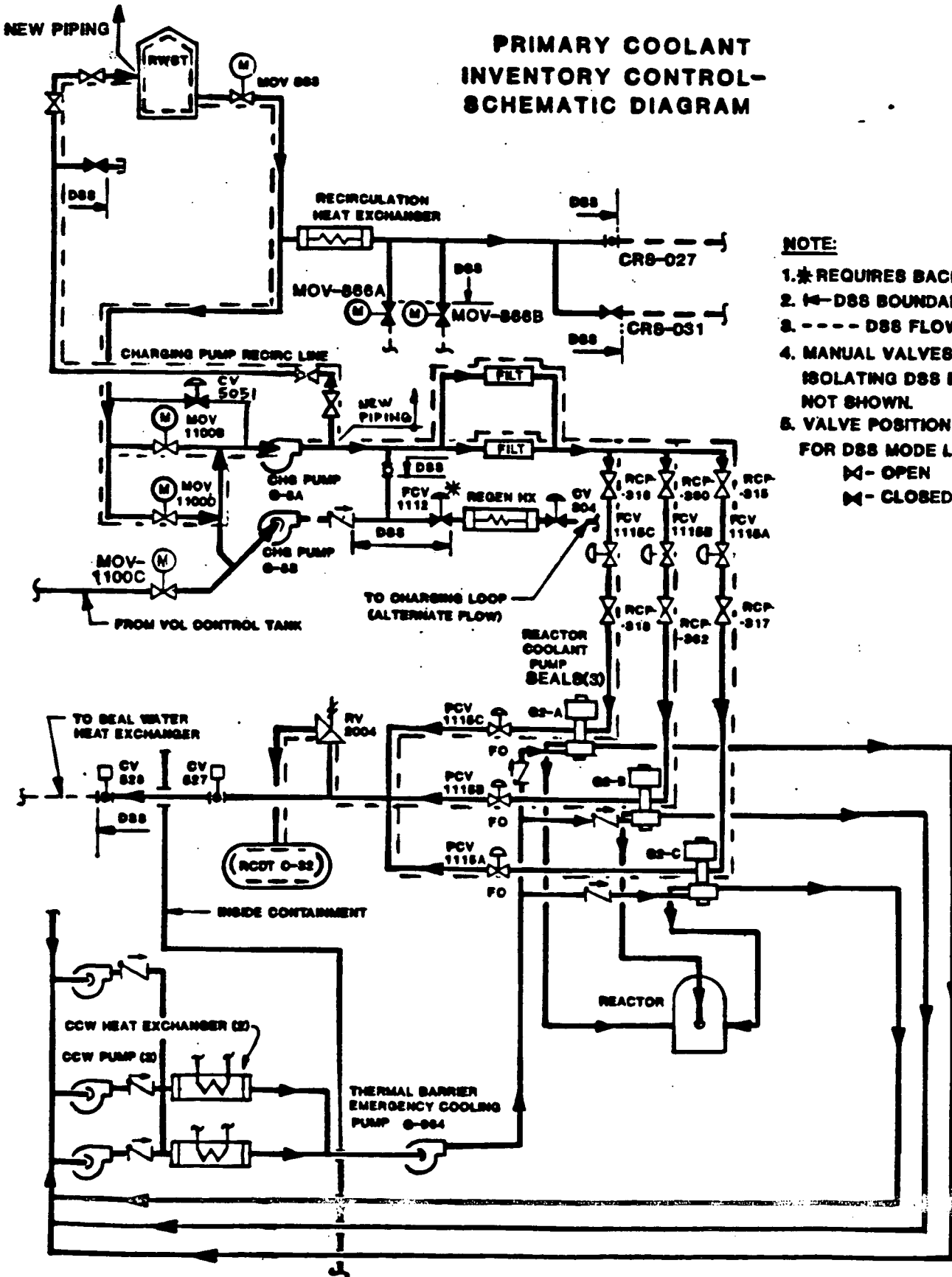
REACTIVITY CONTROL

SUBMITTAL
DATE

- ADD CHARGING PUMP RECIRCULATION LINE FOR
LOW FLOW INJECTION CONTROL 5/85
- DELETE CHARGING PUMP ROOM THERMAL BARRIER
AND HEAT SHIELD 10/85

11/11/85
015/923003/054

PRIMARY COOLANT INVENTORY CONTROL- SCHEMATIC DIAGRAM



NOTE:

1. * REQUIRES BACK-UP N2
2. ← DSS BOUNDARY
3. - - - DSS FLOW PATH
4. MANUAL VALVES USED FOR ISOLATING DSS BOUNDARY NOT SHOWN
5. VALVE POSITION SHOWN IS FOR DSS MODE I.e.,
 - ☐ - OPEN
 - ☑ - CLOSED

DSD DESIGN EVOLUTION FROM APRIL 1984

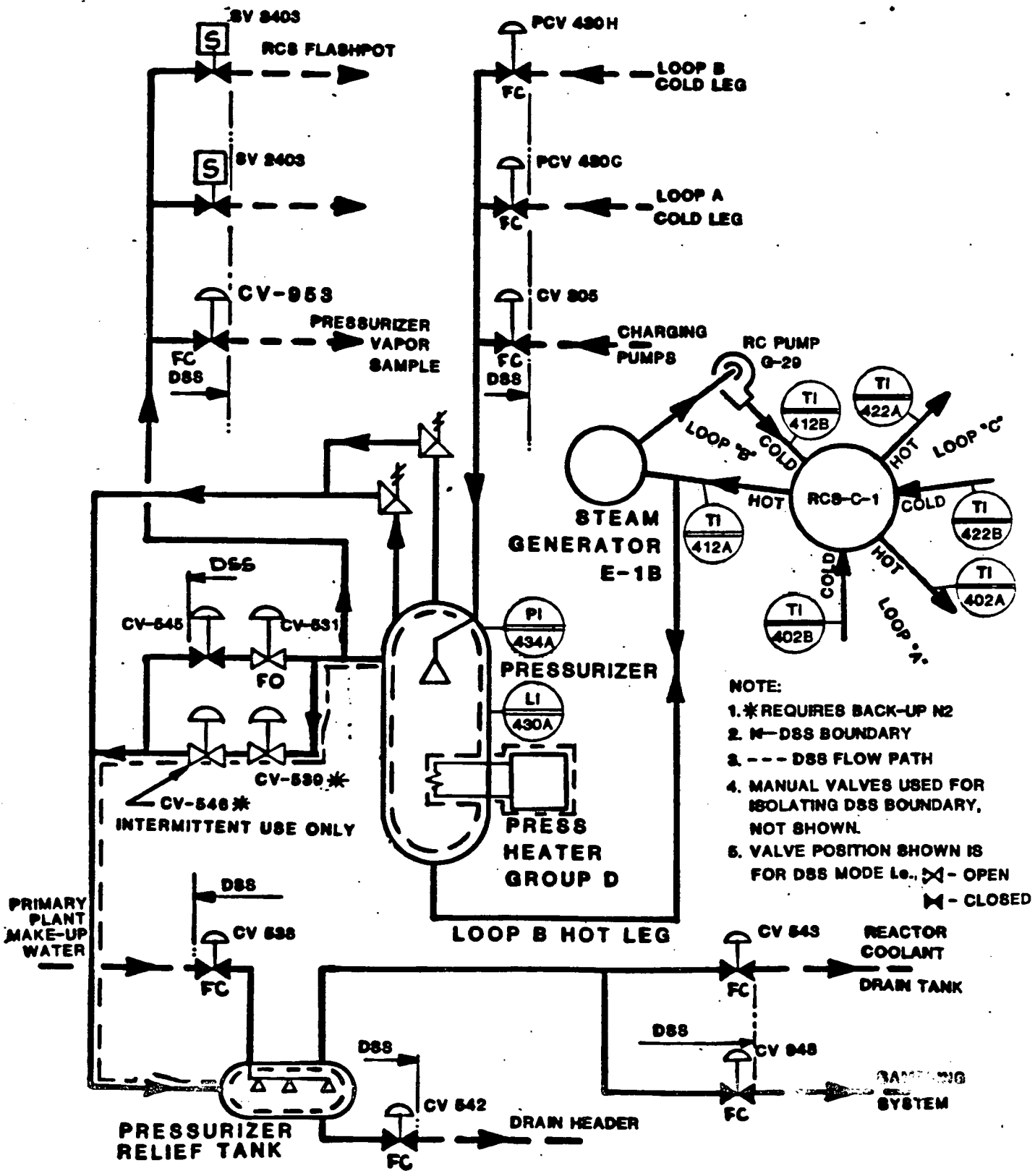
INVENTORY CONTROL

SUBMITTAL
DATE

- THERMAL BARRIER COOLING PUMP NOT REQUIRED 10/85
- PROVIDE REMOTE CONTROL OF FCV-1112 FROM C-38 10/85
- PROVIDE N₂ BACKUP FOR FCV-1112 FROM C-38 10/85

11/11/85
0157923003/054

PRIMARY COOLANT PRESSURE CONTROL SCHEMATIC DIAGRAM



DSD DESIGN EVOLUTION FROM APRIL 1984

PRESSURE CONTROL

SUBMITTAL
DATE

0 DELETED N₂ HARD BUBBLE IN THE PRESSURIZER
AND VALVE CV-953.

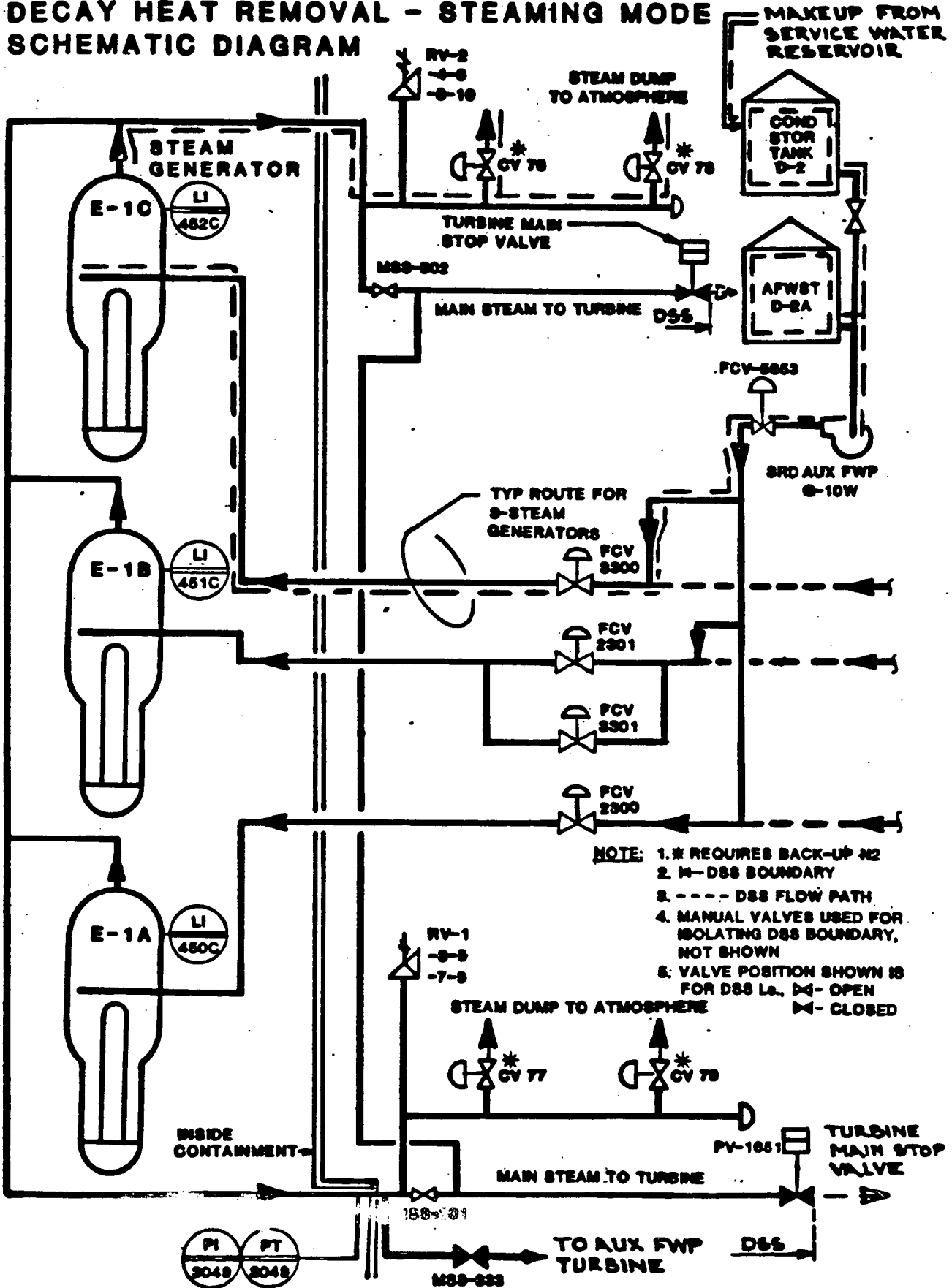
5/85

0 POWER HEATER BANK D FROM DSD

5/85

11/11/85
015/923003/054

DECAY HEAT REMOVAL - STEAMING MODE SCHEMATIC DIAGRAM



DSD DESIGN EVOLUTION FROM APRIL 1984

STEAMING MODE

SUBMITTAL
DATE

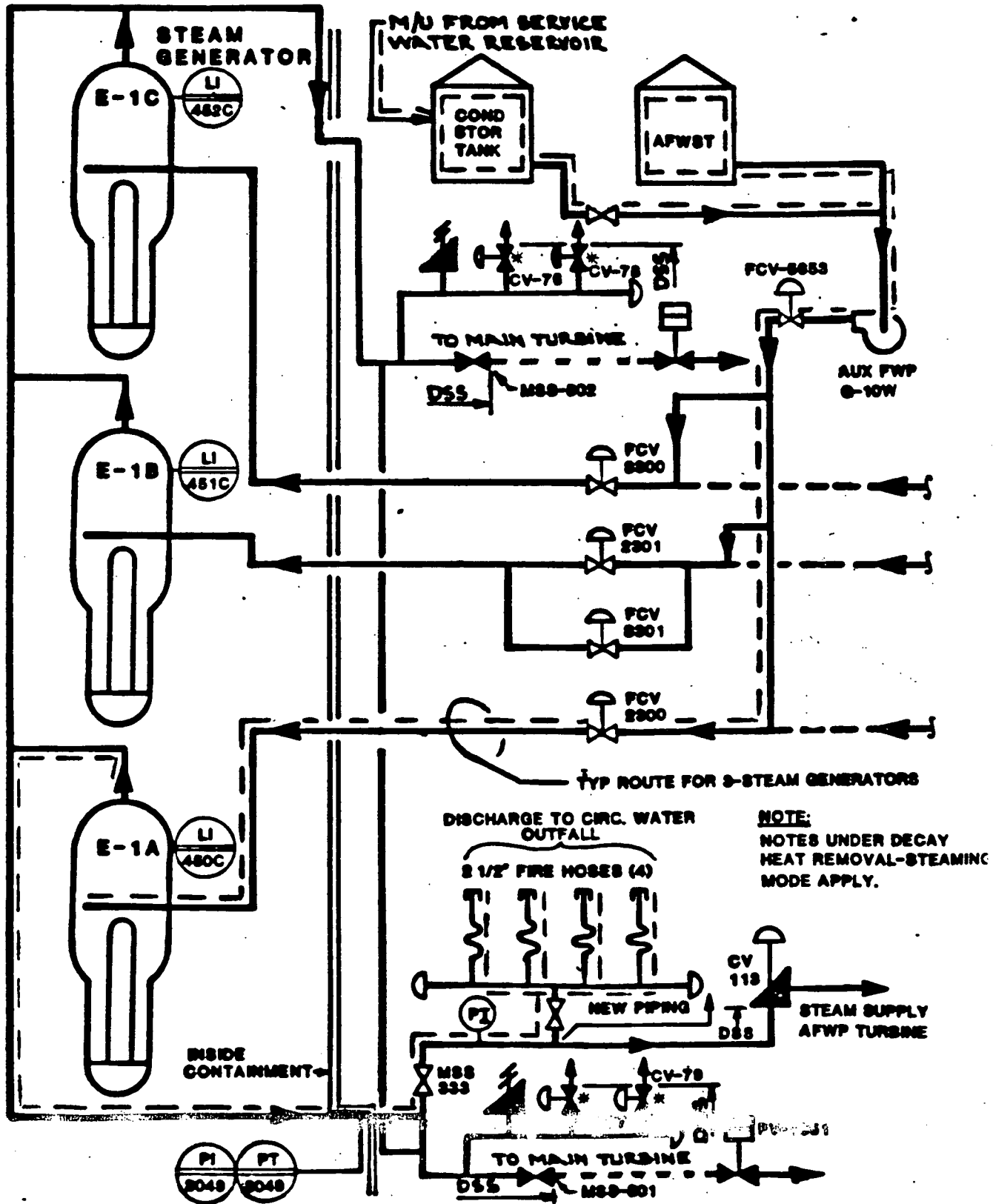
- ADD THIRD AUXILIARY FEEDWATER PUMP (G-10W),
PIPING, AND CONTROLS IN PLACE OF AUXILIARY
FEEDWATER PUMP G-10S NOT USED 10/85

- USE AUXILIARY FEEDWATER FLOW RATE OF
375 GPM INSTEAD OF 400 GPM. 5/85

- DELETE STEAM HEADER PRESSURE TRANSMITTER
FROM C-38 PANEL. PRESSURE GAGE IN SECONDARY
LETDOWN LINE TO BE USED —

11/11/85
0157923003/054

DECAY HEAT REMOVAL -SINGLE PHASE COOLING MODE SCHEMATIC DIAGRAM



DSD DESIGN EVOLUTION FROM APRIL 1984

SINGLE PHASE MODE

SUBMITTAL
DATE

● -- DELETE RADIATION MONITOR AT LETDOWN LINE

10/85

11/11/85
015/923003/054

DSD DESIGN EVOLUTION FROM APRIL 1984

ELECTRICAL AND MISCELLANEOUS

SUBMITTAL
DATE

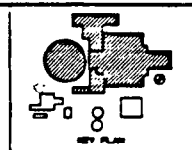
- | | | |
|---|--|-------|
| O | RELOCATE SWITCHGEAR, CONTROL PANEL C-38, AND DIESEL GENERATOR TO NEW STRUCTURES WEST OF THE REACTOR AUXILIARY BUILDING | 10/85 |
| O | USE INDOOR SWITCHGEAR TYPE | 10/85 |
| O | INSTALL NEW DIESEL FUEL TANK. ABANDONED TANK WILL NOT BE USED | 10/85 |
| O | USE A 2000 KW DIESEL IN PLACE OF A 1000 KW UNIT | 10/85 |
| ● | EXISTING DIESEL DRIVEN AIR COMPRESSORS NOT REQUIRED | 10/85 |
| ● | ADD THREE HOT LEG TEMPERATURE TRANSMITTERS | 10/85 |
| O | USE NEW DEDICATED CONTAINMENT PENETRATIONS FOR DSD CIRCUITS | 10/85 |
| O | REWIRE ALL DSD CIRCUITS INSIDE CONTAINMENT WITH SEPARATE CONDUIT AND ONE HOUR FIRE RATED CABLE | 10/85 |

11/11/85
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DEDICATED SHUTDOWN SYSTEM INSTRUMENTATION

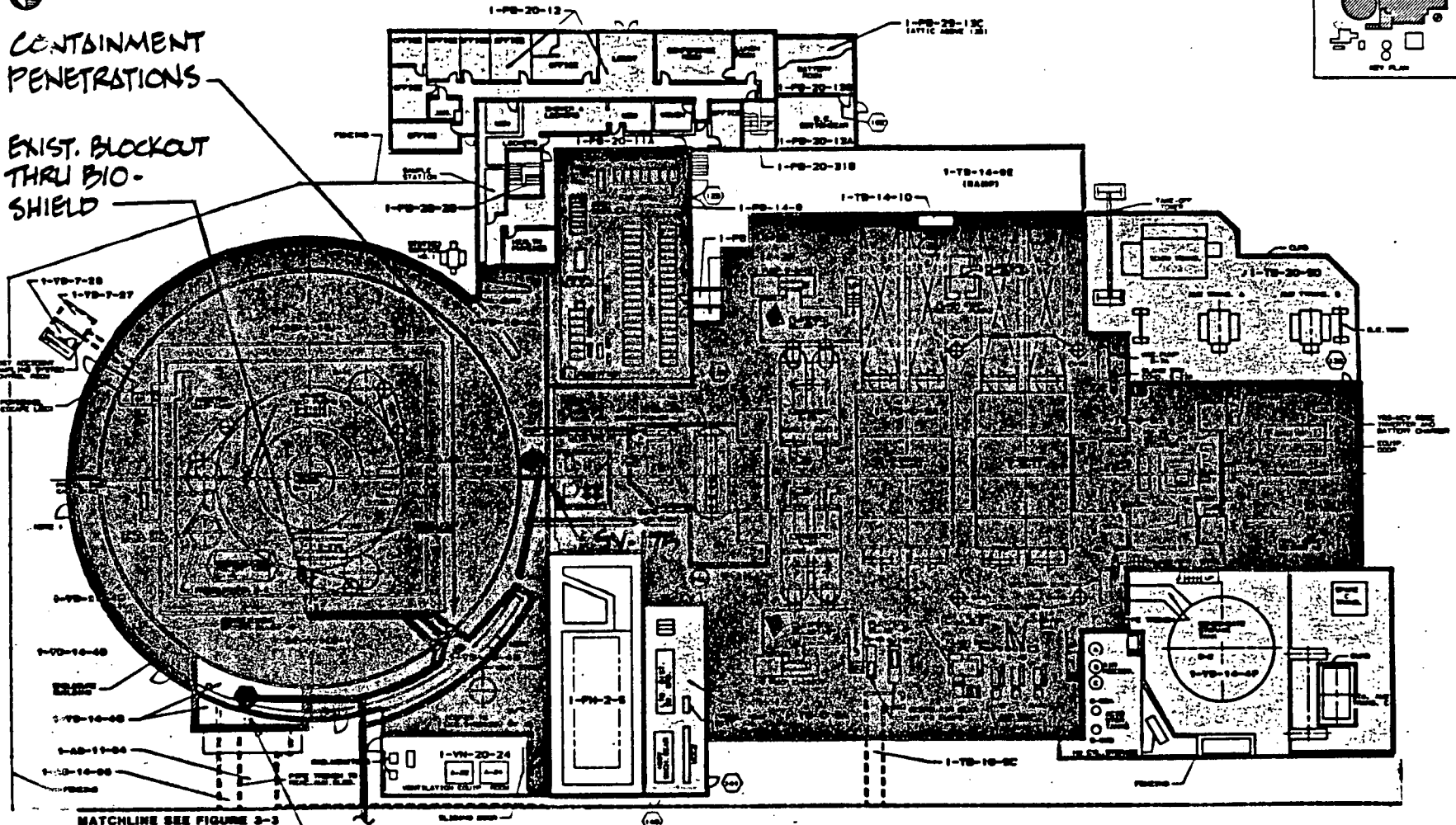
AT C-38 PANEL

- 0 PRESSURIZER PRESSURE INDICATOR
- 0 PRESSURIZER LEVEL INDICATOR
- 0 "A" STEAM GENERATOR LEVEL INDICATOR
- 0 "B" STEAM GENERATOR LEVEL INDICATOR
- 0 "C" STEAM GENERATOR LEVEL INDICATOR
- 0 LOOP "A" REACTOR COOLANT TEMPERATURE INDICATOR (COLD LEG)
- 0 LOOP "B" REACTOR COOLANT TEMPERATURE INDICATOR (COLD LEG)
- 0 LOOP "C" REACTOR COOLANT TEMPERATURE INDICATOR (COLD LEG)
- 0 STEAM DUMP CONTROLLER (CV-76 THROUGH CV-79)
- 0 SWITCH: STEAM DUMP CONTROL TRANSFER
- 0 LOOP "A" REACTOR COOLANT TEMPERATURE INDICATOR (HOT LEG)
- 0 LOOP "B" REACTOR COOLANT TEMPERATURE INDICATOR (HOT LEG)
- 0 LOOP "C" REACTOR COOLANT TEMPERATURE INDICATOR (HOT LEG)
- 0 CHARGING FLOW CONTROLLER (FCV-1112)
- 0 SWITCH: PRESSURIZER PORV CONTROL (CV-530 AND CV-546)
- 0 SWITCH: FCV-1112 CONTROL CAPTURE
- 0 SWITCH: SV-176 CONTROL SEPARATION



CONTAINMENT
PENETRATIONS

EXIST. BLOCKOUT
THRU BIO-
SHIELD



PLAN AT EL. 14'-0"

SEE FIGURE 3-3
FOR CONTINUATION

FY-5112
(FOR CONTROL OF FCV-1112)

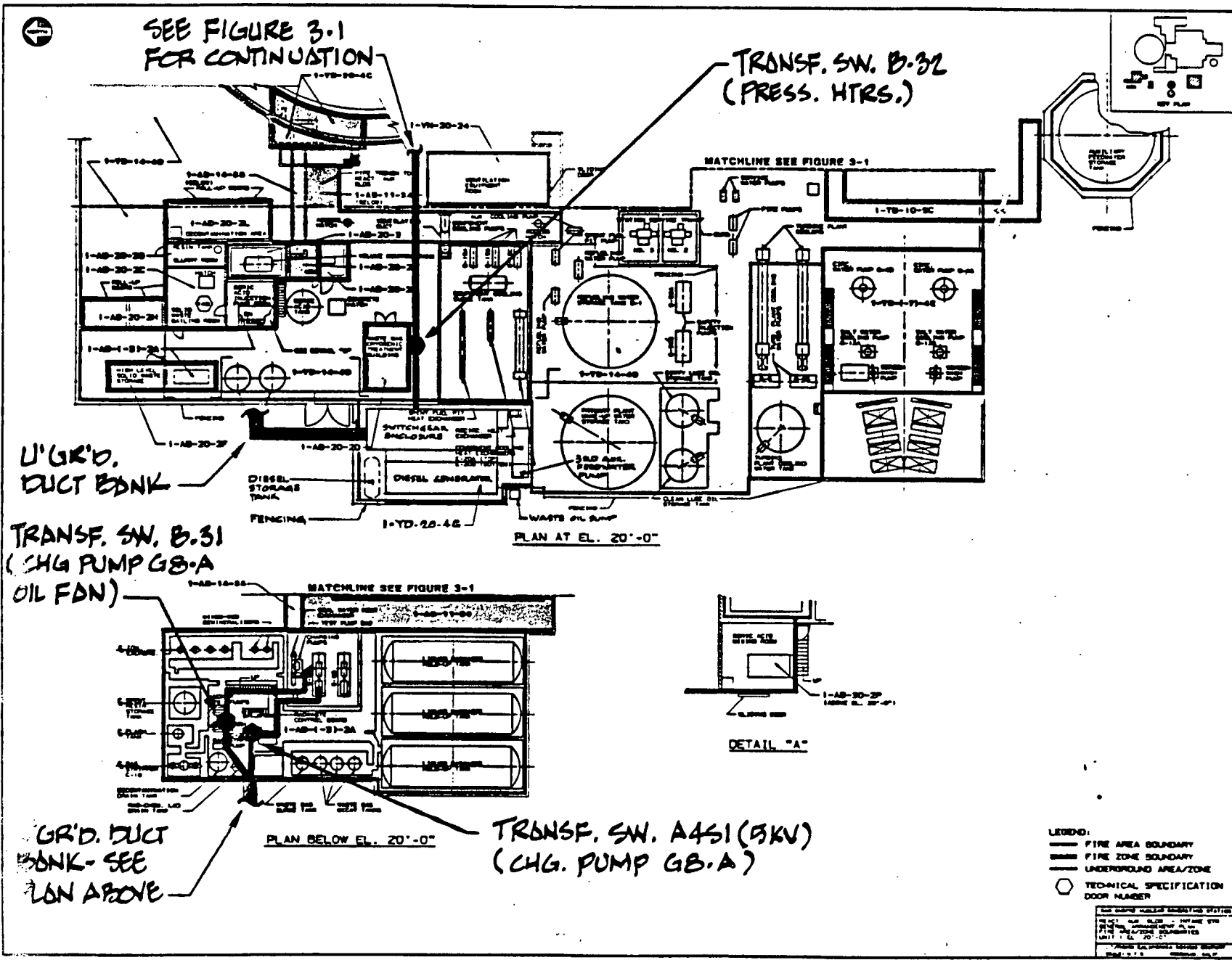
- LEGEND:
- FIRE AREA BOUNDARY
 - FIRE ZONE BOUNDARY
 - - - UNDERGROUND AREA/ZONE
 - TECHNICAL SPECIFICATION DOOR NUMBER

SEE MORE ROOMS ON THE NEXT

CONTAINMENT TUBS & CLOSURE
GENERAL ARRANGEMENT & PLAN
FIRE AREA/ZONE BOUNDARIES
UNIT 1, EL. 14'-0"

SCALE: 1/4" = 1'-0" (SEE DRAWING 3-2)

FIGURE 3-1



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SHUTDOWN METHODS USED

o SAFE SHUTDOWN SCENARIOS

NORMAL



ALTERNATE (ASD)

OTHER PLANT EQUIPMENT
IN LIEU OF NORMAL SSD



MANUAL ACTUATION OF
NORMAL SSD EQUIPMENT
CONSISTENT WITH NRC
GUIDANCE



DEDICATED (DSS)



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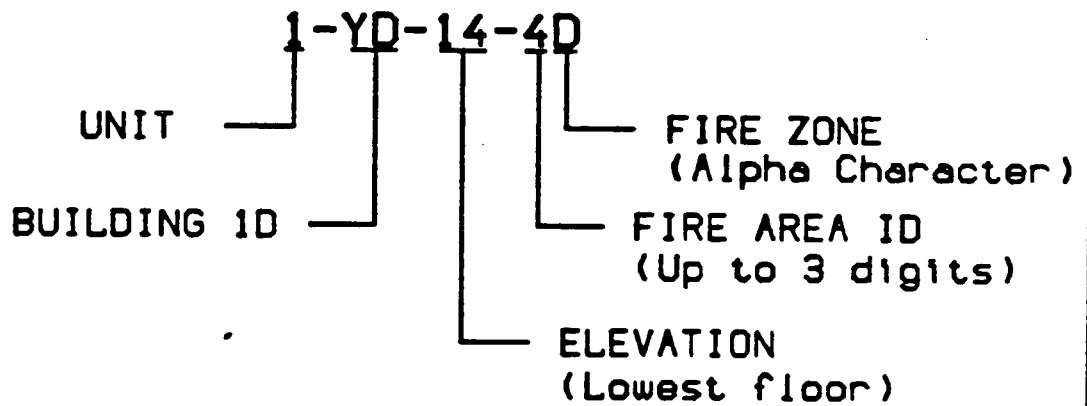
PLANT PHYSICAL CONFIGURATION

- o FIRE AREAS

- o FIRE ZONES
 - PREVIOUSLY DISCUSSED WITH NRC
 - EXTERIOR YARDS
 - SPATIAL SEPARATION OF SSD EQUIPMENT
 - LOCALIZED COMBUSTIBLES
 - LOCALIZED FIRE PROTECTION

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FIRE AREA NUMBERING EXPLANATION

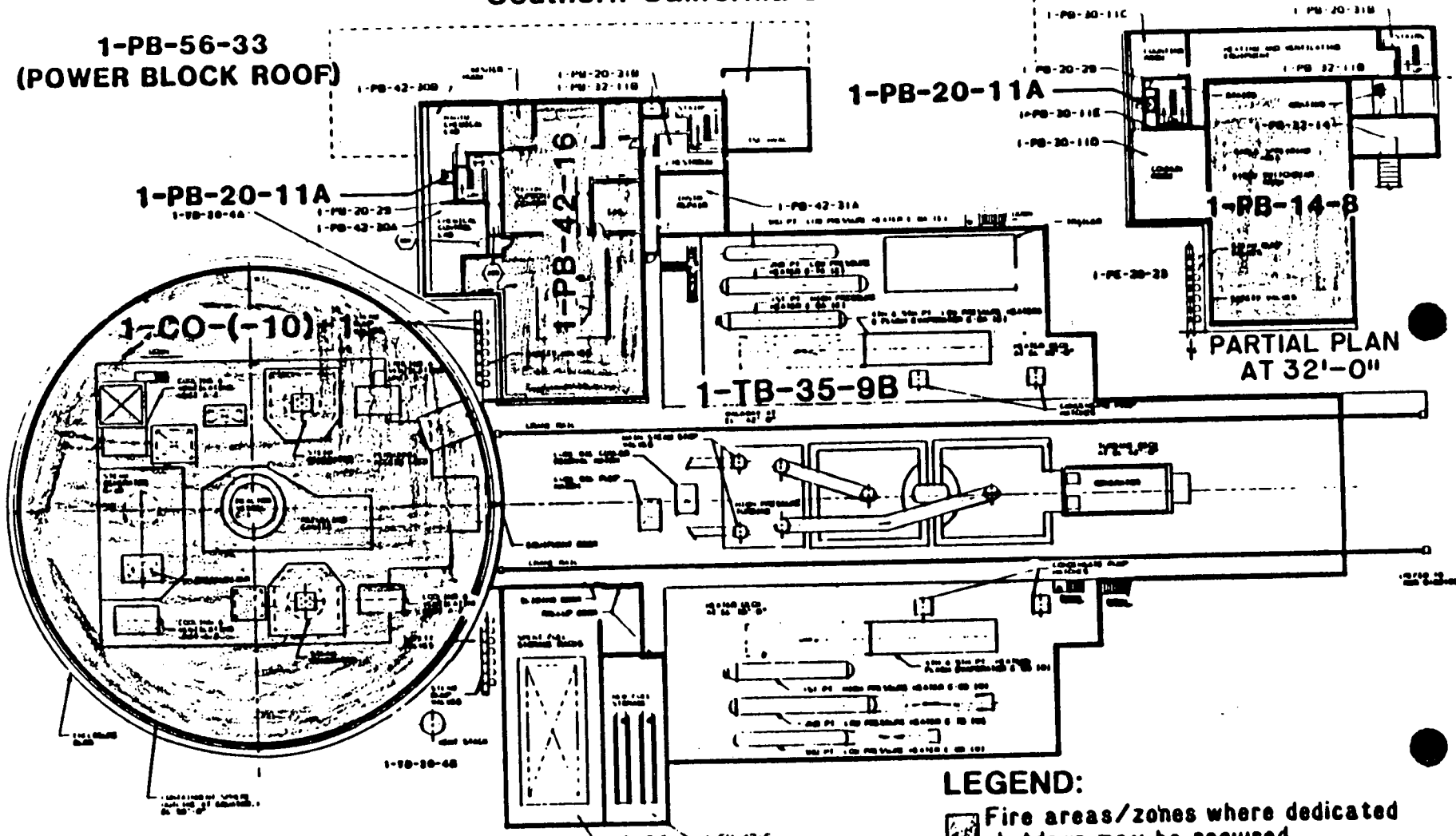




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**1-PB-56-33
(POWER BLOCK ROOF)**



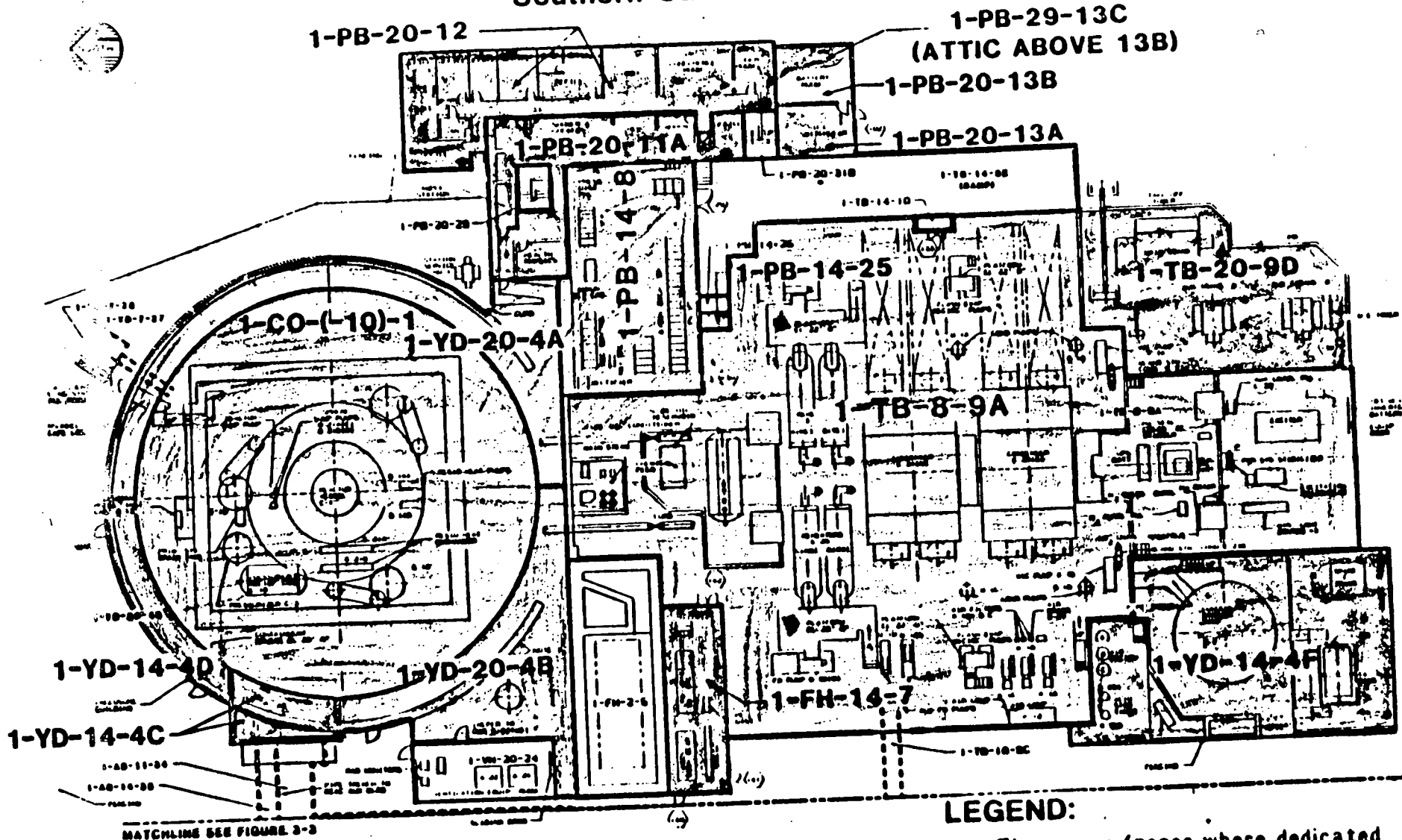
PLAN AT EL. 35'-6"

LEGEND:

- Fire areas/zones where dedicated shutdown may be required.
- Fire areas/zones where alternate shutdown may be required.
- Fire areas/zones where normal shutdown may be required.
- Fire areas/zones where manual actuation may be required

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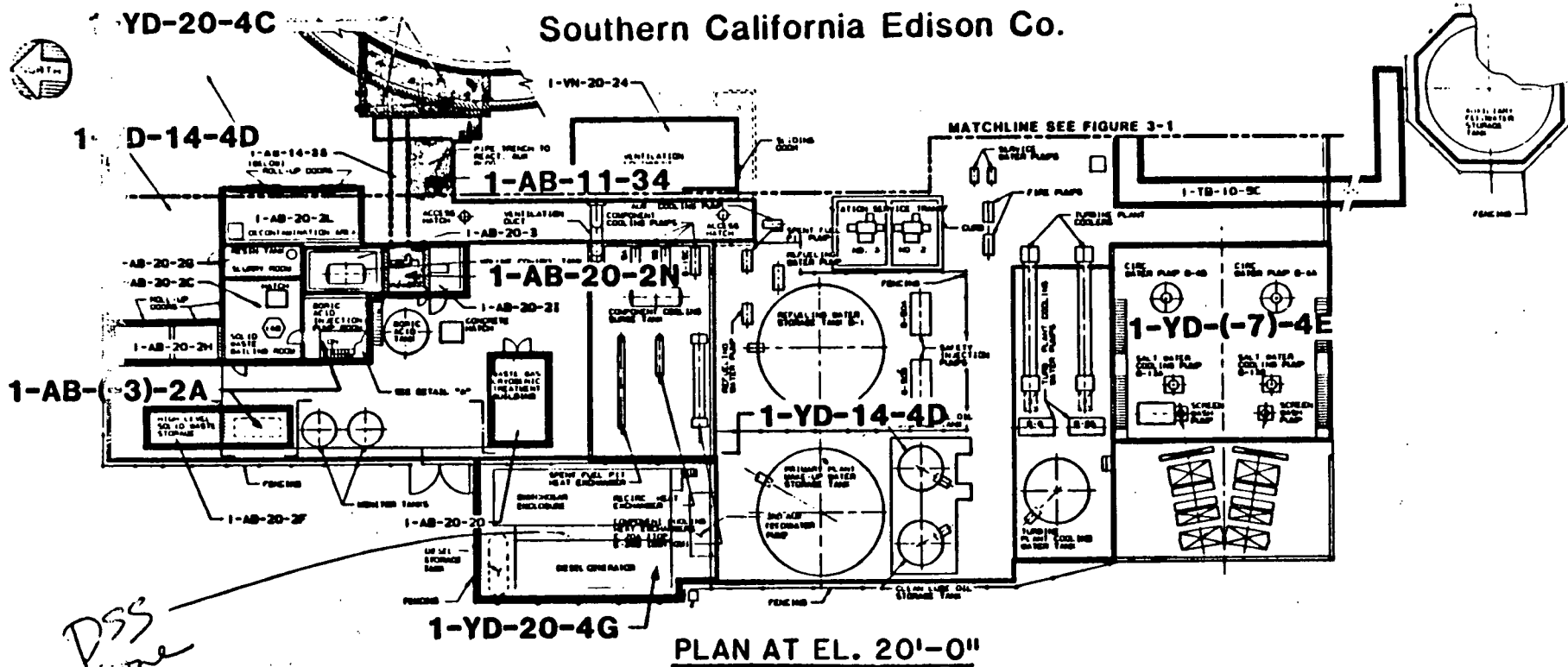
PLAN AT EL. 14'-0"

LEGEND:

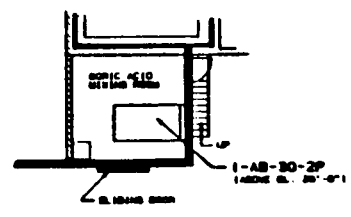
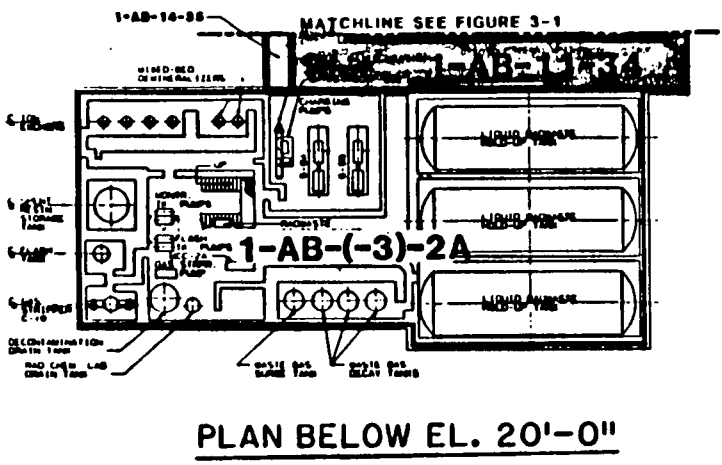
- Fire areas/zones where dedicated shutdown may be required.
- Fire areas/zones where alternate shutdown may be required.
- Fire areas/zones where normal shutdown may be required.
- Fire areas/zones where manual actuation may be required.

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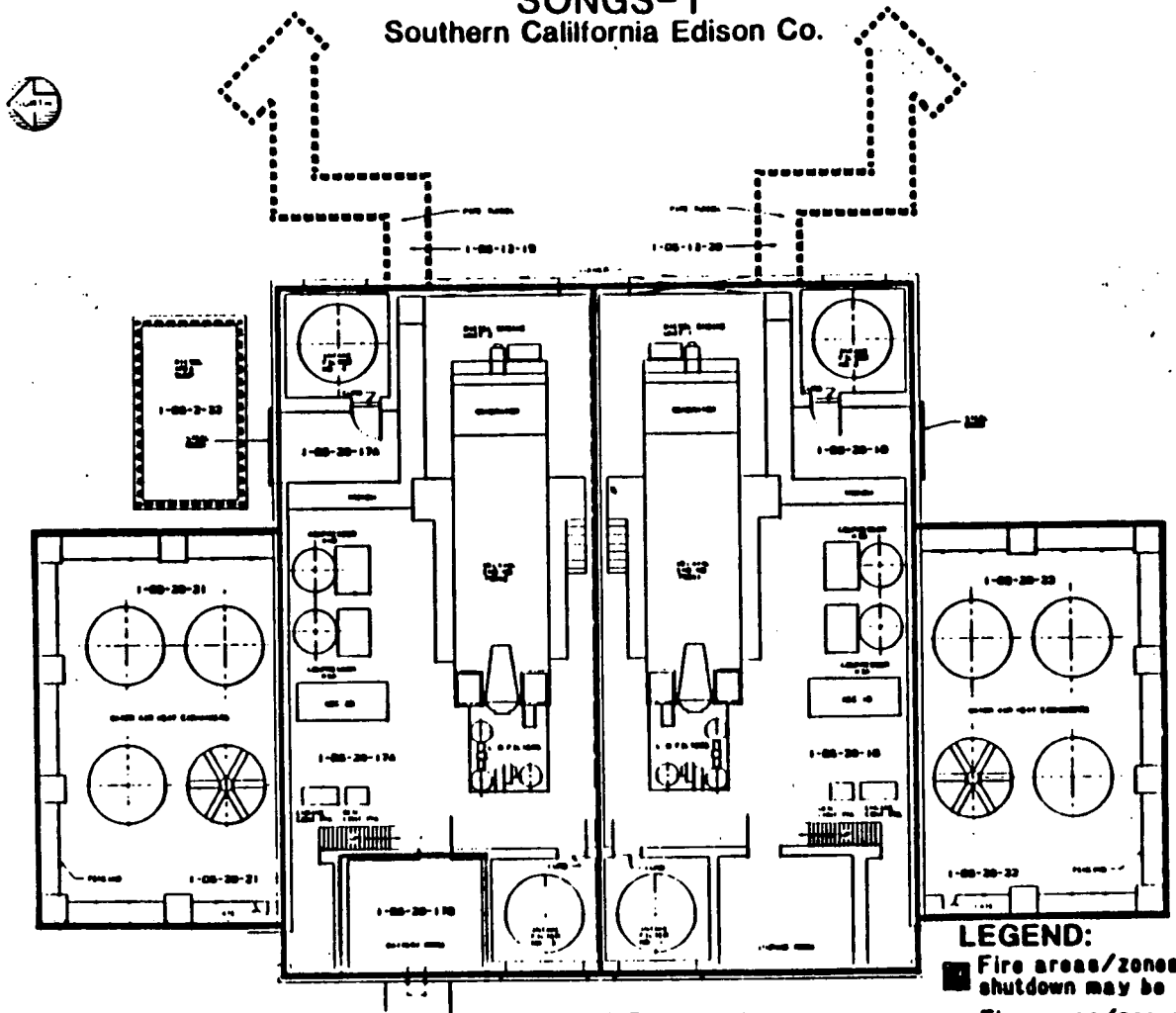
DSS zone



LEGEND:

- Fire areas/zones where dedicated shutdown may be required.
- Fire areas/zones where alternate shutdown may be required.
- Fire areas/zones where normal shutdown may be required.
- Fire areas/zones where manual actuation may be required.

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PLAN AT EL. 20'-6"

LEGEND:

- Fire areas/zones where dedicated shutdown may be required.
- Fire areas/zones where alternate shutdown may be required.
- Fire areas/zones where normal shutdown may be required.
- Fire areas/zones where manual actuation may be required.

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APPENDIX R, SECTION III.G
COMPLIANCE REVIEW

- o GENERIC LETTER 81-12
- o ENCLOSURE 1 ORGANIZATION
 - INTRODUCTION
 - METHODOLOGY AND SSD EQUIPMENT LIST
 - FIRE AREA/ZONE DRAWINGS |
 - APPENDIX R, SECTION III.G
EVALUATION
 - REFERENCES

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APPENDIX R, SECTION III.G
EVALUATION FORMAT

- o ORGANIZED BY BUILDING ID THEN FIRE AREA/ZONE
- o EACH FIRE AREA/ZONE LISTS SSD COMPONENTS AND CIRCUITS LOCATED THEREIN.
- o SUMMARY OF CONSEQUENCES TO SSD SYSTEMS PROVIDED
- o CIRCUIT EVALUATION
 - ORGANIZED BY CATEGORIES
 - HSB - HOT STANDBY
 - CSD - COLD SHUTDOWN
 - HLP - HI/LO PRESSURE INTERFACE
 - SOE - SPURIOUS OPERATING EQUIPMENT
 - ASD - ALTERNATIVE SHUTDOWN
 - DSS - DEDICATED SHUTDOWN
 - EACH CATEGORY ORGANIZED BY SSD SYSTEM
 - ID CIRCUIT AND ITS FUNCTION
 - CONSEQUENCES OF FIRE ON CIRCUIT OPERATION
 - MITIGATION

10CFR50 APPENDIX R, SECTION III.G COMPLIANCE EVALUATION

FIRE AREA/ZONE 1-YD-20-4B
West Penetration Area

Effects of Fire on Safe Shutdown Capability

A fire in this fire area/zone could result in the loss of the following portions of systems used to achieve hot standby and cold shutdown:

Reactor Coolant System (RCS)

- Cables for the following components
 - PURVs
 - Block valves
 - Pressurizer heaters
 - Source range monitors
 - Pressurizer level transmitters
 - Primary system temperature transmitters

Chemical and Volume Control (CVCS)

- Cables for the following components:
 - Charging pumps and associated support equipment
 - Charging loop A control valves
 - Charging loop A flow transmitter
 - Reactor coolant pump seal flow pressure transmitters
 - Charging RMST isolation valves
 - Seal injection flow control valves

Main Steam System (MSS)

- Atmospheric steam dump valves
- Cables for the following components:
 - Atmospheric steam dump valves
 - Steam generator level transmitters

Auxiliary Feedwater System (AFW)

- Cables for the following components:
 - Motor driven auxiliary feedwater pump
 - Steam driven auxiliary feedwater pump
 - Flow control valves

10CFR50 APPENDIX R, SECTION III.G COMPLIANCE EVALUATION

FIRE AREA/ZONE 1-YD-20-48
West Penetration Area

Component Cooling Water (CCW)

- Cables for the following components:
 - Component cooling water pump
 - CCW heat exchange isolation valve
 - Thermal barrier outlet valves
 - CCW RHR heat exchanger flow control valves

Containment Ventilation System (CVS)

- Cables for the following components:
 - Reactor cavity cooling fan and associated damper

Gaseous Nitrogen System (GNI)

- Cables for the following components:
 - PORV nitrogen control valve

Residual Heat Removal (RHR)

- Cables for the following components:
 - Residual heat removal pump
 - Residual heat removal inlet isolation valve
 - Residual heat removal discharge isolation valve
 - RHR heat exchanger isolation valve
 - RHR inlet and discharge temperature transmitters
 - RHR flow control valve

Essential Electrical Systems

- Station service transformer 3
- Cables for the following components:
 - 480V switchgear
 - 120V vital buses

10CFR50 APPENDIX R, SECTION III.G COMPLIANCE EVALUATION

FIRE AREA/ZONE 1-YD-20-4B
West Penetration Area

The following portions of the dedicated shutdown system are located within the west penetration area:

Reactor Coolant System

- Cables for the following components:
 - primary system temperature transmitters
 - pressurizer pressure transmitter
 - pressurizer level transmitter

Main Steam System (MSS)

- Cables for the following components:
 - steam generator level transmitters

Cables for the dedicated shutdown system operation of pressurizer heater group D, and the PURVs and their associated block valves will also be routed through this fire area/zone.

The fire protection features provided for the protection and separation of safe shutdown systems within the fire area/zone do not meet the separation requirements of 10CFR50 Appendix R, Section III.G.2. The dedicated shutdown system will be used to achieve and maintain cold shutdown in the event of a fire in the fire area/zone. Operator action will be taken to locally control certain valves required for hot standby.

Operator action will also be taken to deenergize offsite and normal onsite power sources to prevent and mitigate spurious equipment operation. An exemption request for the lack of area-wide suppression/detection per the requirements of Sections III.G.3 will be provided. Cables and equipment for the dedicated shutdown system which are routed through this fire area/zone will be protected by a 3-hour rated fire barrier.

The interruption of seal injection and seal cooling to the reactor coolant pumps, for the period required to initiate seal injection from the dedicated shutdown system, has been evaluated and determined to be acceptable (26).

The loss of auxiliary feedwater flow, for the period required to initiate auxiliary feedwater flow from the dedicated shutdown system, has been evaluated and determined to be acceptable (24,25).

10CFR50 APPENDIX R, SECTION III.6 COMPLIANCE EVALUATION

FIRE AREA/ZONE 1-YD-20-48
West Penetration Area

Damage to cables for PURV and its associated block valve could cause the spurious actuation of the PURV when the block valve is not available to isolate the line. Spurious actuation of the PURV, until operator action is taken to deenergize and close the valve, has been analyzed, and will not result in unacceptable consequences (24,25).

Damage to the cables for atmospheric steam dump valves CV-77 and CV-79 could cause the valves to spuriously open. Spurious actuation of the valves, until operator action is taken to deenergize and close the valves, has been analyzed, and will not result in unacceptable consequences (24,25). The redundant steam dump valves CV-76 and CV-78 will remain available for dedicated shutdown system operation.

Damage to cables for the reactor vessel head vent valves and pressurizer high point vent valves could cause the spurious actuation of the two redundant high/low pressure interface valves in each line. Spurious actuation of these valves, until operator action is taken to deenergize and close the valves, has been analyzed, and will not result in an unacceptable consequences (24,25).

Damage to cable for primary plant makeup water control valve FCV-1102A could cause the valve to spuriously actuate, allowing primary plant water to be supplied directly to the charging pump suction. Spurious actuation of this valve, until operator action is taken to deenergize and close the valve, has been analyzed and determined to be acceptable (27).

Damage to cables for boric acid supply valves FCV-1102B and CV-334 could cause these valves to spuriously open, allowing concentrated boric acid to be supplied to the charging pump suction. Operator action will be required to close manual valves to isolate these lines.

Damage to cables for the containment spray control valve CV-114 could cause this valve to spuriously open. Containment spray will not be inadvertently initiated, as the refueling water pumps will not be spuriously actuated by a fire in this fire area/zone.

10CFR50 APPENDIX R, SECTION III.G COMPLIANCE EVALUATION

FIRE AREA/ZONE 1-YD-20-4B
West Penetration Area

Category	System	Component	Circuit-Schedule	Function	Consequence of Fire	Mitigation
Hot Standby	480V	Bus 1C, Brkr 11	1WA1C11P1-KB	Power to station service transformer 3	Loss of power to 480V switchgear 3 from station service transformer 3	None. Dedicated shutdown system will remain available. Request exemption for lack of area-wide suppression/detection per III.G.3.
	120V	Y-29	16YV29P2-KC	Power	Loss of power to vital bus 5 could cause the loss of power to the following components required for normal/alternate shutdown: LT-3400A TE-3402A FCV-3300 LJ-3400B TE-3411A FCV-3301 LT-3400C TE-3421A CV-3201 SV-3200 SV-3204 SV-J214 SV-3202 SV-3205 CV-3213 SV-3203 SV-3211	Operator action to manually position FCV-3300 and FCV-3301 will be required. Dedicated shutdown system will remain available.
		YV-29/ Inverter 5	16D0217D1-KC	Power	Loss of 125V DC power to Inverter 5.	Operator action to manually position FCV-3300 and FCV-3301 will be required. Dedicated shutdown system will remain available.
	RCS	CV-531	16Y1215C1-KC	Remote valve control	Damage to this circuit could result in the loss of remote valve control, and/or cause the valve to spuriously close, or open.	Operator action to deenergize 120VAC/480VAC power to prevent/mitigate spurious operation. CV-531 will fail open on loss of power.
		CV-545	16Y1215C0-KC	Remote valve control	Damage to this circuit could prevent remote operation and/or cause the valve to spuriously open or close.	Operator action to deenergize 120VAC/480VAC power to prevent/mitigate spurious operation. CV-545 will fail closed on loss of power. Spurious operation of the PORV, until operator action is taken to deenergize and close the valve, has been analyzed, and will not result in an unacceptable condition (24,25).
			16Y1215C2-KC	Remote valve control/ position indication	Damage to this circuit could result in the loss of remote valve control, and/or cause the valve to spuriously open, or close.	

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SUMMARY REVIEW OF SUBMITTED EXEMPTIONS

PENDING EXEMPTIONS

DEVIATIONS FROM NRC GUIDANCE

**SONGS-1
SOUTHERN CALIFORNIA EDISON CO.
EXEMPTIONS SUBMITTED**

<u>AREA</u> / <i>2nd</i>	<u>DESCRIPTION</u>	<u>EXEMPTION REQUESTED FROM 10CFR50 APPENDIX R SECTION III.G.2b / III.G.3.a</u>		<u>SAFE SHUTDOWN SCENARIO TO BE USED</u>
1-PB-42-16	CONTROL ROOM		S	DSS
1-PB-56-33	CONTROL BLOCK ROOF		S	ASD
1-YD-20-4A	EAST PENETRATION AREA		S	DSS
1-YD-20-4B	WEST PENETRATION AREA		S	DSS
1-YD-14-4D	YARD AREA	S	S	ASD
1-YD-(-7)-4E	CIRC WATER PUMP WELL		S	ASD
1-TB-8-9A	TURBINE BLDG. GROUND FLOOR		S	DSS
1-TB-35-9B	TURBINE DECK		S	ASD
1-AB-(-3)-2A	REACTOR AUXILIARY BLDG. LOWER LEVEL		S	ASD

S = EXEMPTION SUBMITTED

SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE AREA 1-PB-42-16
CONTROL ROOM

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.3A

PROBLEM: THE SEPARATION OF REDUNDANT TRAINS OF SAFE SHUTDOWN EQUIPMENT WITHIN THE FIRE AREA DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.2. DEDICATED SHUTDOWN CAPABILITY HAS BEEN PROVIDED FOR USE IN THE EVENT OF A FIRE IN THIS FIRE AREA. THE FIRE AREA DOES NOT MEET THE REQUIREMENTS OF SECTION III.G.3 OF APPENDIX R IN THAT PARTIAL AREA FIRE DETECTION IS PROVIDED IN THE FIRE AREA, AND A FIXED SUPPRESSION SYSTEM IS NOT PROVIDED IN THE FIRE AREA.

SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE AREA 1-PB-56-33
CONTROL BLOCK ROOF

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.3A

PROBLEM: THE SEPARATION OF THE REDUNDANT TRAINS OF THE PRIMARY SYSTEM HOT LEG TEMPERATURE TRANSMITTERS WITHIN THE FIRE AREA DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.2. ALTERNATIVE HOT LEG TEMPERATURE INDICATION IS AVAILABLE THROUGH THE USE OF THE PRIMARY SYSTEM DELTA T INSTRUMENTS IN THE CONTROL ROOM, OR THE USE OF THE HOT LEG TEMPERATURE INDICATORS AT THE DEDICATED SHUTDOWN PANEL. THE FIRE AREA DOES NOT MEET THE REQUIREMENTS OF SECTION III.G.3 OF APPENDIX R, IN THAT FULL AREA FIRE DETECTION AND FIXED FIRE SUPPRESSION SYSTEMS ARE NOT PROVIDED IN THE FIRE AREA.

SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE ZONE 1-YD-20-4A
EAST PENETRATION AREA

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.3.A

PROBLEM: THE SEPARATION OF REDUNDANT TRAINS OF SAFE SHUTDOWN EQUIPMENT WITHIN THE FIRE ZONE DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.2. DEDICATED SHUTDOWN CAPABILITY HAS BEEN PROVIDED FOR USE IN THE EVENT OF A FIRE IN THIS ZONE. THE FIRE ZONE DOES NOT MEET THE REQUIREMENTS OF SECTION III.G.3 OF APPENDIX R, IN THAT PARTIAL AREA FIRE DETECTION IS PROVIDED IN THE FIRE ZONE, AND A FIXED FIRE SUPPRESSION SYSTEM IS NOT PROVIDED WITHIN THE FIRE ZONE.

SONGS 1

SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY

FOR FIRE ZONE 1-YD-20-4B

WEST PENETRATION AREA

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.3A

PROBLEM: THE SEPARATION OF REDUNDANT TRAINS OF SAFE SHUTDOWN EQUIPMENT WITHIN THE FIRE ZONE DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.2. DEDICATED SHUTDOWN CAPABILITY HAS BEEN PROVIDED FOR USE IN THE EVENT OF A FIRE IN THIS ZONE. THE FIRE ZONE DOES NOT MEET THE REQUIREMENTS OF SECTION III.G.3 OF APPENDIX R, IN THAT PARTIAL AREA FIRE DETECTION IS PROVIDED IN THE FIRE ZONE AND A FIXED FIRE SUPPRESSION SYSTEM IS NOT PROVIDED IN THE FIRE ZONE.

SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE ZONE 1-YD-14-4D
EXEMPTION REQUESTED: 10CFR50 APPENDIX R. SECTION III.G.2.A
AND III.G.2.B

PROBLEM:

THE SEPARATION OF THE REDUNDANT STATION SERVICE TRANSFORMERS WITHIN THE FIRE ZONE DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.2.B. THE STATION SERVICE TRANSFORMERS ARE SEPARATED BY APPROXIMATELY 150 FEET, INCLUDING APPROXIMATELY 40 FEET WITHOUT INTERVENING COMBUSTIBLES, HOWEVER FIRE DETECTION AND FIXED SUPPRESSION SYSTEMS ARE NOT PROVIDED THROUGHOUT THE FIRE ZONE.

THE SEPARATION OF CABLES FOR THE CHARGING PUMPS WITHIN THE FIRE ZONE DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.2. CABLES FOR ONE OF THE CHARGING PUMPS WILL BE REROUTED OUTSIDE THE FIRE ZONE, AND THE INTERVENING CABLE TRAYS PROVIDED WITH FIRE STOPS. THE FIRE ZONE DOES NOT MEET THE REQUIREMENTS OF SECTION III.G.2.B OF APPENDIX R, IN THAT FIRE DETECTION AND FIXED SUPPRESSION IS NOT PROVIDED THROUGHOUT THE FIRE ZONE.

THE SEPARATION OF THE COMPONENT COOLING WATER PUMPS, AND CABLES FOR THE SALTWATER COOLING PUMPS DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.2. ALTERNATIVE SHUTDOWN CAPABILITY HAS BEEN PROVIDED. THE FIRE ZONE DOES NOT MEET THE REQUIREMENTS OF SECTION III.G.3 OF APPENDIX R IN THAT FIRE DETECTION AND FIXED SUPPRESSION IS NOT PROVIDED THROUGHOUT THE FIRE ZONE.

SONGS 1

SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE ZONE 1-YD-(-7)-4E
CIRC WATER PUMP WELL

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.3.A

PROBLEM: THE SEPARATION OF THE REDUNDANT SALTWATER COOLING PUMPS WITHIN THE FIRE ZONE DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.2. ALTERNATIVE SHUTDOWN CAPABILITY IS AVAILABLE THROUGH THE USE OF THE AUXILIARY SALTWATER COOLING PUMP (G-13C). THE FIRE ZONE DOES NOT MEET THE REQUIREMENTS OF SECTION III.G.3 OF APPENDIX R, IN THAT FIRE DETECTION AND FIXED FIRE SUPPRESSION SYSTEMS ARE NOT PROVIDED THROUGHOUT THE FIRE ZONE.

SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE ZONE 1-TB-8-9A
TURBINE BUILDING GROUND FLOOR

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.3.A

PROBLEM: THE SEPARATION OF REDUNDANT TRAINS OF SAFE SHUTDOWN EQUIPMENT WITHIN THE FIRE ZONE DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.2. DEDICATED SHUTDOWN CAPABILITY HAS BEEN PROVIDED FOR USE IN THE EVENT OF A FIRE IN THIS ZONE. THE FIRE AREA DOES NOT MEET THE REQUIREMENTS OF SECTION III.G.3 OF APPENDIX R, IN THAT PARTIAL AREA FIRE DETECTION AND FIXED FIRE SUPPRESSION SYSTEMS ARE PROVIDED IN THE FIRE ZONE.

SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE ZONE 1-TB-35-9B
TURBINE DECK

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.3.A

PROBLEM: THE SEPARATION OF THE REDUNDANT TRAINS OF THE PRIMARY SYSTEM HOT LEG TEMPERATURE TRANSMITTERS WITHIN THE FIRE ZONE DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.2. ALTERNATIVE HOT LEG TEMPERATURE INDICATION IS AVAILABLE THROUGH THE USE OF THE PRIMARY SYSTEM DELTA T INSTRUMENTS IN THE CONTROL ROOM, OR THE HOT LEG TEMPERATURE INSTRUMENTS AT THE DEDICATED SHUTDOWN PANEL. THE FIRE ZONE DOES NOT MEET THE REQUIREMENTS OF SECTION III.G.3 OF APPENDIX R, IN THAT FIRE DETECTION AND FIXED FIRE SUPPRESSION SYSTEMS ARE NOT PROVIDED THROUGHOUT THE FIRE ZONE.

SONGS 1

SOUTHERN CALIFORNIA EDISON

EXEMPTION SUMMARY

FOR FIRE AREA 1-AB-20-2A

REACTOR AUXILIARY BUILDING

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.3A

PROBLEM: THE SEPARATION OF THE REDUNDANT CHARGING PUMPS AND THE CHARGING RWST ISOLATION VALVES WITHIN THE FIRE AREA DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.2. ALTERNATIVE SHUTDOWN CAPABILITY IS AVAILABLE THROUGH THE USE OF THE SAFETY INJECTION SYSTEM.

IN THE EVENT NORMAL CONTROL ROOM CONTROL OF CERTAIN VALVES IS IMPAIRED BY FIRE, OPERATOR ACTION WILL BE TAKEN TO MANUALLY CONTROL THESE VALVES, OR TO CONTROL MANUAL VALVES IN THE PROCESS LINE. THIS FIRE AREA DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.3 IN THAT ONLY PARTIAL FIRE DETECTION AND FIXED SUPPRESSION IS PROVIDED IN THIS AREA.

**SONGS-1
SOUTHERN CALIFORNIA EDISON CO.
EXEMPTIONS SUBMITTED**

<u>FIRE ZONE</u>	<u>DESCRIPTION</u>	<u>EXEMPTION REQUESTED FROM 10CFR50 APPENDIX R SECTION III.G.3a</u>	<u>SAFE SHUTDOWN SCENARIO TO BE USED</u>
1-AB-11-34	PIPE TUNNEL	S	ASD (MANUAL)
1-AB-20-2N	REACTOR COOLANT FILTER ENCLOSURE	S	ASD (MANUAL)
1-PB-20-13	DC SWITCHGEAR AND BATTERY ROOM	S	ASD (MANUAL)
1-PB-14-25	WEST CABLE SHAFT	S	ASD (MANUAL)
1-PB-20-11A	HEALTH PHYSICS & LOCKER ROOM	S	ASD (MANUAL)
1-PB-20-12	OFFICES	S	ASD (MANUAL)
1-YD-20-4C	DOGHOUSE	S	ASD (MANUAL)
1-YD-14-4F	CONDENSATE STORAGE TANK AREA	S	ASD (MANUAL)
1-TB-20-9D	MAIN TRANSFORMER AREA	S	ASD (MANUAL)

S = EXEMPTION SUBMITTED

SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE AREA 1-AB-11-34
PIPE TUNNEL

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.3A

PROBLEM: IN THE EVENT NORMAL CONTROL ROOM CONTROL OF CERTAIN VALVES IS IMPAIRED BY FIRE, OPERATOR ACTION WILL BE TAKEN TO MANUALLY CONTROL THESE VALVES, OR TO CONTROL MANUAL VALVES IN THE PROCESS LINE. THIS FIRE AREA DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.3 IN THAT FULL AREA FIRE DETECTION AND FIXED SUPPRESSION IS NOT PROVIDED IN THIS AREA.

SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE ZONE 1-AB-20-2N
REACTOR COOLANT FILTER ENCLOSURE

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.3.A

PROBLEM: IN THE EVENT NORMAL CONTROL ROOM CONTROL OF CERTAIN VALVES IS IMPAIRED BY FIRE, OPERATOR ACTION WILL BE TAKEN TO MANUALLY CONTROL THESE VALVES, OR TO CONTROL MANUAL VALVES IN THE PROCESS LINE. THIS FIRE ZONE DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.3 IN THAT FULL AREA FIRE DETECTION AND FIXED SUPPRESSION IS NOT PROVIDED IN THIS ZONE.

SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE AREA 1-PB-20-13
DC SWITCHGEAR AND BATTERY ROOM

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.3A

PROBLEM: IN THE EVENT NORMAL CONTROL ROOM CONTROL OF CERTAIN VALVES IS IMPAIRED BY FIRE, OPERATOR ACTION WILL BE TAKEN TO MANUALLY CONTROL THESE VALVES, OR TO CONTROL MANUAL VALVES IN THE PROCESS LINE. THIS FIRE AREA DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.3 IN THAT FULL AREA FIRE DETECTION AND FIXED SUPPRESSION IS NOT PROVIDED IN THIS AREA.

SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE AREA 1-PB-14-25
WEST CABLE SHAFT

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.3A

PROBLEM: IN THE EVENT NORMAL CONTROL ROOM CONTROL OF CERTAIN VALVES IS IMPAIRED BY FIRE, OPERATOR ACTION WILL BE TAKEN TO MANUALLY CONTROL THESE VALVES, OR TO CONTROL MANUAL VALVES IN THE PROCESS LINE. THIS FIRE AREA DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.3 IN THAT FULL AREA FIRE DETECTION AND FIXED SUPPRESSION IS NOT PROVIDED IN THIS AREA.

SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE ZONE 1-PB-20-11A
HEALTH PHYSICS AND LOCKER ROOM

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.3A

PROBLEM: IN THE EVENT NORMAL CONTROL ROOM CONTROL OF CERTAIN VALVES IS IMPAIRED BY FIRE, OPERATOR ACTION WILL BE TAKEN TO MANUALLY CONTROL THESE VALVES, OR TO CONTROL MANUAL VALVES IN THE PROCESS LINE. THIS FIRE ZONE DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.3 IN THAT FULL AREA FIRE DETECTION AND FIXED SUPPRESSION IS NOT PROVIDED IN THIS ZONE.

SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE AREA 1-PB-20-12
OFFICES

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.3A

PROBLEM: IN THE EVENT NORMAL CONTROL ROOM OF CERTAIN VALVES IS IMPAIRED BY FIRE, OPERATOR ACTION WILL BE TAKEN TO MANUALLY CONTROL THESE VALVES, OR TO CONTROL MANUAL VALVES IN THE PROCESS LINE. THIS FIRE AREA DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.3 IN THAT FULL AREA FIRE DETECTION AND FIXED SUPPRESSION IS NOT PROVIDED IN THIS AREA.

SONGS 1

SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY

FOR FIRE ZONE 1-YD-20-4C

DOGHOUSE

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.3.A

PROBLEM: IN THE EVENT NORMAL CONTROL ROOM CONTROL OF CERTAIN VALVES IS IMPAIRED BY FIRE, OPERATOR ACTION WILL BE TAKEN TO MANUALLY CONTROL THESE VALVES, OR TO CONTROL MANUAL VALVES IN THE PROCESS LINE. THIS FIRE ZONE DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.3 IN THAT FULL AREA FIRE DETECTION AND FIXED SUPPRESSION IS NOT PROVIDED IN THIS ZONE.

SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE ZONE 1-YD-14-4F
CONDENSATE STORAGE TANK AREA

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.3.A

PROBLEM: IN THE EVENT NORMAL CONTROL ROOM CONTROL OF CERTAIN VALVES IS IMPAIRED BY FIRE, OPERATOR ACTION WILL BE TAKEN TO MANUALLY CONTROL THESE VALVES, OR TO CONTROL MANUAL VALVES IN THE PROCESS LINE. THIS FIRE ZONE DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.3 IN THAT FULL AREA FIRE DETECTION AND FIXED SUPPRESSION IS NOT PROVIDED IN THIS ZONE.

SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE ZONE 1-TB-20-9D
MAIN TRANSFORMER AREA

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.3.A

PROBLEM: IN THE EVENT NORMAL CONTROL ROOM CONTROL OF CERTAIN VALVES IS IMPAIRED BY FIRE, OPERATOR ACTION WILL BE TAKEN TO MANUALLY CONTROL THESE VALVES, OR TO CONTROL MANUAL VALVES IN THE PROCESS LINE. THIS FIRE ZONE DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.3 IN THAT FULL AREA FIRE DETECTION AND FIXED SUPPRESSION IS NOT PROVIDED IN THIS ZONE.

SONGS-1
SOUTHERN CALIFORNIA EDISON CO.
EXEMPTIONS PENDING

<u>FIRE AREA</u>	<u>DESCRIPTION</u>	<u>EXEMPTION REQUESTED FROM</u> <u>10CFR50 APPENDIX R SECTION</u>			<u>SAFE SHUTDOWN</u> <u>SCENARIO TO BE USED</u>
		<u>III.G.2a</u>	<u>III.G.2b</u>	<u>III.G.3a</u>	
1-CO-(-10)-1	CONTAINMENT		P	P	DSS
1-AB-11-34	PIPE TUNNEL	P			ASD
1-FH-14-7	480 V SWITCHGEAR	P			ASD
1-PB-20-13	DC SWITCHGEAR AND BATTERY ROOM	P			ASD
1-PB-14-25	WEST CABLE SHAFT	P			ASD
1-PB-56-33	CONTROL BLOCK ROOF		P		ASD
1-PB-20-12	OFFICES	P			ASD

P = EXEMPTION PENDING

SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE AREA 1-CO-(-10)-1
CONTAINMENT

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.2.D AND
III.G.3.A

PROBLEM: THE SEPARATION OF THE REDUNDANT RCS TEMPERATURE, PRESSURIZER LEVEL AND PRESSURE AND STEAM GENERATOR LEVEL INSTRUMENTS, PRESSURIZER HEATERS AND ASSOCIATED CABLES DOES NOT MEET THE REQUIREMENTS OF 10CFR50 APPENDIX R, SECTION III.G.2.D. DEDICATED SHUTDOWN CAPABILITY IS PROVIDED. CABLES FOR THE DEDICATED SHUTDOWN SYSTEM COMPONENTS, WHICH ARE LOCATED WITHIN THE FIRE AREA, ARE ONE HOUR FIRE RATED, AND ARE ROUTED IN NEW CONDUIT. THE FIRE AREA DOES NOT MEET THE REQUIREMENTS OF SECTION III.G.3 OF APPENDIX R, IN THAT THE INSTRUMENTS PROVIDING INDICATION AT THE DEDICATED SHUTDOWN PANEL, AND THE DEDICATED SHUTDOWN PRESSURIZER HEATER CABLES AT THE PRESSURIZER, ARE NOT INDEPENDENT OF THE FIRE AREA, AND PARTIAL AREA FIRE DETECTION AND PARTIAL AREA FIXED SUPPRESSION SYSTEMS ARE PROVIDED IN THE FIRE AREA.

FIRE AREA
DESCRIPTION:

THE CONTAINMENT IS STEEL SPHERE. A STEEL PERSONNEL HATCH AND AN EQUIPMENT HATCH COMMUNICATE WITH 1-TB-35-9B. A SECOND PERSONNEL HATCH OPENS TO 1-YD-14-4D. ELECTRICAL AND MECHANICAL PENETRATIONS ARE DESIGNED TO PREVENT THE RELEASE OF RADIOACTIVE PRODUCTS BUT ARE NOT FIRE RATED.

EXEMPTION SUMMARY
FOR FIRE AREA 1-CO-(-10)-1
CONTAINMENT
(PAGE 2)

FIRE PROTECTION
FEATURES PROVIDED:

IONIZATION SMOKE DETECTORS PROVIDED IN ELECTRICAL PENETRATION AREA OVER STEAM GENERATORS AND RCPs AND UNDER THE PRESSURIZER. INFRARED FLAME DETECTORS ARE LOCATED ON CRANE RAILS ABOVE OPERATING FLOOR AND IN RHR PUMP AREA. MANUAL CONNECTIONS FROM THE FIRE MAIN TO SUPPRESSION SYSTEMS AT THE RCPs, RHR PUMPS AND HOSE STATIONS WILL BE PROVIDED WHEN DSS IS USED. CONTAINMENT SPRAY SYSTEM CAN BE USED FOR FIRE SUPPRESSION AND PORTABLE EXTINGUISHERS ARE LOCATED WITHIN THE CONTAINMENT.

COMBUSTIBLE LOADING:

23,800 BTU/SQ.FT. FOR A DURATION OF 18 MINUTES. CONSISTING OF CABLE TRAYS.

SAFE SHUTDOWN
EQUIPMENT OF CONCERN:

RCS TEMPERATURE, PRESSURIZER PRESSURE AND LEVEL AND STEAM GENERATOR LEVEL INSTRUMENTATIONS AND CABLES. PRESSURIZER HEATER CABLES.

BASIS OF EXEMPTION:

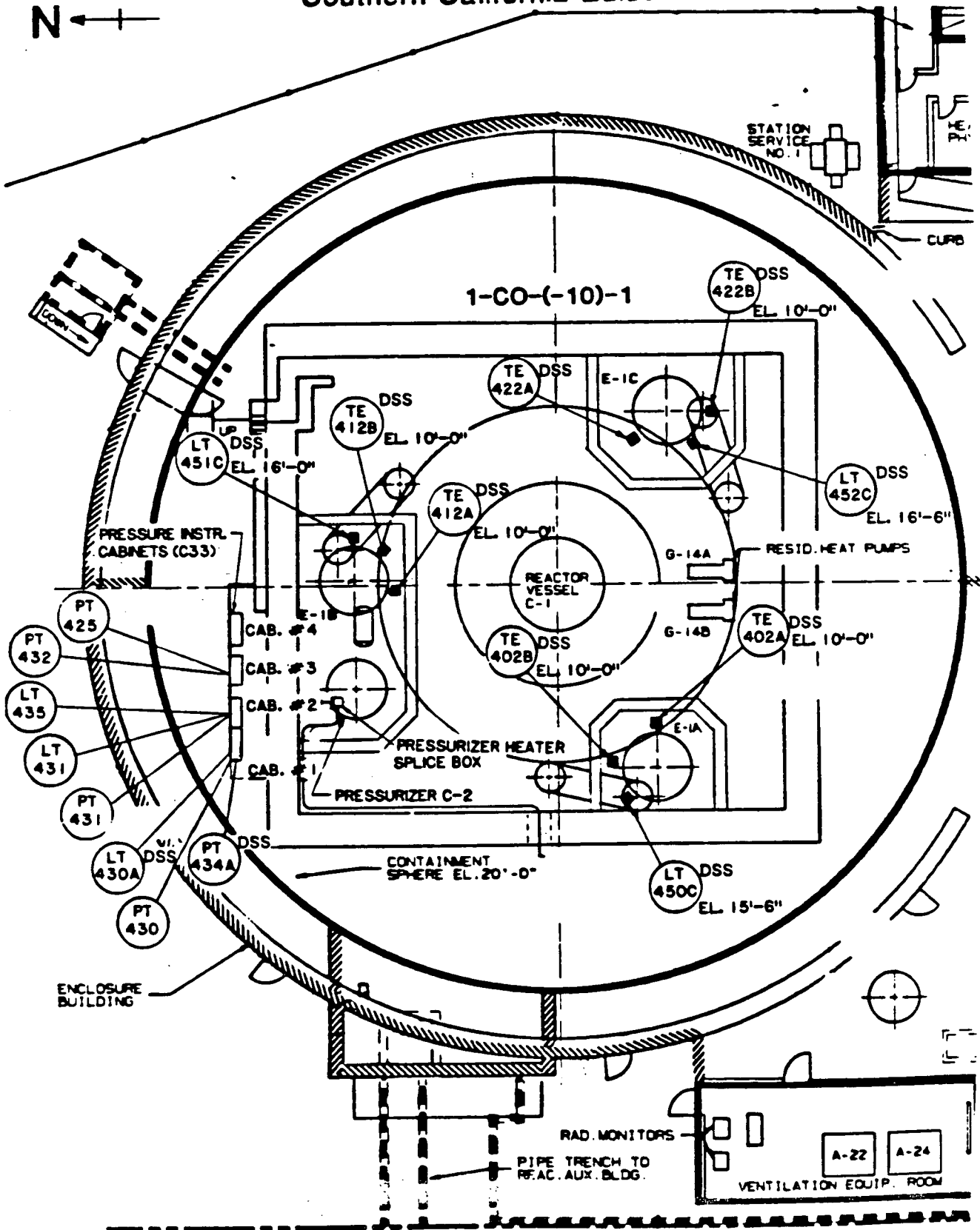
- DEDICATED SHUTDOWN SYSTEM CABLES ARE ONE HOUR RATED (ROCKBESTOS CABELS) ROUTED IN NEW CONDUIT.
- RCPs PROVIDED WITH OIL COLLECTION SYSTEM MEETING III.0 REQUIREMENTS.
- CHARCOAL CONTRAINED ENTIRELY WITHIN HVAC UNITS.
- DEDICATED SHUTDOWN INSTRUMENTS LOCATED IN CABINETS (3/16" STEEL WALL AND 2" OF FIBERGLASS) SEPARATE FORM REDUNDANT INSTRUMENTATION.
- PORV AND BLOCK VALVE SOLENOIDS PROTECTED BY HEAT SHEILD.
- SHUTDOWN CAN BE ACCOMPLISHED WITH ONLY ONE STEAM GENERATOR.
- EXISTING DETECTION AND SUPPRESSION CAPABILITY PROTECTS AREAS OF CONCERN.

EXEMPTION SUMMARY
FOR FIRE AREA 1-CO-(-10)-1
CONTAINMENT
(PAGE 3)

BASIS OF EXEMPTION:
(CONTINUED)

- TRANSIENT COMBUSTIBLES STRICTLY CONTROLLED IN CONTAINMENT.
- RCS TEMPERATURE AND STEAM GENERATOR LEVEL INSTRUMENTS ARE SPATIALLY SEPARATED.
- CHARCOAL IS CONTAINED WITHIN METAL HOUSING OF THE HVAC UNITS

SONGS-1 Southern California Edison Co.



SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE AREA 1-FH-14-7
480V SWITCHGEAR

EXEMPTION REQUESTED: 10CFR50 APPENDIX R. SECTION III.G.2.A

PROBLEM: ALTERNATE SHUTDOWN IS CREDITED FOR A FIRE IN THIS AREA DUE TO MANUAL ACTIONS. UNSEALED DUCT IN THE SOUTH WALL ADJOINING 1-TB-35-9B DOES NOT HAVE A 3-HOUR RATING. ONE HOUR RATED WALLS ON THE EAST AND SOUTH SIDES ADJOINING 1-TB-8-9A.

FIRE AREA DESCRIPTION: THE NORTH WALL OF THE AREA IS 3 HOUR RATED. THE WEST WALL AND THE SOUTH WALL ADJOINING 1-YD-20-4D ARE 1-HOUR RATED CONCRETE BLOCK CONSTRUCTION. THE EAST WALL AND THE SOUTH WALL ADJOINING ZONE 1-TB-8-9A ARE PROVIDED WITH A DIRECTED AUTOMATIC WET PIPE SPRINKLER SYSTEM. THE CEILING IS 3-HOUR RATED REINFORCED CONCRETE CONSTRUCTION. TWO 3-HOUR RATED DOORS SEPARATE THE AREA FROM 1-YD-20-4D. THE AREA COMMUNICATES WITH THE GROUND FLOOR OF 1-TB-8-9A THROUGH A 3-HOUR RATED DOOR. ALL VENTILATION DUCT PENETRATIONS ARE PROVIDED WITH 3-HOUR RATED FIRE DAMPERS EXCEPT THE DUCT THROUGH THE SOUTH WALL TO 1-TB-35-9B. THIS DUCT IS APPROXIMATELY 6'-0" WIDE AND 2'-6" HIGH AND IS LOCATED NEAR THE CEILING AT THE EAST END OF THE ROOM.

FIRE PROTECTION AREA WIDE IONIZATION SMOKE DETECTORS. TOTAL FLOODING

EXEMPTION SUMMARY
FOR FIRE AREA 1-FH-14-7
480V SWITCHGEAR
(PAGE 2)

FEATURES PROVIDED: HALON 1301 FIRE EXTINGUISHING SYSTEM WITH MAIN AND RESERVE CYLINDERS.

COMBUSTIBLE LOADING: 137,190 BTUs/SQ. FT. FOR A DURATION OF 1.71 HOURS. COMBUSTIBLES ARE DISTRIBUTED THROUGHOUT THE AREA.

SAFE SHUTDOWN EQUIPMENT OF CONCERN: CIRCUITS ASSOCIATED WITH THE 480V ELECTRICAL DISTRIBUTION SYSTEM, CVCS, RCS, CCW, SWC, CVS, RHR AND SIS.

BASIS FOR EXEMPTION:

- HALON 1301 FIRE EXTINGUISHING SYSTEM IS AVAILABLE.
- FIRE PROTECTION FEATURES FOR THIS AREA WERE PREVIOUSLY APPROVED BY NRC IN REVIEW OF APPENDIX A.
- PROMPT RESPONSE BY ONSITE FIRE DEPARTMENT.
- MANUAL OPERATOR ACTION WILL BE TAKEN OUTSIDE THIS FIRE AREA TO POSITION AUXILIARY FEEDWATER CONTROL VALVE, START CCW PUMP, OPEN RHR VALVES AND CLOSE RCS VENT VALVES.
- PENDING MODIFICATION TO PROVIDE CHARGING PUMP SUCTION BYPASS LINE TO PRECLUDE CAVITATION OF THE CHARGING PUMPS.
- CIRCUITS FOR SWC PUMP G-13A WILL BE REROUTED OUTSIDE THIS FIRE AREA.

SIMILAR FIRE AREA/
ZONES WHERE THIS TYPE
OF EXEMPTION MAY BE
REQUIRED:

1-PB-14-25
1-AB-11-34
1-AB-(-3)-2A

SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE ZONE 1-PB-20-11A AND 1-PB-20-12
HEALTH PHYSICS & LOCKER ROOM/OFFICES

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.2.A

PROBLEM: SAFE SHUTDOWN EQUIPMENT IN THESE FIRE ZONES, IS NOT SEPARATED FROM REDUNDANT SAFE SHUTDOWN EQUIPMENT BY 3-HOUR BARRIERS.

FIRE ZONE DESCRIPTION: THE WALLS SEPARATING THE AREA/ZONE FROM 1-PB-14-3 ARE 3-HOUR RATED. THE WALLS ON THE WEST SIDE ARE REINFORCED CONCRETE. THE EAST WALL OF THE AREA/ZONE IS GLASS AND CONCRETE BLOCK. THE SOUTH WALL IS 1-HOUR RATED. THE NORTH WALL IS 3" THICK REINFORCED CONCRETE IN THE OFFICE AREA AND 13" THICK REINFORCED CONCRETE IN THE LOCKER AREA. THE CEILING OF THE AREA/ZONE IS REINFORCED CONCRETE. EAST WALL HAS A NONRATED DOOR TO THE EXTERIOR. SEVERAL LARGE DUCT PENETRATIONS PROVIDE COMMUNICATION TO THE EXTERIOR. A NONRATED DOOR ALLOWS ACCESS FROM THE DUMBWAITER SHAFT INTO 1-PB-42-30B. UNSEALED CONDUIT AND PIPING PENETRATIONS COMMUNICATE WITH 1-PB-32-11B.

FIRE PROTECTION FEATURES PROVIDED: IONIZATION SMOKE DETECTORS ARE INSTALLED IN THE CORRIDOR OF 1-PB-20-11A. IONIZATION SMOKE DETECTORS PROVIDING PARTIAL AREA COVERAGE ARE INSTALLED IN 1-PB-20-12. HOSE STATIONS AND PORTABLE EXTINGUISHERS ARE PROVIDED.

COMBUSTIBLE LOADING: 35,486 BTU/SQ. FT. FOR A DURATION OF 27 MINUTES. COMBUSTIBLES ARE DISTRIBUTED THROUGHOUT THE AREA.

EXEMPTION SUMMARY
FOR FIRE ZONE 1-PB-20-11A 1-PB-20-12
HEALTH PHYSICS & LOCKER ROOM/OFFICES
(PAGE 2)

SAFE SHUTDOWN
EQUIPMENT:

SAFE SHUTDOWN EQUIPMENT FOR THE ESSENTIAL ELECTRICAL SYSTEM, MAIN STEAM SYSTEM AND COMPONENT COOLING WATER SYSTEM ARE LOCATED IN THIS AREA/ZONE.

BASIS FOR EXEMPTION:

- THERE IS NO EXPOSURE EAST OF FIRE AREA 1-PB-20-12.
- DUMBWAITER SHAFT PROVIDES A TORTUOUS PATH FOR PROPAGATION WITH MINIMAL COMBUSTIBLES IN VICINITY.
- IONIZATION DETECTORS PROVIDE EARLY WARNING FOR PROMPT RESPONSE BY ONSITE FIRE DEPARTMENT.
- OPERATOR ACTION CREDITED FOR
 - CLOSE MANUAL VALVE UPSTREAM OF FCV-1112 IF CHARGING THROUGH SEAL INJECTION FLOW PATH IS REQUIRED.
 - TURBINE TRIP AT TURBINE STAND

SIMILAR FIRE AREA/
ZONES WHERE THIS TYPE
OF EXEMPTION MAY BE
REQUIRED:

1-PB-20-13

SONGS-1
SOUTHERN CALIFORNIA EDISON CO.
EXEMPTIONS PENDING

FIRE AREA	DESCRIPTION	EXEMPTION REQUESTED FROM 10CFR50 APPENDIX R SECTION		SAFE SHUTDOWN SCENARIO TO BE USED
		III.G.2a	III.G.2b	
1-AB-(3)-2A	REACTOR AUXILIARY BLDG. LOWER LEVEL	P		ASD
1-YD-20-4A	EAST PENETRATION AREA		P	DSS
1-YD-20-4B	WEST PENETRATION AREA		P	DSS
1-YD-14-4F	CONDENSATE STORAGE TANK AREA		P	ASD
1-PB-20-11A	HEALTH PHYSICS & LOCKER ROOM	P		ASD
1-TB-8-9A	TURBINE BLDG. GROUND FLOOR	P		DSS
1-TB-35-9B	TURBINE DECK		P	ASD
1-TB-20-9D	MAIN TRANSFORMER AREA		P	ASD

P = EXEMPTION PENDING

SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE ZONE 1-YD-20-4B
WEST PENETRATION AREA

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.2.B

PROBLEM: DEDICATED SHUTDOWN SYSTEM OPERATION IS CREDITED FOR A FIRE IN THIS FIRE ZONE. DSS CIRCUITS ARE ROUTED THROUGH THIS ZONE. THE SEPARATION OF THIS ZONE FROM ADJOINING AREA/ZONES CONTAINING DEDICATED SHUTDOWN SYSTEM EQUIPMENT AND CABLE IS GREATER THAN 20 FT. WITH INTERVENING COMBUSTIBLES. AUTOMATIC SUPPRESSION SYSTEM IS NOT PROVIDED. LOCALIZED DETECTION IS PROVIDED.

FIRE ZONE DESCRIPTION: EXTERIOR FIRE ZONE, BOUNDED BY THE STEEL CONTAINMENT SPHERE, ENCLOSURE BUILDING, FUEL HANDLING BUILDING AND TURBINE BUILDING. THE WALL WHICH SEPARATES THE ZONE FROM 1-TB-8-9A IS A 1-HOUR RATED WALL PROVIDED WITH AUTOMATIC WET PIPE SPRINKLERS IN 1-TB-8-9A THUS MAKING IT 3 HOUR EQUIVALENT. THE WALL ADJOINING 1-FH-(-2)-5 IS REINFORCED CONCRETE. THE ENCLOSURE BUILDING WALL IS CONCRETE. TWO 3-HOUR RATED DOORS AND A BARRED NONRATED DOOR OPEN TO 1-YD-14-4D. TWO NONRATED DOORS COMMUNICATE WITH 1-VN-20-24.

THE ZONE IS OPEN TO 1-YD-20-4A WHERE THE TWO ZONES MEET ON BOTH SIDES OF THE CONTAINMENT SPHERE, TO 1-YD-14-4D AT THE NORTHWEST AND SOUTHEAST CORNERS OF 1-VN-20-24. TWO DUCT PENETRATIONS (3' DIAMETER AND 5' x 6'), 4 CONDUIT PENETRATIONS (6" DIAMETER) AND ONE PIPING PENETRATION (3-1/2" DIAMETER) COMMUNICATE WITH 1-YD-14-4D.

FIRE PROTECTION FEATURES PROVIDED: IONIZATION SMOKE, ULTRAVIOLET FLAME AND HEAT DETECTORS PROVIDE LOCALIZED PROTECTION FOR THE MAJOR EQUIPMENT IN THE ZONE. PENETRATION ENCLOSURES PROVIDED WITH 3-HOUR FIRE BARRIERS ARE ALSO PROVIDED WITH DETECTORS.

EXEMPTION SUMMARY
FOR FIRE ZONE 1-YD-20-4B
WEST PENETRATION AREA
(PAGE 2)

COMBUSTIBLE LOADING: 23,491 BTU/SQ. FT. FOR A DURATION OF 18 MINUTES.
PRIMARYLY CABLE INSULATION. HEALTH PHYSICS STORAGE
SHED, CONTAINING PLASTIC, WILL BE REMOVED.

SAFE SHUTDOWN
EQUIPMENT OF CONCERN: DEDICATED SAFE SHUTDOWN EQUIPMENT AND CABLE IS LOCATED
IN ADJACENT ZONES.

BASIS FOR EXEMPTION:

- LOW FIRE LOADING.
- INSUFFICIENT COMBUSTIBLE LOADING EXISTS ON BOTH
SIDES OF OPENINGS AND PENETRATIONS TO PROPAGATE A
FIRE.
- CABLE TRAYS ROUTED BETWEEN THE FUEL HANDLING
BUILDING AND VENTILATION BUILDING THROUGH WALKWAY
TO 1-YD-14-4D WILL BE PROVIDED WITH FIRE STOPS AND
WILL BE PROTECTED BY A SUPPRESSION SYSTEM.
- EXISTING DETECTION SYSTEMS PROVIDE EARLY WARNING
IN THE CONTROL ROOM FOR PROMPT ONSITE FIRE
DEPARTMENT RESPONSE.
- DEDICATED SHUTDOWN EQUIPMENT IN ZONE 1-YD-14-4B
ARE WRAPPED WITH 3-HOUR BARRIER.
- SEPARATION OF THE DEDICATED SHUTDOWN SYSTEM
EQUIPMENT IN ADJACENT FIRE ZONES IS GREATER THAN
20 FT. WITH LIMITED INTERVENING COMBUSTIBLES FROM
OPENINGS IN FIRE ZONE 1-YD-20-4B.

SIMILAR FIRE AREA/
ZONES WHERE THIS TYPE
OF EXEMPTION MAY BE
REQUIRED:

1-YD-20-4A
1-TB-8-9A

SONGS 1
SOUTHERN CALIFORNIA EDISON COMPANY

EXEMPTION SUMMARY
FOR FIRE AREA 1-YD-14-4F
CONDENSATE STORAGE TANK AREA

EXEMPTION REQUESTED: 10CFR50 APPENDIX R, SECTION III.G.2.B

PROBLEM: SEPARATION OF THIS FIRE ZONE FROM REDUNDANT SAFE SHUTDOWN EQUIPMENT IN THE ADJACENT FIRE ZONES IS GREATER THAN 20 FT. WITH INTERVENING COMBUSTIBLES.

FIRE ZONE DESCRIPTION: THE NORTH AND EAST BOUNDARIES OF THE CONDENSATE STORAGE TANK AREA IS SEPARATED FROM 1-TB-8-9A BY CONCRETE BLOCK WALLS. THE SOUTH AND WEST BOUNDARIES ARE IDENTIFIED BY THE VITAL AREA FENCE.

A FOUR INCH GAP, FLASHED WITH SHEET METAL, RUNS ALONG THE ENTIRE LENGTH OF THE NORTH AND EAST WALLS ABOVE THE CONCRETE BLOCK WALLS. A 1-1/2 HOUR RATED DOOR AND A NONRATED DOOR PROVIDE ACCESS TO 1-TB-8-9A. A 30' X 5' LOUVERED OPENING IN THE EAST WALL, (20 FT. ABOVE GROUND LEVEL) AND SEVERAL UNSEALED PIPING AND CONDUIT PENETRATIONS RANGING IN SIZE FROM 1" TO 10" DIAMETER ALSO COMMUNICATE WITH 1-TB-8-9A.

FIRE PROTECTION FEATURES: PORTABLE EXTINGUISHERS AND HOSE STATIONS ARE PROVIDED IN THE AREA.

COMBUSTIBLE LOADING: 371,954 BTU/SQ. FT. FOR A DURATION OF 4.65 HOURS. CONSISTING OF OIL, HYDROGEN IN TANKS AND CABLE INSULATION WIDELY SEPARATED WITHIN THE ZONE.

SAFE SHUTDOWN EQUIPMENT OF CONCERN: CABLES FOR RWST CHARGING ISOLATION VALVE, MOV-1100D 4160V BUSES AND MCC 3

EXEMPTION SUMMARY
FOR FIRE AREA 1-YD-14-4F
CONDENSATE STORAGE TANK AREA
(PAGE 2)

BASIS FOR EXEMPTION:

- THE FIRE ZONE IS AN OUTSIDE AREA WITH NO SIGNIFICANT INTERVENING COMBUSTIBLES BETWEEN THE AREAS OF COMBUSTIBLE CONCENTRATION.
- THE HYDROGEN ENCLOSED IN CYLINDERS IS NOT EASILY IGNITED.
- COMBUSTIBLE CONCENTRATIONS ARE GREATER THAN 20 FT. FROM OPENINGS TO 1-TB-8-9A.
- A FIRE WILL BE READILY DETECTED BY PLANT PERSONNEL DUE TO THE OPEN CONFIGURATION OF THE ZONE THEREBY ALLOWING PROMPT ONSITE FIRE DEPARTMENT RESPONSE USING AVAILABLE MANUAL FIRE SUPPRESSION EQUIPMENT.
- MANUAL OPERATOR ACTION IS CREDITED FOR:
DG 1 POWER TO 4160V BUS 1C
DG 2 POWER TO 4160V BUS 2C
ISOLATION OF THE VOLUME CONTROL TANK ISOLATION VALVE MOV-1100C
- THE CIRCUIT FOR MOV-883 IS ROUTED AT THE NORTH END OF 1-YD-14-4F
OPERATOR ACTION MAY BE REQUIRED TO DENERGIZE AND OPEN MOV-883 LOCATED IN 1-YD-14-4D.
- REDUNDANT RWST CHARGING ISOLATION VALVE, MOV-1100B, WILL REMAIN AVAILABLE BECAUSE ITS CIRCUITS ARE ROUTED OVER 100 FEET FROM 1-YD-14-4F. A FIRE WOULD HAVE TO TAKE A TORTUROUS PATH THROUGH THE PENETRATIONS ONTO CABLE TRAYS IN 1-TB-8-9A AND PROPAGATE OVER 100 FEET TO EFFECT THE CIRCUITS FOR MOV-1100B.

SIMILAR FIRE AREA/
ZONES WHERE THIS TYPE
OF EXEMPTION MAY BE
REQUIRED:

1-PB-56-33
1-TB-35-9B
1-TB-20-9D

SONGS-1
SOUTHERN CALIFORNIA EDISON CO.
DEVIATIONS FROM NRC GUIDANCE

FIRE AREA

1-PB-42-16

GUIDANCE REFERENCE

**GENERIC LETTER 85-01
SECTION 3.8.4,
"CONTROL ROOM FIRE
CONSIDERATIONS"**

DEVIATION

**CREDIT FOR TRIPPING OFFSITE
POWER BREAKERS IN ADDITION
TO REACTOR TRIP IS BEING
REQUESTED.**

VARIOUS

**IE INFORMATION NOTICE
NO.84-09, ATTACHMENT 1
SECTION IX
"INSTRUMENTATION REQUIRED
FOR ALTERNATIVE SHUTDOWN"**

**LOCAL MANUAL SAMPLING WILL
BE MADE TO DETERMINE REACTIVITY
IN FIRE AREAS/ZONES WHERE
REDUNDANT SOURCE RANGE
MONITORS MAY BE LOST DUE TO
THE EFFECTS OF A FIRE.**