Tennessee Valley Authority, Post Office Box 2000, Decatur, Alabama 35609-2000

February 28, 2006

10 CFR 50.48

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Stop: OWFN P1-35
Washington, D.C. 20555-0001

Gentlemen:

In the Matter of) Docket No. 50-259
Tennessee Valley Authority)

BROWNS FERRY NUCLEAR PLANT (BFN) - UNIT 1- RESPONSE TO NRC REQUEST FOR INFORMATION REGARDING FIRE PROTECTION PROGRAM (TAC NO. MC8826)

By letter dated January 3, 2006 (Reference 1), NRC requested TVA to provide information regarding the fire protection program that will be implemented at Browns Ferry Nuclear Plant upon restart of Unit 1. TVA responded to the NRC request in Reference 2 and agreed to submit the Unit 1, 2 and 3 BFN Fire Protection Report by February 28, 2006.

TVA is committed to upgrade the fire protection program for BFN Unit 1 to bring Unit 1 into compliance with 10 CFR 50.48 by complying with the applicable sections of 10 CFR 50, Appendix R consistent with the program that was implemented for Units 2 and 3 as described in Reference 3 and approved by NRC in Reference 4.

A006

The program for Unit 1 will be fundamentally the same as the one for Units 2 and 3 with some changes in modifications and manual actions due to physical differences in plant configuration. Five exemptions from Appendix R requirements for Units 1, 2, and 3 were approved by NRC in Reference 5. No new exemptions are required.

The enclosure to this letter provides the draft Unit 1, 2 and 3 BFN Fire Protection Report (FPR). The draft Unit 1, 2 and 3 BFN FPR reflects the plant configuration that will be required for three unit operation. This revision of the FPR is a result of the Unit 1 Restart design changes that impact safe shutdown, emergency lighting, Appendix R communications and fire protection. The FPR will be issued after the necessary Unit 1 modifications have been completed.

If you have any questions regarding this information, please contact me at (256) 729-2636.

Sincerely,

William D. Crouch

William D. Crouch
Manager of Licensing
and Industry Affairs

References:

1. NRC letter, Margaret H. Chernoff to TVA, "Browns Ferry Nuclear Plant, Unit 1 - Request for Information Regarding Fire Protection Program (TAC NO. MC8826)," dated January 3, 2006

2. TVA letter, Brian O'Grady to NRC, "Browns Ferry Nuclear Plant (BFN), Unit 1 - Response to NRC Request for Information Regarding Fire Protection Program (TAC NO. MC8826)," dated February 3, 2006

3. TVA letter, Pedro Salas to NRC, "Browns Ferry Nuclear Plant (BFN) - Unit 2 and 3 Browns Ferry Nuclear Plant Fire Protection Report (FPR)," dated December 20, 1994

4. NRC letter, Joseph F. Williams to TVA, "Safety Evaluation of Post-Fire Safe Shutdown Capability and Issuance of Technical Specification Amendments for the Browns Ferry Nuclear Plant Units 1, 2, and 3(TAC NOS. M85254, M87900, M87901 and M87902) (TS 337)," dated November 2, 1995

5. NRC letter, Suzanne Black to TVA, "Appendix R Exemptions for Browns Ferry Nuclear Plant, Units 1, 2 and 3 (TAC 61124, 61125 and 61126)," dated October 21, 1988

Enclosure:
cc: See page 4

Enclosure
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cc: continued page 5

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ENCLOSURE

TENNESSEE VALLEY AUTHORITY
BROWNS FERRY NUCLEAR PLANT UNIT 1
DOCKET NO. 50-259

BFN Unit 1, 2 and 3
Fire Protection Report

(Draft Version Attached)

TENNESSEE VALLEY AUTHORITY

BROWNS FERRY NUCLEAR PLANT

FIRE PROTECTION REPORT

VOLUME 1

QA Record

	R0	R33	R34	*R35*
EFFECTIVE DATE	11/18/95	1/23/2006	02/14/2006	*xx/yy/2006*
PREPARED	B.K. Taker	N.W. Morris	N.W. Morris	*J. V. Tarpinian*
CHECKED	J. R. Sampson	R. Abbas	T. Stafford	*S. Kammer*
REVIEWED	R. Abbas	R. Abbas	T. Stafford	*R. Abbas*
APPROVED	J.E. McCarthy	Bruce Aukland	Tony Elms	*Tony Elms*

TITLE: FIRE PROTECTION REPORT - VOLUME 1	REVISION LOG

REVISION NO.	DESCRIPTION OF REVISION	DATE APPROVED
0	Initial issue for dual unit operation (Unit 2 and Unit 3). This report replaces in its entirety the Fire Protection Report, Volume 1, Revision 12, for single unit (Unit 2) operation.	11-8-95
1	Revision 1 of the Fire Protection Report was issued to incorporate Fire Protection Change Notice FPR-95023 (RIMS R92 951122 852).	11-22-95
2	Incorporated the following Fire Protection Report Change Notices. 94009 R92951222873 95021 R92951222874 94014 R92941004866 94019 R14941110201 95001 R92950412857 95011 R92950413866 95017 R92950918874 Some of the changes were inherently incorporated during Revision 0 of the Fire Protection Report.	1-3-96
3	Revision 3 of the Fire Protection Report was issued to incorporate Fire Protection Change Notice FPR-96001 (RIMS R95 960227 874).	2-28-96
4	Revision 4 of the Fire Protection Report was issued to incorporate Fire Protection Change Notices: 94006 (RIMS R92 960411 853) 96002 (RIMS R92 960412 854)	4-13-96
5	Revision 5 of the Fire Protection Report was issued to incorporate Fire Protection Change Notice FPR-96004 (RIMS R92 960516 873)	5-23-96
6	Revision 6 of the Fire Protection Report was issued to incorporate Fire Protection Change Notice FPR-96005 (RIMS R92 960607 856)	6-10-96
7	Revision 7 of the Fire Protection Report was issued to incorporate Fire Protection Change Notices FPR-96006 (RIMS R92 970131 879) and FPR-96007	2-27-97
8	Revision 8 of the fire protection report was issued to incorporate fire protection change notices FPR-96008(RIMS R92 971001 987), FPR - 97001 (RIMS R92 970121 934) and FPR - 96006	4-03-98
9	Revision 9 of the Fire Protection Report was issued to incorporate Fire Protection Change Notice FPR-98005 (RIMS R70 980608 952). The Sections Fire Protection Plan, Fire Hazards Analysis and Units 2 and 3 Appendix R Safe Shutdown Program have been retyped and issued in their entirety.	07-06-98

TITLE: FIRE PROTECTION REPORT - VOLUME 1	REVISION LOG

REVISION NO.	DESCRIPTION OF REVISION	DATE APPROVED
10	Revision 10 of the Fire Protection Report was issued to incorporate Fire Protection Change Notice FPR-98006. (RIMS R92 980810 890) Units 2 and 3 Appendix R Safe Shutdown Program has been retyped and issued in its entirety.	08/20/98
11	Revision 11 of the Fire Protection Report was issued to incorporate Fire Protection Change Notices FPR-97003 (T40116 - ADHR System) and FPR-98007 (RIMS R70 981221 849)	01/12/99
12	Revision 12 of the Fire Protection Report was issued to incorporate Fire Protection Change Notice FPR-99001. Changed Fire Protection Plan Commitment section to reflect standardization program (SPP's)	02/10/99
13	Revision 13 of the Fire Protection Report was issued to incorporate changes to reflect Power Uprate and 24 Month cycles for Units 2 and 3. Power Uprate was approved by the NRC in Amendments 254 (Unit 2) and 214 (Unit 3) to the Facility Operating Licenses (L44980917001). 24 Months was approved by the NRC in Amendments 255 (Unit 2) and 215 (Unit 3) to the Facility Operating Licenses (L44981210995).	05/11/99
14	Revision 14 of the Fire Protection Report was issued to reflect the changes in inspection periodicity for the operating unit(s) (2 and/or 3) Steam Tunnel area penetration visual inspection from an eighteen (18) month periodicity to once per operating cycle. This change, also, involved the elimination of surveillance requirement 9.4.11.G.1.c. This change, also, eliminated the reference to 0-SR-3.3.3.2.1(26) in the Appendix R Safe Shutdown Program. Corrected editorial/typographical errors.	05/21/99
15	Revision 15 of the Fire Protection Report was issued to incorporate changes identified for BFPER992792, BFPER993398, BFPER993433 and BFPER9911436. These changes make various corrections and clarifications to the Fire Protection Plan, the Safe Shutdown Analysis and the Safe Shutdown Program.	02/18/00
16	Revision 16 of the Fire Protection Report was issued to incorporate changes identified for BFPER00-000628, BFPER00-006452, BFPER00-006682 and Corporate Assessment CRP-ENG-00-031. These changes make various corrections and clarifications to the Safe Shutdown Analysis and Safe Shutdown Program Sections of the Fire Protection Report.	1/26/01
17	Revision 17 of the Fire Protection Report was issued to incorporate changes in Section 9.3.11.H of the Fire Protection Plan.	11/13/01
17A	Revision 17a of the Fire Protection Report was issued to incorporate changes in Fire Protection Plan Section 3.8 and Safe Shutdown Analysis Section 7.0.	04/08/02
18	Revision 18 of the Fire Protection Report Volume 1/Section 3 was issued to ensure that the manual actions to trip HPCI occur at 6 minutes rather than 7 minutes/25 seconds as indicated on the previous revisions of the FPR. Errors in initial analysis of HPCI flow rates caused this miscalculation, therefore, this revision reflects the correction of these errors.	08/13/02

19	IC-11 - Revision 19 of the Fire Protection report was issued to : (1) correct information relative to the location of the ECCS Pump Suction and the MSRV Quenchers for DCN 50583A. (2) incorporates the changes identified in Unit 1 and 2 Control Bay Chiller DCN 40283A. (3)incorporates the changes identified with the addition of a transformer for Unit 1 Outage Power per DCN 50937A.	09/26/02
20	Section 7.5 Removed the words "transient fire loads with a high fire load classification" and "and suppression" Revised LCO Sections 9.3.11.C.2. a and b to remove Fire Watch, establish backup fire suppression and add requirements to restore system to Operability within 30 days. Revised LCO Section 9.3.11.D.2.a and b to remove Fire Watch, establish backup fire suppression and add the requirements to restore system to Operability within 30 days. Revised LCO Section 9.3.11.G.a.3 Deleted compensatory requirements for fire suppression. Table 9.3.11.A item 7 Added correct unit number Table 9.3.11.A Pages 82, 87, and 92 Changed reference to 2.33 Table 9.3.11.B Pages 94 - 99 Revised requirements for continuous Fire Watch and sprinkler system operability	10/28/02
21	Revision 21 of the Fire Protection Report was issued to document the deletion of Appendix R Emergency Lights per DCN 50853A	02/06/03
22	Revision 22 of the Fire Protection Report was issued to document the removal of AFFF system and associated improvements in the fire detection and suppression system as a result of Recirc Variable Frequency Drive installation under DCN 50869B for U2C12.	03/11/03
23	Revision 23 of the Fire Protection Report was issued to document the addition of Unit 1 fire zone separation door 670 (EDC 51317); to extend the frequency of the simulated automatic and manual actuation of the raw service water pumps (surveillance requirement 9.4.11.B.4) from an annual to a three (3) year frequency; and to make minor editorial/administrative changes associated with the VFD modification DCN 50869.	05/09/03
24	Revision 24 (LCIE RIMS R06 031205 907) was issued incorporating corrective actions for PER 03-13826-000 and NRC Triennial Fire Protection Inspection Report dated 11/17/2003 as follows: (1) reinstate fire watches in areas where suppression is inoperable, (2) defines intervening combustibles as significant quantities of in-situ material in section 3.5.e of the SSA, (3) revised section 9.2 of the FPP to clarify the requirements of fire protection in non-safety related areas, (4) allow the use of fire retardant treated wood without additional approval from Fire Protection, and (5) made various editorial enhancements.	12/15/03
25	Revision 25 was issued per an Administrative Change to correct the page numbers as identified in PER 04-000618-000.	02/02/04
26	Revision 26 was issued to incorporate the analysis associated with the use of ATRIUM-10 fuel in the reactor core (EDC 60038).	02/27/04

27	This revision makes the following changes: 1) documents the analysis of hydrogen accumulation in the 250V Shutdown Board Battery Rooms, 2) revises portions of the Required Safe Shutdown Equipment tables in Section III of Part 4 to correct discrepancies between the tables and Manual Action calculation ND-Q0999-920116, 3) revises section 5.4 of Part 2 to make the structural steel evaluation applicable for Unit 1, 4) adds RHR Loop I and II Flush Suction valves and, 5) deletes redundant information about the Diesel Generators (LCIE R06 040514 954). Changes per DCN 51312A and 60546A were also incorporated in this revision.	05/20/04
28	Revised Parts 3 and 4 to incorporate the changes in normal alignment for 3-FCV-74-46 and 3-SHV-74-150 per DCN 60536A.	05/26/04
29	Revise the Technical Basis for System 23 to correct a discrepancy between the Appendix R Required Safe Shutdown Equipment and the basis for the EECW pumps. Also SOS/ASOS has been changed to SM/US for clarification.	10/21/04
30	Revised the definitions for Cold and Hot Shutdown to agree with the Technical Specs (PER 70164). Deleted Appendix R Emergency Lights 315 and 316 in Part 1 (PER 72804). Clarified the requirements for fire watches in the Turbine and Control Buildings in Part 4. Made various editorial changes in Part 2 under compensatory measures in Part 4.	02/03/05
31	Remove the reference to the General Manager in Section 3.1 of Part 1 of the FPR (PER 77197). Corrected the compartment number in Section III of Part 4 of the FPR from 480V Diesel Auxiliary Board B to compartment 1D (PER 79691). Revised the description of Section V in Part 4 of the FPR to clarify purpose of the section (PER 80689).	06/09/05
32	Revision 32 was issued to incorporate changes per EDC 65294 Page 400 of 555 added RHRSW Valve 1-FCV-23-40 Page 464 of 555 added RHRSW Valve 1-FCV-23-34 Page 465 of 555 added RHRSW Valve 1-FVC-23-040 Page 545 of 555 deleted sentence "The RHRSW line to the Unit 1 RHR Heat Exchanger C has been capped."	11/14/05
33	Revision 33 was issued to incorporate changes per PIC 65700 (DCN 51229) Page 114 of 554 — Added Appendix R Lights 415 and 416. Page 318 of 554 — Table 5-1 — Added Unit 1 to Unit 2 and 3 Heat Exchanger Discharge Valves. Page 399 of 554 — 1-FVC-23-040 — Changed wording for Appendix R Function and changed zones; Added new Appendix R Function and Zones affected; Changed NOTE Page 463 of 545 — 1-FVC-23-034 — Changed wording for Appendix R Function and changed zones; Added new Appendix R Function and Zones affected; Deleted **NOTE Page 464 of 554 — 1-FVC-23-040 — Changed wording for Appendix R Function and changed zones; Added new Appendix R Function and Zones affected; Deleted **NOTE	01/23/06

34	TR#-34-Revision 34 was issued to incorporate changes per DCN 51368 stage 3 Page 37 of 554 Section 4.4.4 Delete MG sets and Unit 1 Reactor Building Page 38 of 554 Deleted Unit 1 Reactor Building HPCI/RCIC and AFFF Added Reactor Building for Photoelectric Smoke Detectors Page 39 of 554 Unit 1 to items a, d and e and deleted coverage North Wall for item d Page 40 of 554 Deleted Unit 1Reactor Building, Recirc. MG sets, HPIC and RHR rooms Page 71 of 554 Table 9.3.11.A Deleted items for Cable Tray Zones & renumbered items Added 1-LPNL-25-545 for items 1, 2, 3, 4, 5, 6 and 7 For item 1 and 2 added Smoke changed fixed spray to preaction For item 4 deleted Heat Items 6, 7 and added smoke For item 7 added General Area North & South Side changed to preaction Page 75 of 544 Added 1-LPNL-25-545 EL 519, 541, 565, 593, 621 and 639 Page 80 of 544 Added 1-LPNL-25-545 EL 519, 541, 565, 593, 621 and 639 Page 85 of 544 Added 1-LPNL-25-545 EL 519, 541, 565, 593, 621 and 639 Page 98 of 544 Added 1-LPNL-25-545 for doors 30, 31, 42, 221 and 490 Added 3-LPNL-25-545 for door 41 Page 148 of 544 Deleted preaction sprinkler system and AFFF coverage for MG sets Added item for Smoke Detectors for early warning Added heat detector for RCIC and Core Spray rooms	02/14/06
35 DRAFT	*Revised FPR as a result of Unit 1 Restart DCNs impacting safe shutdown (51076, 51081, 51085, 51087, 51090, 51106, 51177, 51178, 51194, 51205, 51211, 51214, 51216, 51218, 51220, 51221, 51222, 51223, 51231, 51243, 51245, 60072), emergency lighting (51092, 51229), Appendix R Communications (51735) and Fire Protection (51180, 51190, 51208, 51368, 61563), Combustible Loading Calculation (MD-N0026-910163) resulting from restart DCNs (51016, 51017, 51018, 51045, 51052, 51053, 51054, 51055, 51082, 51083, 51094, 51098, 51103, 51107, 51108, 51115, 51117, 51120, 51135, 51137, 51138, 51139, 51143, 51182, 51192, 51199, 51200, 51219, 51234, 51236, 51237, 51317, 51369, 51401, 51402, 51457, 51458, 51459, 51463, 51478, 60275, 60536, 61028, T41156), new Unit 1/2/3 Appendix R Safe Shutdown Analysis (ED-Q0999-2003-0037), Extended Power Uprate, PER69995 (Fire Area/Zone Definition Discrepancy), updated Fire Area/Zone Compartmentation Drawings (DCN 51317), updated Fire Protection Plan to list 1 Hour Fire Wrapped cables in TABLE 9.3.11.H and updated Appendix R Program Requirements for Appendix R Communications - Radio Repeater System, incorporate changes per DCN 61444 for Nextel Radio In-Plant System.*	*xx/yy/06*

TABLE OF CONTENTS

BROWNS FERRY NUCLEAR PLANT

FIRE PROTECTION REPORT

FORMAT

- I Introduction

  II Acronyms

  III Terminology

- Fire Protection Plan

- Fire Hazards Analysis

- Safe Shutdown Analysis (Units 1, 2 and 3)

- Appendix R Safe Shutdown Program (Units 1, 2 and 3)

I. INTRODUCTION

A. Purpose

The purpose of the Fire Protection Report, Volume 1, is to consolidate the Browns Ferry Nuclear Plant Fire Protection Program documentation into a single document. The Updated Final Safety Analysis Report (UFSAR) references this report as detailing BFNs Fire Protection Program.

The Fire Protection Report, Volume 1, has been developed in accordance with the guidelines of NRC Generic Letter 86-10, "Implementation of Fire Protection Requirements" and NRC Generic Letter 88-12, "Removal of Fire Protection Requirements from Technical Specifications" and brings BFN into compliance with NRC recommendations for documenting the Fire Protection Program and commitments.

B. Scope

This report includes the following documentation:

1. Fire Protection Plan

   The fire protection plan describes the organization supporting the BFN Fire Protection Program, the Plant Fire Protection Systems and Features, Fire Loss Prevention Procedures and Administrative Controls, the Plant Emergency Response Organization, Fire Protection Equipment Operating and Surveillance Requirements.

2. Fire Hazards Analysis

   This section contains the engineering evaluations performed to determine the adequacy of fire protection capability and compilation of the Fire Hazards Analysis (FHA) for all the fire areas and zones identified for BFN. Each fire area/zone description includes the physical parameters, combustible loading/fire severity, available suppression/detection, and a complete fire protection evaluation for the specific area/zone.

3. Safe Shutdown Analysis

   This section contains the 10CFR50 Appendix R Safe Shutdown Analysis from which forms the basis of BFN compliance with Appendix R, Sections III.G, III.J, and III.L.

I. INTRODUCTION (Continued)

4. Appendix R Program

BFN performed an Appendix R evaluation to ensure that safe shutdown capability can be maintained during and after a fire in accordance with Section III.G, III.J, and III.L of 10CFR50 Appendix R. Based on this evaluation, the Appendix R Program for Units 1, 2 and 3 was developed along with the Safe Shutdown Instructions (SSIs) to provide the operators with the necessary actions to shutdown the reactor in the event of an Appendix R fire.

This program has two objectives. The first objective is to ensure that the equipment relied upon to shutdown Units 1, 2 and 3 during or after a fire will be available when called upon by the SSIs. This objective is achieved by identifying equipment testing criteria regardless of whether or not the required equipment is encompassed by Technical Specifications. The second objective is to provide a mechanism to ensure safe shutdown equipment is available, or compensatory actions are taken, if any required safe shutdown equipment is not available. This objective is accomplished through the establishment of appropriate compensatory measures (i.e., fire watches, etc.) when required safe shutdown equipment is not available.

The Appendix R Program ensures that the required safe shutdown equipment is maintained in proper conditions and if the equipment is not available, appropriate actions/compensatories have been established in order to ensure safe shutdown.

II. ACRONYMS

A	-	Ampere
ADS	-	Automatic Depressurization System
BBR	-	Battery and Battery Board Room
BD	-	Board
BFN	-	Browns Ferry Nuclear Plant
BTP	-	Branch Technical Position
CAD	-	Containment Atmosphere Dilution
CB	-	Control Building
CRD	-	Control Rod Drive
CST	-	Condensate Storage Tank
DG	-	Diesel Generator(s)
DGB	-	Diesel Generator Building
ECCS	-	Emergency Core Cooling System
EECW	-	Emergency Equipment Cooling Water
EL	-	Elevation
FCV	-	Flow Control Valve
FHA	-	Fire Hazards Analysis
FM	-	Factory Mutual
HPCI	-	High Pressure Coolant Injection
HCTL	-	Heat Capacity Temperature Limits
IPS	-	Intake Pumping Station
LCV	-	Level Control Valve
LI	-	Level Indicator
LPCI	-	Low Pressure Coolant Injection
LOOSP	-	Loss of Offsite Power
MCC	-	Motor Control Center
MG	-	Motor Generator
MMG	-	Motor-Motor Generator
MOV	-	Motor Operated Valve
MSIV	-	Main Steam Isolation Valve
MSRV	-	Main Steam Relief Valve
NFPA	-	National Fire Protection Association
PCV	-	Pressure Control Valve
PI	-	Pressure Indicator
RB	-	Reactor Building
RCIC	-	Reactor Core Isolation Cooling
RHR	-	Residual Heat Removal
RHRSW	-	RHR Service Water
RMOV	-	Reactor Motor Operated Valve
RPV	-	Reactor Pressure Vessel
RPS	-	Reactor Protection System

II. ACRONYMS (Continued)

RWCU	-	Reactor Water Cleanup
SBGT	-	Standby Gas Treatment
SDBD	-	Shutdown Board
SDBR	-	Shutdown Board Room
SDC	-	Shutdown Cooling
SMACNA	-	Sheet Metal Air Conditioning National Association
SPC	-	Suppression Pool Cooling
SSDS	-	Safe Shutdown System
SSI	-	Safe Shutdown Instructions
TB	-	Turbine Building
TAF	-	Top of Active Fuel
TVA	-	Tennessee Valley Authority
UL	-	Underwriter Laboratories Inc.
V	-	Volt
Vdc	-	Volt Direct Current

III. TERMINOLOGY

ASSOCIATED CIRCUITS

Those cables that:

a. Have a physical separation less than that required by 10CFR50, Appendix R, III.G.2, and;

b. Have one of the following:

(1) a common power source with the shutdown equipment and the power source is not electrically protected from the circuit of concern by coordinated breakers, fuses, or similar devices, or

(2) a connection to circuits of equipment, including the high-low pressure interface components, whose spurious operation would adversely affect the shutdown capability, or

(3) a common enclosure with the shutdown cables and,

(a) are not electrically protected by circuit breakers, fuses or similar devices, or

(b) will allow propagation of the fire into the common enclosure.

(4) A 250 V DC control circuit whose sequential failure would cause the loss of control power to electrically operated breakers creating associated circuits of concerns of either the common power source type or the common enclosure type.

COLD SHUTDOWN

The reactor is in the Cold Shutdown Condition when Reactor Coolant Temperature is less than or equal to 212°F (the reactor will be depressurized so that decay heat is being removed from the reactor vessel and transferred to the ultimate heat sink).

DIVISIONAL SEPARATION

A design requirement that two divisions (trains) of emergency power supplies and safety equipment be routed and located such that a single failure will not disable both trains of the redundant systems. This design feature was utilized to define the redundant trains of systems for the safe shutdown analysis.

III. **TERMINOLOGY** (Continued)

FIRE AREA

A fire area is an area in the plant that is separated from other areas by boundary fire barriers (walls, floors or roofs) with any openings or penetrations protected with seals or closure having a minimum fire resistance equal to the rating of the barrier. The rating of the barrier shall be either three hours or exceed the maximum anticipated combustible loading of the area. Also refer to FHA Section 3.0 for additional clarifications.

COMPARTMENTATION

Compartmentation is a collective term of the fire barrier boundaries for a fire area.

FIRE ZONE

A fire zone for BFN is an area where the required cables and equipment will meet the separation requirements of III.G.2 of 10CFR50 Appendix R.

HOT SHUTDOWN

The reactor is in the Hot Shutdown Condition (with overpressure protection and coolant inventory restored and being maintained) when Reactor Coolant temperature is greater than 212°F.

LIMITING SAFETY CONSEQUENCES

The limiting safety consequences used in the evaluation of the SSDS are:

a. No calculated fuel failure due to cladding temperature increases.

b. No primary system pressure in excess of the safety limits.

C. No primary containment pressure or suppression pool temperature in excess of allowable values.

MINIMUM SAFE SHUTDOWN SYSTEM CAPABILITY

Minimum complement of safe shutdown system equipment necessary to satisfy the performance goal required for safe shutdown.

III. **TERMINOLOGY** (Continued)

REACTOR PROTECTION SYSTEM

The RPS motor-generator power supplies and associated control and indicating equipment, sensors, relays, bypass circuitry and switches that initiate rapid insertion of control rods (scram) to shutdown the reactor.

SAFE SHUTDOWN

Hot or cold shutdown (reactor subcritical), with control of coolant inventory and decay heat removal.

SAFE SHUTDOWN FUNCTION

Any one of four functions: reactor shutdown, maintenance of coolant inventory, overpressure protection or decay heat removal, which are necessary to prevent:

a. Calculated fuel failure due to cladding temperature increase, or

b. Primary system pressure in excess of the safety limit, or

c. Primary containment temperature/pressure in excess of design.

SAFE SHUTDOWN SYSTEM

A safe shutdown system is any of the systems (e.g., RHR, MSRV) required to perform or support a safe shutdown function. The system includes all necessary components, panels, cables, raceways, conduits, etc.

ALTERNATIVE SHUTDOWN CAPABILITY

Alternative shutdown capability is defined as:

Actions resulting from a fire causing abandonment of the main control room, i.e., accomplishment of safe shutdown by using the backup control panels and equipment.

The following is not considered alternative shutdown capability:

"Alternate shutdown cooling mode" of operating the RHR system in the LPCI mode and flooding the reactor vessel up to the main steam lines to discharge heated water through the MSRVs for decay heat removal.

BROWNS FERRY NUCLEAR PLANT

FIRE PROTECTION PLAN

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

This document describes the Fire Protection Plan for Browns Ferry Nuclear Plant. It is applicable to all activities at or related to BFN which could affect the life or health of Tennessee Valley Authority employees or the public, the probability or severity of potential fires throughout the plant, or the ability to achieve and maintain safe plant shutdown, or limit radioactive release to the environment in case of fire. To assure that the program functions properly and to meet the requirements of 10CFR50.48, the Fire Protection Plan has been developed for BFN. The Fire Protection Plan is incorporated into the UFSAR by reference as recommended in NRC Generic Letter 86-10. This document shall be the sole source for fire protection program commitments at BFN. The Fire Protection Plan contains the current fire protection commitments that affect the Fire Protection Program. The Fire Protection Plan will be revised, as required, to reflect all new commitments that affect the BFN Fire Protection Program.

1.2 OBJECTIVE OF THE FIRE PROTECTION PLAN

The objectives of the Fire Protection Plan are to provide for the protection of the life and health of TVA employees and the public, to minimize the probability and severity of fires throughout the plant, and to insure the ability to achieve and maintain safe plant shutdown and minimize radioactive release to the environment in the event of a fire. The objectives of the Fire Protection Plan are achieved through the integration of fire protection into the design, construction, operation, and maintenance of the plant and equipment; by fire prevention techniques; and by providing appropriate fire detection and suppression features and fire rated compartmentation. This is known as a defense-in-depth concept which employs multiple levels of safety measures to attain the required high degree of safety. In addition, the defense-in-depth approach includes the proper administrative controls necessary to maintain program integrity.

1.3 BASIS OF THE FIRE PROTECTION PLAN

This Fire Protection Plan has been developed for BFN to satisfy the requirements of General Design Criterion (GDC) 3 of Appendix A to 10CFR50.

1.3 BASIS OF THE FIRE PROTECTION PLAN (continued)

On November 19, 1980, the Nuclear Regulatory Commission (NRC) published its final 10CFR50.48, "Fire Protection," which established fire protection requirements for operating nuclear power plants. This regulation, which imposed the requirement to have a fire protection plan to satisfy GDC 3, became effective on February 17, 1981. This regulation is applicable to BFN.

Additionally, BFN is required to perform safe shutdown and fire hazards analyses to demonstrate compliance with applicable sections of 10CFR50 Appendix R (Fire Protection Program for Nuclear Power Facilities operating prior to January 1, 1979), as required by 10CFR50.48. The applicable sections for BFN are Sections III.G, III.J, and III.L.

The requirements established by Section III.G include the performance requirements of Safe Shutdown Systems (SSDS). separation requirements for redundant trains of SSDS, and conditions requiring alternative shutdown capability. The performance requirements for alternative shutdown capability are specified in Section III.L of 10CFR50 Appendix R. The performance requirements established by Section III.J include the emergency lighting required to support the SSDS operation in the event of a fire. The compliance with Sections III.G, III.J and III.L of 10CFR50 Appendix R for BFN is outlined in the BFN Fire Protection Report Volume 1 - Safe Shutdown Analysis.

1.4 DEFINITIONS

Combustible - Any material that will normally burn or sustain the combustion process whether or not it exhibits flame.

Critical Area - Any area containing safety-related wiring or equipment necessary for safe shutdown and all other areas so designated by the Plant Manager. Critical areas are: Reactor Buildings, Control Bay, Intake Pumping Station and the Cable Tunnel to the Turbine Building, Diesel Generator Buildings, and the south wall of the Turbine Building, elevation 586.

Factory Mutual (FM) - The Factory Mutual Corporation conducts research and development in the field of property loss and provides a testing laboratory for the approval of fire protection equipment.

Fire Area - An area in the plant that is separated from other areas by boundary fire barriers (walls, floors or roofs) with any openings or penetrations protected with seals or closures having a minimum fire resistance equal to the rating of the barrier. The rating of the barrier shall be either 3 hours or exceed the maximum anticipated combustible loading of the area. Also, refer to FHA Section 3.0 for additional clarification.

1.4 DEFINITIONS (Continued)

Fire Barrier - Those components of construction (walls, floors and their supports, including beams, joists, columns, penetration seals or closures, fire doors and fire dampers) that are rated by approving laboratories in hours of resistance to fire and are used to prevent the spread of fire.

Fire Emergency Response Organization - The team of plant personnel assigned to fire fighting and who are equipped for and trained in the fighting of fires.

Fire Resistance Rating - The time that materials or assemblies have withstood a fire exposure as established in accordance with the test procedures of "Standard Methods of Fire Tests of Building Construction and Materials" (fire-retardant building materials) UL 263. (The standard is also known as ASTM E119 and NFPA 251.)

Fire Suppression - Control and extinguishing of fires (fire fighting). Manual fire suppression is the use of hoses and/or portable extinguishers by plant personnel. Fixed fire suppression consists of manually or automatically actuated fixed systems such as water, halon or carbon dioxide systems.

Fire Zones - A fire zone for BFN is a subdivision of fire areas which is primarily based upon the separation of safe shutdown systems in accordance with the requirements of 10CFR50, Appendix R Section III.G.2.b or c. This separation is 20 or more horizontal feet of spatial separation with no intervening combustibles, automatic suppression and detection in the area or one-hour-rated barrier with automatic suppression and detection in the area.

Primary Containment - Reactor Pressure Vessel (RPV), Drywell and the suppression pool (torus).

Safety-Related Systems and Components - Systems and components required to shutdown the reactor, mitigate the consequences of postulated accidents, or maintain the reactor in a safe shutdown condition. Systems and components required to satisfy Appendix R requirements do not have to be safety related.

Safe Shutdown System and Components - Systems and components required to shutdown and maintain the reactor in a safe shutdown condition during and after a fire. Systems and components required to satisfy Appendix R requirements do not have to be safety related.

Secondary Containment - The structure that completely encloses primary containment, used for controlling containment leakage. It includes the Reactor Buildings and the Refueling Floor area.

1.4 DEFINITIONS (Continued)

Sprinkler System - A network of piping connected to a reliable water supply that will distribute water throughout the area protected and will discharge water through sprinkler heads in sufficient quantity either to extinguish the fire or to prevent its spread. The system, usually activated by heat, includes a controlling valve and a device for actuating an alarm when the system is in operation.

Standpipe and Hose Systems - A fixed piping system with hose outlets, hose and nozzles connected to a reliable water supply to provide effective fire hose streams to specific areas inside a building.

Transient Fire Loads - Combustible material which is not permanently installed.

Underwriters Laboratory (UL) - Underwriters Laboratory is an independent organization testing for public safety. It maintains and operates laboratories for the examination and testing of devices, systems, and materials to determine their relation to life, fire casualty, hazards, and crime prevention.

Water Spray System - A special fixed pipe system connected to a reliable source of fire protection water supply and equipped with open head water spray nozzles for specific water discharge and distribution over the surface area to be protected.

2.0 REFERENCES

2.1 10CFR50 Appendix A, Criterion 3

2.2 10CFR50 Appendix R, Sections III.G, III.J, and III.L

2.3 10CFR50.48, Fire Protection

2.4 10CFR50.59, Changes, Tests, and Experiments

2.5 NRC Branch Technical Position (CMEB) 9.5-1 Guidelines for Fire Protection for Nuclear Power Plants

2.6 NRC Generic Letter 86-10, Implementation of Fire Protection Requirements

2.7 NRC Generic Letter 82-21, Technical Specifications for Fire Protection Audits

2.8 NRC Generic Letter 88-12 - Removal of Fire Protection Requirements from Technical Specifications

2.9 National Fire Protection Association (NFPA) Codes, applicable editions

2.0 **REFERENCES** (continued)

2.10 Occupational Safety and Health Acts Standards, 29CFR1910, Subpart L--Fire Protection, Subpart E--Means of Egress, and Subpart H--Hazardous Materials

2.11 Browns Ferry Design Criteria BFN-50-747, Fire Protection of Safe Shutdown Capability

2.12 SER - Appendix R Exemptions (RIMS: A02 881027 003)

2.13 SER - Volume 3, Section III, 5.0 (Fire Protection Improvement) of the Nuclear Performance Plan - Browns Ferry Nuclear Plant, Unit 2 (RIMS: R35 880907 379)

2.14 LER 259/88026 - Identify condition that requires a roving or continuous fire watch system (RIMS: R42 880926 913)

2.15 Letter - Browns Ferry Nuclear Plant Clarification of Incident Commander Requirements (RIMS: L44 881005 802)

2.16 SER - Appendix R Safe Shutdown System Analysis (RIMS: A02 881214 030)

2.17 SER - Upgrade to Fire Protection Technical Specification Section 3.11 and 4.11 (RIMS: A02 881230 013)

2.18 SER - The BFN Nuclear Performance Plan (BFNPP) - NUREG 1232 Volume 3 (RIMS: R08 890501 957)

2.19 Letter - Browns Ferry Nuclear Plant - Clarification of April 29, 1988 Submittal - "Staffing of Fire Brigade". (RIMS: L44 890531 802)

2.20 SER - Revision to technical specifications pertaining to fire pump battery cell voltage and control room emergency ventilation system (TAC 73138, 73139, 73140) (TS 269) Browns Ferry Nuclear Plants, Units 1, 2, and 3 (RIMS: A02 890724 011)

2.21 LER 259/89021 - List fire doors and the associated fire detection instrumentation (RIMS: R09 890906 888)

2.22 SER - Safety Evaluation on the Fire Brigade at Browns Ferry Nuclear Plant (RIMS: A02 880916 014)

2.23 Letter - Browns Ferry Nuclear Plant - Fire Protection Upgrade Project List Revision (TAC No. 62261) (RIMS: L44 890921 802)

2.24 LER 260/89025 - Fire protection to perform a periodic verification that fire protection compensatory measures are in place (RIMS: R09 891019 900)

2.0 **REFERENCES** (continued)

2.25 SER - Supplement 1 to the Safety Evaluation Report on the Browns Ferry Nuclear Performance Plan - NUREG-1232, Volume 3 (RIMS: A02 890130 015)

2.26 Letter - Browns Ferry Nuclear Plant - Commitment to Replace Fire Wall (RIMS: L44 891031 803)

2.27 SER - Supplemental Safety Evaluation on Post-Fire Safe Shutdown Systems and Final Review of the National Fire Protection Association Code Deviations - Browns Ferry Nuclear Plant, Unit 2 (TAC Nos. 72908 and 00459) (RIMS: A02 891108 003)

2.28 Letter - Browns Ferry Nuclear Plant - Fire Protection Upgrade Project List (RIMS R35 891205 307)

2.29 LER 259/90018 - Fire Watch misses tour due to security system malfunction. (RIMS: R09 910214 944)

2.30 LER 259/90019 - Plant procedure did not provide clear guidance for areas requiring fire watches during loss of power to I&C Bus. (RIMS: R09 910214 945)

2.31 LER 259/90021 - Fire protection to specify a method to detect a fire behind a closed door. (RIMS: R09 910214 946)

2.32 Letter - Browns Ferry Nuclear Plant - Request for Technical Specifications (TS) Revision TS-292 Supplement 1, Fire Pump Surveillance Requirements. (RIMS: R08 901130 951)

2.33 Calculation MD-N0026-960016, "Evaluation of Compensatory Measures Due to Inoperable Sprinklers/Detectors"

2.34 SER - Fire Protection Program - BFN Units 1, 2 and 3 (TAC Nos. M82687, M82688 & M82689), March 31, 1993

2.35 SER - Post-Fire Safe Shutdown Capability and Issuance of Technical Specification Amendments for BFN Units 1, 2 and 3 (TAC Nos. M85254, M87900, M87901, & M87902) (TS 337); Nov 2, 1995

2.36 Appendix R - Location of Emergency Lighting, Calculation ND-Q0999-920115

2.37 Appendix R Analysis for Interplant Communication System, Calculation ED-N0244-890050.

2.38 DCN T20662, Modify / Replace Unit 2 Thermo-Lag Fire Wrap - Intake Pumping Station.

2.39 DCN 61563, Unit 1 Restart Appendix R Fire Wrap.

3.0 FIRE PROTECTION ORGANIZATION

NOTE: The Fire Protection Organization Chart is included as Table 9.3.11.I

3.1 TVA CORPORATE MANAGEMENT

The Senior Vice President, Nuclear Operations, TVAN has the overall responsibility for establishing policies, programs, fire brigade training and qualification requirements related to fire protection in addition to assessing their effectiveness. Agreements are maintained between the TVAN and TVA Fossil and Hydro Power organizations for providing training and qualification of fire brigade and Incident Command personnel. The Senior Vice President TVAN has on his staff or as a consultant, an individuals(s) who meets the eligibility requirements as a Member Grade in the Society of Fire Protection Engineers.

3.2 SITE VICE PRESIDENT (VP)

The Site VP is responsible for the formulation, implementation and administration of the fire protection plan. Authority and accountability for overview and implementation of the plan have been further delegated to the plant manager. Specific requirements and responsibilities related to administrative control of fire hazards, manual fire suppression, maintenance of fire protection equipment, etc., have been delegated to various sections and are clearly defined in site/plant procedures. The site VP also provides design and construction services for the protection features.

3.3 MANAGERS AND SUPERVISORS

All Nuclear Power (NP) managers and supervisors are responsible for understanding and implementing the applicable requirements of the Fire Protection Plan.

3.4 FIRE PROTECTION - FIRE EMERGENCY RESPONSE ORGANIZATION AND FIRE PROTECTION SYSTEM ENGINEERING

The Fire Protection section is responsible for the maintenance of the Fire Protection Report Plan (Secondary) and Fire Hazards Analysis (secondary), maintenance/implementation of the Fire Protection Program, providing System Engineering support for all fire protection systems (026, 039, 041, 100F, 247F and 260F), responsible for inspection/testing fire protection equipment/systems, and is the fire emergency response organization responsible for responding to plant site emergencies. The fire emergency response organization is self sufficient and has been

3.4 FIRE PROTECTION - FIRE EMERGENCY RESPONSE ORGANIZATION AND FIRE PROTECTION SYSTEM ENGINEERING (continued)

trained on initial fire attacks and in the use of fire fighting equipment.

The Operations/Fire Protection section is responsible for:

a. Establishing and maintaining the Fire Protection Plan and the Fire Hazards Analysis (secondary).

b. Establishing and administering the implementation of the Fire Protection Plan through the Fire Protection Program and monitor the implementation of that program.

c. Reviewing and evaluating applicability of regulations and standards to plant fire protection systems and the Fire Protection Plan.

d. Reviewing the design, installation and modification of plant fire protection equipment and systems for conformance to regulatory requirements and general industry fire protection standards.

e. Maintaining procedures for fire emergencies and pre-fire plans.

f. Performing periodic fire protection audits and inspections.

g. Developing and implementing administrative and physical controls of transient combustibles and ignition sources.

h. Reviews Fire Protection System(s) work plans to ensure adequacy of fire protection post modification testing.

i. Providing technical advice and assistance to plant personnel on all fire protection matters.

j. Developing and maintaining Fire Protection System/Equipment surveillance and maintenance program and instructions.

k. Evaluates testing and surveillance results to determine operability status, and if necessary, resolve any deficiencies.

l. Develop and maintain Fire Protection Equipment surveillance and maintenance program and instructions for responsible equipment.

m. Responding to fire emergencies with an adequate number of trained personnel, properly equipped to deal with the emergency quickly and correctly.

n. Establishing and monitoring a fire fighting training program.

3.4 FIRE PROTECTION - FIRE EMERGENCY RESPONSE ORGANIZATION AND FIRE PROTECTION SYSTEM ENGINEERING (Continued)

o. Investigating fires and issuing fire reports as applicable.

p. Conducting and evaluating plant fire drills.

q. Performing periodic maintenance, testing, and inspection of fire protection systems and equipment in accordance with established procedures.

r. Ensuring adequate fire fighting equipment is available on site and inspected periodically.

3.5 SITE ENGINEERING

The Site Engineering Manager is responsible for fire protection related design activities at the site. Site Engineering has available an individual who meets the eligibility requirements as a Member Grade in the Society of Fire Protection Engineers to assist in fire protection design. Site Engineering has the following responsibilities:

a. Establishing and maintaining the Fire Protection Report, including the Fire Hazards Analysis (primary).

b. Reviewing and evaluating applicability of regulations and standards to fire protection system design activities.

c. Reviewing the design, installation and modification of plant fire protection equipment and systems for conformance to regulatory requirements and general industry fire protection standards.

d. Providing technical advice and assistance to plant personnel on fire protection engineering design activities.

e. Review all design activities for impacts on Appendix R Safe Shutdown and the Fire Hazards Analysis.

3.6 SITE PERSONNEL

This Fire Protection Plan applies to Nuclear Operations employees and contractors performing activities at BFN. Fire prevention and protection are essential for the safe operation of BFN.

3.6 SITE PERSONNEL (continued)

Site personnel who have duties or perform work activities at BFN are responsible for:

a. Being familiar with procedures applicable to them during a fire emergency.

b. Conducting day-to-day work activities in a manner which minimizes fire hazards within their work areas.

c. Reporting fires immediately upon discovery.

d. Correcting any condition posing a fire threat or reporting the condition to their supervisor if it cannot be immediately corrected.

e. Reporting the unauthorized use of fire protection equipment or systems, damaged fire protection equipment and missing fire protection equipment to their immediate supervisor and/or the Fire Protection organization.

f. Knowing the location of exits and fire fighting equipment in their assigned work area.

3.7 PROPERTY PROTECTION INSURANCE

Browns Ferry is committed to the utilization of a comprehensive nuclear insurance program to provide for a higher degree of financial security than would be available if it self-assumed losses. Browns Ferry Nuclear Plant is insured by Nuclear Electric Insurance Limited (NEIL).

3.8 FIRE PROTECTION QUALITY ASSURANCE PROGRAM

The Fire Protection Quality Assurance Program shall satisfy the guidelines for Quality Assurance (QA) for Fire Protection established by Branch Technical Position CMEB 9.5-1 for fire protection features that provide protection for safety related structures, systems or components. More stringent QA requirements may apply to Fire Protection features that also perform nuclear safety-related functions such as secondary containment isolation.

a. Design and Procurement Document Control

Measures shall be established to ensure that NRC fire protection guidelines are included in design and procurement documents and that deviations therefore are controlled.

3.8 QUALITY ASSURANCE PROGRAM (continued)

b. Instructions, Procedures, and Drawings

Inspections, tests, administrative controls, fire drills, and training that govern the fire protection program shall be prescribed by documented instructions, procedures, or drawings and are accomplished in accordance with these documents.

c. Control of Purchased Material, Equipment, and Services

Measures shall be established to ensure that purchased material, equipment, and services conform to the procurement documents.

d. Inspection

A program for independent inspection of activities affecting fire protection shall be established and executed by or for the organization performing the activity to verify conformance with documented installation drawings and test procedures for accomplishing the activities.

e. Test and Test Control

A test program shall be established and implemented to ensure that testing is performed and verified by inspection and audit to demonstrate conformance with design and system readiness requirements. The tests shall be performed in accordance with written test procedures; test results are properly evaluated and acted on.

f. Inspection, Test, and Operating Status

Measures shall be established to provide for the identification of items that have satisfactorily passed required tests and inspections.

g. Nonconforming Items

Measures shall be established to control items that do not conform to specified requirements to prevent inadvertent use or installation.

h. Corrective Action

Measures shall be established to ensure that conditions adverse to fire protection, such as failures, malfunctions, deficiencies, deviations, defective components, uncontrolled combustible material and nonconformances, are promptly identified, reported, and corrected.

3.8 QUALITY ASSURANCE PROGRAM (Continued)

i. Records

Records shall be prepared and maintained to furnish evidence that the criteria enumerated above are being met for activities affecting the fire protection program.

j. Audits

Audits shall be conducted and documented to verify compliance with the fire protection program, including design and procurement documents, instructions, procedures and drawings, and inspection and test activities. Audits of the Browns Ferry Fire Protection Program shall be conducted in accordance with TVA Nuclear Quality Assurance Plan TVA-NQA-PLN89-A.

4.0 FIRE PROTECTION FEATURES

4.1 SAFETY OBJECTIVES

The purpose of the Fire Protection Plan at BFN is to provide assurance, through a defense-in-depth approach, that a fire will not prevent the performance of necessary safe plant shutdown functions and will not significantly increase the risk of radioactive release to the environment.

The objectives of the fire protection systems are to provide automatic fire protection for known hazardous areas where it is practical to do so, to provide adequate warning of fire in hazardous areas where automatic protection is not feasible, to provide adequate manually-actuated fire protection systems for the entire plant and yard areas (i.e., hose stations, hydrants, etc.) and to ensure the maintenance of divisional integrity of safety-related systems to the extent that the capability for safe shutdown of the reactors is assured during and after a fire.

4.2 DEFENSE-IN-DEPTH

The BFN Fire Protection Plan addresses physical features such as compartmentation, detection, and extinguishing systems; administrative controls and procedures; and operating and surveillance requirements. The defense-in-depth principle is aimed at achieving an adequate balance in these areas along with:

a. Preventing fires from starting;

b. Detecting fires quickly and rapidly suppressing those fires that occur to limit damage; and

4.2 DEFENSE-IN-DEPTH (continued)

c. Designing plant safety systems so that a fire which starts in spite of the fire prevention efforts and burns for a significant period of time in spite of fire suppression activities will not prevent essential plant safety functions from being performed.

None of these elements can in themselves be perfect or complete. Strengthening any one can compensate in some measure for weaknesses, known or unknown, in others.

4.3 DESIGN BASIS

As part of BFNs defense-in-depth philosophy, the design basis for the Fire Protection System has been developed to provide suppression, detection, and compartmentation for associated hazards in the plant.

4.3.1 The High Pressure Fire Protection System shall be capable of meeting the flow requirements of the hydraulically most demanding area for the sprinkler/spray systems and fire hose stations.

4.3.2 The Low Pressure CO_2 Fire Protection System shall be sized to have a storage capacity sufficient to provide multiple-shot protection for the hazard requiring the greatest amount of CO_2. Additionally, the Units 1 and 2 CO_2 System shall be capable of providing four generator purges. After one discharge to the most demanding hazard, the CO_2 tank shall still contain enough CO_2 for another shot to the most demanding hazard as well as four generator purges without being refilled.

4.3.3 Fire extinguishers are made available throughout the plant for incipient fire protection.

4.3.4 Fire detection system equipment shall be installed in areas where a fire could cause widespread plant equipment failures or prevent safe shutdown if the fire were allowed to progress undetected. The smoke detectors shall be provided with plant preferred or instrument and control power and wired so that trouble and alarm are separately reported. Detection devices will annunciate locally and at a supervisory board in the Main Control Room. Fire alarms are distinctive and different from other plant system alarms.

4.3.5 Fire retarding and fire containment systems shall be installed to prevent or limit the propagation of fires within the plant.

4.4 GENERAL DESCRIPTION

The common parts of the fire protection systems are the high pressure

4.4 GENERAL DESCRIPTION (continued)

water subsystem, the low pressure CO_2 subsystems, the fire detection, annunciation, initiation, and the compartmentation and fire retardant systems.

The following subsections are generalized discussions of the fire protection systems.

4.4.1 High-Pressure Raw Water Fire Protection System

(a) Water Supply System:

The High-Pressure Raw Water Fire Protection System supplies water for fixed water spray, preaction sprinkler and plant areas in the Control Building, Reactor Building, Turbine Building, Intake Pumping Station, Hydrogen Trailerport, Transformer Yard, Diesel Generator Building, and Service Building. Fire hose racks, hose connections, or hydrants are provided throughout the plant and yard areas.

The system is supplied raw water by three motor-driven vertical turbine fire pumps rated at 2,250 gpm each at 300 foot total head and located in the Intake Pumping Station, and by one diesel-engine-driven vertical turbine fire pump rated at 2,250 gpm at 300 foot total head and located in a building adjacent to gate structure 2 on the CCW cold water channel. The diesel-engine pump starts only after the three electric-motor-driven pumps fail to supply adequate system pressure. Strainers are provided on the discharge of these pumps to increase reliability of system operation. Only one pump is necessary to supply the water requirements for a fire in one of the safety related areas, where as two pumps would be required to handle the maximum switchyard fire. All pumps discharge into a yard main which loops the powerhouse. Branch lines from the yard main distribute water to all plant buildings and supply automatic water spray-systems for the main and station service transformers located in the switch yard and the hydrogen trailerport. Hydrants are appropriately located throughout the plant yard area. Standpipes and hose connections with hose racks are strategically located throughout the plant buildings. Hose connections are compatible with equipment used by the local fire department.

4.4.1 High-Pressure Raw Water Fire Protection System (continued)

Pressure is maintained on the High-Pressure Raw Water Fire Protection System through an interconnection to the Raw Service Water at approximately 50 psig. The Raw Service Water System pumps provide enough pressure and quantity of water to fight small fires throughout the powerhouse below EL 617. For fires above this elevation or for large fires, the fire pumps may be actuated manually by electric push-buttons strategically located throughout the powerhouse near the fire hose stations. The fire pumps are automatically actuated upon a fire signal from any of the fixed water fire fighting systems. When the fire pumps are actuated, the raw service water head tanks are isolated and the raw service water pumps are shut off.

The 2,250 gpm diesel-engine-driven fire pump provides assurance that the fire protection water supply will be available in the event of loss of the cable tunnel to the intake pumping station, which would result in a loss of power to all motor-driven, high-pressure fire protection pumps. The pump takes its suction from the upstream (west) side of Gate 2. In this location, the pump suction will not be in direct communication with the forebay when Gate 2 is closed. This would occur only during the cooling tower helper and open modes in which case Gate I would be open. When Gate 1 is open, the pump suction would communicate directly with the river. Even if both gates are inadvertently closed and the tower pumps stop, Gate 2 will pass enough flow in the reverse direction to keep the west side level within one foot of the east side level. Therefore, since the failure of a dam on the river is not postulated to occur concurrently with a fire, the lowest possible water at the pump is EL 549 feet, which will maintain an adequate water level pressure. The continuous reverse passage through Gate 2 would provide a large water supply.

Separate fire protection water supply systems are provided for facilities located outside the BFN power block (i.e., LLRW facility, the Training and Visitors Center, and Power Stores Area). The water supply for these areas is provided from separate water main system, fed by 1,500 gpm and 2,000 gpm diesel-driven fire pumps located in separate pump houses. The 1,500 gpm fire pump takes suction from a 200,000 gallon storage tank and the 2,000 gpm fire pump takes suction from a 300,000 gallon storage tank. The tanks are filled by connection to the local utility potable water supply. The utility connection feeds the fire hydrants directly when the fire pump or tank is out of service.

4.4.1 High-Pressure Raw Water Fire Protection System (continued)

(b) Water Spray Systems - Safety Related Areas:

Fixed water spray systems are installed in those areas of the Turbine Building, and Unit 3 Diesel Generator Building where the congestion of cable trays would significantly reduce the effectiveness of a sprinkler system and the effectiveness of manual applications of fire extinguishing agents, and in those areas of high combustible loads.

Water spray systems are located in the following safety related areas:

Turbine Building - EL 586 south wall for selected cable trays.

Diesel Generator Building Unit 3 - EL 565, cable and pipe tunnel, for selected cable trays.

(c) Water spray systems - Non-safety related areas:

Water spray systems are located in the following non-safety related areas:

Turbine Building - main turbine oil tanks, reactor feed pump turbine oil tanks, turbine head ends, and hydrogen seal oil units.

Service Building - oxygen-acetylene storage room, and oil storage room.

Yard Area - transformers and hydrogen trailer port.

(d) Automatic Sprinkler Systems:

Reactor Building Unit 1 has a general area pre-action sprinkler system installed at the ceiling level and under obstructions located on elevation 565, 593, 621, 639 (southside) and HPCI Room El 519. The RHR Pump Rooms (EL 541) ceiling hatches are protected by a water curtain.

Reactor Building Unit 2 has a general area preaction sprinkler system installed at the ceiling level and under obstructions located on elevations 565, 593, part of 621,

4.4.1 High-Pressure Raw Water Fire Protection System (continued)

639, and HPCI Room elevation 519. The RHR pump rooms (EL 541) ceiling hatches are protected by a water curtain.

Reactor Building Unit 3 has a general area preaction sprinkler system installed at the ceiling level and under obstructions located on elevations 565, 593, 621, 639 (south side) and HPCI Room EL 519. The RHR pump rooms (EL 541) ceiling hatches are protected by a water curtain.

Proper curbing and drainage exist to prevent damage to equipment on floors below.

Air supervision is provided for the sprinkler system piping downstream of the flow control valve FCV 26-77 (RB Sprinkler System, EL 565) on each unit in order to monitor the integrity of the system piping and sprinkler heads. Should the pressure drop, a pressure switch would create an alarm signal at the local control panel and would send a trouble signal to the control room. The cause of the loss of pressure could be a pipe break, a sprinkler head opening, or a long-term loss of the service air supply.

Elevation 617 of the Control Building contains preaction sprinkler systems in the following areas:

- Mechanical Equipment Rooms,
- Toilet & Locker,
- Operations' Unit Managers Office,
- Operations' Work Control Center,
- Technical Support Center,
- Women's Restroom, and
- Operator's Lunchroom.

Sprinkler system components located in the EL 617 corridors, Control Rooms, or Mechanical Equipment Rooms are supported, so they will not fall on safety-related equipment and will maintain the integrity of the system pressure boundary during a seismic event.

4.4.1 High-Pressure Raw Water Fire Protection System (continued)

A preaction sprinkler system is provided for the Control Building Cable Spreading Rooms A and B, EL 606. This system has fusible link sprinkler heads and the preaction function can also be manually actuated at a remote station or from the Control Room. Air supervision, similar to Reactor Building, is provided for the sprinkler pipe downstream of flow control valves 1-26-98 and 3-26-99.

A preaction sprinkler system is provided for the north side of the Intake Pumping Station EL 550. Air supervision, similar to the Reactor Building is provided for the sprinkler system piping downstream of flow control valve 0-FCV-26-72E.

(e) Manual Sprinkler Systems:

Manual sprinkler systems are located in the Battery and Battery Board Rooms located in the Control Building, Units 1, 2, and 3, EL 593. A Main Control Room switch is provided to actuate each flow control valve. Their supporting equipment is constructed such that the pressure boundary integrity of the system would not be compromised, and no damage to a safety-related system would be realized during a seismic event. Drains and curbs are provided to remove or contain water discharged by suppression activities.

4.4.2 Low Pressure Carbon Dioxide

Two low-pressure CO_2 systems provide fire protection for oil and electrical hazards, and purging capability for the generator hydrogen system.

One storage and refrigeration unit (17-ton capacity) is located in the Units 1 and 2 Diesel Generator Building. This unit has a fill line bleed-off line and valve, so that depressurization of the fill line may be accomplished without bleeding CO_2 back through the flow totalizer or by lifting the relief valve. From this unit automatic CO_2 fire protection is provided for the Diesel Generator Rooms, Auxiliary Electrical Board Rooms, and Fuel Oil Transfer Pump Room located in the Units 1 and 2 Diesel Generator Building, the Lube Oil Purification Room and Permanent Records Storage Room located in the Turbine Building, and the Oil Dispensing Room located in the Service Building. Appropriate discharge time delays are provided to permit personnel egress. CO_2 discharge for these protected hazards may also be initiated manually, in the event a fire is observed, before automatic actuation occurs. This unit also provides CC_2 for manually

4.4.2 Low Pressure Carbon Dioxide (continued)

actuated CO_2 systems in the computer rooms, Auxiliary Instrument Rooms, and for purging the generator-hydrogen systems.

The second storage and refrigeration unit (6-ton capacity) is located in the Unit 3 Diesel Generator Building. This unit provides automatic CO_2 protection for the Diesel Generator Rooms, Auxiliary Electrical Board Rooms, and Fuel Oil Transfer Pump Room located in the Unit 3 Diesel Generator Building. CO_2 discharge for these protected hazards may also be actuated manually outside each protected area.

The CO_2 Fire Protection System is complete with control room annunciation providing flow indication to each specific hazard area. This is accomplished by a pressure switch downstream of each local control (hazard) valve. This allows the control room operator to manually close a failed-open local control (hazard) valve which could be diverting flow from a fire area.

A low level indicator on the CO_2 storage tanks is connected to an annunciator in the control room. A wintergreen odorizer is injected into the CO_2 downstream of the local control (hazard) valve, so that the presence of CO_2 is discernible by smell.

There are two master control valves (a valve supplying CO_2 to several hazard control valves) located at the storage unit in the Units 1 and 2 Diesel Generator Building. One valve supplies CO_2 to hazard control valves in the Turbine, Control, and Service Buildings, and the other valve supplies those in the Units 1 and 2 Diesel Generator Building. The storage unit in the Unit 3 Diesel Generator Building has one master control valve which supplies CO_2 to hazard control valves in the Unit 3 Diesel Generator Building. These master control valves are normally closed, and open upon a fire signal from any of the protected hazards to charge the supply headers.

Those portions of the CO_2 systems in the Units 1 and 2 Diesel Generator Building and Unit 3 Diesel Generator Building are seismically designed. Those portions of the CO_2 systems in the Control Building are also seismically designed to prevent inadvertent release of CO_2. Loss of nonseismic portions of the system does not affect the availability of protection in the Diesel Generator Buildings.

4.4.2 Low Pressure Carbon Dioxide (continued)

Following is a list of areas protected by the CO_2 Fire Protection System:

Hazard	Hazard
Diesel Generator Room A	Diesel Generator Room 3A
Diesel Generator Room B	Diesel Generator Room 3B
Diesel Generator Room C	Diesel Generator Room 3C
Diesel Generator Room D	Diesel Generator Room 3D
Electrical Board Room A *	Diesel Aux. Board Room 3EA
Electrical Board Room B *	Diesel Aux. Board Room 3EB
Units 1 & 2 Fuel Oil Pmp Rm	Unit 3 Fuel Oil Pump Room
Units 1 & 2 Computer Room	Service Bldg Oil Dispensing Rm
Unit 3 Computer Room	Lube Oil Purification Room
Unit 1 Aux. Instrument Room	Permanent Record Storage Room
Unit 2 Aux. Instrument Room	
Unit 3 Aux. Instrument Room	

* also know as Electrical Equipment Room

4.4.3 Portable Equipment

Fire extinguishers were selected to be used on Class A, B, and C fires as defined by NFPA Standard 10, dated 1967. Class ABC dry chemical extinguishers are provided in selected areas of the plant for combating incipient stage fires. In areas occupied by electrical switchboards and control panels, carbon dioxide, dry chemical, or Halon extinguishers are used.

4.4.4 Fire Detection Systems

Fire detection systems are provided for selected areas of the Reactor Building, Control Building, Intake Pumping Station, Cable Tunnel to Intake Pumping Station, Diesel Generator Buildings and Turbine Building. Fixed temperature, rate of rise analog (addressable) thermal detectors are provided in the Diesel Auxiliary Board Rooms (also known as Electrical Equipment or Board Rooms at Unit 1 & 2), Control Building Kitchen. Fixed temperature rate-compensated thermal detectors are provided in the Diesel Generator Rooms. Continuous strip thermal detectors are provided in selected cable tray runs in the Turbine Building containing an automatically-actuated fixed water spray system.

4.4.4 Fire Detection Systems (continued)

Ionization smoke detectors are provided for general area coverage in selected areas of the Turbine Building. Analog photoelectric smoke detectors are provided in selected areas of the Diesel Generator Buildings, Control Building, Reactor Building and Intake Pumping Station. Linear beam smoke detectors are provided in the Intake Pumping Station Cable Tunnel. Smoke detection coverage is generally for the same areas provided with fixed water spray or sprinkler systems. Cross-zoning is used in the Turbine Building in order to prevent spurious operation/actuation of the preaction valve caused by a single faulty detector.

All other areas are protected by analog (addressable) photoelectric smoke detectors. False alarms are prevented by continuous monitoring of detection sensitivities which may change due to dust and dirty conditions. Spurious actuations of suppression systems are prevented by software programming employing appropriate combination of detector activation and timely maintenance of detector cleanliness.

Detectors are wired such that the influence of a fire in one area upon cables serving detectors in another area is minimized. This is accomplished by routing all cables in conduits. Detector trouble and smoke alarms are annunciated in the Main Control Room and at local control panels. All short circuits, open circuits, ground or losses of power, which tend to degrade system operation result in a trouble annunciation at the local and main control room panel. Also, in each of the postulated failure modes, the detectors and their control devices have no adverse effects on safety-related equipment. The fire detection systems provide an automatic initiation function for the automatically actuated fixed water spray systems, the CO_2 system and the automatic preaction sprinkler systems. The fire detection system annunciates in the Main Control Rooms and at local panels. All detectors receive normal power from instrument and control bus A.

On loss of normal power, detection circuits automatically transfer to local emergency battery power supplies.

The detectors for the automatically initiated CO_2 systems start a timer controlled sequence which results in the release of CO_2 and provides remote annunciations in the Control Room.

4.4.4 Fire Detection Systems (continued)

Photoelectric, linear beam and ionization/smoke detectors are provided in the Cable Tunnel to the Intake Pumping Station. These detectors are arranged to alarm at a local panel in the Intake Pumping Station or Turbine Building and at a Main Control Room panel.

Detector Locations in Safety Related Areas

Smoke Detector Locations:

Smoke detection coverage is generally provided in areas with fixed water spray or sprinkler systems. Following is a list of safety-related areas where ionization or photoelectric smoke detectors are located:

a) Reactor Buildings Units 1, 2 and 3 - EL 519/541.

b) Reactor Buildings 1, 2, and 3 - EL 565, except in drywell access and TIP room which are non-sprinkled.

c) Reactor Buildings 1, 2, and 3 - EL 593, except in the RWCU heat exchanger and pump room which are non-sprinkled.

d) Reactor Building 1, 2 & 3 EL 621.

e) Reactor Building 1, 2 & 3 - EL 639.

f) Control Building - EL 593.

g) Control Building - EL 606.

h) Control Building - EL 617, including main control room panels.

i) Intake Pumping Station - EL 550.

j) Cable Tunnel - between Intake Pumping Station and Turbine Building..

k) Diesel Generator Building Units 1 and 2 - Pipe and Electric Tunnel and Diesel Auxiliary Board Rooms.

l) Diesel Generator Building Unit 3 - Pipe and Electric Tunnel, Mechanical Equipment Rooms and Diesel Auxiliary Board Rooms.

4.4.4 Fire Detection Systems (continued)

m) Shutdown Board Room 3EA.

n) Shutdown Board Room 3EB.

o) Shutdown Board Room 3EC.

p) Shutdown Board Room 3ED.

q) 4 KV Bus Tie Board Room.

r) Shutdown Board Rooms A, B, C, D.

s) Turbine Building - Elevation 586 south wall over cable trays.

Heat Detector Locations:

Continuous line type thermal detectors are provided in cable tray runs protected by water spray systems located in the Turbine Building at cable tray penetrations from the Cable Spreading Room.

Spot type heat detector is installed inside the Unit 1 Reactor Core Isolation Cooling (RCIC) turbine cubicle. Spot type heat detectors are also located in the Diesel Generator Rooms, Diesel Auxiliary Board Rooms, Fuel Oil Transfer Pump Room, and Control Building kitchen EL 617.

Detector Locations in Non-Safety Related Areas:

Smoke and/or heat detectors are located in the following non-safety related areas.

Turbine Bldg: Permanent Records Storage Room
: Lube Oil Purification Room
: Over the Auxiliary Boilers
: Hydrogen Seal Oil Units
: Turbine Head Ends
: RFP Turbine Oil Tanks
: Main Turbine Oil Tanks
: Cable Tunnel to the Intake Pumping Station (alarms at panel in the Turb. Building or Intake Pumping Station and at the main Control Room Panel) *No heat detectors in cable tunnel

4.4.4 Fire Detection Systems (continued)

Service Bldg: Oil Dispensing Room
: Oil, Oxygen, and Acetylene Storage Room
: Office Building Penthouse
: Measuring and Test Equipment Shops

Yard : CSS Transformers
: USS Transformers
: Main Transformers Detectors
: Shunt Reactors
: Hydrogen Trailer Port

*Heat Detectors Only

4.4.5 Compartmentation and Fire Retardant Systems

BFN is divided into 25 fire areas/compartments to comply with 10CFR50 Appendix R requirements. These compartments and associated fire barriers including fire seals, fire dampers, fire doors, fire wrap, and structural steel protection provide adequate assurance that a fire will be contained within one area and not propagate to an adjacent fire area. Fire wrap material is specifically used to protect one train of redundant safe shutdown circuits from the effects of a fire. Refer to the Fire Protection Report Volume 1 - Fire Hazards Analysis Section for details.

Fire retardant coatings have been applied on exposed cable surfaces in open cable trays to reduce their flame spread. The coatings were applied to non-IEEE 383 qualified cables in the secondary containment area of the Reactor Building and throughout the Diesel Generator Buildings, Intake Pump Station, Cable Spreading Rooms, and the Pumping Station cable tunnel. Current practice is to use cables which are qualified to the flame retardant requirements of IEEE 383. However, Flamemastic will continue to be applied and maintained in accordance with the appropriate Design Criteria on cables which do not meet the flame test criteria of IEEE 383. Any exceptions to these requirements will be documented as an exception to the appropriate Design Criteria.

A turbine oil tank emergency drain sump pump, with the discharge routed to a point outside the service bay west side double doors, diminishes the probability of an oil spill in the Turbine Building, thus diminishing the probability of a subsequent fire. This sump pump system also precludes the possibility of oil entering the radwaste cleanup cycle and possibly creating a fire hazard. Manual controls for maintaining proper sump level and control room annunciation for improper levels are helpful in minimizing the fire hazard associated with overflow of the sump.

4.4.5 Compartmentation and Fire Retardant Systems (continued)

Curbs are present at each door between the Diesel Generator Rooms and the Diesel Generator Building corridor for all units. The curbs are provided to prevent the spread of fire from one engine compartment to another in the event of a flammable liquid fire. The curbs are 4 inches in height and exist across the openings for Diesel Generator Building doors 281, 282, 283, 284, 806, 807, 808, and 809.

4.4.6 Safety Evaluation

The fire protection systems meet the safety design basis described in Section 4.3. Some redundancy is provided for the water and CO_2 suppression systems through the availability of the standpipe systems and fire extinguishers.

The low-pressure CO_2 system is designed and constructed in accordance with NFPA Standard No. 12, dated 1966. In addition, a pressure switch and alarm is provided on each of the three main CO_2 headers, annunciated in the control room, to alert personnel that the headers are charged with CO_2. Fire extinguishers are selected in accordance with NFPA Standard No. 10, dated 1967.

Diesel fuel oil bearing the Class II designation by the NFPA is located in tanks in a diked area more than 300 feet from the Turbine and Reactor Buildings. This distance exceeds the minimum distance requirements set by the NFPA 30. The two 71,000-gal tanks holding the fuel were constructed in accordance with API Standard 650 and the NFPA National Fire Code, NFPA 30, Flammable Liquids. Therefore, a fire in the tanks would not endanger safe operation of the reactors due to the distance between the tanks and the main plant.

Water for manual fire protection is provided from hydrants located in the plant area and fed from the yard loop which is fed from the fire pumps. BFN maintains a fully-equipped fire apparatus which contains sufficient fire hoses and fire fighting equipment to fight fires in the plant and yard areas.

4.4.6 Safety Evaluation (continued)

Hydrogen is stored at 2,400 psig in two truck trailers, each holding 38 cylinders with a total capacity of 48,240 standard cubic feet. The hydrogen trailers are designed in accordance with ICC regulations for highway transportation of hydrogen gas under high pressure. The gas pressure is reduced to 100 psig at the cylinders discharge manifold.

The hydrogen trailers are parked in a trailer port of reinforced concrete and steel construction, located over 100 feet from the Turbine Building and over 250 feet from the nearest comer of the Reactor Building.

The trailer port contains two individual trailer bays, each enclosing one trailer on three sides with the open end facing away from the main plant.

There is an 18-inch space separating the top of the walls and the roof to ensure good ventilation in the structure. The roof is sloped on the underside and constructed without pockets into which hydrogen could accumulate. Since pure hydrogen is stored in the trailers, and adequate ventilation is provided for the trailer port, the probability is very low that an explosive mixture of hydrogen and air could collect and ignite.

The hydrogen storage trailers are protected by a water spray fire protection system which is actuated by rate-of-rise temperature detectors. The water spray system will contain a fire and limit the possibility of a detonation occurring because of a fire.

An impairment analysis of the fire protection systems was performed to determine if any potential, single event could unacceptably degrade or disable the systems. The analysis considered all portions of the fire protection systems which protected essential safeguard equipment or circuits and which were installed prior to the startup of Units 1 and 2 following the recovery from the March 22, 1975 fire. Modifications made to the systems after this were designed so that potential single impairments could not render the systems ineffective.

4.5 FIRE PROTECTION SYSTEMS ANALYSIS

4.5.1 Fire Protection Systems Seismic Analysis

The mechanical equipment and piping supplying CO_2 to all fire protection local (hazard) areas in the Diesel Generator Building and Control Building are designed to Class I seismic criteria. The electrical power supply to the CO_2 Fire Protection System is not seismically qualified; however, this would not prevent manual operation of the system. An operator is dispatched to the Diesel Generator Building upon loss of normal station auxiliary power to monitor diesel generator operation. An operator can quickly actuate CO_2 fire protection manually should it become necessary.

Neither the High Pressure Raw Water Fire Protection System inside the Reactor Building, nor the portion of the CO_2 Fire Protection System outside the Diesel Generator Building and the Control Building is designed to Class I seismic criteria; however, a fire in any component of an essential system in the Reactor Building will not prevent safe shutdown of the reactor, because these essential components are redundant and they meet separation criteria. Fire extinguishers are provided as backup suppression to the fixed fire protection systems.

In order to have acceptable fire protection systems that would not endanger the plant from spurious operations or failures, the following criteria were used to design the fire protection systems within the Reactor Building, Control Building, and Diesel Generator Building.

1. Only normally unoccupied areas have automatic initiation from detection devices.

2. Automatic initiation circuitry for the Unit 1 Reactor Building and Turbine Building requires the operation of two detectors (cross zone) in order to initiate the automatic system. All other areas utilize software programming to initiate automatic systems. Multiple detectors are utilized (where possible) to activate CO_2 and open head spray systems.

3. Detection devices for automatic initiation do not have mercury switches.

4. The fire protection system piping supports are designed as a minimum for the piping to be position retention. However, the supports are designed to maintain pressure boundary integrity, where spray damage to safety-related components would affect the safe shutdown capability of the plant.

4.5.1 Fire Protection Systems Seismic Analysis (continued)

5. Combustion air ducts for the diesel generator sets are not isolated so that the diesels can continue to operate.

Failures of the nonseismically-designed High Pressure Raw Water Fire Protection System in the Reactor Building could allow raw water to enter the building. Following a Design Basis Event (DBE), whether detected by the annunciation of the seismic monitoring instrumentation or due to noticeable building movement, personnel will be dispatched to EL 519 to inspect the torus area and corner rooms for flooding which may have resulted from such failures. Also, flooding may be detected by the automatic initiation of the Reactor Building floor and drain system sump pumps and/or by the water level switches which actuate when the water level is approximately two inches on the EL 519 floor in the torus area, the HPCI room, and the four corner rooms. These switches will actuate alarms in the control room. If flooding is detected by the automatic operation of the floor and drain sump pumps, the operator has plenty of time (approximately 1 hour) until the level switches are activated to discover the source of water and stop the associated fire pumps and/or raw service water pumps if they are running. There is still time (approximately 7 hours) after the level switches are activated before the core spray and RHR pumps would be flooded out. There are at least two other means of cooling the reactor. i.e. use of an RHR from an adjacent reactor, or injection of river water.

There are a number of ways of interrupting the power to the pumps from the Control Building. The electric fire pumps have their breakers located on the 4 kV shutdown boards. The pumps can be stopped from the control room, from the shutdown board, or from the local control station at the pump. The switch gear for the raw service water pumps is located in the Turbine Building and, therefore, is not necessarily accessible. There are several breakers in the electrical circuitry between the raw service water pumps and the offsite power supply that can be used to interrupt power to the pumps. In any event, the operator can interrupt power to the pumps and stop flooding of the Reactor Building from a failure in the High Pressure Raw Water Fire Protection System.

4.5.1 Fire Protection Systems Seismic Analysis (continued)

Thus, the design basis for the fire protection systems provide protection in the case of fires, but the systems do not necessarily remain functional in an earthquake. The loss of protection by failure in the piping systems due to earthquakes is acceptable since the plant construction does not easily propagate fires. Therefore, separate redundant components can be relied on to provide a safe shutdown of the reactor. However, the effects of pipe failures have been recognized in the design of the fire protection systems, and adequate means have been included to cope with such possible failures.

4.5.2 Circulating Water and Fire Protection Systems Failure Analysis

Failures in the pressure boundaries of the water systems in either Diesel Generator Building will not prevent a safe shutdown of a unit because penetrations, including the large equipment access doors into the Diesel Generator Buildings, are sealed except the personnel access hatch into the Control Building at EL 593. A drainage system exists that has sufficient capacity to prevent water accumulation in the building in the event of a double-ended pipe break of the largest diameter pipe inside either building.

Failures in the pressure boundaries of any water system (including fire protection systems) in a Reactor Building or inadvertent leakage into a building (most likely from the Turbine Building) will not prevent a safe shutdown of the unit. The reasons are given below:

1. All penetrations between Reactor Buildings below plant grade (EL 565) are sealed; therefore, flooding is confined to one building.

2. All penetration into the periphery of the Reactor Buildings are sealed and made watertight to EL 578, including the personnel locks and equipment accesses.

3. Flooding in the lower portion of each building will be detected by the following three mechanisms:
   1) automatic initiation of the Reactor Building floor and drain system sump pumps; 2) the water level switches which actuate when the water level is approximately two inches on the EL 519 floor in the torus area, the HPCI room, and the four corner rooms, and/or; 3) inspection. Evidence of a break will alert the control room operator to take corrective measures.

4.5.2 Circulating Water and Fire Protection Systems Failure Analysis (continued)

4. There are a number of ways of interrupting the power to the affected system(s).

5. Also, two RHR pump-heat exchanger combinations and two RHRSW pumps from an adjacent unit can be used to provide reactor cooling in an emergency.

Loss of the engineered safety systems pumps (RHRSW) on the intake structure cannot prevent the shutdown of a unit because of the following:

1. The high walls forming the four compartments around the RHRSW pumps provide protection against natural phenomena such as tornadoes and wind waves in conjunction with floods (probable maximum flood plus waves from 45 mph winds).

2. Failure of the pressure boundaries of the water systems inside one compartment will not cause the water to overflow into an adjacent compartment because the wall design is such that the water preferentially overflows the rear wall (rear walls are one foot lower than other walls).

Failures in the pressure boundaries of any water system in the Turbine, Service Radwaste and Offgas Buildings and the Stack will not prevent a safe shutdown of a unit because of the following reasons:

1. There are no engineered safety systems located inside these areas.

2. Sumps are included in each area with high level alarms that annunciate in the Radwaste Building, which will be manned continuously, so that any necessary corrective actions can be initiated.

3. All penetrations between these areas and the Reactor Building below EL 572.5 are sealed, including the personnel accesses which are watertight, bulkhead-type doors. (This allows at least 20 minutes to detect the worst failure, a condenser intake culvert open-ended break in the Turbine Building, and to stop the main condenser circulating water pumps.) This is 7.5 feet above plant grade, and the water would be drained to the plant yard through the outside doors.

4.6 EMERGENCY LIGHTING

Emergency lighting is provided to illuminate the areas containing equipment needed for emergency shutdown during a fire as well as the access and egress routes which must be taken to reach the necessary equipment. Emergency lighting for safe shutdown consists of sealed beam units with 8-hour emergency backup power supplies. The emergency lighting units are listed in Table 9.3.11.G with the design basis (consisting of the location of Appendix R lights including the equipment and access/egress pathway requiring illumination) documented on drawing series 45E400-RW and 45W400-RW (Reference 2.36)

Non-Appendix R emergency lighting units are also provided throughout the plant to meet building and/or life safety code requirements. These emergency lights are not the subject of this FPR.

4.7 VENTILATION

The plant ventilation systems are designed to maintain environmental conditions suitable for personnel comfort as well as to maintain temperatures within specified limits in areas where safe shutdown equipment is located. In addition, the ventilation systems provide contamination control for any slight amounts of airborne radioactivity that may leak from equipment during normal operations. This contamination control requires specific air flow patterns in order to assure that the air flow is always towards the area of higher potential contamination. There is an additional secondary containment isolation function which requires that a Reactor Building ventilation system be shutdown and isolated under certain accident conditions. This isolation function is achieved on a fail safe basis; that is, the ventilation system is isolated upon loss of control air to the isolation damper, or by loss of power to the isolation damper.

Ventilation is provided for the Control Building Battery Rooms to minimize the threat of a hydrogen explosion. The ventilation systems are designed to limit the hydrogen concentration to less than 2 percent.

Smoke removal can generally be accomplished by using the fixed ventilation system in the Reactor, Diesel and Turbine Buildings, and Shutdown Board and Cable Spreading Rooms. The Standby Gas Treatment System can be utilized to remove smoke from the Reactor Building during emergency situations. Portable smoke ejectors are also available to supplement the fixed exhaust system. In addition, fans are available to support an Appendix R fire event in order to compensate for the loss of HVAC.

4.8 PLANT COMMUNICATION SYSTEM

The intraplant communication system at BFN consists of three basic functional systems listed as follows:

a. Primary Communication System
   (i) Telephone System
   (ii) Paging System
   (iii) Evacuation Alarm System
   (iv) Code Call (Fire Alarm) System

b. Plant Radio System
   (i) Radio Repeater System
   (ii) Cellular Radio System
   (iii) Radio Paging System

c. Backup Control Center Communication System (BCCS)
   (i) Primary Sound-Powered Telephone System
   (ii) Alternate Sound-Powered Telephone System

The communication system has been evaluated as part of the Appendix R analysis to ensure that adequate communication systems are available for safe shutdown for a fire in any plant area (Reference 2.37). A redundant radio system ensures no single fire can damage the plant radio communication to any area where manual actions are required. Further details are provided in Section 3 of this FPR, Safe Shutdown Analysis paragraph 3.7.3.10.

4.9 EMERGENCY BREATHING EQUIPMENT

At least 10 self contained breathing apparatus (SCBAs) are available to support the Fire Emergency Response Organization. At least two extra air bottles are located onsite for each SCBA. In addition, an onsite six-hour of reserve air is provided and arranged to permit quick and complete replenishment of exhausted air bottles as they are returned.

Approved compressors are used as a source of breathing air and are operable if loss of offsite power occurs. Special care has been taken to locate the compressor in areas free of dust and contaminants.

4.10 RECORDS STORAGE AREAS

Record storage areas are located and protected so that a fire in those areas does not present an exposure hazard to safety-related systems or equipment.

5.0 FIRE HAZARDS ANALYSIS

A fire hazard analysis has been performed to demonstrate that the plant will maintain the ability to safely shutdown in the event of a fire. The analysis considered potential in situ fire hazards; determined the consequences of fire in any plant location; and specified fire detection, fire suppression, and compartmentation requirements. Refer to the Fire Protection Report Volume 1 Fire Hazards Analysis section for details.

6.0 SAFE SHUTDOWN ANALYSIS

The safe shutdown analysis for BFN was performed to consider the potential fire damage to the plant shutdown capability and to demonstrate that the plant can achieve safe shutdown in accordance with the requirements of 10CFR50.48 and 10CFR50 Appendix R for a fire in any location of the plant. Refer to the Fire Protection Report Volume 1 - Safe Shutdown Analysis section for details.

7.0 FIRE LOSS PREVENTION

Fire prevention is an important part of the overall BFN Fire Protection Plan. The primary objective of the fire prevention activities is to prevent fire from occurring. The plant fire prevention program consists of identification, evaluation, and control of fire hazards. Administrative controls have been established to control both combustibles and ignition sources to the greatest extent possible. Procedures have been established to minimize fire hazards in areas containing structures, systems, and components important to safety and to maintain the performance of the fire protection systems and personnel. NFPA guidelines have been used as a basis for these procedures.

7.1 WEEKLY FIRE SAFETY INSPECTION

The Fire Protection section/Operations performs a weekly fire safety inspection of the critical areas of the plant to identify and minimize potential fire hazards.

7.2 CONTROL OF COMBUSTIBLES

One method of reducing the severity of a fire which might occur in a given area is to minimize the amount and type of material available for combustion. The following measures have been established dealing specifically with the control of combustible material.

7.2.1 Combustible Material Control Measures

a. The Fire Protection Program requires that proposed work activities evaluate transient combustibles to ensure that they are adequately controlled.

7.2.1 Combustible Material Control Measures (continued)

b. The Fire Protection Program controls the use of lumber. Only fire retardant pressure-treated wood is permitted in critical areas. The use of non-fire retardant wood or other combustible building materials in the critical areas is allowed only with the specific approval of the Fire Protection section. However, use of fire retardant treated wood is allowed without further approval.

c. The Fire Protection Program controls the use of plastic materials. Plastic films and fabrics for general use must be of the flame retardant type, must be tested, and must meet the flame resistance requirements of NFPA 701, Large Scale Test, or UL Standard 214; or the approval of the Fire Protection section.

7.2.2 Combustible Material Control Procedures

a. The Fire Protection Program controls influx of transient combustibles into the critical areas.

b. The Fire Protection Program controls the storage of hazardous materials.

7.3 CONTROL OF IGNITION SOURCES (HOT WORK)

a. Torch Cutting, Welding, Open-Flame Grinding, and Spark-Producing Work Requirements and Precautions

To protect equipment from damage due to fires caused by "hot work" activities precautions and requirements have been defined to protect the plant against possible fire damage or loss resulting from the use of spark or heat producing devices. A fire watch shall be posted as required. Open flames or combustion-generated smoke shall not be used for leak testing.

b. Guidelines for Prevention of Off-Gas Fire or Explosion

To prevent fire or explosion in the off-gas systems (Off-Gas stack, Off-Gas building, and Turbine building), explosion proof and non-arc producing materials will be used for maintenance tools, material handling devices, air connection, etc.

c. Smoking Restrictions

The use of smoking materials is controlled through plant administrative procedures.

7.4 CONTROL OF FIRE PROTECTION IMPAIRMENTS

One method of reducing the severity of a fire which might occur in a given area is to maximize the availability of the fire protection equipment, such as a suppression system, a detection system, fire pump, fire hose station, fire hydrant, and fire barriers.

Fire protection equipment and fire barriers are to remain fully operational at all times, to the maximum extent possible. A system has been developed and implemented to monitor fire protection impairments in order to assure appropriate compensatory measures are instituted. This system identifies the conditions that require a roving or continuous fire watch system.

A periodic verification shall be performed to ensure that Fire Protection compensatory measures are in place.

Abnormal Operating Instructions identify the required fire watch requirements When the I & C Bus is declared inoperable.

The Fire Protection foreman/designee has the responsibility to contact the Security Shift Supervisor whenever a security system problem has potential to affect a fire protection compensatory requirement.

Fire doors with their associated fire detection instrumentation (or panels) are defined in Table 9.3.11.E.

In the event of a failure that would affect the operability of hose stations(s) that require compensatory measures, a list of hose station(s) with their function (i.e., primary, secondary) is included as Table 9.3.11.C. This list requires verification by the Unit Supervisor/designee on a case-by-case basis to ensure normal system status and configuration.

7.5 FIRE WATCHES

Fire watches are assigned to "hot-work" activities and to inspect plant areas where fire detection and/or suppression equipment are declared inoperable.

Methods have been developed in the Fire Protection Program for fire watches to detect a fire behind a closed door.

7.6 FACILITY DESIGN, MODIFICATION, AND TEMPORARY STRUCTURE REQUIREMENTS

All new buildings, additions to existing buildings, and all temporary structures erected in critical plant areas are reviewed to ensure compliance with applicable fire safety codes and to minimize the fire hazard.

8.0 FIRE EMERGENCY RESPONSE ORGANIZATION

Effective handling of fire emergencies is an important aspect of the BFNs defense-in-depth Fire Protection Program. This is accomplished by the provision of a trained and qualified emergency response organization, the fire safety awareness of all plant employees, a comprehensive pre-fire plan, safe shutdown procedures, and the ability of the operations personnel to perform such procedures.

8.1 ORGANIZATION

The fire response organization is staffed and equipped for fire fighting activities in accordance with Branch Technical Position CMEB 9.5-1 Section C.3. A motorized fire apparatus is maintained on site. Additional support is provided through a contract with a local fire department.

A site fire brigade of at least an Incident Commander (IC) and five members (i.e., fire brigade leader and four members) is maintained onsite at all times. The IC and at least two brigade members shall have sufficient training in or knowledge of plant safety-related systems to understand the effects of fire and fire suppressants on safe shutdown capability. The IC shall be competent to assess the potential safety consequences of a fire and advise the control room personnel. Such competency by the IC may be evidenced by possession of an operator's license or equivalent knowledge of plant safety-related systems. The fire brigade shall not include the Shift Manager and the other members of the minimum shift crew necessary for safe shutdown of the unit, nor any personnel required for other essential functions during a fire emergency.

The fire brigade composition may be less than the minimum requirements for a period of time not to exceed 2 hours, in order to accommodate unexpected absence, provided immediate action is taken to fill the required positions.

8.2 TRAINING

To ensure that the fire emergency response organization and all plant employees are prepared for fire emergencies, fire protection training and periodic drills are conducted in accordance with the requirements of Branch Technical Position CMEB 9.5-1 Section C.3. To ensure that the Operations personnel are prepared for fire emergencies, training in the post fire safe shutdown procedures is also conducted as part of BFNs operator training program.

8.3 FIRE EMERGENCY PROCEDURES AND PRE-FIRE PLANS

Fire emergency procedures and pre-fire plans specify the actions to be taken by the individual discovering the fire and actions of the emergency response organization.

Pre-fire plans have been developed for plant Fire Areas to support fire fighting activities. The pre-fire plans include the following information.

a. Identification of Plant Equipment
b. Access and egress routes for fire areas
c. Staging areas/command post
d. Location of fire extinguishers
e. Identification of special fire, toxic material, and radiological hazards
f. Special precautions

Safe shutdown procedures are available in the event a fire occurs in safety-related areas of the plant.

9.0 PERIODIC INSPECTIONS AND TESTING OF FIRE PROTECTION SYSTEM

To ensure the reliability and effectiveness of plant fire protection systems and equipment, fire protection systems are maintained, inspected, and tested by qualified personnel. The testing and inspection program applies to all three units.

9.1 FIRE PROTECTION EQUIPMENT OPERATING AND SURVEILLANCE REQUIREMENTS

Portable and fixed fire protection systems are periodically inspected and tested. Periodic maintenance is also performed in order to keep the systems in a reliable configuration.

Hydraulic performance verification of the High Pressure Raw Water Fire Protection System is also required periodically. Heat and smoke detectors are tested periodically in accordance with industrial standards or other approved methods. In addition, a monthly walk-through is made to inspect the fire protection systems.

Fire protection systems are required to protect safety-related or safe shutdown components from the effects of fire. Consistent with nuclear safety objectives, minimum operating requirements and surveillance requirements for these systems have been developed.

Each surveillance requirement shall be performed within the specified time interval and with a maximum allowable extension of 25 percent of the surveillance interval.

9.1 FIRE PROTECTION EQUIPMENT OPERATING AND SURVEILLANCE REQUIREMENTS (cont.)

When a fire protection system component identified in this section cannot be returned to service within the allotted time interval, the corrective actions are described in the following sections.

9.2 FIRE PROTECTION SYSTEMS/BASES

The OPERABILITY of the fire protection systems ensures that adequate fire protection features are available to detect, confine, and extinguish fires occurring in any portion of the facility where safety related equipment is located. Operability of a system, component, or device is defined as being able to perform its specified function(s). The fire protection system consists of fire detection instrumentation, fire pumps, and water distribution mains, spray and/or sprinkler systems, CO_2 systems, Halon systems, fire hose stations, yard fire hydrants and fire barriers. The collective capability of the fire suppression systems is adequate to minimize potential damage to safety-related equipment and is a major element in the facility fire protection program.

OPERABILITY of the detection instrumentation ensures that both adequate warning capabilities are available for prompt detection of fires and that fire suppression systems that are actuated by fire detectors will discharge extinguishing agent in a timely manner. Prompt detection and suppression of fires will reduce the potential for damage to safety-related equipment and is an integral element in the overall facility fire protection program.

In the event that portions of the fire protection systems are inoperable, alternate backup fire fighting equipment is required to be made available until the inoperable equipment is restored to service. Alternate compensatory actions such as additional/alternative fire protection equipment may be utilized on a case-by-case basis. These alternative actions are considered when they provide equal or better protection and/or when the primary methods are too restrictive, create further hazards, or represent personnel safety concerns.

Additional/alternative fire protection equipment consists of fire hose, mobile apparatus, and wheeled fire extinguishers. Normal compensatory actions for inoperable fire protection features, such as hose stations, consists of physical routing and/or staging backup fire hose capable of supplying water from the nearest operable fire hose station to the area left unprotected by the inoperable hose station. An alternate hose station may be utilized when the nearest operable hose is not the best strategic location for the compensatory fire hose. Additionally, the use of mobile apparatus or wheeled fire extinguishers may be considered when physical constraints preclude normal staging of compensatory fire protection equipment. In the event an alternative compensatory action is considered, an evaluation will be performed by the plant fire protection staff and documented on the impairment permit to demonstrate the

9.2 FIRE PROTECTION SYSTEMS/BASES (continued)

technical equivalency to standard compensatory actions identified in 9.3.11.C, Fire Hose Stations, and/or 9.3.11.D, Yard Fire Hydrants. When the inoperable fire fighting equipment is intended for use as a secondary means of fire suppression, a longer period of time is allowed to provide an alternate means of fire fighting than if the inoperable equipment is the primary means of fire suppression.

If in the event that all the high-pressure fire pumps become inoperable, an alternate backup pump or supply is available, such as using the additional fire pump which normally protects outlying areas and mobile fire apparatus to maintain the 2,250 gpm water supply at a system head of 300 feet.

Fire protection water systems protecting areas containing redundant safe shutdown systems, as defined in BFNs Hazard Analysis, warrant more stringent compensatory measures (i.e., continuous fire watches) than areas containing only one division of safe shutdown systems or safety-related equipment not required for safe shutdown under fire conditions.

The surveillance requirements provide assurances that the minimum OPERABILITY requirements of the fire protection systems are met. All fire protection equipment surveillances required by this document can be performed when the unit is in any operating mode.

Flushing of the high-pressure fire protection system mains and building headers assures that sediment and marine growth is removed from the system to prevent obstruction. Subsequent chemical treatment reduces further marine organism growth. Individual hose stations and fire hydrants are not included in the overall flush requirements, but are flushed periodically during specific OPERABILITY verifications. Hydraulic performance of the water fire suppression system is tested in accordance with the 16th Edition of the Fire Protection Handbook, published by the National Fire Protection Association.

The functional integrity of the fire barrier assemblies and penetration sealing devices ensures that fires will be confined or adequately retarded from spreading to adjacent portions of the facility. This design feature minimizes the possibility of a single fire from involving several areas of the facility prior to detection and extinguishment. The fire barrier penetrations are a passive element in the facility fire protection program and are subject to periodic inspections.

The barrier penetrations, including fire doors, fire dampers, and cable and pipe penetration seals, are considered functional when the visually observed condition indicates no significant degradation.

Fire protection suppression and detection systems in non-safety related areas provide equipment/property protection and meet insurance (NEIL) requirements.

9.3/9.4 FIRE PROTECTION SYSTEMS LIMITING CONDITION FOR OPERATING AND SURVEILLANCE REQUIREMENTS

OPERABILITY REQUIREMENT	SURVEILLANCE REQUIREMENTS
Applies to the operating status of the applicable fire suppression and/or detection systems and barriers for the reactor buildings, diesel generator buildings, control bay, intake pumping station, cable tunnel to the intake pumping station, and cable trays along the south wall of the turbine building EL 586.	Applies to the surveillance requirements of the applicable fire suppression and/or detection systems and fire barriers for the reactor building, diesel generator buildings, control bay, intake pumping station, and cable tunnel to the intake pumping station, and cable trays along the south wall of the turbine building, EL 586 when the corresponding limiting conditions for operation are in affect.
Objective	**Objective**
To ensure availability of the Fire Protection Systems.	To verify the OPERABILITY of the Fire Protection System.

9.3/9.4 FIRE PROTECTION SYSTEMS LIMITING CONDITION FOR OPERATING AND SURVEILLANCE REQUIREMENTS (continued)

9.3.11.A FIRE DETECTION INSTRUMENTATION	9.4.11.A FIRE DETECTION INSTRUMENTATION
1. As a minimum, the fire detection local control panel shown in Table 9.3.11.A shall be OPERABLE whenever equipment protected by the fire detection Instrument is required to be OPERABLE.	1. Each of the required fire detection instruments shall be demonstrated OPERABLE at least annually by performance of a CHANNEL FUNCTIONAL TEST.
2. With one or more of the above required local control panels inoperable, within one hour establish a continuous fire watch for those areas specifically identified in Table 9.3.11.A; for other areas listed in Table 9.3.11.A, establish an hourly roving fire watch. a. The fire detection systems heat and smoke detectors for all protected areas shall be OPERABLE. b. If requirement 9.3.11.A.2.a cannot be met, a patrolling fire watch will be established (unless noted otherwise in Table 9.3.11.A) to ensure that each protected fire zone or area with inoperable detectors is checked at intervals no greater than once each hour. NOTE: A margin of fifteen (15) minutes is acceptable during shift turnover, to facilitate proper turnover with minimal plant impact.	2. The supervised circuits associated with alarms of each of the above required fire detection instruments shall be demonstrated OPERABLE at semiannually. 3. The non-supervised circuits associated with alarms of each of the above required instruments shall be Demonstrated OPERABLE at least monthly.

9.3/9.4 FIRE PROTECTION SYSTEMS LIMITING CONDITION FOR OPERATING AND SURVEILLANCE REQUIREMENTS (continued)

9.3.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS	9.4.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS
1. The High-Pressure Fire Protection System shall be OPERABLE at all times with: a. Two high-pressure fire pumps, one electric and one diesel, each with a capacity of 2,250 gpm, with their discharges aligned to the fire suppression Header. b. An OPERABLE flow path capable of taking suction from Wheeler Reservoir and transferring the water through distribution piping with OPERABLE sectionalizing control or isolation valves to the yard hydrant curb valves, the last valve ahead of the water flow alarm device on each sprinkler or hose standpipe and the last valve ahead of the system valve on each spray system required to be OPERABLE per requirements 9.3.11.C, 9.3.11.E, and 9.3.11.F.	1. The High-Pressure Fire Protection System shall be demonstrated OPERABLE: a. At least quarterly by starting each electric-motor-driven high-pressure fire pump and operating it for at least 15 minutes on recirculation flow. b. Intentionally left blank. c. At least semiannually by performance of a system flush. d. At least biannually, the system shall be chemically treated. e. At least yearly by cycling each testable valve in the flow path through at least one complete cycle of full travel. f. At least once per 18 months, by performing a system functional test which includes simulated actuation of the system throughout its operating sequence, and:
2.a. With only the diesel and no electric fire pumps OPERABLE, restore at least one electric fire pump to OPERABLE status within 7 days or provide an alternate backup pump or supply. b. With at least one electric fire pump and no diesel fire pump OPERABLE, restore the diesel fire pump to OPERABLE status within 7 days or provide an alternate backup pump or supply.	

9.3/9.4 FIRE PROTECTION SYSTEMS LIMITING CONDITION FOR OPERATING AND SURVEILLANCE REQUIREMENTS (continued)

9.3.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS (cont.)	9.4.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS (cont.)
3. With no high-pressure fire pumps OPERABLE, establish a backup fire water system within 24 hours or be in COLD SHUTDOWN CONDITION within the following 24 hours.	(1) Verifying that each automatic valve in the flow path actuates to its correct position, (2) Verifying that each electric high-pressure fire pump develops at least 2,250 gpm at a system head of 300 feet. (3) Verifying the diesel-driven high-pressure fire pump develops at least 2,250 gpm at a system head of 300 feet. (4) Verifying that after initial high-pressure fire pump actuation each subsequent high-pressure pump starts sequentially to maintain the High-Pressure Fire Protection System pressure greater than or equal to 120 psig. g. At least once per 3 years by performing a flow test of the system in accordance with the Fire Protection Handbook published by the National Fire Protection Association.
	2. The diesel-driven high-pressure fire pump shall be demonstrated OPERABLE: a. At least monthly by: (1) Verifying the fuel tank contains at least 150 gallons of fuel.

9.3/9.4 FIRE PROTECTION SYSTEMS LIMITING CONDITION FOR OPERATING AND SURVEILLANCE REQUIREMENTS (continued)

9.3.11.B **FIRE PUMPS AND WATER DISTRIBUTION MAINS** (cont.)	9.4.11.B **FIRE PUMPS AND WATER DISTRIBUTION MAINS** (cont.)
	(2) Starting the pump from ambient conditions and operating for greater than or equal to 30 minutes on recirculation flow. (b) At least quarterly by verifying that a sample of diesel fuel from the fuel storage tank, obtained in accordance with ASTM-D270-75, is within the acceptable limits specified in Table 1 of ASTM-D975-77 when checked for viscosity, water, and sediment. (c) At least once per 18 months, by subjecting the diesel to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for the class of service.
	3. The diesel-driven high-pressure fire pump starting 24-volt battery bank and charger shall be demonstrated OPERABLE: (a) At least weekly by verifying that: (1) The electrolyte level of each pilot cell is above the plates, (2a) The pilot cell specific gravity, corrected for temperature and electrolyte level, is greater than or equal to 1.200, or (verify within 24 hours) (2b) The specific gravity of each connected cell is not more than 0.020 below the average of all connected cells and the average of all connected cells is greater than or equal to 1.195. This condition is acceptable for a period of 31 days. Verification is required every 7 days.

9.3/9.4 FIRE PROTECTION SYSTEMS LIMITING CONDITION FOR OPERATING AND SURVEILLANCE REQUIREMENTS (continued)

9.3.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS (cont.)	9.4.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS (cont.)
	(3a) The voltage of each connected cell is greater than or equal to 2.13 volts, or, (verify within 24 hours) (3b) The voltage of each connected cell is greater than or equal to 2.07 volts. This condition is acceptable for a period of 31 days. Verification is required every 7 days. (4) The overall battery voltage is greater than or equal to 24.9 volts. (b) At least quarterly by verifying: (1a) The specific gravity of each connected cell, corrected for temperature and electrolyte level, is greater than or equal to 1.200, or (1b) The specific gravity of each connected cell is not more than 0.020 below the average of all the connected cells and the average of all the connected cells is greater than or equal to 1.195. This condition is acceptable for a period of 31 days. Verification is required every 7 days. (2a) The voltage of each connected cell is greater than or equal to 2.13 volts, or (2b) The voltage of each connected cell is greater than or equal to 2.07 volts. This condition is acceptable for a period of 31 days. Verification is required every 7 days.

9.3/9.4 FIRE PROTECTION SYSTEMS LIMITING CONDITION FOR OPERATING AND SURVEILLANCE REQUIREMENTS (continued)

9.3.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS (cont.)	9.4.11.B FIRE PUMPS AND WATER DISTRIBUTION MAINS (cont.)
	c. At least once per 18 months by verifying that: (1) The batteries, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration, and (2) Battery terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material.
4. The raw service water storage tank level shall be maintained above level723'7" by the raw service water pumps.	4. Simulated automatic and manual actuation of raw service water pumps and operation of tank level switches will be conducted every three (3) years.
5. If requirement 9.3.11.B.4 cannot be met, a fire pump shall be started and run continuously until the raw service water pumps can maintain a raw service water storage tank level above 723'7".	5. The High-Pressure Fire Protection System pressure shall be logged daily.

9.3/9.4 FIRE PROTECTION SYSTEMS LIMITING CONDITION FOR OPERATING AND SURVEILLANCE REQUIREMENTS (continued)

9.3.11.C SPRAY AND/OR SPRINKLER SYSTEMS	9.4.11.C SPRAY AND/OR SPRINKLER SYSTEMS
1. The spray and sprinkler systems in Table 9.3.11.B shall be OPERABLE whenever equipment protected by the spray and/or sprinkler systems is required to be OPERABLE. Sprinkler and/or spray systems are considered inoperable if their water supply is unavailable.	1. Each of the required spray and systems in Table 9.3.11.B shall be demonstrated OPERABLE: a. Intentionally left blank. b. At least yearly by cycling each testable valve in the flow path Through at least one complete cycle of full travel. c. At least once per 18 months: (1) By performing a system functional test which includes simulated automatic actuation of the system, verifying that the automatic valves in the flow path actuate to their correct positions on a fire alarm test signal. (2) By a visual inspection of the non-air supervised spray and sprinkler headers to verify their integrity. (3) By a visual inspection of each sprinkler or water spray nozzle's spray area to verify that the spray pattern is not obstructed. d. At least once per 3 years, by performing an air flow test through each open head spray header and verifying that each open head spray and sprinkler nozzle is unobstructed.
2. With one or more of the above required spray and/or sprinkler systems inoperable, within one hour establish a continuous fire watch for those areas specifically identified in Table 9.3.11.B; for other areas listed in Table 9.3.11.B, establish a roving hourly fire watch patrol. a. For sprinkler and/or spray systems, the associated sprinkler/spray nozzles for all protected areas shall be OPERABLE. b. If requirement 9.3.11.C.2.a cannot be met, a roving hourly fire watch patrol will be established(unless noted otherwise in Table 9.3.11.B), to ensure that each protected area with inoperable sprinkler/spray nozzles is checked at intervals no greater than once each hour. NOTE: A margin of fifteen (15) minutes is acceptable during shift turnover, to facilitate proper turnover with minimal plant impact.	

9.3/9.4 FIRE PROTECTION SYSTEMS LIMITING CONDITION FOR OPERATING AND SURVEILLANCE REQUIREMENTS (continued)

9.3.11.D CO_2 SYSTEMS	9.4.11.D CO_2 SYSTEMS
1. The low pressure CO_2 systems protecting the following areas shall be OPERABLE whenever equipment protected by the CO_2 systems is required to be OPERABLE. a. Unit 1 and 2 Diesel Generator Rooms, Auxiliary Board Rooms, Fuel Transfer Pump Rooms b. Unit 3 Diesel Generator Rooms, Auxiliary Board Rooms, and Fuel Transfer Pump Rooms c. Computer Rooms 1, 2, and 3 EL 593, Control Building d. Auxiliary Instrument Rooms 1, 2, and 3 2. With one or more of the above CO_2 systems inoperable, within 1 hour establish an hourly fire watch patrol. NOTE: A margin of fifteen (15) minutes is acceptable during shift turnover, to facilitate proper turnover with minimal plant impact.	1. Each of the required CO_2 systems shall be demonstrated OPERABLE. a. At least weekly by verifying the CO_2 storage tank level to be greater than 8.5 tons for Units 1 and 2 and 3 tons for Unit 3 and pressure to be greater than 275 psig, and b. At least once per 18 months by verifying: 1. The system, including associated ventilation system fire dampers and fire door release mechanisms, actuates manually and automatically upon receipt of a simulated actuation signal, and 2. Flow from each nozzle during a "Puff Test".
9.3.11.E FIRE HOSE STATIONS	**9.4.11.E FIRE HOSE STATIONS**
1. The fire hose stations shown in Table 9.3.11.C shall be OPERABLE whenever equipment in the areas protected by the fire hose stations is required to be OPERABLE. With one or more of the fire stations shown in Table 9.3.11.C inoperable, provide one of the following alternate suppression capabilities:	1. Each of the fire hose stations shown in Table 9.3.11.C shall be demonstrated OPERABLE: a. At least once per year by (1) A visual inspection to assure all required equipment is at the station.

9.3/9.4 FIRE PROTECTION SYSTEMS LIMITING CONDITION FOR OPERATING AND SURVEILLANCE REQUIREMENTS (continued)

9.3.11.E FIRE HOSE STATIONS (contd.)	**9.4.11.E FIRE HOSE STATIONS** (contd.)
(i) Gated wye(s) on the nearest or best strategic OPERABLE hose station(s). One outlet of the wye shall be connected to the standard length of hose provided for the hose station. The second outlet of the wye shall be connected to a length of hose sufficient to provide coverage for the area left unprotected by the inoperable hose station. Where it can be demonstrated that the physical routing of the fire hose would best result in a recognizable hazard to operating technicians, plant equipment or the hose itself, the fire hose shall be stored in a roll at the outlet of the OPERABLE hose station. Signs shall be mounted above the gated wye(s) to identify the proper hose to use.	(2) Removing the hose for inspection and re-racking, and (3) Inspection of all gaskets and replacing any degraded gaskets in the couplings. b. At least once per 3 years by: (1) Partially opening each station valve to verify valve OPERABILITY and no flow blockage. (2) Conducting a hose hydrostatic test pressure of 150 psig or at least 50 psig above the maximum fire main operating pressure, whichever is greater.
(ii) Sufficient fire hose on mobile apparatus for areas(i.e. intake pump station, etc.) where water supply to be utilized would be fire hydrant instead of fire hose station. (iii) Wheeled fire extinguisher (when alternate hose station fire hydrants or mobile apparatus are not practical applications).	

9.3/9.4 FIRE PROTECTION SYSTEMS LIMITING CONDITION FOR OPERATING AND SURVEILLANCE REQUIREMENTS (continued)

9.3.11.E FIRE HOSE STATIONS (contd.)	9.4.11.E FIRE HOSE STATIONS (contd.)
The above action(s) shall be accomplished within 1 hour if the inoperable fire hose is the primary means of fire suppression; otherwise, provide compensatory measures within 24 hours.	
9.3.11.F YARD FIRE HYDRANTS AND HOSE HOUSES	**9.4.11.F YARD HYDRANTS AND HOSE HOUSES**
1. The yard fire hydrants shown in Table 9.3.11.D shall be OPERABLE whenever equipment in the areas protected by the yard fire hydrants is required to be OPERABLE. a. With one or more of the yard fire hydrants shown in Table 9.3.11.D inoperable, within 1 hour have sufficient lengths of appropriate size hose located at (i) one of the OPERABLE mobile apparatus or (ii) an adjacent OPERABLE fire hydrant to provide service to the unprotected area(s) if the inoperable fire hydrant is the primary means of fire suppression; otherwise, provide the additional hose within 24 hours.	1. Each of the yard fire hydrants shown in Table 9.3.11.D shall be demonstrated OPERABLE: a. At least semiannually by visually inspecting each yard fire hydrant and verifying that the hydrant barrel is dry and that the hydrant is not damaged. b. At least yearly by performing a flow check of each hydrant.

9.3/9.4 FIRE PROTECTION SYSTEMS LIMITING CONDITION FOR OPERATING AND SURVEILLANCE REQUIREMENTS (continued)

9.3.11.G FIRE-RATED ASSEMBLIES	9.4.11.G FIRE-RATED ASSEMBLIES
1. All fire barrier assemblies, including walls, floor/ceilings, conduit wraps, and other fire barriers; separating fire areas or separating systems important to safe shutdown within a fire area; and all sealing devices in fire rated assembly penetrations, including fire doors shown in Table 9.3.11.E, fire dampers shown in Table 9.3.11.F, fire-rated cable wrap shown in Table 9.3.11.H and piping penetration seals shown on drawing series 47E/W1392, W2392 and W3392, shall be OPERABLE at all times. Fire barriers are identified by compartmentation drawings 47W216-51 through 62. [NRC/C] Note-47W216-53 has subsequently been voided. a. With one or more of the required fire-rated assemblies and/or sealing devices inoperable, a.1 Establish a continuous fire watch on one side of the affected assembly if no fire detection (as listed in Table 9.3.11.A) is available to protect either side of the inoperable barrier. or a.2 Establish a roving fire watch on one side of the affected assembly if fire detection (as listed in Table 9.3.11.A) is OPERABLE to protect at least one side of the inoperable barrier. [NCO 880210002]	1. Each of the required fire-rated assemblies and penetration sealing devices shall be verified OPERABLE: a. At least once per 18* months by performing a visual inspection of the exposed surfaces of each fire-rated assembly**, b. At least once per 12 months by performing a visual inspection of 20% of the fire damper and the associated hardware. Dampers shall be selected, such that each damper will be inspected at least once per 5 years. * (Once per operating cycle for areas inside the Steam Tunnel and top of torus areas of Unit(s) 1, 2 and/or 3 Reactor Building(s). ** (Includes walls, floors, ceilings, fire wraps, structural fireproofing, and penetration seals.)

9.3/9.4 FIRE PROTECTION SYSTEMS LIMITING CONDITION FOR OPERATING AND SURVEILLANCE REQUIREMENTS (continued)

9.3.11.G FIRE-RATED ASSEMBLIES (contd.)	9.4.11.G FIRE-RATED ASSEMBLIES (contd.)
a.3 No compensatory measures required if fire detection and fire suppression (as listed in Tables 9.3.11.A/9.3.11.B, or CO_2/Halon Systems) are OPERABLE to protect both sides of the inoperable barrier. NOTE: A margin of fifteen (15) minutes is acceptable during shift turnover, to facilitate proper turnover with minimal plant impact.	2. Each of the required fire doors shall be verified OPERABLE by inspecting the automatic hold-open, release, and closing mechanisms and latches at least semiannually and by verifying: a. The OPERABILITY of the fire door supervision system for each electrically supervised fire door by performing a CHANNEL FUNCTIONAL TEST at Least monthly. b. That each locked-closed fire door is verified closed at least weekly. c. That doors with automatic hold-open and release mechanisms are free of obstructions at least daily and perform a FUNCTIONAL TEST of these mechanisms at least once per18 months. d. That each unlocked normally closed fire door without electrical supervision is verified close at least daily.

9.3.11.H OPEN FLAMES, WELDING AND BURNING IN THE CABLE SPREADING ROOM

Hot work activities during plant operation, shall only be permitted on a case by case basis, after a satisfactory evaluation by Fire Operations and Site Engineering (Mechanical). The evaluation will specifically address accessibility to the area by site fire brigade, accessibility of manual fire fighting equipment, ventilation, and exposure protection. In addition, a member of the fire brigade shall be present in the area and a continuous fire watch shall be provided during performance of any hot work activity.

9.3/9.4 FIRE PROTECTION SYSTEMS LIMITING CONDITION FOR OPERATING AND SURVEILLANCE REQUIREMENTS (continued)

9.3.11.I EMERGENCY LIGHTING UNITS	9.4.11.I EMERGENCY LIGHTING UNITS
1. All self-contained, battery-powered emergency lighting units listed in Table 9.3.11.G are required to support unit shutdown in the event of a fire and coincident loss of offsite power shall be OPERABLE. These units are incorporated into the plant's preventive maintenance program. 2. With any of the emergency lighting unit(s) listed in Table 9.3.11.G inoperable, restore the inoperable unit(s) to OPERABLE status within 7 days or provide alternate emergency lighting unit(s) for the affected area.	1. At least once per quarter by checking each unit's operable status. 2. At least once per refueling cycle (not to exceed 18 months) by performance of an eight-hour discharge test to verify adequate battery condition. 3. *Replacement of the batteries every 6 years. 4. Replacement of the lampheads every 6 years.

*The eight-hour discharge test as required by 9.4.11.I.2 need not be performed on new batteries. The first eight-hour discharge test for a new battery will not be required until after 18 months of service.

TABLE 9.3.11.A1 Fire Detection - BFN-Unit-1

	Panel Location (Building - EL)	Local Panel	Area Protected/ Equipment	Detector Type	Function
1.	Reactor - 519	1-LPNL-25-545	HPCI	Smoke	Actuate Preaction System
2.	Reactor - 519	1-LPNL-25-545	RCIC	Heat/Smoke	Actuate Preaction System
*3.	Reactor - 519/541	1-LPNL-25-545	RHR	Smoke	Actuate Preaction System
*4.	Reactor - 565	1-LPNL-25-545	General Area	Smoke	Actuate Preaction System
*5.	Reactor - 593	1-LPNL-25-545	General Area	Smoke	Actuate Preaction System
*6.	Reactor - 621	1-LPNL-25-545	General Area	Smoke	Actuate Preaction System
*7.	Reactor - 639	1-LPNL-25-545	General Area (South Side) General Area (North Side)	Smoke Smoke	Actuate Preaction System Annunciation
8.	Diesel Generator Units 1 & 2 - 565	0-LPNL-25-544	Diesel Generator Rooms and Fuel Oil Transfer Room	Heat	Actuate CO_2 System
9.	Diesel Generator Units 1 & 2 - 565	0-LPNL-25-544	Pipe and Electrical Tunnel	Smoke	Actuate Preaction System
10.	Diesel Generator Units 1 & 2 - 583	0-LPNL-25-544	Diesel Auxiliary Board Rooms A & B	Heat & Smoke Heat & Smoke	Door Release Actuate CO_2 System
11.	Diesel Generator Units 1 & 2 - 583	0-LPNL-25-544	Aux BD A Compt 7 Aux BD B Compt 10 Electrical Access Room	Smoke	Annunciation

TABLE 9.3.11.A1 Fire Detection - BFN-Unit-1 (continued)

	Panel Location (Building-EL)	Local Panel	Area Protected/ Equipment	Detector Type	Function
12.	Diesel Generator Unit 3 - 565	3-LPNL-25-543	Diesel Generator Rooms and Fuel Oil Pump Room	Heat	Actuate CO_2 System
13.	Diesel Generator Unit 3 - 565	3-LPNL-25-543	Pipe and Electrical Tunnel	Smoke	Actuate Preaction System
14.	Diesel Generator Unit 3 - 565	3-LPNL-25-543	Shutdown Board Rooms 3EB & 3ED and Bus Tie Room	Smoke	Annunciation
15.	Diesel Generator Unit 3 - 565	3-LPNL-25-543	Pipe and Electrical Tunnel	Smoke	Actuate Fixed Spray System
16.	Diesel Generator Unit 3 - 565	3-LPNL-25-543	Pipe and Electrical Tunnel	Smoke	Actuate Preaction System
17.	Diesel Generator Unit 3 - 583	3-LPNL-25-543	Diesel Auxiliary Board Rooms 3EA & 3EB	Heat and Smoke	Actuate CO_2 System
18.	Diesel Generator Unit 3 - 583 & 565	3-LPNL-25-543	Shutdown Board Rooms 3EA, 3EB, 3EC, & 3ED; Bus Tie Room; and Diesel Auxiliary Board Rooms	Heat and Smoke	Door Release
19.	Diesel Generator Unit 3 - 583	3-LPNL-25-543	Diesel Auxiliary Board Rooms 3EA & 3EB	Smoke	Annunciation
20.	Diesel Generator Unit 3 - 583	3-LPNL-25-543	Mechanical Equipment Rooms A and B	Smoke	Annunciation
21.	Control Bay - 593	0-LPNL-25-555	MG Set Rooms, Battery Room 1, and Battery Board Room 1	Smoke	Annunciation
22.	Control Bay - 593	0-LPNL-25-555	Auxiliary Instrument Room 1	Smoke	Annunciation

TABLE 9.3.11.A1 Fire Detection - BFN-Unit-1 (continued)

	Panel Location (Building-EL)	Local Panel	Area Protected/ Equipment	Detector Type	Function
23.	Control Bay - 593	0-LPNL-25-555	Unit 1 and 2 Computer Room	Smoke	Annunciation
24.	Control Bay - 593	0-LPNL-25-555	Communications Battery/Board Room, Communications Room, MG Sets, Battery Board Room 2, Battery Room 2, and Corridor	Smoke	Annunciation
25.	Control Bay - 593	0-LPNL-25-555	Auxiliary Instrument Room 2	Smoke	Annunciation
26.	Control Bay - 593	0-LPNL-25-555 0-LPNL-25-556	Shutdown Board Room D Shutdown Board Room D	Smoke Duct	Annunciation Annunciation
27.	Control Bay - 593	0-LPNL-25-555	Shutdown Board Room B	Smoke	Annunciation
28.	Control Bay - 593	0-LPNL-25-555	Auxiliary Instrument Room 3	Smoke	Annunciation
29.	Control Bay - 593	0-LPNL-25-555	Unit 3 Computer Room	Smoke	Annunciation
30.	Control Bay - 593	0-LPNL-25-555	MG Set Rooms, Batt Room 3, & Batt Bd Rm 3	Smoke	Annunciation
31.	Control Bay - 606	0-LPNL-25-556	Spreading Room A	Smoke	Actuate Preaction System
32.	Control Bay - 606	0-LPNL-25-556	Spreading Room B	Smoke	Actuate Preaction System
33.	Control Bay - 606	0-LPNL-25-556	Mechanical Equipment Room, Stairway	Smoke	Annunciation
34.	Control Bay - 617	0-LPNL-25-556	Shift Supervisor Mechanical Equipment Room U1, Locker Room, Toilet, Operations Office	Smoke	Actuate Preaction System

TABLE 9.3.11.A1 Fire Detection - BFN Unit-1 (continued)

	Panel Location (Building-EL)	Local Panel	Area Protected/ Equipment	Detector Type	Function
35.	Control Bay - 617	0-LPNL-25-556	Unit 1 Control Room	Smoke	Annunciation
36.	Control Bay - 617	0-LPNL-25-556 0-LPNL-25-566	Shutdown Board Room C Shutdown Board Room C	Smoke Duct	Annunciation Annunciation
37.	Control Bay - 617	0-LPNL-25-556	Unit 2 Control Room	Smoke	Annunciation
38.	Control Bay - 617	0-LPNL-25-556	Relay Room	Smoke	Annunciation
39.	Control Bay - 617	0-LPNL-25-556	Unit 3 Control Room	Smoke	Annunciation
40.	Control Bay - 617	0-LPNL-25-556	Corridor and Stairs Mech. Eqpt. Rm U3, Toilet, Locker, Kitchen, TSC	Smoke Smoke and Heat	Annunciation Actuate Preaction System
41.	Control Bay - 621	0-LPNL-25-555	Shutdown Board Room A	Smoke	Annunciation
42.	Control Bay - 621	0-LPNL-25-556	Shutdown Board Room E	Smoke	Annunciation
43.	Control Bay - 593	0-LPNL-25-555	Shutdown Board Room F	Smoke	Annunciation
44	Turbine - 565	0-25-297	Cable Tunnel to intake Pumping Station	Smoke	Annunciation
45.	Turbine - 586	1-25-283	Cable Tray Zones A, B, & C	Heat	Actuate Fixed Spray System
46.	Turbine - 586	1-25-334	Cable Tray Zones A, B, C, & D System	Heat and Smoke	Actuate Fixed Spray System
47.	Turbine - 586	3-25-293	South Wall	Smoke	Annunciation
*48.	Intake Pumping Station	0-LPNL-25-538	Intake Pumping Station Cable Tunnel	Smoke Linear Beam	Actuate Preaction System Annunciation

TABLE 9.3.11.A1 Fire Detection - BFN Unit-1 (continued)

* When one or more of the required fire alarm panels are inoperable, within one hour establish a continuous fire watch for the area(s) of coverage associated with the applicable alarm panel(s). The following is a list of the panels/elevations/systems requiring a continuous fire watch when inoperable:

1-LPNL-25-545 (EL 519/541, 565, 593, 621, 639)

2-LPNL-25-545 (EL 519/541, 565); 2-LPNL-25-546 (EL 593); and/or 2-LPNL-25-547 (EL 621, 639)/2-26-77

3-LPNL-25-545 (EL 565); 3-LPNL-25-546 (EL 593); 3-LPNL-25-547 (EL 621,639)/3-26-77

0-LPNL-25-538/O-26-72E

The continuous fire watch will not be stationed in one location, but will move continuously throughout the area(s) normally protected by the alarm panel(s) each hour. The continuous fire watch shall not leave the specified area(s) without a proper relief. Depending on the capability of the fire watch to complete the patrol of the deployment area(s) within the allotted time frame, one fire watch may be responsible for multiple panels/systems located within one or more unit(s) of the Reactor Building. The fire watch for the Intake Pumping Station may not have responsibilities that would require leaving the Intake Pumping Station as part of the patrol.

NOTE: No Compensatory measures are required if a single detector in a fire area/zone is inoperable, unless the detector that is determined inoperable is:

- the only detector in that room/area
- the only detector of a cross-zoned or 2 out of 3 logic actuation system.
- a duct detector

If the detector remains inoperable 30 days or longer, compensatory measures need to be established per section 9.3.11.A.2.b or evaluated by Site Engineering on a case-by-case basis (Reference 2.33).

TABLE 9.3.11.A2 Fire Detection - BFN Unit-2

	Panel Location (Building-EL)	Local Panel	Area Protected/ Equipment	Detector Type	Function
1.	Reactor - 519	2-LPNL-25-545	HPCI	Smoke	Actuate Preaction System
2.	Reactor - 519	2-LPNL-25-545	RCIC	Smoke	Annunciation
*3.	Reactor - 519/541	2-LPNL-25-545	RHR	Smoke	Actuate Preaction System
*4.	Reactor - 565	2-LPNL-25-545	General Area	Smoke	Actuate Preaction System
*5.	Reactor - 593	2-LPNL-25-546	General Area	Smoke	Actuate Preaction System
*6.	Reactor - 621	2-LPNL-25-547	General Area	Smoke	Actuate Preaction System
*7.	Reactor - 639	2-LPNL-25-547	General Area (South Side) General Area (North Side)	Smoke Smoke	Actuate Preaction System Annunciation
8.	Diesel Generator U1 & U2 - 565	0-LPNL-25-544	Diesel Generator Rooms and Fuel Oil Transfer Pump Room	Heat	Actuate CO_2 System
9.	Diesel Generator U I & U2 - 565	0-LPNL-25-544	Pipe and Electrical Tunnel	Smoke	Actuate Preaction System
10.	Diesel Generator U1 & U2- 583	0-LPNL-25-544	Diesel Auxiliary Board Rooms A & B	Heat and Smoke Heat and Smoke	Door Release Actuate CO_2 System
11.	Diesel Generator U1 & U2 - 583	0-LPNL-25-544	Aux BD A Compt 7 Aux BD B Compt 10 Electrical Access Room	Smoke	Annunciation

TABLE 9.3.11.A2 Fire Detection - BFN Unit-2 (continued)

	Panel Location (Building-EL)	Local Panel	Area Protected/ Equipment	Detector Type	Function
12.	Diesel Generator Unit 3 - 565	3-LPNL-25-543	Diesel Generator Rooms and Fuel Oil Transfer Pump Room	Heat	Actuate CO_2 System
13.	Diesel Generator Unit 3 - 565	3-LPNL-25-543	Pipe and Electrical Tunnel	Smoke	Actuate Preaction System
14.	Diesel Generator Unit 3 - 565	3-LPNL-25-543	Shutdown Board Rooms 3EB & 3ED and Bus Tie Room	Smoke	Annunciation
15.	Diesel Generator Unit 3 - 565	3-LPNL-25-543	Pipe and Electrical Tunnel	Smoke	Actuate Fixed Spray System
16.	Diesel Generator Unit 3 - 565	3-LPNL-25-543	Pipe and Electrical Tunnel	Smoke	Actuate Preaction System
17.	Diesel Generator Unit 3 - 583	3-LPNL-25-543	Diesel Auxiliary Board Rooms 3EA and 3EB	Heat and Smoke	Actuate CO_2 System
18.	Diesel Generator Unit 3 - 583 & 565	3-LPNL-25-543	Shutdown Board Rooms 3EA, 3EB, 3EC, & 3ED; Bust Tie Room; & Diesel Aux. Bd. Rms.	Smoke and Heat	Door Release
19.	Diesel Generator Unit 3 - 583	3-LPNL-25-543	Diesel Auxiliary Board Rooms 3EA & 3EB	Smoke	Annunciation
20.	Diesel Generator U3 - 583	3-LPNL-25-543	Mechanical Equipment Rooms A & B	Smoke	Annunciation
21.	Control Bay - 593	0-LPNL-25-555	MG Set Rooms, Battery Room 1, and Battery Board Room 1	Smoke	Annunciation
22.	Control Bay - 593	0-LPNL-25-555	Auxiliary Instrument Room 1	Smoke	Annunciation

TABLE 9.3.11.A2 Fire Detection - BFN Unit-2 (continued)

	Panel Location (Building-EL)	Local Panel	Area Protected/ Equipment	Detector Type	Function
23.	Control Bay - 593	0-LPNL-25-555	Unit 1 and 2 Computer Room	Smoke	Annunciation
24.	Control Bay - 593	0-LPNL-25-555	Communications Battery/Board Room, Communications Room, MG Sets, Battery Board Room 2, Battery Room 2, and Corridor	Smoke	Annunciation
25.	Control Bay - 593	0-LPNL-25-555	Auxiliary Instrument Room 2	Smoke	Annunciation
26.	Control Bay - 593	0-LPNL-25-555	Shutdown Board Room D	Smoke	Annunciation
		0-LPNL-25-556	Shutdown Board Room D	Duct	Annunciation
27.	Control Bay - 593	0-LPNL-25-555	Shutdown Board Room B	Smoke	Annunciation
28.	Control Bay - 593	0-LPNL-25-555	Auxiliary Instrument Room 3	Smoke	Annunciation
29.	Control Bay - 593	0-LPNL-25-555	Unit 3 Computer Room	Smoke	Annunciation
30.	Control Bay - 593	0-LPNL-25-555	MG Set Rooms, Battery Room 3, and Battery Board Room 3	Smoke	Annunciation
31.	Control Bay - 606	0-LPNL-25-556	Spreading Room A	Smoke	Actuate Preaction System
32.	Control Bay - 606	0-LPNL-25-556	Spreading Room B	Smoke	Actuate Preaction System
33.	Control Bay - 606	0-LPNL-25-556	Mechanical Equip. Room, Stairway	Smoke	Annunciation
34.	Control Bay - 617	0-LPNL-25-556	Shift Supervisor Mechanical Equipment Room U1, Locker Room, Toilet, Operations Office	Smoke	Actuate Preaction System
35.	Control Bay - 617	0-LPNL-25-556	Unit 1 Control Room	Smoke	Annunciation
36.	Control Bay - 621	0-LPNL-25-556	Shutdown Board Room C	Smoke	Annunciation
		0-LPNL-25-556	Shutdown Board Room C	Duct	Annunciation

TABLE 9.3.11.A2 Fire Detection - BFN Unit-2 (continued)

	Panel Location (Building-EL)	Local Panel	Area Protected/ Equipment	Detector Type	Function
37.	Control Bay - 617	0-LPNL-25-556	Unit 2 Control Room	Smoke	Annunciation
38.	Control Bay - 617	0-LPNL-25-556	Relay Room	Smoke	Annunciation
39.	Control Bay - 617	0-LPNL-25-556	Unit 3 Control Room	Smoke	Annunciation
40.	Control Bay - 617	0-LPNL-25-556	-Corridor and stairs -Mech Eq Rm (U3) Toilet, Locker Kitchen, TSC	Smoke Heat and Smoke	Annunciation Actuate Preaction System
41.	Control Bay - 621	0-LPNL-25-555	Shutdown Board Room A	Smoke	Annunciation
42.	Control Bay - 621	0-LPNL-25-556	Shutdown Board Room E	Smoke	Annunciation
43.	Control Bay - 593	0-LPNL-25-555	Shutdown Board Room F	Smoke	Annunciation
44.	Turbine - 565	0-25-297	Cable Tunnel to Intake Pumping Station	Smoke	Annunciation
45.	Turbine - 586	1-25-283	Cable Tray Zones A, B, & C	Heat	Actuate Fixed Spray System
46.	Turbine - 586	1-25-334	Cable Tray Zones A, B, C, & D	Heat & Smoke	Actuate Fixed Spray System
47.	Turbine - 586	3-25-293	South Wall	Smoke	Annunciation
*48.	Intake Pumping Station	0-LPNL-25-538	Intake Pumping Station Cable Tunnel	Smoke Linear Beam	Actuate Preaction System Annunciation

TABLE 9.3.11.A2 Fire Detection - BFN Unit-2 (continued)

* When one or more of the required fire alarm panels are inoperable, within one hour establish a continuous fire watch for the area(s) of coverage associated with the applicable alarm panel(s). The following is a list of the panels/elevations/systems requiring a continuous fire watch when inoperable:

1-LPNL-25-545 (EL 519/541, 565, 593, 621, 639)

2-LPNL-25-545 (EL 519/541,565); 2-LPNL-25-546 (EL 593); and/or 2-LPNL-25-547 (EL 621,639)/2-26-77

3-LPNL-25-545 (EL 565); 3-LPNL-25-546 (EL 593); 3-LPNL-25-547 (EL 621,639)/3-26-77

0-LPNL-25-538/0-26-72E.

The continuous fire watch will not be stationed in one location, but will move continuously throughout the area(s) normally protected by the alarm panel(s) each hour. The continuous fire watch shall not leave the specified area(s) without a proper relief. Depending on the capability of the fire watch to complete the patrol of the deployment area(s) within the allotted time frame, one fire watch may be responsible for multiple panels/systems located within one or more unit(s) of the Reactor Building. The fire watch for the Intake Pumping Station may not have responsibilities that would require leaving the Intake Pumping Station as part of the patrol.

NOTE: No Compensatory measures are required if a single detector in a fire area/zone is inoperable, unless the detector that is determined inoperable is:

- the only detector in that room/area
- the only detector of a cross-zoned or 2 out of 3 logic actuation system.
- a duct detector

If the detector remains inoperable 30 days or longer, compensatory measures need to be established per section 9.3.11.A.2.b or evaluated by Site Engineering on a case-by-case basis (Reference: 2.33).

TABLE 9.3.11.A3 Fire Detection - BFN Unit-3

	Panel Location (Building-EL)	Local Panel	Area Protected/ Equipment	Detector Type	Function
1.	Reactor- 519	3-LPNL-25-545	HPCI	Smoke	Actuate Preaction System
2.	Reactor - 519	3-LPNL-25-545	RCIC	Smoke	Annunciation
*3.	Reactor- 519 & 541	3-LPNL-25-545	RHR	Smoke	Actuate Preaction System
*4.	Reactor - 565	3-LPNL-25-545	General Area	Smoke	Actuate Preaction System
*5.	Reactor - 593	3-LPNL-25-546	General Area	Smoke	Actuate Preaction System
*6.	Reactor - 621	3-LPNL-25-547	General Area	Smoke	Actuate Preaction System
*7.	Reactor - 639	3-LPNL-25-547	General Area (South Side) General Area (North Side)	Smoke Smoke	Actuate Preaction System Annunciation
8.	Diesel Generator Units 1 & 2 - 565	0-LPNL-25-544	Diesel Generator Rooms and Fuel Oil Transfer Room	Heat	Actuate CO_2 System
9.	Diesel Generator Units 1 & 2 - 565	0-LPNL-25-544	Pipe and Electrical Tunnel	Smoke	Actuate Preaction System
10.	Diesel Generator Units 1 & 2 - 583	0-LPNL-25-544	Diesel Auxiliary Board Rooms A & B	Smoke & Heat Smoke & Heat	Actuate CO_2 System Door Release
11.	Diesel Generator Units 1 & 2 - 583	0-LPNL-25-544	Aux BD A Compt 7 Aux BD B Compt 10 Electrical Access Room	Smoke	Annunciation
12.	Diesel Generator Unit 3 - 565	3-LPNL-25-543	Diesel Generator Rooms and Fuel Oil Pump Room	Heat	Actuate CO_2 System

TABLE 9.3.11.A3 Fire Detection - BFN Unit-3 (continued)

	Panel Location (Building-EL)	Local Panel	Area Protected/ Equipment	Detector Type	Function
13.	Diesel Generator - Unit 3 565	3-LPNL-25-543	Pipe and Electrical Tunnel	Smoke	Actuate Preaction System
14.	Diesel Generator - Unit 3 565	3-LPNL-25-543	Shutdown Board Rooms 3EB & 3ED and Bus Tie Room	Smoke	Annunciation
15.	Diesel Generator - Unit 3 565	3-LPNL-25-543	Pipe and Electrical Tunnel	Smoke	Actuate Fixed Spray System
16.	Diesel Generator - Unit 3 565	3-LPNL-25-543	Pipe and Electrical Tunnel	Smoke	Actuate Preaction System
17.	Diesel Generator - Unit 3 583	3-LPNL-25-543	Diesel Auxiliary Board Rooms 3EA and 3EB	Heat and Smoke	Actuate CO_2 System
18.	Diesel Generator - Unit 3 583 & 565	3-LPNL-25-543	Shutdown Board Rooms 3EA, 3EB, 3EC, & 3ED; Bus Tie Room; and Diesel Auxiliary Board Rooms	Smoke and Heat	Door Release
19.	Diesel Generator - Unit 3 583	3-LPNL-25-543	Diesel Auxiliary Board Rooms 3EA & 3EB	Smoke	Annunciation
20.	Diesel Generator - Unit 3 583	3-LPNL-25-543	Mechanical Equipment Rooms A & B	Smoke	Annunciation
21.	Control Bay - 593	0-LPNL-25-555	MG Set Rooms, Battery Room 1, and Battery Board Room 1	Smoke	Annunciation
22.	Control Bay - 593	0-LPNL-25-555	Auxiliary Instrument Room 1	Smoke	Annunciation
23.	Control Bay - 593	0-LPNL-25-555	Unit 1 and 2 Computer Room	Smoke	Annunciation

TABLE 9.3.11.A3 Fire Detection - BFN Unit-3 (continued)

	Panel Location (Building-EL)	Local Panel	Area Protected/ Equipment	Detector Type	Function
24.	Control Bay - 593	0-LPNL-25-555	Communications Battery/Board Room, Communications Room, MG Sets, Battery Board Room 2, Battery Room 2, and Corridor	Smoke	Annunciation
25.	Control Bay - 593	0-LPNL-25-555	Auxiliary Instrument Room 2	Smoke	Annunciation
26	Control Bay - 593	0-LPNL-25-555 0-LPNL-25-556	Shutdown Board Room D Shutdown Board Room D	Smoke Duct	Annunciation Annunciation
27.	Control Bay - 593	0-LPNL-25-555	Shutdown Board Room B	Smoke	Annunciation
28.	Control Bay - 593	0-LPNL-25-555	Auxiliary Instrument Room 3	Smoke	Annunciation
29.	Control Bay - 593	0-LPNL-25-555	Unit 3 Computer Room	Smoke	Annunciation
30.	Control Bay - 593	0-LPNL-25-555	MG Set Rooms, Battery Room 3, and Battery Board Room 3	Smoke	Annunciation
31.	Control Bay - 606	0-LPNL-25-556	Spreading Room A	Smoke	Actuate Preaction System
32.	Control Bay - 606	0-LPNL-25-556	Spreading Room B	Smoke	Actuate Preaction System
33.	Control Bay - 606	0-LPNL-25-556	Mechanical Equip. Room, Stairway	Smoke	Annunciation
34.	Control Bay - 617	0-LPNL-25-556	Shift Supervisor Mechanical Equipment Room U1, Locker Room, Toilet, and Operations office	Smoke	Actuate Preaction System
35.	Control Bay - 617	0-LPNL-25-556	Unit 1 Control Room	Smoke	Annunciation
36.	Control Bay - 621	0-LPNL-25-556 0-LPNL-25-556	Shutdown Board Room C Shutdown Board Room C	Smoke Duct	Annunciation Annunciation
37.	Control Bay - 617	0-LPNL-25-556	Unit 2 Control Room	Smoke	Annunciation

TABLE 9.3.11.A3 Fire Detection - BFN Unit-3 (continued)

	Panel Location (Building-EL)	Local Panel	Area Protected/ Equipment	Detector Type	Function
38.	Control Bay - 617	0-LPNL-25-556	Relay Room	Smoke	Annunciation
39.	Control Bay - 617	0-LPNL-25-556	Unit 3 Control Room	Smoke	Annunciation
40.	Control Bay - 617	0-LPNL-25-556	-Corridor, Stairs	Smoke	Annunciation
			-Mech Equip Room (U3), Toilet, Locker, Kitchen, TSC	Smoke and Heat	Actuate Preaction System
41.	Control Bay - 617	0-LPNL-25-555	Shutdown Board Room A	Smoke	Annunciation
42.	Control Bay - 621	0-LPNL-25-556	Shutdown Board Room E	Smoke	Annunciation
43.	Control Bay - 593	0-LPNL-25-555	Shutdown Board Room F	Smoke	Annunciation
44.	Turbine - 565	0-25-207	Cable Tunnel to Intake Pumping Station	Smoke	Annunciation
45.	Turbine - 586	1-25-283	Cable Tray Zones A, B, & C	Heat	Actuate Fixed Spray System
46.	Turbine - 586	1-25-334	Cable Tray Zones A, B, C, & D	Heat and Smoke	Actuate Fixed Spray System
47.	Turbine - 586	3-25-293	South Wall	Smoke	Annunciation
*48.	Intake Pumping Station	0-LPNL-25-538	Intake Pumping Station	Smoke	Actuate Preaction System
			Cable Tunnel	Linear Beam	Annunciation

TABLE 9.3.11.A3 Fire Detection - BFN Unit-3 (continued)

* When one or more of the required fire alarm panels are inoperable, within one hour establish a continuous fire watch for the area(s) of coverage associated with the applicable alarm panel(s). The following is a list of the panels/elevations/systems requiring a continuous fire watch when inoperable:

1-LPNL-25-545 (EL 519/541, 565, 593, 621, 639)

2-LPNL-25-545 (EL 519/541,565); 2-LPNL-25-546 (EL 593); and/or 2-LPNL-25-547 (EL 621, 639)/2-26-77

3-LPNL-25-545 (EL 565); 3-LPNL-25-546 (EL 593); 3-LPNL-25-547 (EL 621,639)/3-26-

0-LPNL-25-538/0-26-72E

The continuous fire watch will not be stationed in one location, but will move continuously throughout the area(s) normally protected by the alarm panel(s) each hour. The continuous fire watch shall not leave the specified area(s) without a proper relief. Depending on the capability of the fire watch to complete the patrol of the deployment area(s) within the allotted time frame, one fire watch may be responsible for multiple panels/systems located within one or more unit(s) of the Reactor Building. The fire watch for the Intake Pumping Station may not have responsibilities that would require leaving the Intake Pumping Station as part of the patrol.

NOTE: No compensatory measures are required if a single detector in a fire area/zone is inoperable, unless the detector that is determined inoperable is:

- the only detector in that room/area
- the only detector of a cross-zoned or 2 out of 3 logic actuation system.
- a duct detector

If the detector remains inoperable 30 days or longer, compensatory measures need to be established per section 9.3.11.A.2.b or evaluated by Site Engineering on a case-by-case basis (Reference: 2.33).

TABLE 9.3.11.B1 Spray/Sprinkler Systems - BFN Unit-1

	Building Elevation	System Control Valve	Area Protected	System
1.	Reactor - 519	1-26-37	HPCI	Preaction
2.	Reactor - 565, 593, 621& 639	1-26-77	General	Preaction
	Reactor - 541	1-26-77	RHR Pump Rooms Equipment Hatch	Water Curtain
3.	Diesel Generator Units 1 & 2 - 565	1-26-80	Pipe and Electrical Tunnel	Preaction
4.	Diesel Generator Unit 3 - 565	3-26-81	Pipe and Electrical Tunnel	Preaction
5.	Diesel Generator Unit 3 - 565	3-26-82	Pipe and Electrical Tunnel	Water Spray
6.	Turbine - 586	1-26-73A	Cable Tray Zone A	Water Spray
7.	Turbine - 586	1-26-73B	Cable Tray Zone B	Water Spray
8.	Turbine - 586	1-26-73C	Cable Tray Zone C	Water Spray
9.	Control Bay - 593	1-26-104	Battery Room 1, Battery Board Room 1	Manual Sprinkler
10.	Control Bay - 593	2-26-104	Battery Room 2, Battery Board Room 2	Manual Sprinkler
11.	Control Bay - 593	3-26-104	Battery Room 3, Battery Board Room 3	Manual Sprinkler
12.	Control Bay - 606	1-26-98	Spreading Room A	Preaction
13.	Control Bay - 606	3-26-99	Spreading Room B	Preaction

TABLE 9.3.11.B1 Spray/Sprinkler Systems - BFN Unit-1 (continued)

14.	Control Bay - 617	1-26-87	Mechanical Equipment Room, Toilet, Locker Room, instrument Calibration Room, Shift Manager's Office and Kitchen.	Preaction
15.	Control Bay - 617	3-26-87	NRC Room, TSO Operations Room, Locker Room, Toilet, and Mechanical Room	Preaction
*16.	Intake Pumping Station - 550	0-26-72E	North Bay Wall	Preaction

* When one or more of the required sprinkler systems are inoperable, within one hour establish a continuous fire watch for the applicable preaction system(s) that protect areas containing redundant safe shutdown equipment The following is a list of the systems requiring a continuous fire watch when inoperable: 1-26-77 and 0-26-72E. The continuous fire watch will not be stationed in one location, but will move continuously throughout the area(s) normally protected by the suppression system(s) each hour. The continuous fire watch shall not leave the specified area(s) without a proper relief. Depending on the capability of the fire watch to complete the patrol of the deployment area(s) within the allotted time frame, one fire watch may be responsible for multiple systems located within one or more unit(s) of the Reactor Building. The fire watch for the Intake Pumping Station may not have responsibilities that would require leaving the intake Pumping Station as part of the patrol.

NOTES: No compensatory measures are required if a maximum of two adjacent sprinkler heads in a fire area/zone are inoperable, unless the sprinklers that are determined to be inoperable are:

- the only sprinklers in that room/area
- required for deluge systems/special hazards/water curtains

If sprinklers remain inoperable for 30 days or longer, compensatory measures need to be established per Section 9.3.11.C.2.b or evaluated by Site Engineering on a case-by-case basis. (Ref. 2.33)

TABLE 9.3.11.B2 Spray/Sprinkler Systems - BFN Unit-2

	Building Elevation	System Control Valve	Area Protected	System
1.	Reactor - 519	2-26-37	HPCI	Preaction
*2.	Reactor - 565,593,621 & 639	2-26-77	General	Preaction
	Reactor - 541	2-26-77	RHR Pump Rooms Equipment Hatch	Water Curtain
3.	Diesel Generator Units 1 & 2- 565	1-26-80	Pipe and Electrical Tunnel	Preaction
4.	Diesel Generator Unit 3 - 565	3-26-81	Pipe and Electrical Tunnel	Preaction
5.	Diesel Generator Unit 3 - 565	3-26-82	Pipe and Electrical Tunnel	Water Spray
6.	Turbine - 586	1-26-73A	Cable Tray Zone A	Water Spray
7.	Turbine - 586	1-26-73B	Cable Tray Zone B	Water Spray
8.	Turbine - 586	1-26-73C	Cable Tray Zone C	Water Spray
9.	Control Bay - 593	1-26-104	Battery Room 1, Battery Board Room 1	Manual Sprinkler
10.	Control Bay - 593	2-26-104	Battery Room 2, Battery Board Room 2	Manual Sprinkler
11.	Control Bay - 593	3-26-104	Battery Room 3, Battery Board Room 3	Manual Sprinkler
12.	Control Bay - 606	1-26-98	Spreading Room A	Preaction
13.	Control Bay - 606	3-26-99	Spreading Room B	Preaction
14.	Control Bay - 617	1-26-87	Mechanical Equipment Room, Locker Room, Toilet, Instrument Calibration Room & Shift Manager's Office, Kitchen	Preaction

TABLE 9.3.11.B2 Spray/Sprinkler Systems - BFN Unit-2 (continued)

	Building Elevation	System Control Valve	Area Protected	System
15.	Control Bay - 617	3-26-87	NRC Room, TSO Operations Room, Locker Room, Toilet,and Mechanical Room	Preaction
*16.	Intake Pumping Station - 550	0-26-72E	North Bay Wall	Preaction

* When one or more of the required sprinkler s) systems are inoperable, within one hour establish a continuous fire watch for the applicable preaction system(s) that protect areas containing redundant safe shutdown equipment. The following is a list of the systems requiring a continuous fire watch when inoperable: 2-26-77, and 0-26-72E. The continuous fire watch will not be stationed in one location, but will move continuously throughout the area(s) normally protected by the suppression system(s) each hour. The continuous fire watch shall not leave the specified area(s) without a proper relief. Depending on the capability of the fire watch to complete the patrol of the deployment area(s) within the allotted time frame, one fire watch may be responsible for multiple systems located within one or more unit(s) of the Reactor Building. The fire watch for the Intake Pumping Station may not have responsibilities that would require leaving the Intake Pumping Station as part of the patrol.

NOTES: No compensatory measures are required if a maximum of two adjacent sprinkler heads in a fire area/zone are inoperable, unless the sprinklers that are determined to be inoperable are:

- the only sprinklers in that room/area
- required for deluge systems/special hazards/water curtains

If sprinklers remain inoperable for 30 days or longer, compensatory measures need to be established per Section 9.3.11.C.2.b or evaluated by Site Engineering on a case-by-case basis.
(Ref. 2.33)

TABLE 9.3.11.B3 Spray/Sprinkler Systems - BFN Unit-3

	Building Elevation	System Control Valve	Area Protected	System
1.	Reactor - 519	3-26-37	HPCI	Preaction
*2.	Deleted.			
*3.	Reactor- 565, 593,621 & 639	3-26-77	General and Southside EL 639	Preaction
	Reactor - 541	3-26-77	RHR Pump Rooms Hatch	Water Curtain
4.	Diesel Generator Units 1 & 2- 565	1-26-80	Pipe and Electrical Tunnel	Preaction
5.	Diesel Generator Unit 3 - 565	3-26-81	Pipe and Electrical Tunnel	Preaction
6.	Diesel Generator Unit 3 - 565	3-26-82	Pipe and Electrical Tunnel	Water Spray
7.	Turbine - 586	1-26-73A	Cable Tray Zone A	Water Spray
8.	Turbine - 586	1-26-73B	Cable Tray Zone B	Water Spray
9.	Turbine - 586	1-26-73C	Cable Tray Zone C	Water Spray
10.	Control Bay - 593	1-26-104	Battery Room 1, Battery Board Room 1	Manual Sprinkler
11.	Control Bay - 593	2-26-104	Battery Room 2, Battery Board Room 2	Manual Sprinkler
12.	Control Bay - 593	3-26-104	Battery Room 3, Battery Board Room 3	Manual Sprinkler
13.	Control Bay - 606	1-26-98	Spreading Room A	Preaction
14.	Control Bay - 606	3-26-99	Spreading Room B	Preaction

TABLE 9.3.11.B3 Spray/Sprinkler Systems - BFN Unit-3 (continued)

	Building Elevation	System Control Valve	Area Protected	System
15.	Control Bay - 617	1-26-87	Mechanical Equip. Room, Toilet, Locker Room, Instrument Calibration Room, Shift Manager's Office, Kitchen	Preaction
16.	Control Bay - 617	3-26-87	NRC Room, TSO Operations Room, Locker Room, Toilet & Mechanical Room	Preaction
*17.	Intake Pumping Station - 550	0-26-72E	North Bay Wall	Preaction

* When one or more of the required sprinkler systems are inoperable, within one hour establish a continuous fire watch for the applicable preaction system(s) that protect as containing redundant safe shutdown equipment The following is a list of the systems requiring a continuous fire watch when inoperable: 3-26-77 and 0-26-72E. The continuous fire watch will not be stationed in one location, but will move continuously throughout the area(s) normally protected by the suppression system(s) each hour. The continuous fire watch shall not leave the specified area(s) without a proper relief. Depending on the capability of the fire watch to complete the patrol of the deployment area(s) within the allotted time frame, one fire watch may be responsible for multiple systems located within one or more unit(s) of the Reactor Building. The fire watch for the Intake Pumping Station may not have responsibilities that would require leaving the Intake Pumping Station as part of the patrol.

NOTES: No compensatory measures are required if a maximum of two adjacent sprinkler heads in a fire area/zone are inoperable, unless the sprinklers that are determined to be inoperable are:

- the only sprinklers in that room/area
- required for deluge systems/special hazards/water curtains

If sprinklers remain inoperable for 30 days or longer, compensatory measures need to be established per Section 9.3.11.C.2.b or evaluated by Site Engineering on a case-by-case basis.

(Ref. 2.33)

TABLE 9.3.11.C Hose Stations

	Building - Elevation	Valve No.	Purpose
1.	Reactor - 717	1-26-850, 849	Primary
2.	Reactor - 664	1-26-835	Primary
3.	Reactor - 664	1-26-843	Primary
4.	Reactor - 639	1-26-836	Primary
5.	Reactor - 639	1-26-844	Primary
6.	Reactor - 639	1-26-1324	Secondary
7.	Reactor - 635	1-26-848	Primary
8.	Reactor - 621	1-26-837	Secondary
9.	Reactor - 621	1-26-845	Secondary
10.	Reactor - 593	1-26-846	Secondary
11.	Reactor - 593	1-26-838	Secondary
12.	Reactor - 565	1-26-839	Secondary
13.	Reactor - 565	1-26-842	Secondary
14.	Reactor - 565	1-26-833	Secondary
15.	Reactor - 541	1-26-841	Primary
16.	Reactor - 541	1-26-840	Primary
17.	Reactor - 541	1-26-834	Primary
18.	Reactor - 519	1-26-1233	Primary

NOTE: Hose stations designated as being the primary suppression for the area being protected require compensatory measures to be incorporated within-one (1) hour. Those hose stations designated as being secondary suppression require compensatory measures to be in effect within 24 hours, assuming normal system status and configuration; however, based on the possibility of an abnormal configuration, a secondary suppression hose station may be changed to primary suppression requiring one hour compensatory measures. [NRC/C] Primary (one hour compensatory measures) and Secondary (24 hour compensatory measures) hose stations. [NRC LER 296/90114]

TABLE 9.3.11.C Hose Stations (continued)

Building - Elevation	Valve No.	Purpose
19. Reactor - 664	2-26-870	Primary
20. Reactor - 664	2-26-876	Primary
21. Reactor - 664	2-26-865	Primary
22. Reactor - 639	2-26-875	Primary
23. Reactor - 639	2-26-864	Primary
24. Reactor - 639	2-26-869	Primary
25. Reactor - 635	2-26-871	Primary
26. Reactor - 621	2-26-874	Secondary
27. Reactor - 621	2-26-868	Secondary
28. Reactor - 621	2-26-863	Secondary
29. Reactor - 593	2-26-873	Secondary
30. Reactor - 593	2-26-867	Secondary
31. Reactor - 593	2-26-862	Secondary
32. Reactor - 565	2-26-880	Secondary
33. Reactor - 565	2-26-878	Secondary
34. Reactor - 565	2-26-866	Secondary
35. Reactor - 565	2-26-861	Secondary
36. Reactor - 541	2-26-877	Primary
37. Reactor - 541	2-26-879	Primary
38. Reactor - 541	2-26-860	Primary
39. Reactor - 541	2-26-829	Primary

NOTE: Hose stations designated as being the primary suppression for the area being protected require compensatory measures to be incorporated within one (1) hour. Those hose stations designated as being secondary suppression require compensatory measures to be in effect within 24 hours, assuming normal system status and configuration; however, based on the possibility of an abnormal configuration, a secondary suppression hose station may be changed to primary suppression requiring one hour compensatory measures. [NRC/C] Primary (one hour compensatory measures) and Secondary (24 hour compensatory measures) hose stations. [NRC LER 296/90114]

TABLE 9.3.11.C Hose Stations (continued)

Building - Elevation	Valve No.	Purpose
40. Reactor - 717	3-26-889, 890	Primary
41. Reactor - 664	3-26-898	Primary
42. Reactor - 664	3-26-888	Primary
43. Reactor - 639	3-26-897	Primary
44. Reactor - 639	3-26-887	Primary
45. Reactor - 639	3-26-1324	Secondary
46. Reactor - 635	3-26-894	Primary
47. Reactor - 621	3-26-896	Secondary
48. Reactor - 621	3-26-886	Secondary
49. Reactor - 593	3-26-895	Secondary
50. Reactor - 593	3-26-885	Secondary
51. Reactor - 565	3-26-902	Secondary
52. Reactor - 565	3-26-900	Secondary
53. Reactor - 565	3-26-883	Secondary
54. Reactor - 565	3-26-884	Secondary
55. Reactor - 541	3-26-901	Primary
56. Reactor - 541	3-26-899	Primary
57. Reactor - 541	3-26-882	Primary
58. Reactor - 541	3-26-830	Primary
59. Reactor - 519	3-26-1234	Primary

NOTE: Hose stations designated as being the primary suppression for the area being protected require compensatory measures to be incorporated within one (1) hour. Those hose stations designated as being secondary suppression require compensatory measures to be in effect within 24 hours, assuming normal system status and configuration; however, based on the possibility of an abnormal configuration, a secondary suppression hose station may be changed to primary suppression requiring one hour compensatory measures. [NRC/C] Primary (one hour compensatory measures) and Secondary (24 hour compensatory measures) hose stations. [NRC LER 296/90114]

TABLE 9.3.11.C Hose Stations (continued)

	Building - Elevation	Valve No.	Purpose
60.	Control - 617	1-26-1257	Primary
61.	Control - 617	1-26-1256	Primary
62.	Control - 617	2-26-1259	Primary
63.	Control - 617	2-26-1258	Primary
64.	Control - 617	3-26-1260	Primary
65.	Control - 606	1-26-1232	Primary
66.	Control - 593	1-26-1076	Primary
67.	Control - 593	2-26-1076	Primary
68.	Control - 593	3-26-1076	Primary
69.	Turbine - 586	1-26-801, 802	Primary
70.	Turbine - 586	2-26-808, 807	Primary
71.	Turbine - 586	3-26-813, 814	Primary
72.	DSL GEN 1&2 - 583	1-26-1230	Primary
73.	DSL GEN 1&2 - 583	1-26-1231	Primary
74.	DSL GEN 3 - 583	3-26-1226	Primary
75.	DSL GEN 3 - 583	3-26-1275	Primary
76.	DSL GEN 3 - 583	3-26-1225	Primary
77.	DSL GEN 1&2 - 565	1-26-1032	Secondary
78.	DSL GEN 1&2 - 565	1-26-1031	Secondary
79.	DSL GEN 3 - 565	3-26-1227	Primary
80.	DSL GEN 3 - 565	3-26-1070	Primary
81.	DSL GEN 3 - 565	3-26-1069	Primary
82.	Intake - 550	0-26-577	Primary
83.	Intake - 550	0-26-578	Primary
84.	Intake - 550	0-26-579	Primary

NOTE: Hose stations designated as being the primary suppression for the area being protected require compensatory measures to be incorporated within one (1) hour. Those hose stations designated as being secondary suppression require compensatory measures to be in effect within 24 hours, assuming normal system status and configuration; however, based on the possibility of an abnormal configuration, a secondary suppression hose station may be changed to primary suppression requiring one hour compensatory measures. [NRC/C] Primary (one hour compensatory measures) and Secondary (24 hour compensatory measures) hose stations. [NRC LER 296/90114]

TABLE 9.3.11.D Yard Fire Hydrants

	Fire Hydrant Valve Number	Location
1.	0-26-531	East of Condensate Storage Tank No. 3
2.	0-26-530	East of Diesel Generator Building Unit 3
3.	0-26-526	South of Reactor Building Unit 3
4.	0-26-525	South of Reactor Building Unit 2
5.	0-26-524	South of Reactor Building Unit 1
6.	0-26-523	Southwest of Diesel Generator Building Units 1 and 2

TABLE 9.3.11.E Fire Rated Doors

DOOR NO.	LOCATION	DETECTION PANEL	DOOR NO.	LOCATION	DETECTION PANEL
30	R7-N 519	1-LPNL-25-545	500	R14-P 593	0-LPNL-25-555
31	R7-R 519	1-LPNL-25-545	501	R14-T 593	2-LPNL-25-546
34	R8-R 519	2-LPNL-25-545	506	R16-T 593	3-LPNL-25-546
35	R8-N 519	2-LPNL-25-545	510	R21-P 593	0-LPNL-25-555
36	R14-N 519	2-LPNL-25-545	514	R21-R 593	0-LPNL-25-555
37	R14-R 519	2-LPNL-25-545	531	R2-N 606	0-LPNL-25-556
40	R15-R 519	NONE	539	R1-S 593	NONE
41	R15-N 519	3-LPNL-25-545	541	R14-S 593	0-LPNL-25-555
42	R7-T 541	1-LPNL-25-545	600	R2-N 617	0-LPNL-25-556
43	R8-T 541	2-LPNL-25-545	630	R1-P 621	0-LPNL-25-556
44	R14-T 541	2-LPNL-25-545	631	R1-S 621	NONE
45	R15-T 541	NONE	632	R2-S 621	NONE
221	R7-N 565	1-LPNL-25-545	632A	R1-S 621	NONE
*235	R8-M 565	2-LPNL-25-545	635	R6-T 621	1-LPNL-25-545
*237	R9-M-565	2-LPNL-25-545	637	R2-S 621	NONE
240	R8-T 565	2-LPNL-25-545	640	R8-T 621	2-LPNL-25-547
242	R14-T 565	2-LPNL-25-545	642	R13-P 621	O-LPNL-25-556
244	R14-N 565	2-LPNL-25-545	643	R13-S 621	0-LPNL-25-556
*248	R15-M 565	3-LPNL-25-545	644	R14-S 621	0-LPNL-25-556
*250	R16-N 565	3-LPNL-25-545	644A	R14-S 621	0-LPNL-25-556
298	R1-Q 583	0-LPNL-25-544	647	R15-T 621	2-LPNL-25-547
455	R2-N 593	0-LPNL-25-555	649	R13-S 621	0-LPNL-25-556
460	R3-N 593	0-LPNL-25-555	651	R16-T 621	3-LPNL-25-547
462	R4-N 593	0-LPNL-25-555	654	R21-P 621	0-LPNL-25-556
462A	R4-N 593	0-LPNL-25-555	655	R21-R 621	0-LPNL-25-556
466	R9-N 593	0-LPNL-25-555	656	R20-R 621	0-LPNL-25-556
466A	R10-N 593	0-LPNL-25-555	658	R20-R 621	0-LPNL-25-556
468	R10-N 593	0-LPNL-25-555	670	R6-T 639	NONE
476	R18-N 593	0-LPNL-25-555	672	R8-T 639	2-LPNL-25-547
476A	R19-N 593	0-LPNL-25-555	673	R14-T 639	2-LPNL-25-547
479	R19-N 593	0-LPNL-25-555	810	U3DGB 565	3-LPNL-25-543
482	R20-N 593	0-LPNL-25-555	811	U3DGB 565	3-LPNL-25-543
485	R1-P 593	0-LPNL-25-555	812	U3DGB 565	3-LPNL-25-543
490	R6-T 593	1-LPNL-25-545	824	U3DGB 583	3-LPNL-25-543
497	R8-T 593	2-LPNL-25-546	825	U3DGB 583	3-LPNL-25-543
			827	R21-P 593	0-LPNL-25-555

[NRC/C] Fire doors and associated fire detection panels [NRC NCO 890198001]

The following list of doors must be breached simultaneously in order to have a fire protection assembly out of service requiring compensatory measures to be taken: Door(s) 30/35, 31/34, 36/41, 37/40, 42/43, 44/45.

NOTE: In accordance with SER-Appendix R Exemptions A02-881027-003, Section 3.1.2.1 fire doors of the main steam and feedwater piping tunnels, door nos. 220, 239 and 252 are exempt from surveillance, testing and the administrative control program.
In accordance with the Fire Hazard Analysis for Fire Areas 1 and 3, Fire Zone Doors 490, 635, and 670 are not required within Fire Area 1 when Unit 2 and/or Unit 3 are the only operating unit. Fire Zone Doors 506 and 651 are not required within Fire Area 3 when Unit 2 and/or Unit 1 are the only operating unit.

*Credit will be taken for detection capabilities within the Reactor Building due to lack of any combustibles within the air locks.

TABLE 9.3.11.F Fire Rated Dampers

DAMPER NO.	UNID NO.	ROOM LOCATION	COORDINATE LOCATION	DAMPER NO.	UNID NO.	ROOM LOCATION	COORDINATE LOCATION
				102	1-31-2631	4KV SDER 1A	R2-P 631
103	2-31-2645	4KV SDBR 2C	R13-P 631	104	2-31-2636	4KV SDER 2C	R14-P 631
106	1-31-2633	480V SDBR 1A	R2-S 631				
108	1-31-2634	480V SDBR 1B	R2-S 631				
110	2-31-2643	480V SDBR 2A	R13-S 631	111	2-31-2644	480V SDBR 2B	R14-S 631
112	2-31-2641	480V SDBR 2B	R 14-S 635	113	2-31-2642	480V SDBR 2A	R14-T 635
114	0-39-805	CBL SPR RM A	R8-N	115	1-XFD-31-2652	BATT RM 1	R3-N
116	1-XFD-31-2651	BBR 1	R4-N	117	1-XFD-31-2650 A&B	MG SET RM1 (upper & lower)	R4-N
119	0-39-804	TB 1	T4-M	120	0-39-803	TB 1	T5-M 604
121	0-39-802	TB 2	T7-M 604	122	1-30-642	RW BLDG EQ RM	W7-WF 585
127	3-31-2640	4KV SDBR 3E	R20-P 631	128	3-31-2639	480V SDBR 3A	R20-R 633
131	0-39-800	TB 3	T13-M 604	132	0-39-801	TB 3	T14-M 603
133	3-31-2539	BBR 3	R 18-P 604	134	3-31-2504	BBR 3	R19-N 602
135	3-31-2569	BBR 3	R 19-N 602	136	3-31-2584	MG SET RM 3	R19-N 602
137	3-31-2505	BBR 3	R18-N 602	138	3-31-2583	MG SET RM 3	R18-N 602
139	3-31-2582	RECORD STORAGE RM	R20-N 602				
140	3-31-2648	RECORD STORAGE RM	R1-P 602	141	3-31-2503	BATT RM 3	R20-N 602

TABLE 9.3.11.F Fire Rated Dampers (continued)

DAMPER NO.	UNID NO.	ROOM LOCATION	COORDINATE LOCATION	DAMPER NO.	UNID NO.	ROOM LOCATION	COORDINATE LOCATION
144	DELETED			145	0-31-2520	BATT RM 1	R3-P 631
146	1-31-2578	AUX INST RM 1	R2-S 602	147	1-31-2518	MG SET RM 1	R4-N 602
148	1-31-2525	MG SET RM 1	R4-N 602	149	1-31-2519	BBR 1	R4-N 602
150	2-31-2578	MG SET RM 2	R9-N 602	151	2-31-2647	BBR 2	R10-N 603
152	2-31-2512	MG SET RM 2	R10-N 603	153	DELETED		
154	DELETED			155	0-31-2510	COMM BATT RM	R11-P 602
156	3-31-1307	4KV BBR DGB 3	U3 DGB 580	157	3-31-1308	4KV BBR DGB 3	U3 DGB
158	3-31-1309	4KV SDBR 3ED DGB 3	U3 DGB 579	159	3-31-1310	4KV SDBR 3ED DGB 3	U3 DGB 578
160	3-31-1313	4KV SDBR 3ED DGB 3	U3 DGB 581	161	3-31-1311	4KV SDBR 3EA DGB 3	U3 DGB 583.5
162	3-31-1312	4KV SDBR 3 EC DGB 3	U3 DGB 583.5	163	2-XFD-31-2653 A&B	MG SET RM 2	R9-N
164	2-XFD-31-2654	BBR 2	R10-N	165	2-XFD-31-2655	BATT RM 2	R10-N
167	3-31-1314	STAIRWAY U3 CB	U3 DGB 590	168	0-39-808	CBL SPRD RM B	R19-N 611
169	3-31-2649	480V SDBR 3A	R20-R 632				
171	3-31-2576	480V SDBR 3B	R21 -R 635	172	3-31-2577	480V SDBR 3B	R21-R 632
173	1-31-2000	U1 RB/250V B/BB RM	R2-4 630	174	1-31-2001	U1 RB 250V B/BB RM	R2-R 630
177	2-31-2006	U2 RB 250V B/BB RM	R20-N 630	178	2-31-2007	U2 RB 250V B/BB RM	R13-R 630

TABLE 9.3.11.F Fire Rated Dampers (continued)

DAMPER NO.	UNID NO.	ROOM LOCATION	COORDINATE LOCATION	DAMPER NO.	UNID NO.	ROOM LOCATION	COORDINATE LOCATION
181	2-31-2017	U2 CABLE SPRD RMA	R10-P 606	182	1-31-2016	U1 PREF MG	R4-P 606
183	1-31-2002	U1 4KV SDBR A	R1-Q 621	184	1-31-2003	U 1 4KV SDBR A	R1-Q 621
185	2-31-2008	U2 4KV SDBR C	R14-Q 621	186	2-31-2540	U2 4KV SDBR C	R14-R 621
187	3-XFD-31-2656 A&B	MG SET RM 2 (upper & lower)	R19-N	188	3-XFD-31-2657	BBR 3	R19-N
189	3-XFD-31-2658	BATT RM 3	R19-N	191	1-31-2540	U1 4KV SDBR B	R1-Q 604
192	1-31-2541	U1 KV SDBR B	R1 -Q 604	193	2-31-2018	U2 RB 4KV SDBR	R11-P 604
194	2-31-2019	U2 RB 4KV SDBR D ROOF	R14-Q 604	195	3-31-2011	U3 SDBR E	R21-Q 621
196	3-31-2010	U3 SDBR E	R21 -Q 621				
199	3-31-2012	U3 SDBR F	R21-Q 604	200	3-31-2013	U3 SDBR F	R21-Q 604
201	1-30-643	U1 4KV SDBR A	R1-Q 621	202	1-30-644	U1 RX BLDG	R1-Q 639
203	1-30-645	U1 RB 4KV SDBR B ROOF	R1-P 604	204	1-30-646	U1 4KV SDBR B	R1-P 593
205	0-31-2626	U 1CONTROL BAY CORRIDOR	R2-N 604	206	0-31-2625	U1 CONTROL BAY CORRIDOR	R2-N 602
207	0-31-2627	TB 2	T10-M 604	208	0-31-2629	TB 2	T11-M 602
209	0-31-2628	TB 2	T11-M 604	210	0-31-2630	U2 CBL SPR RM B	R11-N 611
211	0-30-2280	U1/2 DGB	DGB 595				
213	1-XFD-64-604	U1 RX BLDG	R2-P 593	214	1-XFD-64-603	U1 RX BLDG	R2-P 593

TABLE 9.3.11.F Fire Rated Dampers (continued)

DAMPER NO.	UNID NO.	ROOM LOCATION	COORDINATE LOCATION	DAMPER NO.	UNID NO.	ROOM LOCATION	COORDINAT LOCATION
215	1-XFD-64-600	U1 RX BLDG	R3-U 593	216	1-XFD-64-602	U1 RX BLDG	R6-P 593
217	2-64-600	U2 RX BLDG	R12-U 593	218	2-64-601	U2 RX BLDG	R13-U 593
219	2-64-602	U2 RX BLDG	R13-P 593	220	2-64-603	U2 RX BLDG	R9-P 593
221	2-64-604	U2 RX BLDG	R9-P 606	222	3-64-600	U3 RX BLDG	R19-U 593
223	3-64-602	U3 RX BLDG	R20-P 593	224	3-64-603	U3 RX BLDG	R16-P 593
225	3-64-604	U3 RX BLDG	R16-P 593	226	1-XFD-64-606	U1 RX BLDG	R6-9 621
227	1-XFD-64-605	U1 RX BLDG	R2-P 621	228	1-XFD-64-608	U1 RX BLDG	R2-U 621
229	1-XFD-64-626	U1 RX BLDG	R4-U 621	230	2-64-605	U2 RX BLDG	R13-P 621
231	2-64-606	U2 RX BLDG	R9-P 621	232	2-64-607	U2 RX BLDG	R13-U 621
233	2-64-608	U2 RX BLDG	R12-U 621	234	3-64-608	U3 RX BLDG	R19-U 621
235	3-64-605	U3 RX BLDG	R20-P 621	236	3-64-606	U3 RX BLDG	R16-P 621
237	1-XFD-64-610	U1 RX BLDG	R2-P 639	238	1-XFD-64-609	U1 RX BLDG	R1-T 639
239	1-XFD-64-613	U1 RX BLDG	R3-S 639	240	1-XFD-64-612	U1 RX BLDG	R3-S 639
241	2-64-609	U2 RX BLDG	R14-T 639	242	2-64-610	U2 RX BLDG	R13-U 639
243	2-64-611	U2 RX BLDG	R13-U 639	244	2-64-612	U2 RX BLDG	R12-S 639
245	2-64-613	U2 RX BLDG	R12-S 639	246	3-64-610	U3 RX BLDG	R20-U 639

TABLE 9.3.11.F Fire Rated Dampers (continued)

DAMPER NO.	UNID NO.	ROOM LOCATION	COORDINATE LOCATION	DAMPER NO.	UNID NO.	ROOM LOCATION	COORDINAT LOCATION
247	3-64-609	U3 RX BLDG	R21-S 639	248	3-64-613	U3 RX BLDG	R19-S 639
249	3-64-612	U3 RX BLDG	R19-S 639	250	1-XFD-64-614	R1 RX BLDG	R3-Q 621
				252	2-64-614	U2 RX BLDG	R12-Q 621
253	3-64-614	U3 RX BLDG	R19-Q 621				
255	1-XFD-64-615	U1 RX BLDG	R5-P 593	256	2-64-615	U2 RX BLDG	R12-P 593
257	3-64-615	U3 RX BLDG	R19-P 593	258	1-XFD-64-625	U1 RX BLDG	R5-P 621
259	1-XFD-64-623	U1 RX BLDG	R5-P 621	260	1-XFD-64-624	U1 RX BLDG	R5-P 621
261	1-XFD-64-622	U1 RX BLDG	R5-P 621	262	1-XFD-64-617	U1 RX BLDG	R3-Q 621
263	1-XFD-64-619	U1 RX BLDG	R3-Q 621	264	1-XFD-64-621	U1 RX BLDG	R1-T 621
265	1-XFD-64-620	U1 RX BLDG	R5-S 621	266	1-XFD-64-619	U1 RX BLDG	R7-T 621
267	1-XFD-64-616	U1 RX BLDG	R3-P 621	268	2-64-616	U2 RX BLDG	R12-P 621
269	2-64-617	U2 RX BLDG	R12-Q 621	270	2-64-618	U2 RX BLDG	R12-Q 621
271	2-64-619	U2 RX BLDG	R8-S 621	272	2-64-620	U2 RX BLDG	R10-S 621
273	2-64-621	U2 RX BLDG	R14-T 621	274	2-64-625	U2 RX BLDG	R10-P 621
275	2-64-623	U2 RX BLDG	R10-P 621	276	2-64-624	U2 RX BLDG	R10-P 621

TABLE 9.3.11.F Fire Rated Dampers (continued)

DAMPER NO.	UNID NO.	ROOM LOCATION	COORDINATE LOCATION	DAMPER NO.	UNID NO.	ROOM LOCATION	COORDINATE LOCATION
277	2-64-622	U2 RX BLDG	R10-P 621	278	2-64-626	U2 RX BLDG ..	R11-U 621
279	3-64-616	U3 RX BLDG	R19-P 621	280	3-64-617	U3 RX BLDG	R19-Q 621
281	3-64-618	U3 RX BLDG	R19-Q 621	282	3-64-619	U3 RX BLDG	R15-T 621
283	3-64-620	U3 RX BLDG	R17-S 621	284	3-64-621	U3 RX BLDG	R21-S 621
285	3-64-625	U3 RX BLDG	R17-P 621	286	3-64-623	U3 RX BLDG	R17-P 621
287	3-64-624	U3 RX BLDG	R17-P 621	288	3-64-622	U3 RX BLDG	R17-P 621
289	3-64-626	U3 RX BLDG	R17-U 621	296	1-31-2558	480V SDBR 1A	R2-S 633
297	1-31-2632	480V SDBR 1B	R2-S 631	298	3-64-611	U3 RX BLDG	R20-U 639
299	3-64-607	U3 RX BLDG	R20-U 621	300	3-64-601	U3 RX BLDG	R20-U 593
301	1-XFD-64-611	U1 RX BLDG	R2-U 639	302	1-XFD-64-607	U1 RX BLDG	R2-U 621
303	1-XFD-64-601	U1 RX BLDG	R2-U 593				

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TABLE 9.3.11.G Emergency Lighting

EMERGENCY LIGHTING

LIGHT NO	UNIT	BLDG	EL	LOCATION	UNIT POWER FEED
001	1	CB	593	R1-n 1/3	LC105-13
002	1	CB	593	R2 1/4-n	LC105-16
003	1	CB	593	R3 1/4-n	LC105-16
004	1	CB	593	R4-n 4/5	LC105-15
005	1	CB	593	R4 1/2-n 4/5	LC105-15
006	1	CB	593	R4 3/4-n	LC105-16
007	1	CB	593	R6 1/3-n	LC105-16
008*					
009	1	CB	606	R2-n 3/4	LC107-15
010*					
011	1	CB	606	R3-n 1/4	LC107-15
012	1	CB	606	R3-n 1/2	LC107-15
013	1	CB	606	R3-n 4/5	LC107-12
014	1	CB	606	R3 1/4-p	LC107-12
015	1	CB	606	R3 1/4-p	LC107-12
016	1	CB	617	R1 1/2-p	LC107-11
017	1	CB	617	R1-n 2/3	LC107-11
018	1	CB	617	R1 1/2-n	LC107-11
019	1	CB	617	R3-n	LC107-11
020	1	RB	565	R1-t-1/4	LC101-15
021*					
022	1	RB	565	R1 3/4-t	LC101-15
023*					
024	1	RB	565	R2-t(east)	LC101-15
025*					
026	1	RB	565	R3-t-1/3	LC102-15
027	1	RB	565	R3 1/2-t 1/3	LC102-15
028	1	RB	565	R4-t	LC102-14
029	1	RB	565	R4 1/2-t 1/3	LC102-15
030	1	RB	565	R4 3/4-s 3/4	LC102-15
031*					
032	1	RB	565	R6 1/4-s 1/2	LC102-16
033	1	RB	565	R6 1/3-t	LC102-16
034	1	RB	565	R6 1/4-u	LC102-16
035	1	RB	565	R6 1/4-u	LC102-16
036	1	RB	565	R6 1/4-32'south of u	LC102-23
037	1	RB	565	R6 1/4-32'north of u	LC102-23
038	1	RB	593	R1-t-3/4	LC106-07
039	1	RB	593	R1-t-2/3	LC106-07
040	1	RB	593	R1 2/3-t	LC103-15
041	1	RB	593	R1 3/4-r 1/2	LC103-14
042	1	RB	593	R2-u	LC103-15
043	1	RB	593	R2-t	LC103-16

EMERGENCY LIGHTING

LIGHT NO	UNIT	BLDG	EL	LOCATION	UNIT POWER FEED
044	1	RB	593	R3-s	LC103-14
045	1	RB	593	R3 1/3-u	LC103-16
046	1	RB	593	R4-t 1/4	LC103-16
047	1	RB	593	R5-t	LC103-16
048	1	RB	593	R5 1/4-s	LC103-17
049	1	RB	593	R6-s	LC103-17
050	1	RB	593	R6 1/4-t	LC103-17
051	1	RB	593	R6 1/4-u	LC103-17
052	1	RB	593	R6 1/4-u	LC103-17
053	1	RB	593	R1-r 2/3	LC103-18
054	1	RB	593	R1-q	LC103-05
055	1	RB	593	R1 1/4-p	LC103-18
056	1	RB	593	R1 1/5-q	LC103-05
057	1	RB	593	R1 1/3-q 1/4	LC103-05
058	1	RB	593	R1 1/3-r 1/2	LC103-18
059	1	RB	621.25	R1-t 1/3	LC106-14
060	1	RB	621.25	R2-u	LC106-14
061*					
062*					
063	1	RB	621.25	R3-t	LC106-15
064	1	RB	621.25	R5-t	LC106-13
065	1	RB	621.25	R6 1/4-u	LC106-13
066	1	RB	621.25	R7-s 3/4	LC106-13
067	1	RB	621.25	R7-t 1/4	LC106-13
068	1	RB	621.25	R1 1/2-p	LC106-17
069	1	RB	621.25	R1-s	LC104-09
070	1	RB	621.25	R1 1/3-s 1/2	LC104-09
071	1	RB	621.25	R1 2/3-s 1/2	LC104-09
072	1	RB	621.25	R2-s	LC104-09
073	1	RB	621.25	R2-r 1/2	LC106-17
074	1	RB	621.25	R2-q 3/4	LC106-17
075	1	RB	621.25	R2 1/4-r	LC106-17
076	1	RB	621.25	R2-r 1/2	LC106-17
077	1	RB	621.25	R2 1/4-s 1/4	LC104-09
078*					
079*					
080	2	CB	593	R8 3/4-n	
081*					
082	2	CB	593	R9 1/2-n 2/3	
083	2	CB	593	R10 1/4-n	
084	2	CB	593	R11 1/4-n	
085	2	CB	593	R13 1/4-n	
086	2	CB	593	R13 3/4-p	
087	2	CB	606	R11-n 4/5	
088	2	CB	606	R11-n 4/5	

EMERGENCY LIGHTING

LIGHT NO	UNIT	BLDG	EL	LOCATION	UNIT POWER FEED
089	2	CB	617	R11 2/3-n	
090	2	CB	617	R13-n	
091	2	CB	617	R13 1/3-p	
092	2	RB	565	R8 2/3-t	
093	2	RB	565	R9-t	
094*					
095	2	RB	565	R10-t 1/2	
096	2	RB	565	R11 1/2-t 1/2	
097	2	RB	565	R12-u	
098*					
099	2	RB	565	R13-t	
100	2	RB	565	R13-t 1/4	
101	2	RB	565	R13 1/3-s 2/3	
102	2	RB	565	15'west of R14-t	
103	2	RB	565	R14-t 1/2	
104*					
105	2	RB	593	R8-t 1/3	
106	2	RB	593	R8 3/4-t	
107*					
108	2	RB	593	R10-t	
109	2	RB	593	R10 1/2-u	
110	2	RB	593	R11 1/3-u	
111	2	RB	593	R12-t	
112*					
113*					
114*					
115	2	RB	593	R13-t, south	
116	2	RB	593	R13-t, west	
117*					
118	2	RB	593	R13-s, east	
119	2	RB	593	R13 1/4-r 2/3	
120	2	RB	593	R14-r 2/3	
121	2	RB	593	R13-r	
122	2	RB	593	R13-q	
123	2	RB	593	R13 3/4-p 4/5	
124	2	RB	593	R13 3/4-q	
125	2	RB	593	R13-q	
126	2	RB	593	R13 3/4-p	
127	2	RB	593	R13 3/4-p 1/4	
128	2	RB	593	R13 3/4-r 1/2	
129	2	RB	593	R13 3/4-r 2/3	
130	2	RB	593	R14-r 2/3	
131	2	RB	621.25	R8-t	
132	2	RB	621.25	R8 1/2-s 1/2	
133	2	RB	621.25	R8 1/2-u	

EMERGENCY LIGHTING

LIGHT NO	UNIT	BLDG	EL	LOCATION	UNIT POWER FEED
134	2	RB	621.25	R10-t	
135	2	RB	621.25	R11 2/3-t	
136	2	RB	621.25	R13-s 1/2	
137	2	RB	621.25	R13-t	
138	2	RB	621.25	R13 2/3-u	
139	2	RB	621.25	R12 2/3-s 1/4	
140	2	RB	621.25	R13-r 1/2	
141	2	RB	621.25	R12 3/4-q 3/4	
142	2	RB	621.25	R13-q 2/3	
143	2	RB	621.25	R13-r 1/4	
144	2	RB	621.25	R13-s	
145	2	RB	621.25	R13 1/3-s 1/2	
146	2	RB	621.25	R13 2/3-s 1/2	
147	2	RB	621.25	R14-s	
148	2	RB	621.25	R13 2/3-p	
149*					
150*					
151*					
152*					
153	3	CB	593	R15 1/2-n	
154	3	CB	593	R17-n	
155	3	CB	593	R19 1/4-p	
156	3	CB	593	R19 1/3-n	
157*					
158	3	CB	593	R19 1/2-n	
159	3	CB	593	R20 3/4-n	
160	3	CB	593	R21-n 1/4	
161	3	CB	606	R18 3/4-p	
162	3	CB	606	R18 4/5-p	
163	3	CB	606	R19 1/4-n 2/3	
164	3	CB	606	R19 1/2-p	
165	3	CB	606	R20-n 2/3	
166	3	CB	606	R21-n 3/4	
167	3	CB	617	R15 1/2-n	
168	3	CB	617	R19 1/2-n	
169	3	CB	617	R20-n	
170	3	CB	617	R20 2/3-n	
171	3	CB	617	R20 1/2-p	
172	3	RB	565	R15 2/3-t	
173	3	RB	565	R15 2/3-u	
174	3	RB	565	R16 2/3-r 2/3	
175	3	RB	565	R17-t 1/4	
176	3	RB	565	R17-t 1/4	
177	3	RB	565	R18-t	
178	3	RB	565	R18 1/2-t 1/3	

EMERGENCY LIGHTING

LIGHT NO	UNIT	BLDG	EL	LOCATION	UNIT POWER FEED
179	3	RB	565	R19 1/4-r 3/4	
180	3	RB	565	R20-t west	
181	3	RB	565	R20-t	
182	3	RB	565	R20 1/3-t	
183	3	RB	565	R21-t 1/4	
184	3	RB	593	R15 3/4-u	
185	3	RB	593	R15 3/4-t	
186	3	RB	593	R16-t	
187*					
188	3	RB	593	R17 1/4-t	
189	3	RB	593	R18-t 1/4	
190	3	RB	593	R18 3/4-u	
191	3	RB	593	R20-r	
192	3	RB	593	R20-s	
193	3	RB	593	R20-t	
194	3	RB	593	R21-t	
195	3	RB	593	R21-t 2/3	
196	3	RB	593	R21-t 2/3	
197	3	RB	593	R20 2/3-p	
198	3	RB	593	R20-p 2/3	
199	3	RB	593	R20 2/3-r	
200	3	RB	593	R21-r 1/4	
201	3	RB	621.25	R15-t 1/4	
202	3	RB	621.25	R15 3/4-u	
203	3	RB	621.25	R15 3/4-u	
204	3	RB	621.25	R16-t	
205	3	RB	621.25	R17-t	
206	3	RB	621.25	R19-t east	
207	3	RB	621.25	R19-t west	
208	3	RB	621.25	R19-s	
209	3	RB	621.25	R19-q 1/2	
210	3	RB	621.25	R19 2/3-q	
211	3	RB	621.25	R20-t south	
212*					
213	3	RB	621.25	R20-r 1/4	
214	3	RB	621.25	R20 1/2-p	
215	3	RB	621.25	R19 4/5-r	
216	3	RB	621.25	R20-q	
217	3	RB	621.25	R20-q 2/3	
218	3	RB	621.25	R20-r 1/4	
219	3	RB	621.25	R20 1/3-r 2/3	
220	3	RB	621.25	R20 2/3-r 2/3	
221	3	RB	621.25	R21-r 1/4	
222*					
,223*					

EMERGENCY LIGHTING

LIGHT NO	UNIT	BLDG	EL	LOCATION	UNIT POWER FEED
224	1,2	DG	583	@ Fan Room C Door	
225	1,2	DG	583	@ Fan Room B Door	
226	1,2	DG	583	@ Fan Room A Door	
227	1,2	DG	583	Elect. Access Room	
228	1,2	DG	565	CO_2 Storage Room	
229	1,2	DG	565	Above Pipe Tunnel Dr	
230	1,2	DG	565	DG Room A North Wall	
231*					
232	1,2	DG	565	DG Room B North Wall	
233*					
234	1,2	DG	565	DG Room C North Wall	
235*					
236	1,2	DG	565	DG Room D North Wall	
237*					
238	1,2	DG	565	Across from DG Rm B	
239*					
240*					
241	3	DG	583	Stairway DSL	
242	3	DG	583	R-line SDBR	
243	3	DG	583	S-line SDBR	
244	3	DG	583	T-line SDBR	
245	3	DG	565	Q-line SDBR	
246	3	DG	565	R-line SDBR	
247	3	DG	565	T-line SDBR	
248	3	DG	583	Stairway DSL	
249	3	DG	583	Stairway DSL	
250	3	DG	583	@ Fan Room 3C Door	
251	3	DG	583	@ Fan Room 3A Door	
252	3	DG	583	Stairway DSL	
253	3	DG	565	CO_2 Storage Room	
254	3	DG	565	W wall adj. DG Rm 3A	
255	3	DG	565	DG Rm 3A	
256	3	DG	565	DG Rm 3B	
257	3	DG	565	Across from DG Rm 3C	
258	3	DG	565	DG Rm 3C	
259	3	DG	565	DG Rm 3D	
260	0	IPS	565	RHRSW Compt C	
261	0	IPS	565	RHRSW Compt D	
262	2	RB	565	R9 2/3-u	
263*					
264*					
265*					
266*					
267*					
268*					

EMERGENCY LIGHTING

LIGHT NO	UNIT	BLDG	EL	LOCATION	UNIT POWER FEED
269	3	RB	565	R17-q	
270*					
271*					
272*					
273	1	CB	617	R4 1/8-n	LC108-14
274	1	CB	617	R4 7/8-n	LC108-14
275	1	CB	617	R5 1/3-n	LC108-14
276	1	CB	617	R5 2/5-n	LC108-14
277	1	CB	617	R5 1/2-n	LC108-14
278	1	CB	617	R6 1/4-n	LC108-14
279	1	CB	617	R6 7/8-n	LC108-14
280	1	CB	617	R7-n	LC108-14
281	2	CB	617	R8-n	
282	2	CB	617	R8 3/4-n	
283	2	CB	617	R9 1/2-n	
284	2	CB	617	R9 7/8-n	
285	2	CB	617	R10-n	
286	2	CB	617	R10 1/8-n	
287	2	CB	617	R10 7/8-n	
288	2	CB	617	R11-n 3/4	
289	2	CB	617	R10 1/8-p	
290	2	CB	617	R10-p	
291	2	CB	617	R9 7/8-p	
292	2	CB	617	R9 1/4-p	
293	2	CB	617	R8-p	
294	1	CB	617	R7-p	LC108-16
295	1	CB	617	R5 3/4-p	LC108-16
296	1	CB	617	R5 1/4-p	LC108-16
297	1	CB	617	R5 1/8-p	LC108-16
298	1	CB	617	R5 3/4-p	LC108-16
299*					
300	0	IPS	565	RHRSW Compt A	
301	0	IPS	565	RHRSW Compt B	
302	0	IPS	565	RHRSW Compt B & C	
303	0	IPS	565	RHRSW Compt C Door	
304	0	IPS	565	RHRSW Compt D Door	
305	1	CB	606	R3 1/4-p	LC107-12
306	1	CB	606	R3 1/2-p	LC107-12
307	2	CB	606	R11-n 4/5	
308*					
309	3	CB	606	R18 3/4-p	
310	3	CB	606	R18 4/5-p	
311	2	RB	621.25	R13-q	
312*					
313	3	CB	593	Outside 484 Door	

EMERGENCY LIGHTING

LIGHT NO	UNIT	BLDG	EL	LOCATION	UNIT POWER FEED
314	3	DG	593	Outside North Wall	
315*					
316*					
317	3	CB	593	Outside 484 Door	
318	3	DG	583	DSL Stairway	
319	3	DG	565	DG RM 3B	
320*					
321	3	RB	593	R20 2/3-p	
322*					
323	2	RB	565	R10 1/3-s 1/3	
324	2	RB	565	R10 3/4-t 1/2	
325	2	RB	565	R11 1/2-s 1/2	
326	3	DG	565	DG RM 3A	
327	3	DG	565	DG RM 3B	
328	3	DG	565	DG RM 3C	
329	3	DG	565	DG RM 3D	
330	3	RB	565	R17 1/2-s 1/2	
331	3	RB	565	R16-p	
332	3	RB	621.25	R20-q	
333	3	RB	565	R19 1/2-r	
334*					
335*					
336	1	DG	565	DG RM A	
337	1	DG	565	DG RM B	
338	1	DG	565	DG RM C	
339	1	DG	565	DG RM D	
340	3	RB	565	R18 1/2-u	
341	3	RB	565	R19 1/2-q	
342	3	RB	565	R20 1/3-s	
343	2	CB	593	R9 3/4-p	
344	3	CB	593	R18-p	
345	3	RB	593	R20 3/4-p	
346	3	RB	593	R20 1/2-r	
347*					
348*					
349	3	CB	617	R16 1/2-n	
350	3	CB	617	R16 2/3-n	
351	3	CB	617	R17-n	
352	3	CB	617	R17 2/3-n	
353	3	CB	617	R17 3/4-n	
354	3	CB	617	R18-n	
355	3	CB	617	R18 3/4-n	
356	3	CB	617	R17 4/5-p	
357	3	CB	617	R17 3/4-p	
358	3	CB	617	R17 2/3-p	

EMERGENCY LIGHTING

LIGHT NO	UNIT	BLDG	EL	LOCATION	UNIT POWER FEED
359	3	CB	617	R16 4/5-p	
360	3	CB	617	R16 3/4-p	
361	0	RWB	586	W7 3/4-Wd 1/4	
362	0	RWB	580	W7 3/4-Wc 1/2	
363	0	RWB	580	W7 3/4-Wa 1/2	
364	0	SB	580	S6-Sa	
365	0	SB	580	S6 1/2-Sa 1/2	
366	0	SB	580	S6 1/2-Sb	
367*					
368	0	SB	592	S6-Sc 1/4	
369	0	SB	592	S5-Sc 1/2	
370*					
371	0	SBR	595	S5 1/2-Sb	
372*					
373	0	SBR	595	S7-Sa 1/2	
374	0	RWBR	595	W8-Wc	
375	0	RWBR	595	W7-Wd 1/2	
376	1,2	DGR	595	NA	
377	1,2	DGR	595	NA	
378	1,2	DGR	595	NA	
379	1,2	DGR	595	NA	
380	1,2	DGR	595	NA	
381	1,2	DGR	595	NA	
382	0	CS	595	NA	
383	0	CS	595	NA	
384	0	CS	595	NA	
385	0	CS	595	NA	
386	0	CS	595	NA	
387	0	CS	595	NA	
388	0	CS	595	NA	
389	0	CS	595	NA	
390	0	CS	595	NA	
391	0	CS	595	NA	
392	1	RB	639	R7-t	
393	2	RB	639	R8-t	
394	2	RB	639	R10-t	
395	2	RB	639	R12-t	
396	2	RB	639	R13-u	
397	2	RB	639	R15-t	
398	2	RB	639	R11 1/2-u	
399*					
400*					
401*					
402*					
403*					

EMERGENCY LIGHTING

LIGHT NO	UNIT	BLDG	EL	LOCATION	UNIT POWER FEED
404	2	SBR-C	621.25	R14-q	
405	1	TB	593	T1 1/2-m	
406	1	TB	593	T1 1/2-m	
407*					
408*					
409*					
410	1	RB	621.25	R3-t	LC106-14
411	1	RB	621.25	R5-t	LC106-14
412	1	RB	621.25	R2 2/3-s 1/4	LC106-15
413	1	RB	621.25	R2 2/3-r 1/2	LC106-15
414	1	RB	621.25	R2 3/4-q	LC106-16
415	1	RB	565	R2-u	LC101-15
416	1	RB	565	R2 1/2-r 1/2	LC101-15
417	1	RB	565	R3 1/4-n 2/3	LC101-13
418	1	RB	565	R3-n 1/4	LC101-13
419	1	RB	565	R1 1/2-n	LC101-13
420	1	RB	565	R1-n 1/2	LC101-13
421	1	RB	565	R1 1/3-p 2/3	LC101-14
422	1	RB	565	R5 3/4-s 1/2	LC102-16
423	1	RB	565	R3-t	LC102-11
424	1	RB	565	R3-u	LC102-15
425	1	RB	565	R4-u	LC102-15
426	1	RB	565	R5 1/2-q 1/4	LC102-14
427	1	RB	565	R5 1/2-r	LC102-14
428	1	RB	621.25	R6 1/4-s 1/3	LC106-13
429*					
430	1	RB	593	R1-r	LC103-18
431	1	RB	621.25	R2-p	LC106-17
432	1	RB	593	R2-p	LC103-18

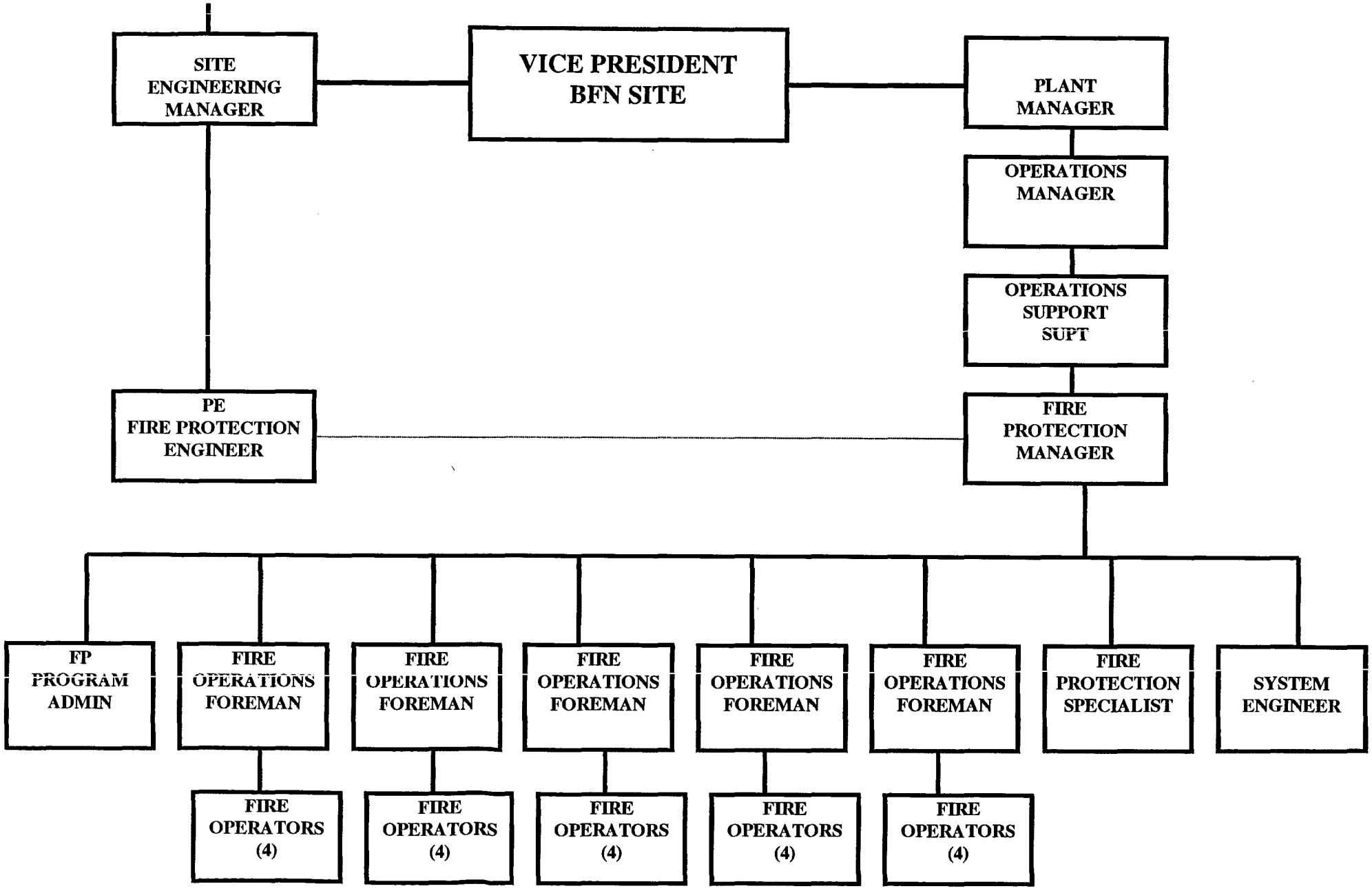
* **Light Number Not Used**

TABLE 9.3.11.H 1 Hour Fire Rated Cable Wrap

Cable ID	Description	Raceway/ID	Location(s) FA/FZ, Room #
ES75-I	RHR Service Water Pump A1 Supply	Conduit/ES75	FA25, IT IP550
ES88-I	RHR Service Water Pump A2 Supply	Conduit/ES88	FZ1-1, 565.0-R-1 FA25, IT IP550
ES100-I	RHR Service Water Pump C1 Supply	Conduit/ES100I	FA25, IT IP550
ES113-I	RHR Service Water Pump C2 Supply	Conduit/ES113I	FA25, IT IP550
ES125-I	RHR Pump 1A Supply	Conduit/ES125	FZ1-4, 593.0-R-1 FZ1-3/1-4, 593.0-R-1
ES2673-II	RHR Pump 1D Supply	Conduit/ES2673	FZ1-1/1-2, 565.0-R-1
PP459-IA	4KV SDBD 3EA to U3 DGB SDBD X-Tie	Conduit/PP1737	FZ1-4, 593.0-R-1
PP460-IA	4KV SDBD 3EA to U3 DGB SDBD X-Tie	Conduit/PP1740	FZ1-4, 593.0-R-1
3ES1580-I	RHR Service Water Pump A3 Supply	Conduit/3ES1580I	FA25, IT IP550
3ES1590-I	RHR Service Water Pump C3 Supply	Conduit/3ES1590I	FA25, IT IP550

References 2.38 and 2.39

TABLE 9.3.11.I FIRE PROTECTION PROGRAM ORGANIZATION



10.0 FIRE PROTECTION COMMITMENTS

SOURCE	SOURCE DOCUMENT	IMPLEMENTING DOCUMENT
1. SER - Safety evaluation on the fire brigade at Browns Ferry Nuclear Plant Units 1, 2, and 3 (TAC Nos. 00344, 00345, and 00346) RIMS: A02 880915 014	Fire Protection Report - Volume 1 Fire Protection Plan	Fire Protection Plan, Section 8.0
2. LER 259/88026 - Identify condition that requires a proving or continuous fire watch system. RIMS: R42 880926 913 [NCO 880210002]	Fire Protection Report - Volume 1 Fire Protection Plan	Fire Protection Report - Volume 1, Fire Protection Plan - Section 9.3.11.G/9.4.11.G
3. Letter - Browns Ferry Nuclear Plant Clarification of incident commander requirements. RIMS: L44 881005 802	Fire Protection Report - Volume 1 Fire Protection Plan	Fire Protection Report - Volume 1, Fire Protection Plan, - Section 8.0
4. SER - Browns Ferry Nuclear Plant Safety Evaluation Report (SER) on the BFN Nuclear Performance Plan (BFNPP) NUREG 1232 - Volume 3 RIMS: R08 890501 975	Fire Protection Report - Volume 1 Fire Protection Plan	Fire Protection Plan, Section 3.0 and 8.0
5. Letter - Browns Ferry Nuclear Plant Clarification of April 29, 1988 Submittal "Staffing of Fire Brigade" RIMS: L44 890531 802	Fire Protection Report - Volume 1	Fire Protection Report - Volume 1 - Fire Protection Plan - Section 8.0
6. LER 259/89021 List fire doors and the associated fire detection instrumentation RIMS: R09 890906 888 [NCO 890198001]	Fire Protection Report - Volume 1 Fire Protection Plan	Fire Protection Plan - Table 9.3.11.E

10.0 FIRE PROTECTION COMMITMENTS (continued)

	SOURCE	SOURCE DOCUMENT	IMPLEMENTING DOCUMENT
7.	LER 260/89025 - Fire Protection to perform a periodic verification that fire protection compensatory measures are in place RIMS: R09 891019 900 [NCO 8900229001]	Fire Protection Report - Volume 1 Fire Protection Plan	Fire Protection Weekly Inspection FP-0-000-INS019
8.	Letter - Browns Ferry Nuclear Plant Commitment to replace fire wall RIMS: L44 891031 803	Fire Protection Report - Volume 1	Fire Protection Report - Volume 1 - Fire Hazards Analyses Fire Areas 17, 18, and 19
9.	LER 259/90019 - Plant Procedure did not provide clear guidance for areas requiring fire watches during loss of power to I&C bus RIMS: R09 910214 945	Fire Protection Report - Volume 1 Fire Protection Plant	Abnormal Operating Instructions AOI-57-5A Series
10.	LER 259/90021 - Fire Protection to specify a method to detect a fire behind a closed door RIMS: R09 910214 946	Fire Protection Report - Volume 1 Fire Protection Plan	Control of Fire Protection Impairments SPP 10.9
11.	LER 296/91004 - Fire Protection to develop a method to begin compensatory measures relative to fire hose stations immediately based on a predefined list RIMS: R09 911203 829	Fire Protection Report - Volume 1 Fire Protection Plan	Fire Protection Report - Volume 1 Fire Protection Plan - Table 9.3.11.H

11.0 FIRE PROTECTION SYSTEM FLOW DRAWINGS LIST

REFERENCE DRAWINGS

1-47E610-26-1	High Pressure Fire Protection System
2-47E610-26-1	High Pressure Fire Protection system
3-47E610-26-1	High Pressure Fire Protection System
0-47E836-1	Raw Service Water & Fire Protection System
0-47E836-3	High Pressure Fire Protection System
0-47E843-1	CO_2 Storage, Fire Protection & Purging System
1-47E836-1	Raw Service Water & Fire Protection System
2-47E836-1	Raw Service Water & Fire Protection System
3-47E836-1	Raw Service Water & Fire Protection System
0-47E836-2	Raw Service Water & Fire Protection System
3-47E843-2	CO_2 Storage, Fire Protection & Purging System
1-47E850-1	Fire Protection & Raw Service Water System
2-47E850-1	Fire Protection & Raw Service Water System
3-47E850-1	Fire Protection & Raw Service Water System
1-47E850-2	Fire Protection & Raw Service Water System
2-47E850-2	Fire Protection & Raw Service Water System
3-47E850-2	Fire Protection & Raw Service Water System
1-47E850-3	Transformer Fire Protection System
2-47E850-3	Transformer Fire Protection System
3-47E850-3	Transformer Fire Protection System
0-47E850-4	Fire Protection & Raw Service Water System
3-47E850-4	Fire Protection & Raw Service Water System
1-47E850-5	Fire Protection & Raw Service Water System
2-47E850-5	Fire Protection & Raw Service Water System
3-47E850-5	Fire Protection & Raw Service Water System
1-47E850-6	Fire Protection & Raw Service Water System
2-47E850-6	Fire Protection & Raw Service Water System
3-47E850-7	Fire Protection & Raw Service Water System
1-47E850-9	Fire Protection & Raw Service Water System
3-47E850-9	Fire Protection & Raw Service Water System
1-47E850-10	Transformer Fire Protection System
2-47E850-10	Transformer Fire Protection System
3-47E850-10	Transformer Fire Protection System
0-47E850-12	Fire Protection

BROWNS FERRY NUCLEAR PLANT

FIRE HAZARD ANALYSIS

TABLE OF CONTENTS

1.0 INTRODUCTION

This Fire Hazards Analysis (FHA) contains the engineering evaluation performed to determine the adequacy of the fire protection capability for compliance with the applicable requirements of 10CFR50 Appendix R for Units 1, 2 and 3 operation. This evaluation includes defining the fires areas for BFN, establishing the bases for each fire area, identifying the separation criteria within each fire area, and evaluating the adequacy of the fire protection capabilities (i.e., detection, suppression, and compartmentation) in accordance with the applicable requirements of 10CFR50 Appendix R and industry standards.

The engineering evaluation of the fire protection capabilities will be presented as follows:

a. Provide basis and methodology for determination of combustible loading, fire resistance, and fire severity.

b. Define the term "Fire Area" for BFN and the basis for the definition. Describe considerations for determining a fire area, such as establishment of fire zones within fire areas, primary containment walls, openings in fire barriers, etc.

c. Evaluate special building features for their fire protection capabilities, such as seismic gaps, flood control doors, etc.

d. Briefly describe various engineering evaluations performed to ascertain suppression damage, flooding possibilities, fire pump availability, capability, and structural steel capability.

e. Provide a detailed evaluation of the fire protection capabilities for each fire area and fire zone.

Information Notices, Generic Letters, Operating Experience Reviews, etc., are coordinated by Nuclear Experience Review (NER) and/or Licensing groups and addressed by appropriate disciplines.

The applicable editions of referenced codes and standards in this report are established by the year during which specific design/installations were performed.

2.0 COMBUSTIBLE LOADING, FIRE RESISTANCE, AND FIRE SEVERITY DETERMINATION

Combustible materials are identified and quantified for each fire area and zone. Complete combustion of all combustible materials in the fire area or zone is assumed for a postulated fire. Table 1 shows a listing of heat of combustion values used for various combustibles. The combustible loading of cable trays in various areas of the plant is also listed. Electrical cables combustible loading was calculated by using heat of combustion values based on various full scale fire test data.

Quantities of combustible plastic per foot of cable tray were calculated by utilizing the tray ampacity calculation program information and from electrical design criteria, Reference 1. A detailed breakdown of all the combustibles and the combustible loading of the plant areas, including fire severity, are provided in Reference 2. Table 1 of this report presents information on heat of combustion values used for various combustibles in the plant including cable trays.

Fire resistance is the ability of an element of building construction to continue to perform its function as a barrier or structural component during the course of a fire. This is determined by testing a full scale sample subject to a "standard fire" defined by the temperature-time variation of fire gases within a furnace (ASTM E119 standard temperature-time curve). The fire resistance ratings of walls, floors, and ceilings of the various fire area/zone compartments have been determined using several industry guidelines including the following:

a. Fire Protection Handbook, NFPA, 16th Edition
b. Fire Resistance Directory, Underwriters Lab, 1988
c. Building Materials Directory, Underwriters Lab, 1989
d. Fire Resistance Design Manual (Gypsum Products), 12 Edition

Fire resistance requirements have been specified for various barriers/structural components based upon the potential fire severity in the area. The basis for relationship is the "equal area hypothesis", in which it is assumed that if the areas under the temperature-time curves (above a baseline of 150°C or 300°C) of two fires are equal, then the severities are equal. If one of these "fires" is the "standard fire", then the "severity" and "fire resistance" can be equated. On this basis, the following table relates the fire load and fire severity from which the fire resistance requirement of a particular compartment can be obtained directly from the measured combustible content. (Reference 25)

2.0 COMBUSTIBLE LOADING, FIRE RESISTANCE, AND FIRE SEVERITY DETERMINATION (continued)

Combustible Content (Wood Equivalent)		Equivalent		Standard Fire Duration
(lb/ft^2)	(kg/m^2)	(Btu/ft^2)	(MJ/m^2)	(hr)
5	25	40,000	0.45	½
10	49	80,000	0.90	1
15	73	120,000	1.34	1½
20	98	160,000	1.80	2
30	146	240,000	2.69	3
40	195	320,000	3.59	4½
50	244	380,000	4.49	6
60	293	432,000	5.39	7½

Heat of combustion of wood is taken as 8,000 Btu/lb (18.4KJ/g)

Therefore, the fire resistance requirements can be specified for an area if the fire load is known. Note that the actual fire severities may vary significantly depending on the heat release rates, ventilation, nature, and configuration of fuel, compartment size and building materials, etc. However, this methodology has been used to obtain rough estimates of the fire severities. These estimates are provided in the discussion of each fire area/zone. Values have been rounded up to the nearest 5,000 BTU/ft^2. Fire severities are based on the rounded up fire load (80,000 BTU/ft^2 = 1 hr). Combustible loading values provided for fire zones in the Reactor Building use the largest room loading for a given floor elevation affecting the subject fire zones. Other simplified fire hazard analysis methods have been developed as part of Individual Plant Examination for Externally Initiated Events (IPEEE) program and are described in Fire Induced Vulnerability Evaluation (FIVE) (Ref. 3) and Methods of Quantitative Fire Hazards Analysis (Ref. 4). These methods can be used to conservatively evaluate the potential for credible exposure fires. Various computer fire models such as HAZARD 1, FPETOOL and CFAST can also be used to predict exposure hazards.

3.0 FIRE AREA DETERMINATION

3.1 Definition of Fire Area

A fire area is defined as an area in the plant that is separated from other areas by boundary fire barriers (walls, floors, or roofs) with any openings or penetrations protected with seals or closures having a minimum fire resistance equal to the rating of the barrier. The rating of the barrier shall either be three-hours or exceed the maximum anticipated combustible loading of the area. Fire areas and zones for BFN are depicted in drawings listed in Table 2.

3.2 Bases for the Fire Area Definition

A fire area must have sufficient fire protection capabilities to withstand the hazards associated with the area and the fire protection capabilities must be evaluated.

The definition of the fire areas for BFN is consistent with the NRC staff position. The NRC staff expressed their definition of fire area in their Generic Letter 86-10 (Reference 5) as follows:

"...The term "fire area" as used in Appendix R means an area sufficiently bounded to withstand the hazards associated with the area and, as necessary, to protect important equipment within the area from a fire outside the area. In order to meet the regulation, fire area boundaries need not be completely sealed floor-to-ceiling, wall-to-wall boundaries. However, all unsealed openings should be identified and considered in evaluating the effectiveness of the overall barrier. Where fire area boundaries are not wall-to-wall, floor-to-ceiling boundaries with all penetrations sealed to the fire rating required of the boundaries, licensees must perform an evaluation to assess the adequacy of fire boundaries in their plants to determine if the boundaries will withstand the hazards associated with the area and protect important equipment within the area from a fire outside the area. This analysis must be performed by at least: a fire protection engineer and, if required, a systems engineer..."

3.3 Special Considerations for Fire Area Determination

In addition to the definition of the fire areas, other special considerations were given in the determination of fire areas for BFN. The Reactor Building fire areas are so large that the compliance with the applicable safe shutdown requirements of 10CFR50 Appendix R is through the establishment of fire zones. The fire area determination would also have to consider the criteria for drywall walls or exterior walls which may form part of the boundaries for a fire area. Requirements for HVAC duct penetrations and other types of penetrations should also be identified. These considerations and their bases are presented below.

3.3 Special Considerations for Fire Area Determination (continued)

3.3.1 Fire Zone Determination

A fire zone is defined as a subdivision of a fire area which is primarily based upon the separation requirements of 10CFR50, Appendix R Section III.G.2b or c. The separation criteria for redundant safe shutdown equipment inside a fire area are as follows:

a. Separation of cables and equipment and associated non-safety circuits of redundant trains by a horizontal distance of more than 20 feet without intervening combustibles. In addition, fire detectors and an automatic fire suppression system shall be installed in the fire area.

b. Separation of cable and equipment and associated non-safety circuits of redundant trains by a fire barrier having a one hour rating. In addition, fire detectors and an automatic fire suppression system shall be installed in the fire area.

Fire zones are established in the Reactor Building fire areas to provide separation for redundant divisions of the minimum safe shutdown system (SSDS) in accordance with Section III.G.2 of 10CFR50 Appendix R. The fire protection administrative control program ensures that 20 ft. zone of separation is maintained free of hazards from transient combustibles.

The fire zone boundaries, including the use of 20 ft combustible free zones, ensure that the redundant trains of the RHR and RHRSW/EECW systems and their power supplies are adequately separated. The separation of other minimum SSDS equipment is ensured by the use of 20 feet zone of separation with automatic suppression and detection. Other separation methods which meet the requirements of Section III.G.2 are used as needed.

Where floor-to-floor separation is required, water curtains are installed around equipment hatches and stairways to prevent vertical flame spread through the openings.

A water curtain around a floor opening in the Reactor Buildings will confine the fire and hot products of combustion to the floor of fire origin of any postulated fire. This is accomplished through both draft stops and close space automatic sprinklers around vertical openings of the stairways and hatches in the areas of concern. The draft stops

3.3 Special Considerations For Fire Area Determination (continued)

around openings help bank the heat near the ceiling from a postulated fire and thereby allow the automatic sprinklers to operate quickly forming a water curtain around the openings.

3.3.2 Exterior Walls

Exterior walls may be unrated and may be used as fire area boundaries if the following requirements are met:

a. The exterior walls are not required to separate safe shutdown related divisions inside the fire areas from its redundant or alternate train outside the fire area in the immediate vicinity of the exterior wall;

b. The exterior walls do not separate safety-related areas from non-safety-related areas that present a significant fire threat.

3.3.3 Primary Containment (Drywell) Walls

Separation requirements of Appendix R Section III.G are not applicable to the drywell area because it is inerted during normal power operation. Although the Technical Specifications allows the drywell to be de-inerted for 24 hours prior to shutdown, this small period of non-inerted environment inside the drywell posses a very low probability of fire.

Drywell penetrations and consideration of the intervening combustibles in the form of polyurethane liners inside the drywell have been evaluated. Possible fire scenarios were postulated and it was concluded that the goal of Appendix R to achieve and maintain safe shutdown is not compromised. (Reference 6)

3.3.4 Openings in Fire Barriers

The fire barriers may have openings such as doors and penetrations for piping, conduits, or HVAC ducts. These openings have been evaluated to determine if they will prevent fire propagation through the rated barrier. Specific requirements for determining the acceptability of the openings through rated barrier are as follows:

a. Doors - Fire doors in barrier walls, including frame and installation hardware, are 1½ or 3-hour rated depending upon fire resistive requirement of the barrier. Only labeled or listed doors are used. Where listed doors are not available for specific applications, engineering evaluations have been performed.

3.3.4 Openings in Fire Barriers (continued)

b. Duct Penetrations - Fire dampers in rated barriers are 1½ or 3-hour rated depending upon the fire resistive rating of the barrier. The fire dampers are installed in accordance with NFPA No. 90A, Installation of Air Conditioning and Ventilation Systems, UL Standard for Safety No. 555, or Sheet Metal Air Conditioning National Association (SMACNA) guidelines. Three-hour internal expansion fire rated dampers and curb assemblies are also utilized to protect duct penetrations in the floor. These damper assemblies are configured as an extension of the fire rated floor slab (Reference 33). In cases where the actual mounting of the fire dampers are not in accordance with the above standards, justifications are provided for the types of mounting.

c. Pipe, conduit, and cable tray penetrations, mechanical penetrations, including pipes, conduits, cable trays and conduits in pipe sleeves, through fire rated barriers are provided with approved seals. Seals can be one hour to three-hour rating as appropriate to withstand the hazards associated with the area. Internal conduit seals are of noncombustible material and will prevent the passage of fire and/or smoke and hot gases from one side of the barrier to the other, where required. Detailed criteria for internal conduit seal selection are presented in Reference 7. Fire barrier penetrations that must maintain environmental isolation or pressure differentials are qualified by test to maintain the barrier integrity under such conditions.

Internal conduit fire seals are required either at both ends or in the fire barrier, if the conduit terminates within 1 ft of the barrier. Smoke and gas seals are installed at both ends if the conduit extends more than 1 ft beyond the fire barrier. Smoke and gas seals are not the basis for fire rating. Installation of smoke and gas seal may be prudent based upon penetration qualification test or specific plant parameters. The internal conduit seal criteria are based on full scale fire tests by Omega Point Labs (Reference 8) and PROMATEC (Reference 7).

To maintain the integrity of the fire barrier a penetration seal shall meet one of the following criteria:

(i) The penetration seal is UL listed or approved by a recognized independent testing facility. The rating of the penetration seal is either three-hour or exceeds the combustible loading within the immediate vicinity of the seal.

(ii) The penetration seal design and installation has been previously approved by the NRC.

3.3.4 Openings in Fire Barriers (continued)

(iii) The penetration seal design has been evaluated and approved by a qualified fire protection engineer.

Some fire stop configurations typically used at BFN, include a metal plate welded to the sleeve and penetrant item(s) or over the sleeve if it is a spare sleeve. These penetration seal configurations are comparable to several of the fire stop systems listed by UL. These penetrations are considered to be the acceptable fire stops. (Reference 32) No temperature ratings are applicable to these seals.

Cable tray penetration seal designs are based on fire tests conducted by TVA and previously approved by NRC (Fire Recovery Plan, Part X, Section A, paragraph 4.5 and FSAR Section 8.9.2). As part of the Appendix R program, these seals have been reevaluated and were compared to a similar 3 hour rated UL tested configuration to determine their adequacy. The seal designs were found to be comparable to UL listed design. See Reference 24 for detailed engineering evaluation of typical penetration seal designs including mechanical seals, internal conduit seals, cable tray seals and seismic gaps.

d. Bus Duct Penetrations - Bus duct penetrations exist in each unit's common wall between 480V transformers and 480V shutdown board rooms (one per transformer).

The bus ducts extend from the 4160V/480V step down transformers in the Reactor Buildings to the 480V shutdown boards in the adjacent fire area. Two of the transformers are filled with Pyranol and four transformers are of the dry type (Shutdown Room 2A & 2B). The transformers in each unit are separated by an 8-inch thick concrete block partition wall. The construction of the fire walls containing the bus ducts are 12 inch reinforced concrete. The bus ducts penetrate the walls approximately 10 feet above the floor and approximately 6 feet from the ceiling.

The bus duct is constructed of heavy gauge steel duct with two sets of three-phase aluminum bus bar conductors. The width of each bus bar is approximately 3½ inches. The metal bus duct is molded to the bus bars with minimum clearances and air spaces.

The bus ducts penetrate the walls in the horizontal position. The penetration is framed into the wall with a poured-in-place metallic sleeve. Space between the heavy gauge steel bus duct and the blockout is filled with Dow Corning 3-6548 silicone RTV foam. The depth of the silicone foam is 12 inches, which is the thickness of the fire wall. In addition, both sides of the blockout are covered with 1-inch thick

3.3.4 Openings in Fire Barriers (continued)

Cerafiber board, which is mechanically fastened by screws to the concrete wall.

The interior space within the heavy gauge bus ducts is filled with bus bars and insulation materials. The cross-sectional area of this interspace of the bus duct is less than 15 square inches. Approximately half of this cross-sectional area is filled with aluminum bars, and the other half is filled with non-conducting insulation material.

The bus duct penetration seals consist of 12 inches of Dow Corning RTV foam with 1-inch thick Cerafiber board provided on both sides. Though this is not a tested configuration, 12 inches of silicone foam is considered adequate for a 3-hour barrier. The Cerafiber board also provides additional fire resistance. In the event of a fire in the Reactor Buildings, the sprinkler system will actuate and control/extinguish the fire. For the case of a fire in the Shutdown Board Rooms, the fire will be of limited size due to the low combustible loading. In addition, the in situ combustibles consisting of insulation on cables are contained within metal cabinets which prevent direct flame impingement on the bus duct penetration seal. Therefore, with the limited combustible loading in the Shutdown Board Rooms and the automatic suppression and detection provided in the Reactor Buildings, the penetration seal configuration is considered adequate. Additional details are provided in Reference 9.

e. SBGT Duct Penetrations

The SBGT System is used to maintain a negative pressure within the Reactor Building and process radioactive gases after an accident condition. From the SBGT Buildings, two 30-inch round ducts constructed of spiral welded, ASTM A211, black steel pipe with a nominal wall thickness of 0.375 inches, enter the Unit 1 Reactor Building. One duct then turns up and goes to the Refueling Floor. The other duct reduces down to 28 inches with a nominal wall thickness of ¼ inch and passes through the walls between Units 1 and 2 Reactor Buildings at column lines R7-R8/P-Q at EL 624. The duct passes through the walls between Units 2 and 3 Reactor Buildings at column lines R14-R15/P-Q, EL 614.

In each Reactor Building, the SBGT duct attaches to the RB ventilation system through transition pieces constructed of 10-gauge steel. The minimum distance separating the transition from an RB fire area is approximately 50 feet. The minimum distance separating a transition in one RB fire area from a transition in a separate RB fire area is approximately 140 feet. The annular space between the embedded sleeves and the ducts are sealed with a three-hour fire rated seal.

3.3.4 Openings in Fire Barriers (continued)

The piping used for SBGT ducts should not fail during postulated fires in the buildings through which the ducts are routed. The only significant fire hazards in the SBGT Buildings involve the SBGTs charcoal filters. The maximum combustible load for the SBGT Buildings is approximately 32,000 Btu/ft^2 which equates to a fire severity of 24 minutes. The smoke and high temperature gases released from a fire postulated in one of these filters would exhaust out of the SGBT system stack and would not migrate into the Unit 1 Reactor Building.

Since the SBGT system is shutdown during normal plant operations, the only effect of a postulated fire in one Reactor Building on an adjacent Reactor Building would be from convection of hot air inside the duct. This does not represent a significant fire hazard because the hot gas will be contained inside the duct.

f. RWCU Area Penetrations

Floor slabs, separating the various fire zones within the Reactor Building are equivalent to one hour fire rating. However, there are unprotected HVAC duct and piping penetrations in the floor slabs of the Reactor Water Cleanup (RWCU) Filter Demineralizers Room and RWCU Valve Room. This configuration is acceptable based on the following evaluation:

The evaluated areas include the RWCU Valve Rooms and RWCU Filter Demineralizer Rooms. The construction of the walls, floors, and ceilings in the RWCU rooms is reinforced concrete with the thickness of the barriers exceeding 18 inches. The only access to the valve room is through a non-fire rated door, which is normally locked closed during plant operation. The hollow metal door has no openings. The room is secured during operations due to the high radiation area inside.

The north wall has three penetrations:

- 34-inch diameter spent fuel pool exhaust duct
- 36-inch diameter refuel fuel exhaust duct
- 10-inch diameter duct

These ducts traverse the RWCU Filter Demineralizer Room and exit through the north wall of the Valve Room. The ducts are constructed of: 8 gauge carbon steel spiral welded pipe, stainless steel pipe, or 3/16-inch carbon steel plate construction. Hence, these ducts are considered piping for this evaluation and contain no fire dampers. There is more than 20 feet of horizontal spatial separation between the closest penetrations in the floor slab of the valve room and the

3.3.4 Openings in Fire Barriers (continued)

north face of the north wall of the valve room. The south wall of the valve room has numerous penetrations from piping, conduit, and valve operators. The floor slab of the valve room has several unsealed penetrations with the largest being a 12-in. diameter sleeve containing a 10-in. duct. The RWCU Filter Demineralizer Room, located above the Valve Room, is compartmentized from other areas of the Reactor Building. The only access to the Demineralizer Room is through the concrete shield plugs on the Refueling Floor above the room.

The principle reason that some of the penetrations need to remain open is to provide air infiltration into the RWCU Valve Room and the Filter Demineralizer Room. The air pressure differential creates an air flow from the Reactor Building to the RWCU rooms - from a lower radiation area to a high radiation area. The RWCU system contains high radiation levels and is isolated from the Reactor Building during plant operations. RWCU System is not required for safe shutdown and no safe shutdown components are located in the described RWCU area.

Sealing the penetrations and adding fire dampers in the floor/ceiling assemblies in the RWCU Valve Room on EL 621.25 and the RWCU Filter/Demineralizer Room on EL 639 will not enhance the fire protection and safe shutdown capability of BFN. This is based upon the following:

- Spatial separation between safe shutdown systems with the RWCU Demineralizer and Tank Room providing a buffer zone.

- Negligible quantities of combustible materials in the RWCU Valve Room and Filter Demineralizer Room.

- Minimal area of unprotected openings in the barriers.

- Adequate fire protection features.

- Adequate duct construction.

Additional details are provided in Reference 10.

4.0 EVALUATION OF FIRE PROTECTION CAPABILITIES OF SPECIAL BUILDING FEATURES

4.1 Flood Control Doors

The openings between each of the Reactor Buildings are equipped with rated fire doors except for the bulkhead doors at EL 519 and 541. These doors are identified as doors 30, 31, 34, 35, 36, 37, 40, 41, 42, 43, 44 and 45. These bulkhead doors are for flood control and are of heavy steel construction, approximately 5/16 inch thick. Labeled doors are not available for these types of applications.

The doors are located on each side of the opening through the walls of each RB on EL 519 and 541. Between RB1 and RB2, the doors connect Unit 1 RHR pump room and core spray pump room to the Unit 2 RHR pump room and the core spray/RCIC pump room at the 519 elevation. At EL 541, two doors connect RB1 and RB2 through the RHR pump rooms. The door connections between RB2 and RB3 are similar to those between RB1 and RB2.

The in situ combustible loads of the rooms on either side of the doors are very low and equates to a fire severity of approximately 11 to 12 minutes, if the adjacent HPCI room, which has the total automatic suppression and detection protection, is also considered as part of the fire loading. The Core Spray Pump Rooms do not contain minimum SSDS or circuits required for safe shutdown.

The low combustible load and the arrangement and construction of the doors assures that the equivalent separation between RBs on EL 519 and 541 meets and exceeds the requirement of III.G, i.e., a postulated fire could not conceivably propagate through the two doors from one fire area to the other.

4.2 Personnel and Equipment Access Locks

The walls between the Reactor Buildings and the Turbine Building are 24 inches (minimum) thick reinforced concrete and exceed three-hour fire rated construction. Personnel locks and equipment access locks are provided for access between the Turbine Building and the Reactor Buildings. These doors are at the following locations:

a. Personnel lock (door 235) near column R8-M on the Turbine Building entrance to Unit 2 Reactor Building at EL 565.

b. Equipment access lock (door 237) near column R9-M on the Turbine Building entrance to Unit 2 Reactor Building at EL 565.

c. Personnel lock (door 248) near column R15-M on the Turbine Building entrance to Unit 3 Reactor Building at EL 565.

4.2 Personnel and Equipment Access Locks (continued)

d. Equipment access lock (door 250) near column R16-M on the Turbine Building entrance to Unit 3 Reactor Building at EL 565.

These doors are heavy bulkhead doors of all metal construction (¼" thick plate). Labeled doors are not available for these types of applications. These doors are part of the enclosures that separate the Reactor Buildings from the Turbine Building to maintain the secondary containment boundary. The enclosures have no in situ combustibles. For the personnel access locks, the enclosures are of reinforced concrete with a fire rating of at least three-hours. The doors between the enclosures and the Reactor Buildings are heavy steel doors without fire rating. The equipment lock enclosures have 7.625 inch hollow concrete block walls with seismic reinforcement on 16-inch centers.

The ceilings are 4-inch reinforced concrete and have a fire rating of approximately 1½ hours. The doors in these enclosures are the same as the personnel access doors and are not rated.

On the Reactor Building side of each enclosure, fixed automatic suppression and detection systems are provided. On the Turbine Building side of each enclosure is a steel screen for security purposes. The in situ combustibles in the immediate vicinity of doors 235 and 237 are the auxiliary boiler some 30 feet away, the cable trays overhead, and the oil purification room equipped with CO_2 protection approximately 22 feet away. The in situ combustibles in the immediate vicinity of doors 248 and 250 are some overhead cable trays. These combustibles present no significant hazard.

For a fire in the Turbine Building at EL 565 to propagate into the Reactor Building at EL 565, it must propagate through one of these doors and then breach the enclosure or another door. The absence of in situ combustibles inside the enclosures and low combustible loading within the immediate vicinity of the enclosures make this scenario highly improbable. A fire in the Reactor Building at EL 565 would have to travel the same path in reverse order.

Based on the above evaluation, these personnel access and equipment lock doors provide sufficient fire barriers between the Reactor Buildings and Turbine Building.

4.3 Main Steam and Feedwater Piping Tunnel Doors

The main steam and feed water piping tunnels connect each RB to the Turbine Building. There is a door opening and HVAC duct in the RB end of the main steam and feed water piping tunnels at EL 565. The door openings are identified as doors 220, 239, and 252 for RB 1, 2, and 3, respectively.

4.3 Main Steam and Feedwater Piping Tunnel Doors (continued)

The fire rating for the walls, floors, and ceilings of the main steam and feed water piping tunnels exceed three-hours. There are no significant fixed combustibles in the pipe tunnels (approximately 1,000 Btu/ft^2, which equates to a fire severity of less than one minute). On the Reactor Building side, the interfaces are the identified door opening, the HVAC duct opening, three 24" floor penetrations and a blowout panel located approximately 25 feet north of the labyrinth entry way. The blowout panel is constructed of 10 gauge galvanized sheet steel.

On the Turbine Building side, approximately 40 feet from the blowout panel, the tunnel opens into the moisture separator area. This area has several openings into the general area of the Turbine Building and the Main Condenser Room. There is no significant fire hazard from either the main condenser area or the door openings into the moisture separator area. The only significant fire hazard for this area is the turbine lube oil which is piped through the moisture separator room. Thermal detectors and an automatic open head deluge system are provided in the moisture separator room to protect against the hazards of the turbine lube oil. In addition, a hose station is located within 75 feet of the doors. Additional hose is available onsite for fire brigade use.

A fire which starts on the Turbine Building side of the tunnel area would have to pass through the tunnel, breach the blowout panel, proceed another 25 feet horizontally through an area without significant combustibles to reach the labyrinth entry way in order to enter the Reactor Building at Elevation 565 through the identified door openings. The fire would then have to overcome the area wide suppression system being installed on Elevation 565 of the Reactor Building to affect the safe shutdown equipment in that location. Considering the available suppression systems outside the area and the amount of combustibles inside the tunnel, such a scenario is highly improbable. The three 24" penetrations in the main stream tunnel floor open into the torus area at EL 519. The combustible loading in the torus area is very low (approximately 414 Btu/ft^2 or equivalent fire severity of 0.2 minutes). Required safe shutdown equipment in this area is the torus level and temperature instrumentation. The torus level and temperature instrumentation are adequately separated or fire wrapped as necessary so that a postulated fire will not affect the minimum required instrumentation. It is highly unlikely that a fire will develop in the vicinity of these openings due to negligible fire loading and lack of continuity of combustibles to sustain fire propagation.

Therefore, replacing doors numbered 220, 239, and 252 with 3-hour fire rated doors or adding three-hour fire dampers on the HVAC ducts or sealing the penetrations would not significantly enhance the fire protection feature of the Reactor Buildings or Turbine Building.

4.4 Seismic/Building Gaps

The seismic gaps exist in 3-hour fire rated barriers at the interface between various plant buildings. The seismic gaps are "sandwiched" between double wall assemblies except for the Turbine Building wall. The seismic gap for the Turbine Building wall is located on the Turbine Building side of the wall. These wall assemblies provide 3-hour fire resistance which satisfies the requirements of Appendix R to 10CFR50. The fire barriers separate safe shutdown facilities between units and compartmentalize the units from the Diesel Generator and Turbine Buildings.

The construction of the walls containing the seismic gaps is reinforced concrete. The thickness of these walls exceeds 2 feet. The seismic gaps are filled with fiberglass insulation material.

The gaps vary in width from 1 inch up to 2 inches. Fiberglass insulation material is considered noncombustible per the 16th Edition of the Fire Protection Handbook, page 7-105. Physical configuration of the mechanical penetrations between barriers where seismic gaps exist are represented by one of the following:

a. A 3-hour rated fire stop penetration seal on each side of the fire barrier.

b. One side of the barrier provided with one 3-hour rated fire stop penetration seal. The opposite side wall would contain a welded plate to the penetration sleeve. A field weld of at least ¼" fillet would be provided on the welded plate's full circumference. The plate material would be at least ¼" gauge.

There is no fire hazard associated with the fiberglass insulation material used in the seismic gap, nor is there a fire hazard associated with the 3-hour fire stop penetration seals. The seismic gaps are sealed along their exposed portions. This precludes any flammable or combustible materials from entering into the seismic gap spaces. In the event some combustible materials were to enter the seismic gap space, a fire hazard does not exist due to limited air supply (oxygen) in the seismic gap to support sustained combustion. Thus, the seismic gap does not provide a path for fire to propagate from one fire area to another. Additional details are provided in Reference 11.

Full scale fire tests have been conducted for building gaps (seismic gaps). Two inch wide building gaps in concrete walls and floors filled to a depth of eight inches with fiberglass provides three hour fire resistance rating. (Reference 28)

4.5 Refuel Floor

The Refuel Floor is not a designated fire area for BFN, in that there are unprotected openings into the Reactor Buildings. Also, exhaust ductwork from the Refuel Floor, the Reactor Building, and the Turbine Building share common ventilation towers along the north wall of the Refuel Floor. The Refuel Floor configuration is acceptable based on the following evaluation:

The analysis addresses the possibility of fire originating in one Reactor Building spreading to another Reactor Building fire area or zone via the Refuel Floor, a fire originating on the Refuel Floor spreading into multiple Reactor Building fire areas or zones, or a fire spreading from a Reactor Building to the Control Bay or Turbine Building via the Refuel Floor (or vice versa).

(a) Reactor Building to Reactor Building

The Refuel Floor is separated from the Reactor Building fire areas by a reinforced concrete floor that is equivalent to three-hour fire rated construction except for large equipment hatches, HVAC penetrations, stairways, and piping penetrations. Stairways and elevator shafts are enclosed by block walls with approximately one hour rating and approximately four-inch thick reinforced concrete roofs. Steel panel doors provide the entry ways to the enclosures from the Refuel Floor area. There are no safe shutdown components located on the Refuel Floor, nor is there any appreciable amount of in situ combustibles with the exception of ADHR pumps located near the south wall. These pumps do not present an exposure hazard to any components in the area. The ceiling height (51 feet) and room volume of over 3 million cubic feet would dissipate the thermal effects of a transient or in situ combustible fire. The equipment hatch openings, stairways, HVAC duct and piping penetrations into each Reactor Building fire area are the only path through which effects of a fire could pass.

Each elevation in the Reactor Buildings is separated by a reinforced concrete floor slab. Where needed for fire zone separation, stairways and equipment hatches have water curtains installed around the openings through the floor slabs at EL 593, 621 and 639. The HVAC ducts are provided with fire rated dampers. Other mechanical penetrations and electrical penetrations are sealed with an appropriate fire-rated seal.

Redundant safe shutdown components located near these openings in each Reactor Building are adequately separated.

Elevation 639 contains a smaller number of the safe shutdown components for one train only.

4.5 Refuel Floor (continued)

Limited amount of in situ combustibles, high ceilings, large room volumes, curbs around the hatch openings, and adequate separation of redundant safe shutdown components on elevations below the Refuel Floor assures that a fire on the Refuel Floor would be highly unlikely to propagate down into one of the Reactor Building fire areas.

The two hatches closest to each other are the openings in Unit 1 and 2. They are separated by more than 20 feet and that space is free of intervening combustibles. Some piping penetrations of one-inch diameter or less are separated by less than 20 feet. The closest distance measured is approximately 14 feet.

The general area in the Refuel Floor has a "low" combustible loading; therefore, these small openings are not significant paths for fire propagation. This assures that a fire cannot propagate from one Reactor Building (one fire area) to an adjacent Reactor Building (a separate fire area) via the Refuel Floor, nor is it possible for a fire on the Refuel Floor to propagate down into more than one Reactor Building.

For a fire to propagate from one floor to another in the same Reactor Building and then into the Refuel Floor, the fire would have to overcome the preaction sprinkler system in place and then spread into the Refuel Floor with enough heat accumulation that it would allow the fire to come down to the adjacent Reactor Building. The large ceiling height, room volume, and lack of in situ combustibles at the Refuel Floor could not support such a fire scenario.

Therefore, it is not probable for a fire on the Refuel Floor to propagate down to more than one Reactor Building nor a fire in a Reactor Building is likely to propagate to another Reactor Building via the Refuel Floor.

(b) Reactor Building to Turbine Building or Control Building Roof

The Refuel Floor is spatially separated by approximately 38 feet from the Turbine Building. The only interface is along the north wall of the Refuel Floor, where the ventilation towers for Units 1, 2, and 3 contain the main exhaust ducts from the Refuel Floor. Reactor Buildings and Turbine Building exhaust ducts are in close proximity to each other in an area considered an exterior boundary.

Adjoining the north wall of the Refuel Floor at columns R3-R5, R10-R12, and R17-R19 are the three ventilation towers that are constructed of metal panel walls and roof. The ventilation towers extend above the roof of the Refuel Floor.

4.5 Refuel Floor (continued)

The ventilation towers contain the exhaust ducts from the Reactor Buildings, Turbine Building, and Refuel Floor. The ducts are constructed of 20 gauge sheet metal. The ducts from the Turbine Building are 60-inch by 120-inch and enter the ventilation tower from the south wall of the Turbine Building, pass above the roof of the Control Building and then rise up within the ventilation tower to above the roof of the Refuel Floor.

The 72-inch by 84-inch exhaust duct from the Reactor Buildings comes up through the Refuel Floor at EL 664 and then passes through the south wall of the ventilation towers and rises vertically to the roof of the Refuel Floor, with an approximate three foot separation between the Reactor Building ducts and the Turbine Building ducts.

The 60-inch by 60-inch exhaust duct from the Refuel Floor enters the ventilation towers above the 664 elevation and then rises vertically to the roof of the Refuel Floor with an approximate three foot separation between the Reactor Building ducts and approximate thirteen foot separation from the Turbine Building exhaust ducts.

For a fire in the Turbine Building to transmit to the Refuel Floor, the fire would have to destroy the main exhaust duct from the Turbine Building and overcome the metal panel walls of the ventilation tower. This is a highly unlikely event and even should this occur, there are very few in situ combustibles on the Refuel Floor and there are no safe shutdown circuits or equipment on the Refuel Floor.

For the same fire to get to a Reactor Building, it would have to get through the Refuel Floor or get into the Reactor Building duct and propagate down to a Reactor Building. Therefore, it is not likely that a fire could spread from the Turbine Building to the Reactor Building or the Refuel Floor by way of the ventilation towers or ducts within the ventilation towers.

For a fire to pass from the Reactor Building exhaust ducts, or the Refuel Floor exhaust ducts to the Turbine Building through the ventilation tower is not likely since the fire would have to penetrate two systems of ducts, travel downward twenty-nine feet or more and then horizontally approximately thirty-feet to the wall of the Turbine Building.

The Control Building roof is an interface between the exterior boundaries for three fire areas. These areas are the Reactor Building, Turbine Building and Control Building.

4.5 Refuel Floor (continued)

The distance between the Turbine Building and Reactor Building is approximately 38 feet over the reinforced concrete Control Building roof. This roof is built up with a tar and gravel cover over the concrete. Physical construction of the exterior boundaries of the interface points precludes any likely ignition sources and the open atmosphere minimizes any potential fire hazard from the Control Building roof.

The combination of features discussed provides an adequate degree of assurance that safe shutdown capability will be maintained during a fire.

4.6 Imbedded Conduits

Conduits which are imbedded in concrete or similar fire barriers have been evaluated. If the thickness between the barrier and the conduit has an equivalent fire rating exceeding the combustible loading within the immediate vicinity of the imbedded conduit, the conduit is considered to have adequate protection. (Reference 12)

4.7 Yard and Exterior Areas

The yard and exterior areas are not designated as fire areas for BFN. They are unbounded areas open to the atmosphere and adjacent to the plant buildings, and maybe separated by non-rated exterior walls/barriers. Equipment in the yard and exterior areas includes nitrogen tanks, the condensate storage system, transformers and switchgear, hydrogen storage, fuel oil tanks, chillers, several trailers, and small buildings (i.e., pipe storage shed).

The exposures presented by the equipment and structures in the yard include: transformer oil, hydrogen gas, fuel oil, temporary wooden structures, and vehicles. Protection and construction features mitigate the fire hazards present.

a. Transformers

Automatic water spray provides coverage for the large transformers in the switchyard. This protection is supplied from the high pressure fire protection system. The systems are actuated by heat detectors.

Oil insulated transformers are located on the south side of the Unit 1, 2 and 3 Reactor Buildings approximately 50 feet from the outside wall and 100 feet from each other. The transformers contain less than 500 gallons of oil and are installed in a curbed area (~ 169 ft^2). Based on the quantity of oil and postulated spill, the transformers are

4.7 Yard and Exterior Areas (continued)

adequately separated from adjacent structures and from each other, thus limiting the damage and potential spread of fire from a transformer failure.

b. Hydrogen Storage

Hydrogen is stored at 2,400 psig in two truck trailers, with a total capacity of 48,240 standard cubic feet. The gas pressure is reduced to 100 psig at the cylinders discharge manifold. The hydrogen trailers are parked in a reinforced concrete and steel trailer port located over 100 feet from the Turbine Building and over 250 feet from the nearest corner of the Reactor Building.

The trailer port contains two individual trailer bays, each enclosing one trailer on three sides with the open end facing away from the main plant.

An 18-inch space separating the top of the walls and the roof ensures good ventilation in the structure. The roof is sloped on the underside and constructed without pockets into which hydrogen could accumulate. As adequate ventilation is provided for the trailer port, the probability is very low that an explosive mixture of hydrogen and air could collect and ignite. The hydrogen storage trailers are protected by a water spray fire protection system which is actuated by rate-of-rise temperature detectors. The water spray system will contain a fire and reduce the probability of rupture of a cylinder.

c. Combustible Liquid Storage

Storage tanks for combustible liquids are located within the protected area in the yard. The location of these tanks has been evaluated in accordance with the requirements of NFPA 30, Flammable and Combustible Liquid Code (Reference 31). The conclusion of this evaluation is that BFN generally meets the intent of the NFPA 30 Code for these tanks. Therefore, a fire in the tanks would not endanger safe operation or shutdown of the reactors due to the distance between the tanks and the main plant.

d. Chillers Enclosure

The enclosure structure for the Unit 1 & 2 Control Bay Chillers and Pumps is located on the Roof of the Unit 1 & 2 Diesel Generator Building (DGB). This location is not within the defined fire area boundaries at BFN. This structure (hereafter referred to as Chiller Enclosure) contains both divisions of chilled water system equipment:

The Chiller Enclosure is located on the roof of the Unit 1 & 2 DGB (elevation 595'), between the diesel air intakes and the Unit 1 Reactor Building wall. The Chiller Enclosure is approximately 84-feet by 27-feet, with its outside

4.7 Yard and Exterior Areas (continued)

walls consisting of 18-inch thick, poured concrete to a height of approximately 10-feet. The 18-inch thick concrete exterior wall is required to provide missile protection for the enclosed equipment. The structure is open on top.

The Chiller Enclosure is compartmentalized by a 6-inch thick interior concrete wall. The redundant chillers are therefore separated from each other by at least a 2-hr fire-resistive wall. This arrangement meets fire protection requirements based on comparison with acceptable installation methods for outdoor oil filled transformers. These fire wall dimensions are based on NFPA 850 1996, Section 3.1-4 and NFPA 803 requirements for providing separation between adjacent oil-filled transformers. This fire wall (acceptable to protect adjacent transformers from fire effect) will bind this case.

The chiller and associated equipment's fire potential is much less severe than an oil filled transformer (oil contents approximately 16 gals, verses 7,500 gals for transformer). The EPRI "Fire Events database for US Nuclear Plants", NSAC/178L Jan 1993 does not identify the chillers to be a viable fire source. Therefore, fire protection features necessary to protect against an oil filled transformer fire hazard will be adequate for chillers.

NFPA 850-1996 Section 3.1-4 requires a 2-hour fire barrier between oil-filled transformers and buildings which are less than 50-feet from the transformer and 2-hr fire barrier between adjacent transformers located less than 25 feet from each other. This fire barrier is further required to extend 2-feet past the transformer on each horizontal side of exposure and one foot above the height of the transformer. The interior wall of the Chiller Enclosure and the equipment's locations meets the required physical dimensions and the 6-inch thick pored concrete meets the requirements for a fire rating of 2-hours. Thus, the fire wall provides adequate separation between the equipment on one side (Train A chiller skid, pump, and 400KVA dry-type transformer) from the equipment on the other side (Train B chiller skid and pump, and 400KVA dry-type transformer).

The Chiller Enclosure is adjacent to Fire Area 1 (Unit 1 Reactor Building) and the roof of Fire Area 20 (Unit 1 & 2 Diesel Generator Building). The wall adjoining Fire Area 1 is of reinforced concrete with a minimum thickness of 18-inch, this represents a 3-hour fire rating, which provides adequate protection from the affects of a chiller fire.

The roof of the DGB is approximately 12-inches of concrete with a minimum of 9 ½" at the roof drains. This concrete thickness is equivalent to a 3 hour fire rated barrier. There are two 2' x 2' air intake openings into the Diesel Auxiliary Board Rooms A and B located in the Chiller A enclosure

4.7 Yard and Exterior Areas (continued)

area and an exhaust air opening (17" x 17"), from the Diesel Auxiliary Board Room A, located in the Chiller B enclosure area. The openings are located approximately 45' apart. The air intake openings in Chiller Enclosure area A are also separated by a distance of 18' from Chiller B. Since sufficient spatial separation exists between the nearest air intake openings and opposite train chiller (approximately 18'); air intake and exhaust openings are located at least 45' apart; a 2 hour fire barrier wall exists between the two chillers and the enclosure area is open to atmosphere; these openings in the diesel roof do not present a fire exposure hazard which could affect both chilled water trains. If a fire occurred in Fire Area 20 (Unit 1 & 2 DGB) and propagated from the air intake openings to the Chiller Enclosure area A, it is no different than a fire originating in the Chiller Enclosure area A. The required chiller for a fire in Fire Area 20 is Chiller B which remains free of fire damage.

If a fire occurred in Fire Area 20 and propagated from the exhaust air opening to the Chiller Enclosure area B; the required Chiller B could be affected. A 3 hour fire damper (#211) has been installed in the exhaust air opening to protect Chiller B from the affects of this fire. Since fan motor, CO_2 damper and conduits are located within the opening, the fire damper had to be installed partially within the opening and partially within the 3" x 5" angle iron frame around the opening anchored to the bottom of the concrete slab. This is contrary to the UL requirements, which requires the damper to be installed within the concrete opening. The installed fire damper 'floats' between 1-½" top angle irons (anchored in concrete) and bottom 1-½"angle irons (bolted to the frame). The heavy gauge of the angle iron frame and additional reinforcement provided by the bottom angle irons will limit its thermal movement and maintain rigidity. The exhaust opening is ¼" larger than the overall size of the damper allowing adequate clearance for thermal expansion. This arrangement also prevents any likelihood of the fire damper being pulled away from the opening during a fire. Therefore, the fire damper in this location is expected to perform its intended function. In addition the Diesel Auxiliary Board Rooms located below the Chiller enclosure are protected with automatic CO_2 system. Isolation dampers will automatically close the openings upon actuation of the CO_2 system and maintain the CO_2 concentration to suppress the fire and preclude the possibility of fire propagation into the Chiller enclosure. This satisfies the Appendix R separation requirements, where a fire in Fire Area 20 will not affect the required Chiller B.

The roof adjacent to the west wall of the Chiller Enclosure has diesel air intake/exhaust openings which are only covered by steel grating. These openings (for the building ventilation, diesel combustion air intake and diesel exhaust) provide unrestricted air flow access to the diesel combustion air filter and exhaust silencer, as well as the ventilation fan. The Diesel Generator Building's design includes normally open fire dampers

4.7 Yard and Exterior Areas (continued)

which can, in the event of a fire, isolate the upper elevation of the building.

The Chiller structure will contain fire extinguishers and fire hydrants located in the yard will be available to support manual fire suppression. Based on the above evaluation, the fire barriers provided between the two chillers and between the chillers and adjacent fire areas are adequate to provide separation, such that a fire in any one chiller location will not affect the redundant chiller, nor will the fire affect safe shutdown components within the designated fire areas.

e. Miscellaneous

Several trailers, used as offices and storage buildings, and ADHR Cooling Towers and associated equipment are located in the yard. The arrangement and location of these structures precludes a significant exposure fire to permanent buildings and the safe shutdown equipment located therein.

Water for fire protection is provided from hydrants located in the plant area and fed from the yard loop which is part of the High Pressure Fire Protection System pumps.

Fires in the yard area which impact equipment used for safe shutdown will not affect required redundant components located within permanent plant buildings; therefore, safe shutdown can be accomplished.

Hence, a fire in the yard will either be controlled by the available automatic fire extinguishing features (i.e., in the switchyard and H_2 trailer port) or the fire will be confined to its location. The substantial distances between combustible sources and non-rated plant boundaries will prevent the fire from propagating to the plant areas. None of the high or low pressure inventory injection or decay heat removal systems are located in the yard. Therefore, a fire in the yard will not require implementation of post fire plant safe shutdown instructions.

5.0 ENGINEERING EVALUATIONS

5.1 Suppression Damage Analysis

Each fire area where redundant safe shutdown components (for Appendix R) are located was evaluated to determine potential damage to those components from suppression activities (Ref.13, 15 & 30). It was concluded based on equipment location, fire area and zone arrangement, that redundant safe shutdown components were protected against simultaneous spray damage. Where redundant equipment are susceptible to fire spray damage, alternate equipment free of fire or spray damage will be available.

5.2 Fire Pump Availability and Capability Analysis

The fire pumps availability was determined by postulating an Appendix R event, i.e., fire in any area of the plant and loss of offsite power (Ref. 14). Each fire area was evaluated for potential loss of fire pumps due to fire in that area. It was concluded that at least one fire pump will be available for fire suppression activities for any postulated fire location.

Hydraulic analyses have been performed for safety related areas to determine the available water supply conditions (flow and pressure) to meet the demands of the sprinkler systems (Ref. 23). Flow tests are periodically conducted to assure that a single fire pump can meet the sprinkler demands of these areas in addition to the requirements of the Raw Service Water (RSW) loads and hose stations.

5.3 Flooding and Drainage Evaluation Due to Discharge from Sprinkler Systems

A flooding and drainage evaluation was performed for all areas where safety related equipment is located and fixed fire suppression systems are provided. The bounding case for the analysis was the assumption that no drains are provided in the area. The level of water accumulation was determined based on the amount of water discharged through the sprinkler heads. Adequate hose stream allowance was included. It was concluded that safety related equipment will not be damaged due to excessive water accumulation on the floor (Ref. 15 & 21).

5.4 Structural Steel Evaluation

In order to evaluate the effects of a fire on the structural and supporting steel in selected safety related areas, a detailed fire hazards analysis has been performed. Based on the heat release rates of the combustibles, room temperatures and the corresponding steel temperatures were calculated. The unprotected structural steel was considered acceptable if it did not exceed the critical temperature of 1,000°F. For temperatures above 1,000°F, steel protection is provided (Ref. 16 & 17). The analysis of the structural steel and supporting steel for the Unit 2 Reactor Building is also applicable to Units 1 and 3.

6.0 DETAILED FIRE PROTECTION EVALUATIONS

FIRE AREA 1

DESCRIPTION/LOCATION Unit 1 Reactor Building, EL 519 through EL 639
Total Area - 68,610 ft^2.

MAJOR EQUIPMENT

Major equipment located in this area:

Refer to the specific fire zone evaluation for major safe shutdown equipment.

ADJACENT FIRE AREAS/BASES FOR FIRE AREAS

Fire Area No.	Designation	Separation
2	Unit 2, Reactor Building	3-hour
4	Unit 1, 4KV Shutdown Board Rm-B	3-hour
5	Unit 1, 4KV Shutdown Board Rm-A and 250V Battery Room	3-hour
6	Unit 1, 480V Shutdown Board Rm-1A	3-hour
7	Unit 1, 480V Shutdown Board Rm-1B	3-hour
16	Control Building	3-hour
17	Unit 1, Battery and Battery Bd Rm	3-hour
20	Units 1 & 2 Diesel Generator Building	3-hour
25	Turbine Building, Cable Tunnel, Intake Pumping Station and Radwaste Building	3-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Fire Area 1 (all rooms in fire area)	*40,000*	*30*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Preaction Sprinkler system coverage is provided on Elevation 519 for the HPCI Turbine Room. Preaction sprinkler system coverage is provided on Elevations 565, 593, 621 and south half of Elevation 639.

Fire Area 1

Water curtains provide floor to floor separation for Elevations 565, 593 and 621. Preaction sprinkler system provides coverage on Elevation 639 for the Recirculation Pump VFD Units. Hose stations and fire extinguishers are provided throughout the fire area.

DETECTION SYSTEM

General area smoke detectors are provided for area wide coverage on Elevation 565, 593, 621 and the south side of 639 to actuate the preaction sprinkler systems. Heat detector is provided on Elevation 519 for the RCIC room. Single detectors in the RCIC and Core Spray rooms are for early warning fire detection.

Smoke detectors on the north side of EL 639 are for early warning. Smoke detectors on EL 541 and 519 (RHR Corner Rooms) are provided to activate the preaction sprinkler system water curtains. Reference 29 provides the basis for selection, location and spacing of fire detection and alarm devices.

ISOLATION AND SMOKE REMOVAL

A fire in this fire area will be contained by the fire rated barriers. Fire dampers will isolate the HVAC ducts from the other fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific areas and allows the dampers to adequately seal off affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Fire Areas 2, 4, 5, 16, 25 and the Refuel Floor.

FIRE PROTECTION EVALUATION

Fire Area 1 is separated from adjacent fire areas by 3 hour fire rated barriers. Penetrations and openings through the fire barriers are protected with rated seals, fire dampers, and fire doors. Exceptions such as bus ducts and SBGT duct penetrations, flood control doors, building gaps, etc., are described and justified in Sections 3.3 and 4.0.

Fire protection systems (e.g., sprinkler and water spray, hose stations, detection, etc.) are installed throughout Fire Area 1 providing detection and suppression coverage for combustible hazards. The fire protection systems in Fire Area 1 have been modified / upgraded to applicable NFPA code compliance.

Fire Area 1

Fire protection capabilities are adequate to control and extinguish any fire that may occur in this Fire Area 1. The compartmentation (e.g., doors, dampers, and seals) features have appropriate fire resistance capabilities to prevent a fire from spreading to another fire area.

Since the Unit 1 Reactor Building is similar to the Unit 2 Reactor Building, the evaluation conducted for the Unit 2 Reactor Building to analyze the effects of a fire on the structural and supporting steel is applicable to the Unit 1 Reactor Building. This evaluation determined that there is no unprotected structural steel (i.e., beams, cable tray supports, etc.) required to maintain the integrity of fire barriers that separate the Reactor Building from adjacent fire areas. Therefore, a fire in the Reactor Building can be contained within the confines of the Reactor Building and will not initiate a structural failure in other fire areas. There is also no structural steel that traverses adjacent fire zones such that a fire in one zone could cause structural failure and damage to equipment in adjacent zones. The automatic sprinkler system provides coverage for equipment and cable trays required for safe shutdown on elevations 565, 593, 621 and part of 639. The type of steel used to support the cable trays is ASTM A36. The intermediate temperature range (175-225°F) sprinkler heads installed can be reasonably expected to operate prior to ceiling temperatures reaching 1,000°F. This will maintain temperatures in the Reactor Building below the critical temperature of the supporting steel and prevent a collapse of the cable trays required for safe shutdown. A preaction sprinkler system is provided on Elevation 519 for the HPCI Turbine Room. Elevation 541 is not provided with automatic sprinkler protection. There are no cable trays or other supporting or structural steel that traverses between Fire Zones 1-1 and 1-2 at these elevations. Therefore, a fire in one zone would not affect the structural or supporting steel in the adjacent zone. A fire in the Reactor Building will not cause a failure of structural or supporting steel such that the ability to achieve safe shutdown would be impaired; therefore, structural steel and cable tray supports are not required to be protected (Reference 16).

FIRE ZONE 1-1

DESCRIPTION/LOCATION Unit 1 Reactor Building, EL 519 through 565, west of column line R4.

MAJOR EQUIPMENT

Major safe shutdown equipment located in this zone:

RHR Heat Exchangers 1A Service Water Outlet Valve, 1-FCV-23-34
RHR Heat Exchanger 1C Service Water Outlet Valve, 1-FCV-23-40
RHR Pump Room Cooler Units A & C, 1-ACU-64-68 & -70
Sectionalizing Valve, 0-FCV-67-18
RBCCW Heat Exchanger Supply Line Isolation Valves, 1-FCV-67-51 & 1-FSV-67-51
Air Compressor Supply Line Isolation Valve, 0-FCV-67-53 & 0-FSV-67-53
Reactor Core Isolation Cooling Pump, 1-PMP-71-19
RCIC Turbine Steam Supply Valve, 1-FCV-71-8
RCIC Turbine Stop Valve, 1-FCV-71-9
RCIC Turbine Control Valve, 1-FCV-71-10
RCIC Suppression Pool Inboard Suction Valve, 1-FCV-71-17
RCIC Suppression Pool Outboard Suction Valve, 1-FCV-71-18
RCIC Condensate Tank Suction Valve, 1-FCV-71-19
RCIC Lube Oil Cooler Cooling Water Valve, 1-FCV-71-25
RCIC Pump Minimum Flow Valve, 1-FCV-71-34
RCIC Outboard Discharge Valve, 1-FCV-71-37
RCIC Condensate Test Valve, 1-FCV-71-38
RCIC Inboard Discharge Valve, 1-FCV-71-39
HPCI Auxiliary Oil Pump, 1-PMP-73-47
HPCI Turbine Main Pump, 1-PMP-73-54
HPCI Steam Line Outboard Isolation Valve, 1-FCV-73-3
HPIC Turbine Steam Supply Valve, 1-FCV-73-16
HPCI Turbine Stop Valve, 1-FCV-73-18
HPCI Turbine Control Valve, 1-FCV-73-19
HPCI Suppression Pool Inboard Suction Valve, 1-FCV-73-26
HPCI Suppression Pool Outboard Suction Valve, 1-FCV-73-27
HPCI Outboard Discharge Valve, 1-FCV-73-34
HPCI Condensate Test Valve, 1-FCV-73-35
HPCI/RCIC Test Return Valve, 1-FCV-73-36
HPCI Condensate Tank Suction Valve, 1-FCV-73-40
HPCI Inboard Discharge Valve, 1-FCV-73-44
RHR Pumps 1A & 1C (1-PMP-74-5 & -16)
RHR Pump A & C Suppression Pool Suction Valves, 1-FCV-74-1 & -12
RHR Pump A & C Shutdown Cooling Suction Valves, 1-FCV-74-2 & -13
RHR Shutdown Cooling Outboard Valve, 1-FCV-74-47
RHR System I Outboard Recirculation Loop Valve, 1-FCV-74-52
RHR System I Inboard Recirculation Loop Valve, 1-FCV-74-53
RHR System I Suppression Pool Valve, 1-FCV-74-57

FIRE ZONE 1-1

RHR System I Suppression Pool Spray Valve, 1-FCV-74-58
RHR System I Test Valve, 1-FCV-74-59
CAD N_2 Supply Line to Torus Isolation Valves, 1-FSV-84-8B & -8C
CAD Train B Crosstie to Drywell CA System Valve, 1-FSV-84-48
CAD A Crosstie to Drywell N_2 Pressure Regulator, 1-PREG-84-52
480V AC RMOV Board 1C (1-BDBB-268-0001C)
250V DC RMOV Board 1C (1-BDDD-281-0001C)

ADJACENT FIRE ZONES/BASES FOR FIRE ZONE

Adjacent Fire Zone	Bases for Fire Zone
1-2	By 20 ft separation.
1-3	By 1 hour fire rated floor slab at EL 593.
1-4	By 1 hour fire rated floor slab at EL 593. 1 hour rated heat exchanger cubicle walls. Equipment hatch opening and RHR heat exchanger door opening are protected by water curtain.

COMBUSTIBLE LOADING

Combustible materials in fire zone: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Reactor Room (Room #565.0-R-1)	*60,000*	*45*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

General area coverage with a preaction sprinkler system is provided on EL 565 at the ceiling and under obstructions. Preaction sprinkler system coverage is provided on EL 519 for HPCI Turbine Room. Water curtains provide floor to floor separation for EL 565, 593 and 639.

Hose stations and fire extinguishers are provided throughout the fire zone.

DETECTION SYSTEM

Addressable smoke detection coverage is provided on EL 519 for the Core Spray rooms for early warning fire detection.

Addressable (Analog) smoke detectors for area wide coverage are provided on EL 565 and in RHR corner rooms on EL 519 to actuate the preaction sprinkler system.

FIRE ZONE 1-1

ISOLATION AND SMOKE REMOVAL

A fire in this zone will be contained by the fire rated barriers and water curtains. Fire dampers will isolate the HVAC ducts from the other fire areas and fire zones within the Unit 1 Reactor Building. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific areas and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining areas; Units 1 and 2 equipment airlock, and Fire Areas 2, 3, and 25.

FIRE PROTECTION EVALUATION

Fire Zone 1-1 is that portion of the Unit 1 Reactor Building west of column line R4 from EL 519 through EL 565 and is adjacent to Fire Zones 1-2, 1-3, and 1-4.

Fire Zone 1-2 is on the east side of column line R4 on EL 519 through EL 565 and is separated by a 20 ft. zone of separation. On EL 519, these two fire zones are connected at the torus area which does not have automatic suppression and detection. However, the torus area has very low in situ combustibles and the spatial separation between the redundant RHR pumps and cables in the corner rooms on EL 519 is very large. Therefore, it is improbable for a fire in this elevation to affect both trains of RHR. An exemption from the III.G.2.b separating requirements was requested and approved for separation of the RHR pump rooms. See Safe Shutdown Analysis, section 9.0(c) for details. On EL 565, an addressable smoke detection system providing area wide coverage and a preaction sprinkler system is installed on the ceiling and under obstructions in order to provide adequate coverage. The only locations on EL 565 of Fire Zone 1-1 that do not have sprinkler coverage are the Drywell Access Room and the Personnel and Equipment Access Locks. The TIP Room is the only location on EL 565 of Fire Zone 1-2 that does not have sprinkler coverage. These rooms are constructed of concrete block walls or reinforced concrete. The Drywell Access Rooms have an in situ combustible loading of *1,300* Btu/ft^2 (one minute fire severity) and consists of lube oil in a valve and insulation on cables in control panels.

The TIP Room and Personnel and Equipment Access Rooms contain no significant in situ combustibles. The noncombustible construction of these rooms and the lack of in situ combustibles provide reasonable assurance that a fire in one of these rooms will not affect the safe shutdown capability of the plant.

Fire Zone 1-3 is on EL 593 north of column line Q and is connected to Fire Zone 1-1 through EL 593 floor slab. To prevent a fire on the EL 565 from propagating up to EL 593, penetrations are sealed to at least one hour or equivalent rating and 3 hour fire rated dampers are installed in duct penetrations.

FIRE ZONE 1-1

Fire Zone 1-4 is on EL 593 south of column line R and is connected to Fire Zone 1-1 through the RHR heat exchanger rooms, an equipment hatch at R5-U, and EL 593 floor slab. There is an opening in the EL 565 floor slab inside the RHR heat exchanger enclosure which is the metal grating forming part of the exchanger room floor. To prevent a fire from the RHR pump room from propagating to the RHR heat exchanger enclosure a water curtain is installed at the ceiling of the RHR pump rooms (El. 541'). A water curtain installed over the door opening of the RHR heat exchanger enclosure on EL 565 near the S-line at column R1 will prevent a fire in the RHR pump room from propagating up to Fire Zone 1-4 and to the Reactor floor area on EL 565. A water curtain is installed to protect the equipment hatch near column R5-U. Three hour fire rated dampers are installed in duct penetrations in the ceiling (EL 593 floor slab). Piping, conduit, and cable tray penetrations are sealed to at least a one hour or equivalent rating. These fire protection features will prevent the fire from propagating from EL 565 up to EL 593.

The installed fire protection features will contain, control, and extinguish any fire that might occur in Fire Zone 1-1.

FIRE ZONE 1-2

DESCRIPTION/LOCATION Unit 1 Reactor Building, EL 519 through 565, east of column line R4 and Southeast Stairway/Elevator Shaft up to EL 639.

MAJOR EQUIPMENT

Major safe shutdown equipment located in this zone:

RHR Heat Exchanger 1B Service Water Outlet Valve, 1-FCV-23-46
RHR Heat Exchanger 1D Service Water Outlet Valve, 1-FCV-23-52
Standby Coolant Drain Valve, 1-FSV-23-56
RHR/RHRSW Inter-tie Line Isolation Valve, 1-FCV-23-57
RHR Pump Room Cooler Units B & D, 1-ACU-64-69 & 1-ACU-64-71
RCIC Steam Line Outboard Isolation Valve, 1-FCV-71-3
RHR Pumps 1B & 1D (1-PMP-74-28 & -39)
RHR Pump B & D Suppression Pool Suction Valves, 1-FCV-74-24 & -35
RHR Pump B & D Shutdown Cooling Suction Valves, 1-FCV-74-25 & -36
RHR System II Outboard Recirculation Loop Valve, 1-FCV-74-66
RHR System II Inboard Recirculation Loop Valve, 1-FCV-74-67
RHR System II Suppression Pool Valve, 1-FCV-74-71
RHR System II Suppression Pool Spray Test Isolation Valve, 1-FCV-74-72
RHR System II Test Valve, 1-FCV-74-73
RHR System II Containment Spray Outboard Valve, 1-FCV-74-74
RHR System II Containment Spray Inboard Valve, 1-FCV-74-75
RHR Pump B & D Suction Crosstie Valves, 1-FCV-74-98 & -99
RHR Heat Exchanger B-D Discharge Crosstie Valve, 1-FCV-74-101
CAD N_2 Supply Line to Drywell Isolation Valve, 1-FSV-84-8A & -8D
CAD Train B Crosstie to Drywell CA System Valve, 1-FSV-84-49
CAD B Crosstie to Drywell N_2 Pressure Regulator, 1-PREG-84-54
CRD Pump Suction Isolation Valve, 1-FCV-85-56

FIRE ZONE 1-2

ADJACENT FIRE ZONES/BASES FOR FIRE ZONE

Adjacent Fire Zone	Bases for Fire Zone
1-1	By 20 ft. separation.
1-3	By 1 hour fire rated floor slab at EL 593.
1-4	By 1 hour fire rated floor slab at EL 593. 1 hour fire rated RHR heat exchanger cubicle walls. Door openings for RHR heat exchanger room and equipment hatch are protected by water curtain.
1-5	By 1 hour fire rated wall.

COMBUSTIBLE LOADING

Combustible materials in fire zone: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Reactor Room (Room #565.0-R-1)	*60,000*	*45*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

General area coverage preaction sprinkler system is not provided on EL 519 for this fire zone.

General area coverage preaction sprinkler system is provided on EL 565 at the ceiling and under obstructions.

Water curtain is provided for floor to floor separation at EL 565 ceiling around the hatch area.

Hose stations and fire extinguishers are available throughout the fire zone.

DETECTION SYSTEM

Addressable (analog) smoke detectors are provided on EL 519 in Core Spray/RCIC areas for annunciation, and in the HPCI room to actuate the preaction sprinkler system.

FIRE ZONE 1-2

Addressable (analog) smoke detector coverage on EL 565 and in RHR corner rooms at EL 519 and 541 is provided to actuate the preaction sprinkler system.

One (1) heat detector is provided inside the RCIC cubicle.

ISOLATION AND SMOKE REMOVAL

A fire in this zone will be contained by the fire barriers and water curtains. Fire dampers will isolate the HVAC ducts from the other fire areas and fire zones within the Unit 1 Reactor Building. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. These procedural actions shut down ventilation to the specific areas and allow the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining areas; Units 1 and 2 equipment airlock, and Fire Areas 2, 3, and 25.

FIRE PROTECTION EVALUATION

Fire Zone 1-2 is that portion of the Unit 1 Reactor Building east of column line R4 from EL 519 through EL 565 and is adjacent to Fire Zones are 1-1, 1-3, and 1-4. Fire Zone 1-1 is on the west side of column line R4 on EL 519 through EL 565 and is separated from Fire Zone 1-2 by a 20 ft. zone of separation. On EL 519, these two fire zones are connected at the torus area which does not have automatic suppression and detection. However, the torus area has very low in situ combustibles and spatial separation between the redundant pumps and cables in the corner rooms on EL 519 is very large. Therefore, it is improbable for a fire at this elevation to affect both trains of the RHR. An exemption from the III.G.2.b separating requirements was requested and approved for separation of the RHR pump rooms. See Safe Shutdown Analysis, section 9.0(c) for details. On EL 565, an addressable smoke detection system providing area wide coverage and a preaction sprinkler system is installed on the ceiling and under obstructions to provide adequate coverage. The only locations on EL 565 of Fire Zone 1-1 that do not have sprinkler coverage are the Drywell Access Room and the Personnel and Equipment Access Locks. The TIP Room is the only location on EL 565 of Fire Zone 1-2 that does not have sprinkler coverage. The noncombustible construction of these rooms and the lack of in situ combustibles as discussed in Zone 1-1 evaluation, provide reasonable assurance that a fire in these rooms will not affect the safe shutdown capability of the plant.

Fire Zone 1-3 is on EL 593 north of column line R and is connected to Fire Zone 1-2 through EL 593 floor slab. To prevent a fire on EL 565 from propagating up to EL 593, penetrations are sealed to at least one hour or equivalent rating and 3 hour fire rated dampers are installed in duct penetrations.

Fire Zone 1-4 is on EL 593 south of column line R and is connected to Fire Zone 1-2 through the RHR heat exchanger room, exchanger room enclosure at column R7-T/S, and EL 593 floor slab. There is an opening in EL 565 floor slab inside the RHR heat

exchanger enclosure which is the metal grating forming part of the exchanger room floor. To prevent fire propagation from the RHR pump room to the RHR heat exchanger enclosure, a water curtain is installed at the ceiling of the RHR pump rooms (El. 541). A water curtain over the door opening of the RHR heat exchanger enclosure on EL 565 near the S-line at column R7, will prevent a fire in the RHR pump room from propagating up to Fire Zone 1-4 and to the reactor floor area on EL 565. Penetrations are sealed to at least a one hour or equivalent rating and 3 hour fire rated dampers are installed in duct penetrations, in order to prevent a fire from the EL 565 to propagate up to EL 593.

The installed fire protection features will contain, control, and extinguish any fire which might occur in this Fire Zone 1-2.

FIRE ZONE 1-3

DESCRIPTION/LOCATION Unit 1 Reactor Building, EL 593, north of column line R.

MAJOR EQUIPMENT

Major safe shutdown equipment located in this zone:

Unit 1 Electrical Board Room Air Handling Unit, 1-AHU-31-2300
Sectionalizing Valve, 0-FCV-67-17
RBCCW Heat Exchanger Supply Line Isolation Valves, 1-FCV-67-50 & 1-FSV-67-50

ADJACENT FIRE ZONES/BASES FOR FIRE ZONE

Adjacent Fire Zone	Bases for Fire Zone
1-1	By 1 hour fire rated floor slab at EL 593
1-2	By 1 hour fire rated floor slab at EL 593
1-4	By 20 ft separation
1-5	By 1 hour fire rated floor slab at EL 621

COMBUSTIBLE LOADING

Combustible materials in fire zone: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Reactor Room (Room #593.0-R-1)	*80,000*	*60*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

General area coverage preaction sprinkler system is provided on EL 593 at the ceiling and under obstructions.

Hose stations and fire extinguishers are available throughout the fire zone.

DETECTION SYSTEM

Addressable (analog) smoke detectors are provided for area wide coverage on EL 593 and actuate the preaction sprinkler system and horns/strobes.

FIRE ZONE 1-3

ISOLATION AND SMOKE REMOVAL

A fire in this zone will be contained by the fire barriers. Fire dampers will isolate the HVAC ducts from the other fire areas and fire zones within the Unit 1 Reactor Building. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific areas and allows the fire dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining areas; Units 1 and 2 equipment airlock, and Fire Areas 1, 2, 4, 16, and 25.

FIRE PROTECTION EVALUATION

Fire Zone 1-3 is that portion of the Unit 1 Reactor Building north of column line R on EL 593 and is adjacent to Fire Zones are 1-1, 1-2, 1-4, and 1-5.

Fire Zone 1-1 is on EL 519 through EL 565 west of column line R4 and is connected to Fire Zone 1-3 through EL 593 floor slab. To prevent a fire on the EL 565 from propagating up to EL 593, penetrations are sealed to at least a one hour or equivalent rating and 3 hour fire rated dampers are installed in duct penetrations.

Fire Zone 1-2 is on EL 519 through EL 565 east of column line R4 and is connected to Fire Zone 1-3 through EL 593 floor slab. To prevent a fire on the EL 565 elevation from propagating up to EL 593, penetrations are sealed to at least a one hour or equivalent rating.

Fire Zone 1-4 is south of column line R on EL 593. A zone of separation is established on column line R to separate Fire Zone 1-3 from 1-4. A general area floor coverage preaction sprinkler and detection system is installed in this area. The only areas on EL 593 that do not have this coverage are the rooms containing the RWCU recirculation pumps, valves and heat exchangers. The noncombustible construction of the room and the low in situ combustible inside the room (less than 1,000 Btu/ft^2) provide assurance that a fire in these rooms will not affect the safe shutdown capability of the plant.

Fire Zone 1-5 is on EL 621 and is connected to Fire Zone 1-3 through EL 621 floor slab. To prevent a fire on the EL 593 elevation from propagating up to EL 621, all penetrations are sealed to at least a one hour or equivalent rating and 3 hour rated fire dampers are installed in duct penetrations.

The installed fire protection features will contain, control, and extinguish any fire which might occur in this Fire Zone 1-3.

FIRE ZONE 1-4

DESCRIPTION/LOCATION Unit 1 Reactor Building, EL 593 south of column line R and RHR Heat Exchanger Rooms, EL.565 and 593.

MAJOR EQUIPMENT:

Major safe shutdown equipment located in this zone:

Unit 1 Electrical Board Room Air Handling Unit, 1-AHU-31-2310
Reactor Water Cleanup Outboard Isolation Valve, 1-FCV-69-2
Reactor Water Cleanup System Appendix R Flow Control Valve, 1-FCV-69-94
RHR System I Containment Spray Outboard Valve, 1-FCV-74-60
RHR System I Containment Spray Inboard Valve, 1-FCV-74-61

ADJACENT FIRE ZONES/BASES FOR FIRE ZONE

Adjacent Fire Zone	Bases for Fire Zone
1-1	By one hour rated wall, one hour rated EL 593 floor slab, fire dampers in ducts, and water curtains on door opening in RHR heat exchanger room and equipment hatch.
1-2	By one hour rated wall, one hour rated EL 593 floor slab, and water curtain on door opening in RHR heat exchanger room, @ southwest stairway and southeast equipment hatch.
1-3	By 20 ft separation.
1-5	By one hour rated EL 621 floor slab, and water curtains on equipment hatch.

COMBUSTIBLE LOADING

Combustible materials in fire zone: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Reactor Room (Room #593.0-R-1)	*80,000*	*60*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

General area coverage preaction sprinkler system is provided on EL 593 at the ceiling and under obstructions. Water curtains provide floor to floor separation for EL 565, 593 and 639.

Hose stations and fire extinguishers are provided throughout the fire zone.

FIRE ZONE 1-4

DETECTION SYSTEM

Addressable (analog) smoke detectors provide area wide coverage are provided on EL 593 and actuate the preaction sprinkler system and horn/strobes.

ISOLATION AND SMOKE REMOVAL

A fire in this zone will be contained by the fire barriers and water curtains. Fire dampers will isolate the HVAC ducts from the other fire areas and fire zones within the Unit 1 Reactor Building. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific areas and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining areas; Units 1 and 2 equipment airlock, and Fire Areas 1, 2, 4, 16 and 25.

FIRE PROTECTION EVALUATION

Fire Zone 1-4 is that portion of the Unit 1 Reactor Building south of column line R on EL 593 and is adjacent to Fire Zones 1-1, 1-2, 1-3, and 1-5.

Fire Zone 1-1 is on EL 519 through EL 565 west of column line R4 and is connected to Fire Zone 1-4 through the RHR Heat Exchanger Room and EL 593 floor slab. A water curtain installed at the ceiling of the RHR pump rooms (El. 541) and over the door opening of the RHR heat exchanger enclosure on EL 565 near the S-line at column R1 will prevent a fire in the RHR pump room from propagating up to 1-4. A water curtain also protects the equipment hatch near column R6-U to prevent fire from propagating up to EL 593. To prevent a fire on the EL 565 from propagating up to EL 593, penetrations are sealed to at least a one hour or equivalent rating.

Fire Zone 1-2 is on EL 519 through EL 565 east of column line R4 and is connected to Fire Zone 1-4 through the RHR heat exchanger room and EL 593 floor slab. A water curtain installed at the ceiling of the RHR pump rooms (El. 541) and over the door opening of the RHR heat exchanger enclosure on EL 565 near the S-line at column R7 will prevent a fire in the RHR pump room from propagating up to Fire Zone 1-4. To prevent a fire on the EL 565 elevation from propagating up to EL 593, penetrations are sealed to at least a one hour or equivalent rating and 3 hour rated fire dampers are installed in duct penetrations.

Fire Zone 1-3 is north of column line R on EL 593. A zone of influence is established at column line R to separate Fire Zone 1-3 from 1-4. A general area coverage sprinkler and detection system installed for the area. The only areas on EL 593 that do not have this coverage are the rooms containing the RWCU recirculation pumps, valves and heat exchangers. The noncombustible construction of the room and the low in situ combustible inside the room (less than *1,000* Btu/ft$^{2)}$ provide reasonable assurance that a fire in these rooms will not affect the safe shutdown capability of the plant.

FIRE ZONE 1-4

Fire Zone 1-5 is on EL 621 and is connected to Fire Zone 1-4 through an open equipment hatch at R5-U, the southwest stairway at R1-U and EL 621 floor slab. To prevent a fire from EL 593 propagating up to 621, water curtains are provided at the equipment hatch and stairway with penetrations sealed to at least a one hour or equivalent rating and fire dampers installed at all duct penetrations.

The installed fire protection features will contain, control, and extinguish any fire which may occur in this Fire Zone 1-4.

FIRE ZONE 1-5

DESCRIPTION/LOCATION Unit 1 Reactor Building on EL 621 and north of column line R on EL 639.

MAJOR EQUIPMENT

Major safe shutdown equipment located in this zone:

Transformers, TS1A and TS1B

ADJACENT FIRE ZONES/BASES FOR FIRE ZONE

Adjacent Fire Zone	Bases for Fire Zone
1-2	By one hour rated wall @ southeast stairwell/elevator enclosure.
1-3	By one hour fire rated EL 621 floor slab.
1-4	By one hour fire rated EL 621 floor slab, and water curtains on equipment hatch at EL 621.
1-6	By one hour fire rated EL 639 floor slab, and by water curtains on equipment hatch at EL 639 and 20 ft separation at EL 639.

COMBUSTIBLE LOADING

Combustible materials in fire zone: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Reactor Room U1 (Room #621.25-R-1)	*45,000*	*34*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

A preaction sprinkler system provides area wide coverage on EL 621.

Hose stations and fire extinguishers are provided throughout the fire zone.

FIRE ZONE 1-5

DETECTION SYSTEM

Addressable (analog) smoke detectors on EL 621 provide area wide coverage. The detectors actuate preaction system and horn/strobes.

ISOLATION AND SMOKE REMOVAL

A fire in this zone will be contained by the fire barriers and water curtains. Fire dampers will isolate the HVAC ducts from the other fire areas and fire zones within the Unit 1 Reactor Building. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific areas and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Unit 1 north stairway and up to the refueling floor, Fire Areas 1, 2, 5 and 16.

FIRE PROTECTION EVALUATION

Fire Zone 1-5 is on EL 621 and north of the fuel pool wall on EL 639 and is adjacent to Fire Zones 1-3, 1-4, and 1-6. Fire Zone 1-3 is on EL 593 north of column line R and is connected to Fire Zone 1-5 through EL 621 floor slab. To prevent a fire on the EL 593 from propagating up to EL 621, all penetrations are sealed to at least a one hour or equivalent rating and 3 hour fire dampers are installed in duct penetrations.

Fire Zone 1-4 is on EL 593 south of column line R and is connected to Fire Zone 1-5 through an open equipment hatch at R5-U, the southwest stairway at R1-U and EL 621 floor slab. Water curtains are provided at both the equipment hatch and stairway to prevent a fire from EL 593 propagating up to EL 621. Penetrations are sealed to at least a one hour or equivalent rating and 3 hour fire dampers are installed in duct penetrations.

Fire Zone 1-6 is on EL 639 south of the fuel pool wall and is connected to Fire Zone 1-5 through an open equipment hatch at R5-U, the southwest stairway at R1-U, EL 639 floor slab and the fuel pool wall on EL 639. Water curtains are provided at both the equipment hatch and stairway to prevent a fire from EL 621 propagating up to 639. The fuel pool wall and a 20 feet separation is provided on EL 639 between Fire Zones 1-5 and 1-6. To prevent fire propagating from EL 621 to EL 639, penetrations are sealed to at least a one hour or equivalent rating and 3 hour fire dampers are installed in duct penetrations.

The installed fire protection features will contain, control, and extinguish any fire which may occur in Fire Zone 1-5.

FIRE ZONE 1-6

DESCRIPTION/LOCATION Unit 1 Reactor Building, EL 639 south of column Line R.

MAJOR EQUIPMENT

Major safe shutdown equipment located in this zone:

Transformer, TS1E

ADJACENT FIRE ZONES/BASES FOR FIRE ZONE

Adjacent Fire Zone	Bases for Fire Zone
1-2	By 1 hour fire rated wall @ southeast stairwell/elevator enclosure.
1-5	By 1 hour fire rated slab at EL 639, water curtains at equipment hatch at EL 639, and 20 ft separation at EL 639 including concrete barriers provided by the fuel and dryer/separator pools.

COMBUSTIBLE LOADING

Combustible materials in fire zone: oil, plastic, polyester, neoprene, cable insulation.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Reactor Room South U1 (Room #639.0-R-1B)	*45,000*	*34*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

A preaction sprinkler system is provided on the south half of EL 639 for area-wide coverage including protection of the Recirculation Pump Variable Frequency Drive (VFD) Units.

Hose stations and fire extinguishers are provided throughout this fire zone.

DETECTION SYSTEM

Smoke detectors provide area wide coverage in all areas of EL 639 for early warning fire detection and actuation of preaction system in the VFD area.

FIRE ZONE 1-6

ISOLATION AND SMOKE REMOVAL

A fire in this zone will be contained by the fire barriers and water curtains. Fire dampers will isolate the HVAC ducts from the other fire areas and fire zones within the Unit 1 Reactor Building. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific areas and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Unit 1, 2 and 3 stairways to and up to the refueling floor.

FIRE PROTECTION EVALUATION

Fire Zone 1-6 is that portion of the Unit 1 Reactor Building on EL 639 south of the fuel pool wall and is adjacent Fire Zone is 1-5. Fire Zone 1-5 is on EL 621 and north of the fuel pool wall on EL 639 and is connected to Fire Zone 1-6 through an open equipment hatch at R5-U, the southwest stairway at R1-U, EL 639 floor slab and the fuel pool wall on the EL 639. Water curtains are provided at both the equipment hatch and stairway to prevent a fire from EL 621 propagating up to EL 639. The fuel pool wall and 20 feet separation is provided on EL 639 between Fire Zones 1-5 and 1-6. Separation from refuel floor is discussed in Section 4.5.

The installed fire protection features will contain, control, and extinguish any fire which might occur in this Fire Zone 1-6.

FIRE AREA 2

DESCRIPTION/LOCATION Unit 2 Reactor Building, EL 519 through EL 639. Total area 69,277 ft^2.

MAJOR EQUIPMENT

Refer to the specific Fire Zone evaluation for major equipment.

ADJACENT FIRE AREAS/BASES FOR FIRE AREA

Fire Area No.	Designation	Separation
1	Unit 1, Reactor Building	3-hour
3	Unit 3, Reactor Building	3-hour
8	Unit 2, 4KV Shutdown Board Rm-D	3-hour
9	Unit 2, 4KV Shutdown Board Rm-C and 250V Battery Room	3-hour
10	Unit 2, 480V Shutdown Board Rm-2A	3-hour
11	Unit 2, 480V Shutdown Board Rm-2B	3-hour
16	Control Building	3-hour
18	Unit 2, Battery and Battery Bd Rm	3-hour
25	Turbine Building, Cable Tunnel, Intake Pumping Station and Radwaste Building	3-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Fire Area 2 (all rooms in fire area)	25,000	19

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

A general floor area coverage preaction sprinkler system provides coverage on EL 519 for the HPCI room.

Preaction sprinkler system general floor area coverage is provided on EL 565 and 593.

Preaction sprinkler coverage on EL 621 is provided along the P-line wall and other areas on the floor containing significant combustibles.

Preaction sprinkler system provides coverage on EL 639 for the recirculation pump VFD Units.

FIRE AREA 2

Water curtains provide floor-to-floor separation for EL 565, 593, and 621.

Hose stations and fire extinguishers are provided throughout the fire area.

DETECTION SYSTEM

Addressable (analog) smoke detectors are provided for area wide coverage on EL 565, 593, 621, and the south side of 639 to actuate the preaction sprinkler system. Smoke detectors on the north side of el. 639 are for early warning. Smoke detectors are provided on EL 519 for the HPCI area to activate the preaction sprinkler system. Smoke detectors for the RCIC/Core Spray rooms are provided for early warning fire detection. Smoke detectors on EL 541 and EL 519 (RHR corner rooms) are provided to activate the preaction sprinkler system water curtains. Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

ISOLATION AND SMOKE REMOVAL

Refer to specific fire zones for detailed evaluations for zone isolation and smoke removal.

FIRE PROTECTION EVALUATION

An evaluation has been conducted for the Unit 2 Reactor Building to analyze the effects of a fire on the structural and supporting steel. This evaluation determined that there is no unprotected structural steel (i.e., beams, cable tray supports, etc.) required to maintain the integrity of fire barriers that separate the Unit 2 Reactor Building from adjacent fire areas. Therefore, a fire in the Unit 2 Reactor Building can be contained within the confines of the Reactor Building and will not initiate a structural failure in other fire areas. There is also no structural steel that traverses adjacent fire zones such that a fire in one zone could cause structural failure and damage to equipment in adjacent zones. The automatic sprinkler system provides coverage for equipment and cable trays required for safe shutdown on elevations 565, 593, 621, and 639. The type of steel used to support the cable trays is ASTM A36. The intermediate temperature range (175-225 degrees Fahrenheit) sprinkler heads installed in the Reactor Building can be reasonably expected to operate prior to ceiling temperatures reaching 1,000 degrees Fahrenheit. This will maintain temperatures in the Reactor Building below the critical temperature of the supporting steel and prevent a collapse of the cable trays required for safe shutdown after a fire. Elevations 519 and 541 are not provided with automatic sprinkler protection. There are no cable trays or other supporting or structural steel that traverses between Fire Zones 2-1 and 2-2 at these elevations. Therefore, a fire in one zone would not affect the structural or supporting steel in the adjacent zone. A fire in the Unit 2 Reactor Building will not cause a failure of structural or supporting steel such that the ability to achieve safe shutdown would be impaired; therefore, structural steel and cable tray supports are not required to be protected (Reference 16).

FIRE AREA 2

The primary containment (drywell) walls form the boundaries of the Reactor Building fire zones. The penetration seals through drywell walls are not required to be fire rated because the drywell is kept inerted during normal plant operation and will prevent the propagation of fire through the openings. The combustibles inside the drywell (polyurethane liners) do not pose significant vulnerability to fire hazards as evaluated in Reference 6.

Refer to specific fire zones for detailed fire protection evaluations for Unit 2 Reactor Building.

FIRE ZONE 2-1

DESCRIPTION/LOCATION Unit 2 Reactor Building, EL 519 through 565, west of columm line R11.

MAJOR EQUIPMENT

Major equipment located in this zone:

RHR Heat Exchangers 2A Service Water Outlet Valve, 2-FCV-23-34
RHR Heat Exchanger 2C Service Water Outlet Valve, 2-FCV-23-40
RHR Pump Room Cooler Units A & C, 2-ACU-64-68 & -70
Sectionalizing Valve, 0-FCV-67-22
Reactor Core Isolation Cooling Pump, 2-PMP-71-19
RCIC Turbine Steam Supply Valve, 2-FCV-71-8
RCIC Turbine Stop Valve, 2-FCV-71-9
RCIC Turbine Control Valve, 2-FCV-71-10
RCIC Suppression Pool Inboard Suction Valve, 2-FCV-71-17
RCIC Suppression Pool Outboard Suction Valve, 2-FCV-71-18
RCIC Condensate Tank Suction Valve, 2-FCV-71-19
RCIC Lube Oil Cooler Cooling Water Valve, 2-FCV-71-25
RCIC Pump Minimum Flow Valve, 2-FCV-71-34
RCIC Outboard Discharge Valve, 2-FCV-71-37
RCIC Condensate Test Valve, 2-FCV-71-38
RCIC Inboard Discharge Valve, 2-FCV-71-39
HPCI Steam Line Outboard Isolation Valve, 2-FCV-73-3
RHR Pumps 2A & 2C (2-PMP-74-5 & -16)
RHR Pump A & C Suppression Pool Suction Valves, 2-FCV-74-1 & -12
RHR Pump A & C Shutdown Cooling Suction Valves, 2-FCV-74-2 & 13
RHR Shutdown Cooling Suction Valves, 2-FCV-74-46
RHR System I Outboard Recirculation Loop Valve, 2-FCV-74-52
RHR System II Inboard Recirculation Loop Valve, 2-FCV-74-53
RHR System I Suppression Pool Valve, 2-FCV-74-57
RHR System I Suppression Pool Spray Valve, 2-FCV-74-58
RHR System I Test Valve, 2-FCV-74-59
RHR System I Drywell Spray Outboard Valve, 2-FCV-74-60
RHR System I Drywell Spray Inboard Valve, 2-FCV-74-61
RHR Pump A Suction Cross-tie Valve, 2-FCV-74-96
RHR Pump C Suction Cross-tie Valve, 2-FCV-74-97
U1/U2 RHR Pump Discharge Inter-tie Line Isolation Valve, 2-FCV-74-100
CAD Supply Line to Torus Isolation Valve, 2-FSV-84-8B & 8C
CAD Train B Crosstie to Drywell CA System Valve, 2-FSV-84-48
CAD A Crosstie to Drywell N_2 Pressure Regulator, 2-PREG-84-52
CRD Pump 2A Unit 2 Suction Isolation Valve, 2-FCV-85-65
250 RMOV Board 2C (2-BDDD-281-0002C)

FIRE ZONE 2-1

ADJACENT FIRE ZONES/BASES FOR FIRE ZONE

Adjacent Fire Zone	Bases for Fire Zone
2-2	By 20 ft separation.
2-3	By 1 hour fire rated floor slab at EL 593.
2-4	By 1 hour fire rated floor slab at EL 593. 1 hour rated heat exchanger cubicle walls. Equipment hatch opening and RHR heat exchanger door opening are protected by water curtain.

COMBUSTIBLE LOADING

Combustible materials in fire zone: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Reactor Room (Room #565.0-R-2)	35,000	27

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

General area coverage with a preaction sprinkler system is provided on EL 565 at the ceiling and under obstructions.

Hose stations and fire extinguishers are provided throughout the fire zone.

DETECTION SYSTEM

Addressable smoke detection coverage is provided on EL 519 for the Core Spray rooms for early warning fire detection.

Addressable (Analog) smoke detectors for area wide coverage are provided on EL 565 and in RHR corner rooms on EL 519 to actuate the preaction sprinkler system.

ISOLATION AND SMOKE REMOVAL

A fire in this zone will be contained by the fire rated barriers and water curtains. Fire dampers will isolate the HVAC ducts from the other fire areas and fire zones within the Unit 2 Reactor Building. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific areas and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining areas; Units 1 and 2 equipment airlock, and Fire Areas 1, 3, and 25.

FIRE ZONE 2-1

FIRE PROTECTION EVALUATION

Fire Zone 2-1 is that portion of the Unit 2 Reactor Building west of column line R11 from EL 519 through EL 565. Its adjacent Fire Zones are 2-2, 2-3, and 2-4.

Fire Zone 2-2 is on the east side of column line R11 on EL 519 through EL 565 and is separated by a 20 ft. zone of separation. On EL 519, these two fire zones are connected at the torus area which does not have automatic suppression and detection. However, the torus area has very low in situ combustibles and the spatial separation between the redundant RHR pumps and cables in the corner rooms on EL 519 is very large. Therefore, it is improbable for a fire in this elevation to affect both trains of the RHR. An exemption from the III.G.2.b separating requirements was requested and approved for separation of the RHR pump rooms. See Safe Shutdown Analysis, section 9.0(c) for details. On the EL 565, an addressable smoke detection system providing area wide coverage and a preaction sprinkler system is installed on the ceiling and under obstructions in order to provide adequate coverage. The only locations on EL 565 of Fire Zone 2-1 that do not have sprinkler coverage are the Drywell Access Room and the Personnel and Equipment Access Locks. The TIP Room is the only location on EL 565 of Fire Zone 2-2 that does not have sprinkler coverage. These rooms are constructed of concrete block walls or reinforced concrete. The Drywell Access Rooms have an in situ combustible loading of 1,200 Btu/ft^2 (one minute fire severity) and consists of lube oil in a valve and insulation on cables in control panels. The TIP Room and Personnel and Equipment Access Rooms contain no significant in situ combustibles. The noncombustible construction of these rooms and the lack of in situ combustibles provide reasonable assurance that a fire in one of these rooms will not affect the safe shutdown capability of the plant.

Fire Zone 2-3 is on EL 593 north of column line R. It connects with Fire Zone 2-1 through the EL 593 floor slab. To prevent a fire on EL 565 from propagating up to EL 593, penetrations are sealed to at least one hour or equivalent rating and 3 hour fire rated dampers are installed in duct penetrations.

Fire Zone 2-4 is on EL 593 south of column line R. It connects with Fire Zone 2-1 through the RHR heat exchanger rooms, an equipment hatch at R9-U, and the 593 floor slab. There is an opening in the EL 565 floor slab inside the RHR heat exchanger enclosure which is the metal grating forming part of the exchanger room floor. To prevent a fire from the RHR pump room from propagating to the RHR heat exchanger enclosure a water curtain is installed at the ceiling of the RHR pump rooms (El. 541'). A water curtain installed over the door opening of the RHR heat exchanger enclosure on EL 565 near the S-line at column R8 will prevent a fire in the RHR pump room from propagating up to Fire Zone 2-4 and to the Reactor floor area on EL 565. A water curtain is installed to protect the equipment hatch near column R9-U. Three hour fire rated dampers are installed in duct penetrations in the ceiling (EL 593 floor slab). Piping, conduit, and cable tray penetrations are sealed to at least a one hour or equivalent rating. These fire protection features will prevent the fire from propagating from EL 565 up to EL 593.

The installed fire protection features will contain, control, and extinguish any fire that might occur in Fire Zone 2-1.

FIRE ZONE 2-2

DESCRIPTION/LOCATION Unit 2 Reactor Building, EL 519 through 565, east of column line R11.

MAJOR EQUIPMENT

Major equipment located in this zone:

RHR Heat Exchanger 2B Service Water Outlet Valve, 2-FCV-23-46
RHR Heat Exchanger 2D Service Water Outlet Valve, 2-FCV-23-52
Standby Coolant Drain Valve, 2-FSV-23-56
RHR/RHRSW Inter-tie Line Isolation Valve, 2-FCV-23-57
RHR Pump Room Cooler Units B & D, 2-ACU-64-69 & 2-ACU-64-71
RBCCW Heat Exchanger Supply Line Isolation Valve 2-FCV-67-51
Pilot Valve 2-FSV-67-51
HPCI Auxiliary Oil Pump, 2-PMP-73-47
HPCI Turbine Main Pump, 2-PMP-73-54
HPIC Turbine Steam Supply Valve, 2-FCV-73-16
HPCI Turbine Stop Valve, 2-FCV-73-18
HPCI Turbine Control Valve, 2-FCV-73-19
HPCI Suppression Pool Inboard Suction Valve, 2-FCV-73-26
HPCI Suppression Pool Outboard Suction Valve, 2-FCV-73-27
HPCI Outboard Discharge Valve, 2-FCV-73-34
HPCI Condensate Test Valve, 2-FCV-73-35
HPCI/RCIC Test Return Valve, 2-FCV-73-36
HPCI Condensate Tank Suction Valve, 2-FCV-73-40
HPCI Inboard Discharge Valve, 2-FCV-73-44
RHR Pumps 2B & 2D (2-PMP-74-28 & -39)
RHR Pump B & D Suppression Pool Suction Valves, 2-FCV-74-24 & -35
RHR Pump B & D Shutdown Cooling Suction Valves, 2-FCV-74-25 & -36
RHR System II Suppression Pool Valve, 2-FCV-74-71
RHR System II Suppression Pool Spray Test Isolation Valve, 2-FCV-74-72
RHR System II Test Valve, 2-FCV-74-73
Unit 3/Unit 2 Pump Suction Inter-tie Line Shutoff Valves, 2-FCV-74-98 & 99
Unit 2/Unit 3 Pump Discharge Inter-tie Line Isolation Valve, 2-FCV-74-101
CAD Supply Line to Drywell Isolation Valves, 2-FSV-84-8A & -8D
CAD Train B Crosstie to Drywell CA System Valve, 2-FSV-84-49
CAD B Crosstie to Drywell N_2 Pressure Regulator, 2-PREG-84-54
480V RMOV Board 2C (2-BDBB-268-0002C)

Fire Zone 2-2

ADJACENT FIRE ZONES/BASES FOR FIRE ZONE

Adjacent Fire Zone	Bases for Fire Zone
2-1	By 20 ft. separation.
2-3	By 1 hour fire rated floor slab at EL 593.
2-4	By 1 hour fire rated floor slab at EL 593. 1 hour fire rated RHR heat exchanger cubicle walls. Door openings for RHR heat exchanger room and equipment hatch are protected by water curtain.

COMBUSTIBLE LOADING

Combustible materials in fire zone: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Reactor Room (Room #565.0-R-2)	35,000	27

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

General area coverage preaction sprinkler system provided on EL 519 for the HPCI room at the ceiling and under obstructions.

General area coverage preaction sprinkler system is provided on EL 565 at the ceiling and under obstructions.

Hose stations and fire extinguishers are available throughout the fire zone.

DETECTION SYSTEM

Addressable (analog) smoke detectors are provided on EL 519 in Core Spray/RCIC areas for annunciation, and in the HPCI room to actuate the preaction sprinkler system.

Addressable (analog) smoke detector coverage on EL 565 and in RHR corner rooms at EL 519 is provided to actuate the preaction sprinkler system.

FIRE ZONE 2-2

ISOLATION AND SMOKE REMOVAL

A fire in this zone will be contained by the fire barriers and water curtains. Fire dampers will isolate the HVAC ducts from the other fire areas and fire zones within the Unit 2 Reactor Building. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific areas and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining areas; Units 1 and 2 equipment airlock, and Fire Areas 1, 3, and 25.

FIRE PROTECTION EVALUATION

Fire Zone 2-2 is that portion of the Unit 2 Reactor Building east of column line R11 from EL 519 through EL 565 and is adjacent to Fire Zones are 2-1, 2-3, and 2-4. Fire Zone 2-1 is on the west side of column line R11 on EL 519 through EL 565 and is separated from Fire Zone 2-2 by a 20 ft. zone of separation. On the EL 519 elevation, these two fire zones are connected at the torus area which does not have automatic suppression and detection. However, the torus area has very low in situ combustibles and the spatial separation between the redundant pumps and cables in the corner rooms on EL 519 is very large. Therefore, it is improbable for a fire in this elevation to affect both trains of the RHR. An exemption from the III.G.2.b separating requirements was requested and approved for separation of the RHR pump rooms. See Safe Shutdown Analysis, section 9.0(c) for details. On the EL 565, an addressable smoke detection system providing area wide coverage and a preaction sprinkler system is installed on the ceiling and under obstructions to provide adequate coverage. The only locations on EL 565 of Fire Zone 2-1 that do not have sprinkler coverage are the Drywell Access Room and the Personnel and Equipment Access Locks. The TIP Room is the only location on EL 565 of Fire Zone 2-2 that does not have sprinkler coverage. The noncombustible construction of these rooms and the lack of in situ combustibles as discussed in Zone 2-1 evaluation, provide reasonable assurance that a fire in these rooms will not affect the safe shutdown capability of the plant.

Fire Zone 2-3 is on EL 593 north of column line R and is connected to Fire Zone 2-2 through EL 593 floor slab. To prevent a fire on the 565 elevation from propagating up to EL 593, penetrations are sealed to at least one hour or equivalent rating and 3 hour fire rated dampers are installed in duct penetrations.

Fire Zone 2-4 is on EL 593 south of column line R and is connected to Fire Zone 2-2 through the RHR heat exchanger room, exchanger room enclosure at column R14-T/S, and EL 593 floor slab. There is an opening in the EL 565 floor slab inside the RHR heat exchanger enclosure which is the metal grating forming part of the exchanger room floor. To prevent a fire from the RHR pump room from propagating to the RHR heat exchanger enclosure a water curtain installed at the ceiling of the RHR pump rooms (El. 541). A water curtain over the door opening of the RHR heat exchanger enclosure on EL 565 near the S-line at column R14 will prevent a fire in the RHR

pump room from propagating up to Fire Zone 2-4 and to the reactor floor area on EL 565. Penetrations are sealed to at least a one hour or equivalent rating and 3 hour fire rated dampers are installed in duct penetrations, in order to prevent a fire from the EL 565 to propagate up to EL 593.

The installed fire protection features will contain, control, and extinguish any fire which might occur in this Fire Zone 2-2.

FIRE ZONE 2-3

DESCRIPTION/LOCATION Unit 2 Reactor Building, EL 593, north of column line R.

MAJOR EQUIPMENT

Sectionalizing Valve, 0-FCV-67-21
RBCCW Heat Exchanger Supply Line Isolation Valve, 2-FCV-67-50
Pilot Valve, 2-FSV-67-50

ADJACENT FIRE ZONES/BASES FOR FIRE ZONE

Adjacent Fire Zone	Bases for Fire Zone
2-1	By 1 hour fire rated floor slab at EL 593
2-2	By 1 hour fire rated slab at EL 593
2-4	By 20 ft separation
2-5	By 1 hour fire rated floor slab at EL 621

COMBUSTIBLE LOADING

Combustible materials in fire zone: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Reactor Room (Room #593.0-R-2)	45,000	34

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

General area coverage preaction sprinkler system is provided on EL 593 at the ceiling and under obstructions.

Hose stations and fire extinguishers are available throughout the fire zone.

DETECTION SYSTEM

Addressable (analog) smoke detectors are provided for area wide coverage on EL 593 and actuate the preaction sprinkler system and horns/strobes.

FIRE ZONE 2-3

ISOLATION AND SMOKE REMOVAL

A fire in this zone will be contained by the fire barriers and water curtains. Fire dampers will isolate the HVAC ducts from the other fire areas and fire zones within the Unit 2 Reactor Building. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific areas and allows the fire dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining areas; Units 1 and 2 equipment airlock, and Fire Areas 1, 3, 8, 16, and 25.

FIRE PROTECTION EVALUATION

Fire Zone 2-3 is that portion of the Unit 2 Reactor Building north of column line R on EL 593 and is adjacent to Fire Zones are 2-1, 2-2, 2-4, and 2-5.

Fire Zone 2-1 is on EL 519 through EL 565 west of column line R11 and is connected to Fire Zone 2-3 through EL 593 floor slab. To prevent a fire on the EL 565 elevation from propagating up to EL 593, penetrations are sealed to at least a one hour or equivalent rating and 3 hour fire rated dampers are installed in duct penetrations.

Fire Zone 2-2 is on EL 519 through EL 565 east of column line R11 and is connected to Fire Zone 2-3 through EL 593 floor slab. To prevent a fire on the EL 565 elevation from propagating up to EL 593, penetrations are sealed to at least a one hour or equivalent rating.

Fire Zone 2-4 is south of column line R on EL 593. A zone of separation is established on column line R to separate Fire Zone 2-3 from 2-4. A general area floor coverage preaction sprinkler and detection system is installed. The only areas on EL 593 that do not have this coverage are the rooms containing the RWCU recirculation pumps, valves and heat exchangers. The noncombustible construction of the room and the low in situ combustible inside the room (less than 1,000 Btu/ft^2) provide assurance that a fire in these rooms will not affect the safe shutdown capability of the plant.

Fire Zone 2-5 is on EL 621 and is connected to Fire Zone 2-3 through EL 621 floor slab. To prevent a fire on the EL 593 elevation from propagating up to EL 621, all penetrations are sealed to at least a one hour or equivalent rating and 3 hour rated fire dampers are installed in duct penetrations.

The installed fire protection features will contain, control, and extinguish any fire which might occur in this Fire Zone 2-3.

FIRE ZONE 2-4

DESCRIPTION/LOCATION Unit 2 Reactor Building, EL 593 south of column line Q and RHR Heat Exchanger Rooms, EL.565 and 593.

MAJOR EQUIPMENT:

Major equipment located in this zone:

Shutdown Board Room Air Handling Unit 2A, 2-ACU-31-2330
RWCU Outboard Isolation Valve, 2-FCV-69-2
RWCU Appendix R Isolation Valve, 2-FCV-69-94
RHR System II Drywell Spray Outboard Valve, 2-FCV-74-74
RHR System II Drywell Spray Inboard Valve, 2-FCV-74-75
480V RMOV Board 2D (2-BDBB-268-0002D)

ADJACENT FIRE ZONES/BASES FOR FIRE ZONE

Adjacent Fire Zone	Bases for Fire Zone
2-1	By one hour rated wall, one hour rated EL 593 floor slab, fire dampers in ducts, and water curtains on door opening in RHR heat exchanger room and equipment hatch.
2-2	By one hour rated wall, one hour rated EL 593 floor slab, and water curtain on door opening in RHR heat exchanger room and equipment hatch.
2-3	By 20 ft separation.
2-5	By one hour rated EL 621 floor slab, and water curtains on equipment hatch.

COMBUSTIBLE LOADING

Combustible materials in fire zone: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Reactor Room (Room #593.0-R-2)	45,000	34

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Addressable (analog) smoke detectors are provided on EL 593 at the ceiling and under obstructions to actuate preaction sprinkler system.

Hose stations and fire extinguishers are provided throughout the fire zone.

FIRE ZONE 2-4

DETECTION SYSTEM

Addressable (analog) smoke detectors provide area wide coverage are provided on EL 593 and actuate the preaction sprinkler system and horn/strobes.

ISOLATION AND SMOKE REMOVAL

A fire in this zone will be contained by the fire barriers and water curtains. Fire dampers will isolate the HVAC ducts from the other fire areas and fire zones within the Unit 2 Reactor Building. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific areas and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining areas; Units 1 and 2 equipment airlock, and Fire Areas 1, 3, 8, 16, and 25.

FIRE PROTECTION EVALUATION

Fire Zone 2-4 is that portion of the Unit 2 Reactor Building south of column line R on EL 593 and is adjacent to Fire Zones are 2-1, 2-2, 2-3, and 2-5.

Fire Zone 2-1 is on EL 519 through EL 565 west of column line R11 and is connected to Fire Zone 2-4 through the RHR Heat Exchanger Room and EL 593 floor slab. A water curtain installed at the ceiling of the RHR pump rooms (El. 541) and a water curtain provided over the door opening of the RHR heat exchanger enclosure on EL 565 near the S-line at column R8 will prevent a fire in the RHR pump room from propagating up to Fire Zone 2-4. A water curtain also protects the equipment hatch near column R9-U to prevent fire from propagating up to EL 593. To prevent a fire on the EL 565 from propagating up to EL 593, penetrations are sealed to at least a one hour or equivalent rating.

Fire Zone 2-2 is on EL 519 through EL 565 east of column line R11 and is connected to Fire Zone 2-4 through the RHR heat exchanger room and EL 593 floor slab. A water curtain installed at the ceiling of the RHR pump rooms (El. 541) and over the door opening of the RHR heat exchanger enclosure on EL 565 near the S-line at column R14 will prevent a fire in the RHR pump room from propagating up to 2-4. To prevent a fire on the EL 565 elevation from propagating up to EL 593, penetrations are sealed to at least a one hour or equivalent rating and 3 hour rated fire dampers are installed in duct penetrations.

Fire Zone 2-3 is north of column line R on EL 593. A zone of influence is established on column line R to separate Fire Zone 2-3 from 2-4. A general area coverage sprinkler and detection system installed. The only areas on EL 593 that do not have this coverage are the rooms containing the RWCU recirculation pumps, valves and heat exchangers. The noncombustible construction of the room and the low in situ combustible inside the room (less than 1,000 Btu/ft$^{2)}$ provide adequate assurance that a fire in these rooms will not affect the safe shutdown capability of the plant.

FIRE ZONE 2-4

Fire Zone 2-5 is on EL 621 and is connected to Fire Zone 2-4 through an open equipment hatch at R9-U and at R13-U, and the 621 floor slab. To prevent a fire from EL 593 propagating up to 621, water curtains are provided at both equipment hatches and penetrations are sealed to at least a one hour or equivalent rating and fire dampers are installed at all duct penetrations.

The installed fire protection features will contain, control, and extinguish any fire which may occur in this Fire Zone 2-4.

FIRE ZONE 2-5

DESCRIPTION/LOCATION Unit 2 Reactor Building on EL 621 and north of column line R on EL 639.

MAJOR EQUIPMENT

Major equipment located in this zone:

480V RMOV Board 2E (2-BDBB-268-0002E)
LPCI MG Set 2DN
Transformers, TS2A and TS2B

ADJACENT FIRE ZONES/BASES FOR FIRE ZONE

Adjacent Fire Zone	Bases for Fire Zone
2-3	By one hour fire rated EL 621 floor slab
2-4	By one hour fire rated EL 621 floor slab, and water curtains on equipment hatch at EL 621.
2-6	By one hour fire rated EL 639 floor slab, and by water curtains on equipment hatch at EL 639 and 20 ft separation at EL 639.

COMBUSTIBLE LOADING

Combustible materials in fire zone: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Reactor Room U2 (Room #621.25-R-2)	30,000	23

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

A preaction sprinkler system provides coverage on EL 621 at P-line wall between columns R9 and R10 and above other areas containing significant fire combustibles.

Hose stations and fire extinguishers are provided throughout the fire zone.

FIRE ZONE 2-5

DETECTION SYSTEM

Addressable (analog) smoke detectors on EL 621 provide area wide coverage. The detectors actuate preaction system and horn/strobes.

ISOLATION AND SMOKE REMOVAL

A fire in this zone will be contained by the fire barriers and water curtains. Fire dampers will isolate the HVAC ducts from the other fire areas and fire zones within the Unit 2 Reactor Building. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific areas and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Unit 2 north stairway and up to the refueling floor, Fire Areas 1, 3, 9, and 16.

FIRE PROTECTION EVALUATION

Fire Zone 2-5 is on EL 621 and north of the fuel pool wall on EL 639 and is adjacent to Fire Zones are 2-3, 2-4, and 2-6. Fire Zone 2-3 is on EL 593 north of column line R and is connected to Fire Zone 2-5 through EL 621 floor slab. To prevent a fire on the EL 593 from propagating up to EL 621, all penetrations are sealed to at least a one hour or equivalent rating and 3 hour fire dampers are installed in duct penetrations.

Fire Zone 2-4 is on EL 593 south of column line R and is connected to Fire Zone 2-5 through an open equipment hatch at R9-U, another hatch at R13-U, and EL 621 floor slab. Water curtains are provided at both equipment hatches to prevent a fire from EL 593 propagating up to EL 621. Penetrations are sealed to at least a one hour or equivalent rating and 3 hour fire dampers are installed in duct penetrations.

Fire Zone 2-6 is on EL 639 south of the fuel pool wall and is connected to Fire Zone 2-5 through an open equipment hatch at R9-U, and at R13-U, the EL 639 floor slab and the fuel pool wall on the EL 639. Water curtains are provided at both equipment hatches to prevent a fire from EL 621 propagating up to EL 639. The fuel pool wall and 20 feet separation is provided on EL 639 between Fire Zones 2-5 and 2-6. To prevent fire propagating from EL 621 to EL 639 penetrations are sealed to at least a one hour or equivalent rating and 3 hour fire dampers are installed in duct penetrations.

The installed fire protection features will contain, control, and extinguish any fire which may occur in Fire Zone 2-5.

FIRE ZONE 2-6

DESCRIPTION/LOCATION Unit 2 Reactor Building, EL 639 south of column line R.

MAJOR EQUIPMENT

Major equipment located in this zone:

LPCI MG Set 2EN
Transformer TS2E

ADJACENT FIRE ZONES/BASES FOR FIRE ZONE

Adjacent Fire Zone	Bases for Fire Zone
2-5	By 1 hour fire rated slab at EL 639, water curtains at equipment hatches at EL 639 and 20 ft separation at EL 639.

COMBUSTIBLE LOADING

Combustible materials in fire zone: oil, plastic, polyester, neoprene, cable insulation.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Reactor Room South U2 (Room #639.0-R-2B)	*30,000*	*23*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

A preaction sprinkler system is provided on EL 639 for the Recirculation Pump VFD Units at the ceiling level and underneath obstructions.

Hose stations and fire extinguishers are provided throughout this fire zone.

DETECTION SYSTEM

Smoke detectors provide area wide coverage in all areas of EL 639 for early warning fire detection and actuation of preaction system in the VFD area.

FIRE ZONE 2-6

ISOLATION AND SMOKE REMOVAL

A fire in this zone will be contained by the fire barriers and water curtains. Fire dampers will isolate the HVAC ducts from the other fire areas and fire zones within the Unit 2 Reactor Building. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a, fire is verified in an area. This shuts down ventilation to the specific areas and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Unit 1, 2 and Unit 3 stairways to and up to the refueling floor.

FIRE PROTECTION EVALUATION

Fire Zone 2-6 is that portion of the Unit 2 Reactor Building on EL 639 south of the fuel pool wall. The adjacent Fire Zone is 2-5. Fire Zone 2-5 is on EL 621 and north of the fuel pool wall on EL 639 and connects to Fire Zone 2-6 through an open equipment hatch at R9-U, another hatch at R13-U, the EL 639 floor slab and the fuel pool wall on EL 639. Water curtains are provided at both equipment hatches to prevent a fire from EL 621 propagating up to EL 639. The fuel pool wall and 20 feet separation is provided on EL 639 between Fire Zones 2-5 and 2-6. Separation from refuel floor is discussed in Section 4.5.

The installed fire protection features will contain, control, and extinguish any fire which might occur in this Fire Zone 2-6.

FIRE AREA 3

DESCRIPTION/LOCATION Unit 3 Reactor Building, EL.519 through 639
Total area 69,815 ft^2

MAJOR EQUIPMENT:

Refer to the specific fire zone evaluation for major equipment.

ADJACENT FIRE AREAS/BASES FOR FIRE AREAS

Fire Area No.	Designation	Separation
2	Unit 2, Reactor Building	3-hour
8	Unit 2, 4KV Shutdown Board Rm-D	3-hour
9	Unit 2, 4KV Shutdown Board Rm-C and 250V Battery Room	3-hour
11	Unit 2, 480V Shutdown Board Rm-2B	3-hour
12	Unit 3, Shutdown Board Rm F	3-hour
13	Unit 3, Shutdown Board Rm E	3-hour
14	Unit 3, 480V Shutdown Board Rm-3A	3-hour
15	Unit 3, 480V Shutdown Board Rm-3B	3-hour
16	Control Building	3-hour
19	Unit 3, Battery and Battery Bd Rm	3-hour
21	Unit 3, Diesel Generator Building	3-hour
22	Unit 3, 4KV Shutdown Bd Rms 3EA & 3EB	3-hour
23	Unit 3, 4KV Shutdown Bd Rms 3EC & 3ED	3-hour
24	Unit 3, 4KV Bus Tie Board Room	3-hour
25	Turbine Building, Cable Tunnel, Intake Pumping Station and Radwaste Building	3-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Fire Area 3 (all rooms in fire area)	*25,000*	*19*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Preaction sprinkler system coverage is provided on EL 519 for the EPCI turbine room.

Preaction sprinkler system coverage is provided on EL 565, 593, 621, and part of 639.

FIRE AREA 3

Water curtains provide floor-to-floor separation for EL 565, 593, and 621.

Hose stations and fire extinguishers are provided throughout the fire area.

DETECTION SYSTEM

Addressable (analog) smoke detectors are provided for area wide coverage on EL 565, 593, 621, and 639 to actuate the preaction sprinkler system. Smoke detectors are provided on EL 519 for the HPCI area to activate the preaction sprinkler system. Smoke detectors for the RCIC/Core Spray rooms are provided for early warning fire detection. Smoke detectors on EL 541 and EL 519 (RHR corner rooms) are provided to activate the preaction sprinkler system water curtains.

Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

ISOLATION AND SMOKE REMOVAL

Refer to specific fire zones for detailed evaluations for zone isolation and smoke removal.

FIRE PROTECTION EVALUATION

Since the Unit 3 Reactor Building is similar to the Unit 2 Reactor Building, the evaluation conducted for the Unit 2 Reactor Building to analyze the effects of a fire on the structural and supporting steel is applicable to the Unit 3 Reactor Building. This evaluation determined that there is no unprotected structural steel (i.e., beams, cable tray supports, etc.) required to maintain the integrity of fire barriers that separate the Reactor Building from adjacent fire areas. Therefore, a fire in the Reactor Building can be contained within the confines of the Reactor Building and will not initiate a structural failure in other fire areas. There is also no structural steel that traverses adjacent fire zones such that a fire in one zone could cause structural failure and damage to equipment in adjacent zones. The automatic sprinkler system provides coverage for equipment and cable trays required for safe shutdown on elevations 565, 593, 621, and 639. The type of steel used to support the cable trays is ASTM A36. The intermediate temperature range (175-225°F) sprinkler heads installed can be reasonably expected to operate prior to ceiling temperatures reaching 1,000°F. This will maintain temperatures in the Reactor Building below the critical temperature of the supporting steel and prevent a collapse of the cable trays required for safe shutdown. Elevations 519 and 541 are not provided with automatic sprinkler protection. There are no cable trays or other supporting or structural steel that traverses between Fire Zones 3-1 and 3-2 at these elevations. Therefore, a fire in one zone would not affect the structural or supporting steel in the adjacent zone. A fire in the Reactor Building will not cause a failure of structural or supporting steel such that the ability to achieve safe shutdown would be impaired; therefore, structural steel and cable tray supports are not required to be protected (Reference 16).

FIRE AREA 3

The primary containment (drywell) walls form the boundaries of the Reactor Building fire zones. The penetration seals through drywell walls are not required to be fire rated because the drywell is kept inerted during normal plant operation and will prevent the propagation of fire through the openings. The combustibles inside the drywell (polyurethane liners) do not pose significant vulnerability to fire hazards as evaluated in Reference 6. Refer to specific fire zones for detailed fire protection evaluations for the Unit 3 Reactor Building.

FIRE ZONE 3-1

DESCRIPTION/LOCATION Unit 3 Reactor Building, EL 519 through 565, west of column line R18, equipment hatch between columns R15 to R17, T and U at EL 593 and 621 and on EL 639 south of column line R.

MAJOR EQUIPMENT

Major equipment located in this zone:

RHR Heat Exchanger 3A & 3C RHRSW Outlet Valves, 3-FCV-23-34 & 40
RHR Room Coolers 3A & 3C, 3-ACU-64-68 & 70
Sectionalizing valve, 0-FCV-67-26
RCIC Pump/Turbine, 3-PMP-71-19
RCIC Steam Turbine Admission, Trip/Throttle & Governor Valves, 3-FCV-71-8, 9, 10
RCIC Suppression Pool Suction Line Isolation Valves, 3-FCV-71-17 & 18
RCIC Pump Suction Valve from CST, 3-FCV-71-19
RCIC Lube Oil Supply Line Shutoff Valve, 3-FCV-71-25
RCIC Pump Minimum Flow Valve, 3-FCV-71-34
RCIC Pump Discharge Isolation Valve, 3-FCV-71-37
RCIC Condensate Test Valve, 3-FCV-71-38
RCIC Injection Valve, 3-FCV-71-39
HPCI Steam Supply Outboard Isolation Valve, 3-FCV-73-3
RHR Pumps 3A & 3C (3-PMP-74-5 & -16)
RHR Pump A & C Suppression Pool Suction Valves, 3-FCV-74-1 & 12
RHR Pump A & C Shutdown Cooling Suction Valves, 3-FCV-74-2 & 13
Loop A/Loop B Inter-tie Shutoff Valve, 3-FCV-74-46
LPCI Injection Throttling and Outboard Containment Iso. Valves, 3-FCV-74-52 & 53
Suppression Chamber Return Line Shutoff Valve, 3-FCV-74-57
Suppression Chamber Spray & Cooling Line Containment Iso. Valves, 3-FCV-74-58 & 59
Drywell Spray Line Outboard & Inboard Containment Iso. Valves, 3-FCV-74-60 & 61
Unit 3/Unit 2 Pump Suction Inter-tie Line Shutoff Valve, 3-FCV-74-96 & 97
Unit 3/Unit 2 Pump Discharge Inter-tie Line Isolation Valve, 3-FCV-74-100
CAD Supply Line to Torus Isolation Valve, 3-FSV-84-8B & -8C
CAD Train B Crosstie to Drywell CA System Valve, 3-FSV-84-48
CAD A Crosstie to Drywell N_2 Pressure Regulator, 3-PREG-84-52
Panel 3-LPNL-25-01
Transformer TS3E
250V RMOV BD 3C (3-BDDD-281-0003C)

FIRE ZONE 3-1

ADJACENT FIRE ZONES/BASES FOR FIRE ZONE

Adjacent Fire Zone	Bases for Fire Zone
3-2	By 20 ft separation on EL 519, 541.5 and 565.
3-3	By 1 hour fire rated floor slab and stair enclosure on EL 593. By 1 hour barrier with water curtains at the openings on EL 565.
3-4	By 20 ft. separation on EL 639; by 1 hour fire rated floor slab with water curtains at EL 639 and by 1 hour fire rated barriers at EL 621.

COMBUSTIBLE LOADING

Combustible materials in fire zone: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Reactor Room (Room #565.0-R-3)	45,000	*34*
Reactor Room South U3 (Room #639.0-R-3B)	*30*,000	*23*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

General area coverage with a preaction sprinkler system is provided on EL 565 at the ceiling and under obstructions. A preaction sprinkler system is provided on EL 639 between column lines S and U.

Hose stations and fire extinguishers are provided throughout the fire zone.

FIRE ZONE 3-1

DETECTION SYSTEM

Smoke detectors are provided on EL 519 for the HPCI and RHR pump rooms to actuate the preaction sprinkler system. Smoke detectors are provided for RCIC/Core Spray rooms for performing early fire detection. Addressable (Analog) smoke detectors provide area wide coverage on EL 565.

Additionally, smoke detectors are provided on EL 639 between column lines RU to actuate the preaction sprinkler system.

ISOLATION AND SMOKE REMOVAL

A fire in this zone will be contained by the fire rated barriers and water curtains. Fire dampers will isolate the HVAC ducts from the other fire areas and fire zones within the Unit 3 Reactor Building. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific areas and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining areas; Unit 3 equipment airlock, and Fire Areas 2 and 25.

FIRE PROTECTION EVALUATION

Fire Zone 3-1 is that portion of the Unit 3 Reactor Building west of column line R18 from EL 519 through EL 565, and elevator and stairway enclosure at R16-U on EL 593 through 621 and south of column line R on EL 639. Its adjacent fire zones are 3-2, 3-3, and 3-4.

Fire Zone 3-2 is on the east side of column line R18 on EL 519 through EL 565 and is separated by a 20 ft. zone of separation. On the EL 519, these two fire zones are connected at the torus area which does not have automatic suppression and detection. However, the torus area has very low in situ combustibles and the spatial separation between the redundant RHR pumps and cables in the corner rooms on EL 519 is very large. Therefore, it is improbable for a fire on this elevation to affect both trains of the RHR. An exemption from the III.G.2.b separation requirements was requested and approved for separation of the RHR pump room. See Safe Shutdown Analysis, Section 9.0(c) for details. On the EL 565, an addressable smoke detection system providing area wide coverage, and a preaction sprinkler system installed on the ceiling and under obstructions in order to provide adequate coverage. The only locations on EL 565 of Fire Zone 3-2 that do not have sprinkler coverage are the Drywell Access Room and the Personnel and Equipment Access Locks. The TIP Room is the only location on EL 565 of Fire Zone 3-2 that does not have sprinkler coverage. These rooms are constructed of concrete block walls or reinforced concrete. The Drywell Access Rooms have a low combustible loading which consists of lube oil in a valve and insulation on cables in control panels. The TIP Room and Personnel and Equipment Access Rooms contain no significant in situ combustibles. The noncombustible construction of these rooms and the lack of in situ combustibles provide reasonable assurance that a fire in one of these rooms will not affect the safe shutdown capability of the plant.

FIRE ZONE 3-1

FIRE PROTECTION EVALUATION

Fire Zone 3-3 is on EL 593 and RHR heat exchanger rooms on EL 565. It connects with Fire Zone 3-1 through the EL 593 floor slab, elevator enclosure at R16-U on EL 593 and 3 hour fire rated barrier of RHR heat exchangers room on EL 565. To prevent a fire on the EL 565 from propagating up to EL 593, penetrations are sealed to at least one hour or equivalent rating and duct penetrations have 3 hour fire rated dampers installed. The doors of heat exchanger room are protected by a water curtain on EL 565. A water curtain is also provided, separating two large openings: one, an equipment hatch, and the other, the RHR-Heat Exchanger floor area. To prevent a fire from the RHR pump room from propagating to the RHR heat exchanger enclosure a water curtain is installed at the ceiling of the RHR pump rooms (EL. 541).

Fire Zone 3-4 is on EL 621 and north of the fuel pool wall on EL 639. Fire Zone 3-4 communicates with Fire Zone 3-1 thrcugh 1 hour fire rated barrier around elevator and stairway at R16-U on EL 621. Fire Zone 3-4 is separated from Fire Zone 3-1 by 20 ft. separation on EL 639. Automatic fire suppression (preaction systems) is installed in Fire Zone 3-1 on EL 639. The stairways and equipment hatches separating fire zones above and below are protected by water curtains. Three hour fire dampers are installed in duct penetrations through floor slab at EL 639. Piping, conduit, and cable tray penetrations are sealed to at least a one hour or equivalent rating.

The installed fire protection features will contain, control, and extinguish any fire that might occur in Fire Zone 3-1.

FIRE ZONE 3-2

DESCRIPTION/LOCATION Unit 3 Reactor Building, EL 519 through 565, east of column line R18.

MAJOR EQUIPMENT

Major equipment located in this zone:

RHR Heat Exchanger 3B Service Water Outlet Valve, 3-FCV-23-46
RHR Heat Exchanger 3D Service Water Outlet Valve, 3-FCV-23-52
RHR Room Coolers 3B & 3D, 3-ACU-64-69 & 71
RBCCW Heat Exchanger Supply Line Isolation Valve, 3-FCV-67-51
Pilot Valve, 3-FSV-67-51
HPCI Auxiliary Oil Pump, 3-PMP-73-47
HPCI Pump/Turbine, 3-PMP-73-54
HPCI Steam Turbine Admission, Stop and Control Valves, 3-FCV-73-16, 18 & 19
Suppression Pool Suction Line Isolation Valves, 3-FCV-73-26 & 27
Pump Discharge Isolation Valve, 3-FCV-73-34
Full Flow Test Return Valve, 3-FCV-73-35
Condensate Storage Tank Return Line Isolation Valve, 3-FCV-73-36
Pump Suction Valve from Condensate Storage Tank, 3-FCV-73-40
HPCI Injection Valve, 3-FCV-73-44
Turbine Exhaust Line Vacuum Breaker Isolation Valve, 3-FCV-73-64
RHR Pumps 3B & 3D (3-PMP-74-28 & 39)
RHR Pump Suction Valves from Suppression Chamber, 3-FCV-74-24 & 35
RHR Pump B & D Shutdown Cooling Suction Valves, 3-FCV-74-25 & -36
Shutoff Valve in Return Line to Suppression Chamber, 3-FCV-74-71
Wetwell Spray and Cooling Lines Containment Isolation Valves, 3-FCV-74-72 & 73
CAD Supply Line to Drywell Isolation Valve, 3-FSV-84-8A & -8D
CAD Train B Crosstie to Drywell CA System Valve, 3-FSV-84-49
Backup Supply Line to Drywell Pressure Control Valve, 3-PREG-84-54
CRD Pump Suction Shutoff Valve, 3-FCV-85-56
480V RMOV BD 3C (3-BDBB-268-0003C)

FIRE ZONE 3-2

ADJACENT FIRE ZONES/BASES FOR FIRE ZONE

Adjacent Fire Zone	Bases for Fire Zone
3-1	By 20 ft. separation on EL 519, 541.5, and 565.
3-3	By 1 hour fire rated floor slab at EL 593. 1 hour fire rated RHR heat exchanger cubicle walls. Door openings for RHR heat exchanger room and equipment hatch are protected by water curtain.

COMBUSTIBLE LOADING

Combustible materials in Fire Zone: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Reactor Room (Room #565.0-R-3)	45,000	34

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

General area coverage preaction sprinkler system is provided on EL 519 for the HPCI room.

General area coverage preaction sprinkler system is provided on EL 565 at the ceiling and under obstructions.

Hose stations and fire extinguishers are available throughout the fire zone.

DETECTION SYSTEM

Smoke detectors are provided on EL 519 for the HPCI and RHR pump rooms to actuate the preaction sprinkler system. Smoke detectors are provided for the RCIC/Core Spray rooms for performing early fire detection. Addressable (Analog) smoke detectors provide area wide coverage on EL 565.

FIRE ZONE 3-2

ISOLATION AND SMOKE REMOVAL

A fire in this zone will be contained by the fire barriers and water curtains. Fire dampers will isolate the HVAC ducts from the other fire areas and fire zones within the Unit 3 Reactor Building. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific areas and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining areas; Units 2 and 3 equipment airlock, and Fire Areas 2 and 25.

FIRE PROTECTION EVALUATION

Fire Zone 3-2 is the portion of the Unit 3 Reactor Building east of column line R18 from EL 519 through EL 565 and is adjacent to Fire Zones 3-1 and 3-3.

Fire Zone 3-1 is on the west side of column line R18 on EL 519 through EL 565 and is separated from Zone 3-2 by a 20 ft. zone of separation and three hour rated barriers of main steam and feedwater piping tunnel at EL 565. On EL 519, these two fire zones are connected at the torus area which does not have automatic suppression and detection. However, the torus area has very low in situ combustibles and the spatial separation between the redundant RHR pumps and cables in the corner rooms on EL 519 is very large. Therefore, it is improbable for a fire in this elevation to affect both trains of the RHR. On the EL 565, a general area sprinkler and detection system is installed on the ceiling and under obstructions to provide adequate coverage. The only locations on EL 565 of Fire Zone 3-1 that do not have sprinkler coverage are the Drywell Access Room and the Personnel and Equipment Access Locks. The TIP Room is the only location on EL 565 of Fire Zone 3-2 that does not have sprinkler coverage. The noncombustible construction of these rooms and the lack of in situ combustibles as discussed in Zone 3-1 evaluation, provide reasonable assurance that a fire in these rooms will not affect the safe shutdown capability of the plant.

Fire Zone 3-3 is on EL 593 and RHR heat exchanger rooms on EL 565 and is connected to Fire Zone 3-2 through the RHR heat exchanger room, exchanger room enclosure at column R21-U, and the EL 593 floor slab. There are two openings through the EL 565 floor slab. One is inside the RHR heat exchanger enclosure which is the metal grating forming part of the exchanger room floor, and the other is stairway at column line R21-T. To prevent a fire from the RHR pump room from propagating to the RHR heat exchanger enclosure a water curtain is installed at the ceiling of the RHR pump rooms (El. 541). A water curtain over the door opening of the RHR heat exchanger enclosure on EL 565 near the S-line at column R21 and stairway at R21-T on EL 593 will prevent a fire in the RHR pump room from propagating up to zone 3-3 and to the reactor floor area on EL 565. Penetrations are sealed to at least a one hour or equivalent rating and 3 hour fire rated dampers are installed in duct penetrations, in order to prevent a fire from the EL 565 to propagate up to EL 593.

The installed fire protection features will contain, control, and extinguish any fire which might occur in this fire zone.

FIRE ZONE 3-3

DESCRIPTION/LOCATION — Unit 3 Reactor Building, EL 593, and RHR heat exchanger rooms, EL 565 and 593 near column R15-S and R21-S.

MAJOR EQUIPMENT

Electric Board Room Air Conditioning Unit 3A, 3-ACU-31-7205
Electric Board Room Air Conditioning Unit 3B, 3-ACU-31-7206
Sectionalizing Valve, 0-FCV-67-25
RBCCW Heat Exchanger Supply Line Isolation Valve, 3-FCV-67-50
Pilot Valve, 3-FSV-67-50
RWCU Pump Suction Line Outboard Containment Isolation Valve, 3-FCV-69-02
RWCU System Appendix R Flow Control Valve, 3-FCV-69-94
Drywell Spray Line Outboard and Inboard Containment Iso. Valves, 3-FCV-74-74 & 75
480V RMOV BD 3D (3-BDBB-268-0003D)

ADJACENT FIRE ZONES/BASES FOR FIRE ZONE

Adjacent Fire Zone	Bases for Fire Zone
3-1	By one hour fire rated floor slab at EL 593, 1 hour fire rated elevator enclosure walls and door at R16-U on EL 593, and water curtain at the door opening for RHR heat exchanger room on EL 565
3-2	By one hour fire rated slab at EL 593, and 1 hour fire rated walls with water curtain at the door opening for RHR heat exchanger room on EL 565.
3-4	By 1 hour fire rated floor slab at EL 621 and water curtains on EL 621 on equipment hatch and stairway.

COMBUSTIBLE LOADING

Combustible materials in fire zone: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Reactor Room (Room #593.0-R-3)	50,000	*38*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

General area coverage preaction sprinkler system is provided on EL 593 at the ceiling and under obstructions. Hose stations and fire extinguishers are available throughout the Fire Zone.

FIRE ZONE 3-3

DETECTION SYSTEM

Addressable (Analog) smoke detectors provide area wide coverage on EL 565 and 593 and actuate the preaction sprinkler system.

ISOLATION AND SMOKE REMOVAL

A fire in this zone will be contained by the fire barriers and water curtains. Fire dampers will isolate the HVAC ducts from the other fire areas and fire zones within the Unit 3 Reactor Building. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific areas and allows the fire dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining areas; Fire Areas 2, 12, and 25.

FIRE PROTECTION EVALUATION

Fire Zone 3-3 is the portion of Unit 3 Reactor Building on EL 593. Its adjacent Fire Zones are 3-1, 3-2, and 3-4.

Fire Zone 3-1 is on EL 519 through EL 565 west of column line R18 and elevator enclosure at R16-U on EL 593 through EL 621 and south of fuel pool wall on EL 639. It connects with Fire Zone 3-3 through the EL 593 floor slab, and 1 hour fire rated barrier of RHR heat exchanger room on EL 565. To prevent a fire on the EL 565 elevation from propagating up to EL 593, penetrations are sealed to at least a one hour or equivalent rating and duct penetrations have 3 hour fire rated dampers installed. The door of RHR heat exchanger room is protected by a water curtain. To prevent a fire from the RHR pump room from propagating to the RHR heat exchanger enclosure a water curtain is installed at the ceiling of the RHR pump rooms (El. 541).

Fire Zone 3-2 is on EL 519 through EL 565 east of column line R18. It connects with Fire Zone 3-3 through the EL 593 floor slab and 1 hour fire rated barrier of RHR heat exchanger room on EL 565. To prevent a fire on the EL 565 elevation from propagating up to EL 593, penetrations are sealed to at least a one hour or equivalent rating. The door of heat exchanger room on EL 565 is protected by a water curtain. To prevent a fire from the RHR pump room from propagating to the RHR heat exchanger enclosure a water curtain is installed at the ceiling of the RHR pump rooms (EL. 541).

Fire Zone 3-4 is on EL 621, and north of fuel pool wall on EL 639. It connects with Fire Zone 3-3 through the EL 621 floor slab, having equipment hatch at R16-U and stairway at R21-U. To prevent a fire on the EL 593 elevation from propagating up to EL 621, equipment hatch and stairway are protected by water curtains and all penetrations are sealed to at least a one hour or equivalent rating and 3 hour rated fire dampers are installed in duct penetrations.

The installed fire protection features will contain, control, and extinguish any fire which might occur in this Fire Zone 3-3.

FIRE ZONE 3-4

DESCRIPTION/LOCATION Unit 3 Reactor Building, EL 621 and EL 639 north of column line R.

MAJOR EQUIPMENT

Major equipment located in this zone:

Fuel Pool Cooling System Inter-tie Line Shutoff Valve, 3-FCV-78-61
Fuel Pool Cooling System Makeup from Outboard Valve, 3-FCV-78-62
480V RMOV Board 3E (3BDBB-268-0003E)
Unit 3 Backup Control Center, 3-LPNL-925-32
LPCI MG Sets 3DN, 3DA, 3EN, 3EA
Transformers TS3A, TS3B, and THB

ADJACENT FIRE ZONES/BASES FOR FIRE ZONE

Adjacent Fire Zone	Bases for Fire Zone
3-1	By one hour fire rated EL 639 floor slab, by water curtains on equipment hatch at EL 639 and stairway at R21-U and 20 ft separation at EL 639, and by 1 hour rated barrier for the elevator shaft at EL 639.
3-3	By one hour fire rated EL 621 floor slab, and water curtains on equipment hatch at R17-U and stairway at R21-U at EL 621.

COMBUSTIBLE LOADING

Combustible materials in fire zone: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Reactor Room U3 (Room #621.25-R-3)	*20,000*	*15*
Reactor Room North U3 (Room #639.0-R-3A)	*1*,000 Btu/ft^2	*1*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

General area coverage preaction sprinkler system is provided on EL 621 at the ceiling and under obstructions. Hose stations and fire extinguishers are provided throughout the fire zone.

FIRE ZONE 3-4

DETECTION SYSTEM

Addressable (Analog) smoke detectors provide area wide coverage on EL 621 and actuate the preaction sprinkler system. Smoke detectors provide area wide coverage in areas of EL 639 for early warning fire detection and preaction system actuation.

ISOLATION AND SMOKE REMOVAL

A fire in this zone will be contained by the fire barriers and water curtains. Fire dampers will isolate the HVAC ducts from the other fire areas and fire zones within the Unit 3 Reactor Building. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific areas and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Unit 3 north stairway and up to the refueling floor, Fire Areas 1, 3, 9, and 16.

FIRE PROTECTION EVALUATION

Fire Zone 3-4 is on EL 621 and north of the fuel pool wall on EL 639. Its adjacent Fire Zones are 3-1 and 3-3.

Fire Zone 3-3 is on EL 593 and RHR heat exchanger rooms on EL 565. It connects with Fire Zone 3-4 through the EL 621 floor slab, open hatch at R1-U and stairs at R21-U. Water curtains are provided at both equipment hatch and stair case to prevent propagation of fire from EL 593 to EL 621. To prevent a fire on the EL 593 from propagating up to EL 621, all penetrations are sealed to at least a one hour or equivalent rating and duct penetrations are provided with 3 hour fire dampers. Fire on EL 593 is prevented from spreading to EL 565 by 1 hour fire rated walls of RHR heat exchanger room and a water curtain for door opening at EL 565.

Fire Zone 3-1 is on EL 639 south of the fuel pool wall, elevator and stairway enclosure between column lines R15 to R16 and T to U on EL 621 and 593, and EL 565 through 519 west of column line R18. It connects to Fire Zone 3-4 through an open equipment hatch at R16-U, and at R21-U, the EL 639 floor slab and the fuel pool wall on the EL 639. Water curtains are provided at equipment hatch and stairway to prevent a fire from EL 621 propagating up to 639. The fuel pool wall and a 20 foot separation are provided on EL 639 between Fire Zones 3-1 and 3-4. To prevent fire propagating from EL 621 to EL 639 penetrations are sealed to at least a one hour or equivalent rating and duct penetrations are provided with 3 hour fire dampers.

The installed fire protection features will contain, control, and extinguish any fire which may occur in Fire Zone 3-4.

FIRE AREA 4

DESCRIPTION/LOCATION: 4KV Shutdown Board Room B, Unit 1, Reactor Building EL 593
Total Area - 1,147 ft^2

MAJOR EQUIPMENT:

The following major equipment is located in this area:

4kV Shutdown Board B (0-BDAA-211-0000B)
480V RMOV Board 1B (1-BDBB-268-0001B)
250V RMOV Board 1B (1-BDDD-281-0001B)
Panel 0-PNL-25-45B
I&C Bus 1B Equipment

ADJACENT FIRE AREA(S)/BASES FOR FIRE AREA

Fire Area No.	DESIGNATION	SEPARATION
1	Unit 1, Reactor Building	3-hour
16	Control Building	3-hour
20	Unit 1 and 2 Diesel Generating Building	3-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Electrical Board Room (Fire Area 4, Room #593.0-R-1A)	*50,000*	*38*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Hose stations and fire extinguishers are available in the immediate area.

DETECTION SYSTEM

Addressable (Analog) smoke detectors provide area wide coverage in the shutdown board room for early warning fire detection.

FIRE AREA 4

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the fire barriers. Fire dampers will isolate the HVAC ducts from the adjacent areas of the building. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This allows the dampers to adequately seal off the affected area. Smoke can also be removed by portable smoke ejectors and flexible ducting to adjoining Fire Areas 1 and 16.

FIRE PROTECTION EVALUATION

Fire protection coverage for this fire area is provided by the use of fire extinguishers and hose stations. This area is separated from adjacent fire areas with 3-hour barriers and penetrations have the required fire rated doors, dampers, and seals. The fire resistance rating of the barriers well exceeds the combustible loading of the area. Therefore, a fire within this area can be contained and extinguished by use of available fire extinguishers and hose stations. Hence, the fire protection capabilities of Fire Area 4 are adequate.

FIRE AREA 5

DESCRIPTION/LOCATION 4KV Shutdown Board Room A and 250V Battery Room, EL 621. Unit 1 Reactor Building.
Total Area - 2,045 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

4kV Shutdown Board A (0-BDAA-211-0000A)
250V DC Batt SB-A & B (0-BATA-248-0000A and -0000B)
250 Batt Chgr SB-A & B (0-CHGA-248-0000A and -0000B)
250 Dist PNL SB-A & B (0-PNLA-248-0000A and -0000B)
480V RMOV BD 1A (1-BDBB-268-0001A)
250V RMOV Board 1A (1-BDDD-281-0001A)
Unit 1 Backup Control Center, 1-LPNL-925-32
Panel 25-45A
I&C Bus 1A Equipment
ATU Inverters - Division II

ADJACENT FIRE AREA(S)/BASIS FOR FIRE AREAS

Fire Area No.	DESIGNATION	SEPARATION
1	Unit 1, Reactor Building	3-hour
6	Unit 1, 480V Shutdown Bd Rm-1A	1½-hour
7	Unit 1, 480V Shutdown Bd Rm-1B	1½-hour
16	Control Building	3-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation and battery cases.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Electric Board Room (Fire Area 5, Room #621.25-R-1B)	*65,000*	*49*
250V Shutdown Battery Room A (Room #621.25-R-H)	*105,000*	*79*
250V Shutdown Battery Room B (Room #621.25-R-1J)	*105,000*	*79*

FIRE AREA 5

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Hose stations and fire extinguishers are available in the immediate area.

DETECTION SYSTEM

Addressable (Analog) smoke detectors provide area wide coverage in the shutdown board rooms for early warning fire detection.

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the fire barriers. Fire dampers will isolate the HVAC ducts from the adjacent fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjourning Fire Areas; 1 and 16.

FIRE PROTECTION EVALUATION

This area is separated by 3-hour barriers from Fire Areas 1 and 16 and by 1½-hour barriers from Fire Areas 6 and 7. Penetrations have the required fire rated doors, dampers, and seals. Two Battery Rooms are located within this fire area. The walls are of concrete blocks. Floors and ceilings are reinforced concrete. A battery fire is likely to be contained within this enclosure. If the fire does spread outside the Battery Rooms into the Shutdown Board Room area, it would have subsided by then and can easily be contained and extinguished within Fire Area 5. Due to the low combustible loading of the Shutdown Board Room area and most combustibles being enclosed in metal cabinets, a fire in this area does not threaten adjacent Fire Areas 6 and 7 which are separated by 1½ hour rated barriers. The available hose stations and fire extinguishers are adequate to extinguish any fire which may occur in Fire Area 5.

FIRE AREA 6

DESCRIPTION/LOCATION 480V Shutdown Board Room 1A
Unit 1 Reactor Building - EL 621
Total Area - 216 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

480V Shutdown Board 1A (1-BDBB-231-0001A)
Panel 1-25-44A-11
Panel 1-25-44B-11

ADJACENT FIRE AREAS/BASES FOR FIRE AREAS

Fire Area No.	DESIGNATION	SEPARATION
1	Unit 1, Reactor Building	3-hour
5	Unit 1, 4KV Shutdown Board Rm-A and 250V Battery Room	1½-hour
7	Unit 1, 480V Shutdown Board Rm-1B	1½-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
480V Shutdown Board Room 1A (Fire Area 6, Room #621.25-R-1D)	*100*,000	75

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Hose stations and fire extinguishers are available in the immediate area.

DETECTION SYSTEM

Addressable (Analog) smoke detectors provide area wide coverage in the shutdown board rooms for early warning fire detection.

FIRE AREA 6

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the fire barriers. Fire dampers will isolate the HVAC ducts from the adjacent fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjourning Fire Areas; 1, 5, and 16.

FIRE PROTECTION EVALUATION

This area is separated by a 3-hour barrier from Fire Area 1 and a 1½-hour barrier from Fire Areas 5 and 7. Penetrations have the required fire rated doors, dampers, and seals. The fire resistance rating of the barriers well exceeds the combustible loading of the area. Therefore, a fire within this area can be contained and extinguished by use of available hose stations and fire extinguishers. Hence, the fire protection capability for Fire Area 6 is adequate.

FIRE AREA 7

DESCRIPTION/LOCATION 480V Shutdown Board Room 1B
Unit 1 Reactor Building - EL 621
Total Area - 210 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

480V Shutdown Board 1B (1-BDBB-231-0001B)
Panel 1-25-44A-12
Panel 1-25-44B-12

ADJACENT FIRE AREA(S)/BASIS FOR FIRE AREA

Fire Area No.	DESIGNATION	SEPARATION
1	Unit 1, Reactor Building	3-hour
5	Unit 1, 4KV Shutdown Board Rm-A and 250V Battery Room	1½-hour
6	Unit 1, 480V Shutdown Board Rm-1A	1½-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
480V Shutdown Board Room 1B (Fire Area 7, Room #621.25-R-1C)	50,000	*38*

FIRE PROTECTION DESCRIPTION

SUPPRESSION SYSTEM

Hose stations and fire extinguishers are available in the immediate area.

DETECTION SYSTEM

Addressable (Analog) smoke detectors provide area wide coverage in the shutdown board rooms for early warning fire detection.

FIRE AREA 7

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the fire barriers. Fire dampers will isolate the HVAC ducts from the adjacent fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Fire Areas 1, 5, and 16.

FIRE PROTECTION EVALUATION

This area is separated by a 3-hour barrier from Fire Area 1 and 1½-hour barrier from Fire Areas 5 and 6. Penetrations have the required fire rated doors, dampers, and seals. The fire resistance rating of the barriers well exceeds the combustible loading of the area. Therefore, a fire within this area can be contained and extinguished by use of available hose stations and fire extinguishers. Hence, the fire protection capability for Fire Area 7 is adequate.

FIRE AREA 8

DESCRIPTION/LOCATION — 4KV Shutdown Board Room D,
Unit 2 Reactor Building - EL 593
Total Area - 1,147 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

4kV Shutdown Board D (0-BDAA-211-0000D)
480V RMOV Board 2B (2-BDBB-268-0002B)
250V RMOV Board 2B (2-BDDD-281-0002B)
Panel 25-45D
I&C Bus B Equipment
Div I ATU Inverter

ADJACENT FIRE AREA(S)/BASIS FOR FIRE AREAS

Fire Area No.	DESIGNATION	SEPARATION
2	Unit 2, Reactor Building	3-hour
3	Unit 3, Reactor Building	3-hour
16	Control Building	3-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Electrical Board Room 2D (Fire Area 8, Room #593.0-R-2A)	35,000	27

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Hose stations and fire extinguishers are available in the immediate area.

FIRE AREA 8

DETECTION SYSTEM

Addressable (Analog) smoke detectors provide area wide coverage in the shutdown board rooms for early warning fire detection.

Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the fire barriers. Fire dampers will isolate the HVAC ducts from the adjacent fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Fire Areas; 2 and 16.

FIRE PROTECTION EVALUATION

This area is separated by 3-hour barriers from Fire Area 2, 3, and 16. Penetrations have the required fire rated doors, dampers, and seals. The fire resistance rating of the barriers well exceeds the combustible loading of the area. Therefore, a fire within this area can be detected quickly, by addressable (Analog) smoke detectors, contained and extinguished by use of available hose stations and fire extinguishers. Hence, the fire protection capability for Fire Area 8 is adequate.

FIRE AREA 9

DESCRIPTION/LOCATION 4KV Shutdown Board Room C and 250V Battery Room
Unit 2 Reactor Building - EL 621
Total Area - 2,045 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

4kV Shutdown Board C (0-BDAA-211-0000C)
250V Batt SB-C & D (0-BATA-248-0000C and -0000D)
250V Batt Chgr SB-C & D (0-CHGA-248-0000C and -0000D)
250V Dist PNL SB-C & D (0-PNLA-248-0000C and -0000D)
480V RMOV Board 2A (2-BDBB-268-0002A)
250V RMOV Board 2A (2-BDDD-281-0002A)
Unit 2 Backup Control Center, 2-LPNL-925-32
Panel 25-45C
I&C Bus 2A 75 KVA XFMR
Board Room Emergency Air Conditioner and Dampers
250V Battery Exhaust and Supply Fans
Panels 25-42A & B-1, and 25-42A & B-2
Div II ATU Inverter

ADJACENT FIRE AREAS/BASIS FOR FIRE AREA

Fire Area No.	DESIGNATION	SEPARATION
2	Unit 2, Reactor Building	3-hour
3	Unit 3, Reactor Building	3-hour
10	Unit 2, 480V Shutdown Board Rm-2A	1½-hour
11	Unit 2, 480V Shutdown Board Rm-2B	1½-hour
16	Control Building	3-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Electric Board Room (Room #621.25-R-2B)	30,000	*23*
250V Shutdown Battery Room C (Room #621.25-R-2H)	115,000	*87*
250V Shutdown Battery Room D (Room #621.25-R-2J)	*110*,000	*83*
Fire Area 9	*35,000*	*27*

FIRE AREA 9

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Hose stations and fire extinguishers are available in the immediate area.

DETECTION SYSTEM

Addressable (Analog) smoke detectors provide area wide coverage in the shutdown board room for early warning fire detection.

Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the fire barriers. Fire dampers will isolate the HVAC ducts from the adjacent fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Fire Areas 2 and 16.

FIRE PROTECTION EVALUATION

This area is separated by 3-hour barriers from Fire Areas 2, 3, and 16, and by 1½-hour barriers from areas 10 and 11. Penetrations have the required fire rated doors, dampers, and seals. Two Battery Rooms are located within this fire area. The Battery Room walls are of concrete blocks. Floors and ceilings are reinforced concrete. A Battery Room fire is likely to be contained within this enclosure. If the fire does spread outside the Battery Rooms into the Shutdown Board Room area, it would have subsided by then and can easily be contained and extinguished within Fire Area 9. Due to the low combustible loading of the Shutdown Board Room area and most combustibles being enclosed in metal cabinets, a fire in this area does not threaten adjacent Fire Areas 10 and 11 which are separated by 1½ hour rated barriers. Therefore, a fire within this area can be quickly detected by the addressable smoke detectors, contained and extinguished by the use of available hose stations, and fire extinguishers. Hence, the fire protection capability for Fire Area 9 is adequate.

FIRE AREA 10

DESCRIPTION/LOCATION 480V Shutdown Board Room 2A
Unit 2 Reactor Building - EL 621
Total Area - 217 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

480V Shutdown Board 2A (2-BDBB-231-0002A)
Panel 2-PNL-25-44A-11
Panel 2-PNL-25-44B-11

ADJACENT FIRE AREA/BASIS FOR FIRE AREA

Fire Area No.	DESIGNATION	SEPARATION
2	Unit 2, Reactor Building	3-hour
9	Unit 2, 4KV Shutdown Board Room-C and 250V Battery Room	1½-hour
11	Unit 2, 480V Shutdown Board Room-2B	1½-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
480V Shutdown Board Room 2A (Fire Area 10, Room #621.25-R-2C)	45,000	34

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Hose stations and fire extinguishers are available in the immediate area.

DETECTION SYSTEM

Addressable (Analog) smoke detectors provide area wide coverage in the EL 621 shutdown board room for early warning fire detection.

Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

FIRE AREA 10

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the installed fire barriers. Fire dampers will isolate the HVAC ducts from the adjacent fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Fire Areas 2, 9 and 16.

FIRE PROTECTION EVALUATION

This area is separated by a 3-hour barrier from Fire Areas 2 and 1½-hour barriers from Fire Areas 9 and 11. Penetrations have the required fire rated doors, dampers, and seals. The fire resistance rating of the barriers well exceeds the combustible loading of the area. Therefore, a fire within this area can be quickly detected by addressable (Analog) smoke detectors, contained and extinguished by use of available hose stations and fire extinguishers. Hence, the fire protection capability for Fire Area 10 is adequate.

FIRE AREA 11

DESCRIPTION/LOCATION 480V Shutdown Board Room 2B
Unit 2 Reactor Building - EL 621
Total Area - 223 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

480V Shutdown Board 2B (2-BDBB-231-0002B)
Panel 2-PNL-25-44A-12
Panel 2-PNL-25-44B-12

ADJACENT FIRE AREA/BASIS FOR FIRE AREAS

Fire Area No.	DESIGNATION	SEPARATION
2	Unit 2, Reactor Building	3-hour
3	Unit 3, Reactor Building	3-hour
9	Unit 2, 4KV Shutdown Board Rm-C and 250V Battery Room	1½-hour
10	Unit 2, 480V Shutdown Board Rm-2A	1½-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
480V Shutdown Board Room 2B (Fire Area 11, Room #621.25-R-2D)	45,000	34

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Hose stations and fire extinguishers are available in the area.

DETECTION SYSTEM

Addressable (Analog) smoke detectors provide area wide coverage in the EL 621 shutdown board room for early warning fire detection.

Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

FIRE AREA 11

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the installed fire barriers. Fire dampers will isolate the HVAC ducts from the adjacent fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Fire Areas; 2, 9, and 16.

FIRE PROTECTION EVALUATION

This area is separated by 3-hour barriers from Fire Areas 2 and 3 and 1½-hour barriers from Fire Areas 9 and 10. Penetrations have the required fire rated doors, dampers, and seals. The fire resistance rating of the barriers well exceeds the combustible loading of the area. Therefore, a fire within this area can be quickly detected by addressable (Analog) smoke detectors, contained and extinguished by use of available hose stations and fire extinguishers. Hence, the fire protection capability for Fire Area 11 is adequate.

FIRE AREA 12

DESCRIPTION/LOCATION 480V RMOV Board Room 3B
Unit 3 Reactor Building - EL 593
Total Area - 1 147 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

480V HVAC Board B
480V RMOV Board 3B (3-BDBB-268-0003E)
250V RMOV Board 3B (3-BDDD-281-0003E)
I&C Bus 3B Equipment
ATU Inverters Division I

ADJACENT FIRE AREA/BASIS FOR FIRE AREA

Fire Area No.	DESIGNATION	SEPARATION
3	Unit 3, Reactor Building	3-hour
16	Control Building	3-hour
21	Unit 3 Diesel Generator Building	3-hour
23	Unit 3 4KV Shutdown Board Room 3EC, 3ED	3-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Electric Board Room 3B (Fire Area 12, Room #593.0-R-3A)	30,000	*23*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Hose stations and fire extinguishers are available in the immediate area.

DETECTION SYSTEM

Addressable (Analog) smoke detectors provide area wide coverage in the EL 593 shutdown board room for early warning fire detection.

Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

FIRE AREA 12

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the installed fire barriers. Fire dampers will isolate the HVAC ducts from the adjacent fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Fire Areas 3 and 16.

FIRE PROTECTION EVALUATION

This area is separated by 3-hour barriers from Fire Areas 3, 16, 21 and 23. Penetrations have the required fire rated doors, dampers, and seals. The fire resistance rating of the barriers well exceeds the combustible loading of the area. Therefore, a fire within this area can be quickly detected by addressable smoke detectors, contained and extinguished by use of available hose stations and fire extinguishers. Hence, the fire protection capability for Fire Area 12 is adequate.

FIRE AREA 13

DESCRIPTION/LOCATION Shutdown Board Room E
Unit 3 Reactor Building - EL 621
Total Area - 1,034 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

480V HVAC Board B (0-BDBB-266-0HVB)
480V RMOV Board 3A (3-BDBB-268-0003A)
250V RMOV Board 3A (3-BDDD-281-0003A)
I&C Bus 3A Equipment
ATU Inverters Division II

ADJACENT FIRE AREAS/BASIS FOR FIRE AREAS

Fire Area No.	DESIGNATION	SEPARATION
3	Unit 3, Reactor Building	3-hour
14	Unit 3, 480V Shutdown Board Rm-3A	1½-hour
15	Unit 3, 480V Shutdown Board Rm-3B	1½-hour
16	Control Building	3-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation and plastics

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Electric Board Room (Fire Area 13, Room #621.25-R-3B)	25,000	19

FIRE AREA 13

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Hose stations and fire extinguishers are available in the immediate area.

DETECTION SYSTEM

Addressable (Analog) smoke detectors provide area wide coverage in the EL 621 shutdown board room for early warning fire detection.

Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the installed fire barriers. Fire dampers will isolate the HVAC ducts from the adjacent fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Fire Areas 3 and 16.

FIRE PROTECTION EVALUATION

This area is separated by 3-hour barriers from Fire Areas 3 and 16 and by 1½-hour barriers from Fire Areas 14 and 15. Penetrations have the required fire rated doors, dampers, and seals. The fire resistance rating of the barriers well exceeds the combustible loading of the area. Therefore, a fire within this area can be quickly detected by addressable smoke detectors, contained and extinguished by use of available hose stations and fire extinguishers. Hence, the fire protection capability for Fire Area 13 is adequate.

FIRE AREA 14

DESCRIPTION/LOCATION

480V Shutdown Board 3A
Unit 3 Reactor Building - EL 621
Total Area - 220 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

480V Shutdown Board 3A (3-BDBB-231-0003A)

ADJACENT FIRE AREAS/BASIS FOR FIRE AREA

Fire Area No.	DESIGNATION	SEPARATION
3	Unit 3, Reactor Building	3-hour
13	Unit 3, Shutdown Board Rm E	1½-hour
15	Unit 3, 480V Shutdown Board Rm-3B	1½-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation and plastics

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
480V Shutdown Board Room 3A (Fire Area 14, Room #621.25-R-3C)	45,000	34

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Hose stations and fire extinguishers are available in the immediate area.

DETECTION SYSTEM

Addressable (Analog) smoke detectors provide area wide coverage in the EL 621 shutdown board room for early warning fire detection.

Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

FIRE AREA 14

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the installed fire barriers. Fire dampers will isolate the HVAC ducts from the adjacent fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Fire Areas; 3, 13, and 16.

FIRE PROTECTION EVALUATION

This area is separated by a 3-hour barrier from Fire Area 3 and by 1½-hour barriers from Fire Areas 13 and 15. Penetrations have the required fire rated doors, dampers, and seals. The fire resistance rating of the barriers well exceeds the combustible loading of the area. Therefore, a fire within this area can be quickly detected by addressable smoke detectors, contained and extinguished by use of available hose stations and fire extinguishers. Hence, the fire protection capability for Fire Area 14 is adequate.

FIRE AREA 15

DESCRIPTION/LOCATION 480V Shutdown Board Room 3B
Unit 3 Reactor Building - EL 621
Total Area - 226 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

480V Shutdown Board 3B (3-BDBB-231-0003B)

ADJACENT FIRE AREAS/BASIS FOR FIRE AREAS

Fire Area No.	DESIGNATION	SEPARATION
3	Unit 3, Reactor Building	3-hour
13	Unit 3, Shutdown Board Rm E	1½-hour
14	Unit 3, 480V Shutdown Board Rm-3A	1½-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation and plastics

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
480V Shutdown Board Room 3B (Fire Area 15, Room #621.25-R-3D)	45,000	34

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Hose stations and fire extinguishers are available in the immediate area.

DETECTION SYSTEM

Addressable (Analog) smoke detectors provide area wide coverage in the EL 621 shutdown board room for early warning fire detection.

Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

FIRE AREA 15

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the installed fire barriers. Fire dampers will isolate the HVAC ducts from the adjacent fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Fire Areas; 3, 13, and 16.

FIRE PROTECTION EVALUATION

This area is separated by a 3-hour barrier from Fire Area 3 and by 1½-hour barriers from Fire Areas 13 and 14. Penetrations have the required fire rated doors, dampers, and seals. The fire resistance rating of the barriers well exceeds the combustible loading of the area. Therefore, a fire within this area can be quickly detected by addressable smoke detectors, contained and extinguished by use of available hose stations and fire extinguishers. Hence, the fire protection capability for Fire Area 15 is adequate.

FIRE AREA 16

DESCRIPTION/LOCATION Control Building EL 593, 606, and 617
Total Area - 42,315 ft^2

MAJOR EQUIPMENT

Equipment will not be listed because all control and indicating circuits for SSDS equipment are inside the Control Building. This area will require alternative shutdown methods. All SSDS equipment for Units 1, 2, 3, and common to Units 1, 2 and 3 except backup control or alternate shutdown capability is assumed lost.

ADJACENT FIRE AREAS/BASIS FOR FIRE AREAS

Fire Area No.	DESIGNATION	SEPARATION
1	Unit 1, Reactor Building	3-hour
2	Unit 2, Reactor Building	3-hour
3	Unit 3, Reactor Building	3-hour
4	Unit 1, 4KV Shutdown Board Rm-B	3-hour
5	Unit 1, 4KV Shutdown Board Rm-A and 250V Battery Room	3-hour
8	Unit 2, 4KV Shutdown Board Rm-D	3-hour
9	Unit 2, 4KV Shutdown Board Rm-C and 250V Battery Room	3-hour
12	Unit 3, Shutdown Board Room F	3-hour
13	Unit 3, Shutdown Board Room E	3-hour
17	Unit 1, Battery and Battery Bd Rm	1 & 1½-hour
18	Unit 2, Battery and Battery Bd Rm	1 & 1½-hour
19	Unit 3, Battery and Battery Bd Rm	1 & 1½-hour
25	Turbine Building, Cable Tunnel, Intake Pumping Station, and Radwaste Building	3-hour

FIRE AREA 16

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation, foam plastics, oil, lube oil, wood, paper, cloth, polyester and neoprene, charcoal, rubber, cellulose, styrofoam, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Corridor 617.0-C-1	5,000	4
Mechanical Equipment Room 617.0-C-2	15,000	12
Toilet, Locker Room, and Showers 617.0-C-3	5,000	4
Instrument Calibration Room 617.0-C-7	85,000	64
Shift Engineer's Office 617.0-C-9 & C-11	130,000	98
Unit 1 & 2 Main Control Room 617.0-C-12	70,000	53
Corridor 617.0-C-13	10,000	8
Corridor 617.0-C-13A	5,000	4
Janitor's Closet 617.0-C-15	245,000	184
Relay Room 617.0-C-16	25,000	19
TSC and NRC Rooms 617.0-C-17	65,000	49
Unit 3 Main Control Room 617.0-C-19	65,000	49
Corridor 617.0-C-20	25,000	19
Toilet, Locker and Lunch Room 617.0-C-22	25,000	19
Mechanical Equipment Room 617.0-C-26	20,000	15
Mechanical Equipment Room 606.0-C-1	30,000	23
Stairway 606.0-C-2	45,000	34
Spreading Room 606.0-C-3	10,000	8
Stairway 606.0-C-4	25,000	19
Spreading Room 606.0-C-5	80,000	60
Stairway 606.0-C-6	5,000	4
Corridor 593.0-C-1	10,000	8
Process Computer Room 593.0-C-2 (Equipment being added under DCN W15364)	20,000	15
MG Set Room 593.0-C-6	10,000	8
Auxiliary Instrument Room No. 1 593.0-C-9	20,000	15
Unit 1 & 2 Computer Room 593.0-C-10	75,000	57
Auxiliary Instrument Room No. 2 593.0-C-11	50,000	38
MG Set Room 593.0-C-13	10,000	8
MG Set Room 593.0-C-14	10,000	8
Communications Battery Room 593.0-C-17	35,000	27

FIRE AREA 16

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Communications Battery Board Room 593.0-C-18	15,000	*12*
Communications Room 593.0-C-19	40,000	30
Unit 3 Computer Room 593.0-C-20	*135*,000	*102*
Auxiliary Instrument Room No. 3 593.0-C-21	45,000	*34*
MG Set Room 593.0-C-24	10,000	*8*
MG Set Room 593.0-C-25	10,000	*8*
Unit 3 Operations Work Station 593.0-C-27	35,000	*27*
Mechanical Equipment Room 593.0-C-28	5,000	*4*
Fire Area 16	*44,000*	*45*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Preaction sprinkler systems for the Cable Spreading Rooms A & B - EL 606; Mechanical Equipment Rooms, Toilets, Locker Rooms, SOS Office, TSC, and Lunchroom - EL 617.

Manually actuated Carbon Dioxide - CO_2 provides coverage for the Auxiliary Instrument Rooms, and Computer Rooms - EL 593.

Halon system in Process Computer Room - EL 593.

Hose stations and fire extinguishers are available throughout the fire area.

DETECTION SYSTEM

Complete area wide detection coverage is provided for the entire control building. Addressable (Analog) smoke detectors are provided for spreading rooms A & B - EL 606, Mechanical Equipment Rooms, Toilets, Locker Rooms, SOS Office, TSC, and Lunchroom on EL 617 in order to actuate the preaction sprinkler systems. A heat detector is provided in the kitchen area on EL 617.

Addressable (Analog) smoke detectors are provided on EL 593 for MG Set rooms, corridors, mechanical equipment rooms, electrical equipment rooms, computer rooms, auxiliary equipment rooms, DC equipment rooms, battery board rooms, and Units 1, 2, and 3 control rooms and control panels on EL 617 for early warning fire detection.

Addressable (Analog) smoke detectors are provided on EL 606 for Mechanical Equipment room (Unit 1) and stairways and corridors on EL 593 and 617, for performing early warning fire detection.

Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

FIRE AREA 16

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the installed fire barriers. Fire dampers will isolate the HVAC ducts from the other fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Fire Area 25 or down the EL 593 corridor (Fire Area 16) to Unit 3 door 484 and outside.

FIRE PROTECTION EVALUATION

This area is separated by 3-hour barriers from Fire Areas 1, 2, 3, 4, 5, 8, 9, 12, 13, and 25 and by 1 & 1½-hour barriers from Fire Areas 17, 18, and 19. The 3-hour barriers are reinforced concrete walls, floors, and/or ceilings. The common walls to Unit 1, 2, and 3 Reactor Buildings, including the shutdown board rooms, are a minimum of 30 inch thick reinforced concrete, and extends above the CB Roof at EL 635 to EL 664 of the Reactor Building. The common wall connecting to the Turbine Building is a minimum of 18 inch thick reinforced concrete and extends 38" above the tar and gravel covering on the roof of the Control Building at EL 635. The concrete roof of the Control Building is 27" thick. This is considered an exterior boundary and meets the criteria as described in Subsection 3.3.2.

At approximately column R17-P, EL 621, there is an estimated 10 foot wide, by 10 foot high former opening between Fire Areas 16 and 25 that has been sealed to the full thickness of the wall with 6½ inch x 12½ inch concrete blocks. On each side of the wall, 2 inch x 6 inch steel box beams are installed horizontally on approximate 18 inch centers, with the ends of the box beams secured to the reinforced concrete by anchor bolts about 10 inches beyond the former opening. This barrier is adequate for three hour separation.

The floors of the Control Building are as follows:

a. EL 593 - minimum 12 inch thick reinforced concrete equivalent to 3 hour fire resistance rating.

b. EL 606 and 617 - 8 inch thick reinforced concrete on 1½ inch ribbed metal deck on heavy steel beams. The exposed structural steel supporting floor elevation 606 (EL 593 ceiling) has been analyzed (Reference 17). All exposed structural steel on EL 593 is protected with a fire resistant material providing 1½ hour fire resistance rating for the EL 606 floor.

The roof of the Control Building between the concrete walls adjoining the Reactor Buildings and Turbine Building is a minimum of 27 inch thick reinforced concrete.

Therefore, the Control Building is separated from the adjacent Reactor Buildings including the Shutdown Board Rooms, and the Turbine Building by equivalent three-hour fire barriers. See Fire Areas 17, 18, and 19 for evaluation of the barrier

separation between Fire Areas 16 and 17, 18 and 19.

Doors in 3 hour fire rated barriers are listed for 3 hours fire rating. The 1½ hour fire resistance doors are used in 1 and 1½ hour fire rated barriers.

UL listed fire dampers have been provided in fire barriers. Certain deficiencies exist in some of the installed configuration of the fire dampers (i.e., the dampers are not installed within the barrier, no breakaway connections, etc.).

Brief justification for these deficiencies is as follows:

- Damper attachment to wall - Fire dampers are attached to the wall in such a manner that they will remain intact in the event of a fire. The retaining angles are anchored to the wall making the thermal clearance questionable. However, all these installations use Ruskin IBD-23 dampers which were shown by UL tests in 3-hour applications to be adequate with "zero" thermal expansion clearance for dampers 24" x 24" and smaller. The largest of these dampers is 20" x 16". Thus, the configuration is considered adequate for 3-hour barrier where duct penetrations do not exceed 24" x 24".

- Lack of breakaway connection - UL/vendor recommended configuration requires that breakaway joints be provided between fire damper and duct connections to prevent fire dampers to be pulled away from the barrier in a fire situation. Dampers have retaining angles anchored to the wall, thus preventing the dampers to be pulled away. Also, due to the non-combustible construction of walls and ceiling, close spacing of supporting walls and other significant obstructions, seismic supports and low combustible loading, the ducts are not likely to break away; hence, a breakaway connection is not necessary in these instances. Detailed justifications are provided in References 19 and 20.

- Most of the fire damper discrepancies exist in areas where fire severity is much less than 2 hours in 1 and 1½ hour fire barriers. The duct construction in these areas, meet or exceed SMACNA Standards. It has been shown in Reference 27 that horizontal steel ducts (without fire dampers) designed and constructed in accordance with SMACNA Standards can meet the performance criteria for 1½ hour fire dampers (no through flaming) when exposed to a standard time-temperature exposure of 2 hours. Hence, the described discrepancies in fire damper installations are not likely to affect the performance criteria (i.e., no through flaming) of these duct penetrations.

Penetrations that enter Fire Area 16 have the required fire rated doors, dampers, and penetration seals. The compartmentation features in this area are adequate to contain a fire and prevent the fire from spreading to another fire area.

Fire Area 16 has preaction sprinkler systems providing coverage for the Spreading Rooms A & B - EL 606 - and in the Mechanical Equipment Rooms, Toilets, Locker Rooms, SOS Office, TSC, and Lunchroom on EL 617. On elevation 593.0, CO_2 is the primary

FIRE AREA 16

suppression system for the Auxiliary Instrument Rooms (Units 1, 2, & 3) and Computer Rooms (Units 1/2, & 3). An approved "exemption" for lack of area wide suppression and detection is described in the Safe Shutdown Analysis, Section 9.e

Floor drains have generally been provided throughout the plant areas where fixed water suppression systems are installed. A study of the adequacy of drains and possibility of flooring damage to safety-related equipment upon actuation of sprinklers in the Control Building showed that the accumulation of water on floors was minimal and would not cause any damage to safety-related equipment or prohibit safe operation of the plant (Reference 26).

The CO_2 pressure relief dampers located in the Auxiliary Instrument Rooms and Computer Rooms have been permanently pinned shut; thus, enabling the required carbon dioxide concentration and soak time to be achieved by preventing the release of the carbon dioxide through the pressure relief dampers. This will act to more quickly extinguish a fire; therefore, lessening the severity of fire damage to equipment in these rooms. The concern regarding over pressurization of the rooms during a CO_2 discharge, due to pinning shut the pressure relief dampers was resolved by conducting a CO_2 discharge test in the Unit 3 Computer Room. The results of the Unit 3 Computer Room are applicable to the other Computer Rooms and the Auxiliary Instrument Rooms because they are located in the same general area (i.e., CB EL 593) as the Unit 3 Computer Room and have similar construction. The discharge test in Unit 3 Computer Room was conducted and the room pressure never exceeded 1-inch of water. It was determined that for normal discharge, the pressure in the Unit 3 Computer Room will be on the order of ½" of water or lower. Therefore, by permanently pinning shut the CO_2 pressure relief dampers in the Auxiliary Instrument Rooms and the Computer Rooms, failure of the room enclosures/barriers during a CO_2 discharge will not occur. (Reference 22)

Fire Area 16 has general area detection coverage throughout the building. The detectors located on EL 606 actuate the sprinkler system that protects Spreading Rooms A & B. The addressable smoke detectors on EL 617 (Shift Supervisor's office, mechanical equipment room at Unit 1, and toilet, TSC and locker room) actuate the sprinkler system. Addressable smoke detectors provide early warning fire detection or serve as alarm only for the Units 1, 2, and 3 Control Room, Control Room panels, corridors, Relay Room, and Relay Room panels. A thermal detector in the kitchen actuates the preaction system. The detectors that are installed on EL 593 provide alarm only. Fire Area 16 fire detection system either actuates a sprinkler system or provides early warning alarm if a fire occurs in a area enabling the emergency response team to respond to the appropriate area and manually actuate the sprinkler flow control valve or CO_2 system and/or manually extinguish the fire using installed hose stations or extinguishers.

The fire protection features are adequate to contain, control, and extinguish any fire that may occur in Fire Area 16.

FIRE AREA 17

DESCRIPTION/LOCATION Unit 1 Battery and Battery Board Room
Control Building - EL 593
Total Area - 1,165 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

250V Main Battery 1 (0-BATA-248-0001)
250V Battery Charger 1 (0-BATA-248-0001)
Unit 1 ATU Inverter (1-INV-252-0001)
250V DC Battery Board 1 (0-BDDD-280-0001)
250V DC Battery Board 1, Panel 8, I&C Bus B (0-BDDD-280-0001-ICB)
24V Neutron Monitoring Batteries and Chargers
48V Annunciator Battery and Charger A
RPS MG Set B, Circuit Protectors and FW Inverters
I&C Buses A and B Fused Disconnect Switches

ADJACENT FIRE AREAS/BASIS FOR FIRE AREAS

Fire Area No.	DESIGNATION	SEPARATION
1	Unit 1, Reactor Building	3-hour
16	Control Building	1 & 1½-hour
25	Turbine Building	3-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation and plastics

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Battery Room No. 1 (Room #593.0-C-5)	35,000	*27*
Battery Room No. 1 (Room #593.0-C-8)	*30,000*	*23*
MG Set Room (Room #593.0-C-8A)	15,000	*12*
Fire Area 17	*30,000*	*23*

FIRE AREA 17

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Manual sprinkler system is provided in the Battery Room and Battery Board Room. Hose stations and fire extinguishers are available in the immediate area.

DETECTION SYSTEM

Addressable (Analog) smoke detectors provide area wide coverage for the battery board room for early warning fire detection in order to manually actuate the sprinkler system. Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the installed fire barriers. Fire dampers will isolate the HVAC ducts from the adjacent fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to the adjoining corridor (Fire Area 16) and down to Unit 3 and outside through door 484.

FIRE PROTECTION EVALUATION

This fire area is located in EL 593 of Unit 1 portion of the Control Building. The adjacent fire areas are Fire Area 1, 16, and 25. The south wall of Fire Area 17 separating Fire Area 17 from Fire Area 1 is a 30 inch thick reinforced concrete that is equivalent to more than three hour rated fire barrier. The floor in this area is 12 inch thick reinforced concrete which is equivalent to more than 3 hours of fire resistance rating. The ceiling above is 8 inch thick reinforced concrete poured on a ribbed metal deck supported on heavy steel beams. The steel beams are protected with fire proofing providing 1½ hour fire resistance. (Reference 17)

The floor of this fire area is the main steam and feedwater tunnel which is connected to Fire Area 25. The reinforced concrete floor is of sufficient thickness to provide an equivalent three-hour rating between Fire Area 17 and 25.

The ceiling of this area is also the floor of the cable spreading room which has a combustible loading, approximately 130,000 Btu/ft^2 with an equivalent fire load of 100 minutes. Automatic suppression is installed in the cable spreading room above this complex. Additionally, the major fire load is due to the cable insulation in the Spreading Room material which is heavily coated with flame retarding material. With an automatic suppression system in the Cable Spreading Room, a fire severity beyond 30 minutes would be highly unlikely. Manual suppression is installed in the Battery and Battery Board Room.

FIRE AREA 17

The east, west, and interior walls adjoining the stairs of this complex are 7.625 inch thick seismically reinforced hollow concrete block walls. These walls are greater than 1½ hour rated construction as determined from references in Section 2.0 (e.g., Fire Protection Handbook).

Adjoining the west wall of Fire Area 17 is Process Computer Room which has a combustible loading of approximately 20,000 Btu/ft^2, or an approximate fire load of 15 minutes. The Process Computer Room has an automatic halon suppression system.

Adjoining the east wall of Fire Area 17 is the Auxiliary Instrument Room 1 which has a combustible loading of 45,000 Btu/ft^2, or an approximate fire load of 35 minutes. This room has a manual actuating total flooding carbon dioxide system.

The barrier that separates Fire Area 17 from the corridor areas of Fire Area 16 is three layers of .625 inch gypsum board to the corridor side of the barrier. This provides a tested assembly with a fire resistance rating of at least one hour (Reference 18). These barrier ratings are adequate to contain and prevent the spread of fire from this area because of the low in situ combustibles. In addition, all penetrations have required fire rated doors, dampers, and seals.

A manual sprinkler system provides area wide protection for the Unit 1 Battery and Battery Board Rooms. The detection system provides an early warning alarm so that immediate response can manually actuate the sprinkler system flow control valve. In addition, hose stations and fire extinguishers are available throughout the area to support manual suppression activities.

Curbs have been installed at the door openings in order to prevent flooding in these areas due to sprinkler system actuation. Also, water shields have been installed on the electrical boards located in the battery board room in order to prevent unnecessary water damage if a sprinkler system actuates.

The fire protection features provided are adequate to contain, control, and extinguish any fire that may occur in Fire Area 17.

FIRE AREA 18

DESCRIPTION/LOCATION Unit 2 Battery and Battery Board Room
Control Building - EL 593
Total Area - 1,130 ft^2

MAJOR EQUIPMENT:

The following major equipment is located in this area:

250V Battery 2 (0-BATA-248-0002)
250V Battery Chargers 2A & 2B (0-CHGA-248-0002A & -0002B)
Unit Preferred MMG Set 2 and Associated Equipment (2-MGEN-252-0002)
250V DC Battery Board 2 (0-BDDD-280-0002)
250V DC Battery Board 2, Panel 8, I&C Bus B (0-BDDD-280-0002-ICB)
250V DC Battery Board 2, Panel 13, Plant Preferred (0-BDDD-280-0002-PPF)
250V DC Battery Board 2, Panel 9, Reactor Protection (0-BDDD-280-0002-RPSA & -RPSB)
Plant Preferred and Plant non-Preferred Panel Boards
24V Neutron Monitoring Batteries and Chargers
RPS Circuit Protectors and Feedwater Inverters
I&C Buses A&B Fused Disconnect Switches

ADJACENT FIRE AREAS/BASIS FOR FIRE AREAS

Fire Area No.	DESIGNATION	SEPARATION
2	Unit 2, Reactor Building	3-hour
16	Control Building	1 & 1½-hour
25	Turbine Building	3-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation and plastics

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Battery Board Room No. 2 (Room #593.0-C-12)	40,000	30
MG Set Room (Room #593.0-C-12A)	10,000	*8*
Battery Room No. 2 (Room #593.0-C-15)	55,000	*42*
Fire Area 18	*40,000*	*30*

FIRE AREA 18

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Manual sprinkler system is provided in the Battery Room and Battery Board Room.

Hose stations and fire extinguishers are available in the immediate area.

DETECTION SYSTEM

Addressable smoke detectors provide area wide coverage for the battery and battery board rooms for early warning fire detection in order to manually actuate the sprinkler system.

Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the installed fire barriers. Fire dampers will isolate the HVAC ducts from the adjacent fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to the adjoining corridor (Fire Area 16) and down to Unit 3 and outside through door 484.

FIRE PROTECTION EVALUATION

Fire Area 18 is separated by 3-hour barriers from Fire Areas 2 and 25 and by a 1-hour and 1½-hour barrier from Fire Area 16. Construction and fire resistance rating of these rooms are the same as discussed for Fire Area 17 with the exception that Fire Area 2 is one of its adjacent areas.

A manual sprinkler system provides area wide protection for the Unit 2 Battery and Battery Board Rooms. The area wide detection system provides an early warning alarm so that sprinkler system can be manually actuated. In addition, hose stations and fire extinguishers are available to support manual suppression activities.

The fire protection features provided for are adequate to quickly detect, contain, control, and extinguish any fire that may occur in Fire Area 18.

FIRE AREA 19

DESCRIPTION/LOCATION Unit 3 Battery and Battery Board Room
Control Building - EL 593
Total Area - 1,283 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

250V Battery 3 (0-BATA-248-0003)
250V Battery Charger 3 (0-CHGA-248-0003)
Unit Preferred MMG Set 3 and Associated Equipment (3-MGEM-252-0003)
250V DC Battery Board 3 (0-BDDD-280-0003)
250V DC Battery Board 1, Panel 8, I&C Bus B (0-BDDD-280-0003-ICB)
480V Battery Charger B
24V Neutron Monitoring Batteries and Chargers
I&C Buses A and B Fused Disconnect Switches

ADJACENT FIRE AREAS/BASIS FOR FIRE AREAS

Fire Area No.	DESIGNATION	SEPARATION
3	Unit 3, Reactor Building	3-hour
16	Control Building	1 & 1½-hour
25	Turbine Building	3-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation, plastics, and plywood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Battery Board Room 3(Room #593.0-C-22)	20,000	15
MG Set Room (Room #593.0-C-22A)	10,000	*8*
Battery Room No. 3 (Room #593.0-C-26)	55,000	*42*
Fire Area 19	*35,000*	*26*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Manual sprinkler system is in Battery Room and Battery Board Room.

Hose stations and fire extinguishers are available in the immediate area.

FIRE AREA 19

DETECTION SYSTEM

General area coverage detectors to provide early warning fire detection in order to manually actuate the preaction sprinkler system.

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the installed fire barriers. Fire dampers will isolate the HVAC ducts from the other fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to the adjoining corridor (Fire Area 16) and down the hallway to Unit 3 and outside through door 484.

FIRE PROTECTION EVALUATION

Fire Area 19 is separated by 3-hour barriers from Fire Areas 3 and 25 and by a 1-hour and 1½-hour barrier from Fire Area 16. Construction and fire resistance ratings of these rooms are the same as discussed for Fire Area 17 with the exception that Fire Area 3 is one of its adjacent areas.

A manual sprinkler system provides area wide protection for the Unit 2 Battery and Battery Board Rooms. The area wide detection system provides an early warning alarm so that sprinkler system can be manually actuated. Also, hose stations and fire extinguishers are available to support manual suppression activities.

The fire protection features provided are adequate to contain, control, and extinguish any fire that may occur in Fire Area 19.

FIRE AREA 20

DESCRIPTION/LOCATION Units 1 and 2 Diesel Generator Building, All Elevations
Total Area - 12,460 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

Diesel Generators Fuel Oil Transfer Pumps, 0-PMP-18-55A-D & 0-PMP-18-56A-D
Diesel Generator Exhaust Fans and their associated Discharge Dampers, Fan Room Inlet Dampers, 0-FAN-30-64 through -71; 0-FCO-30-64A,B,C through -71A,B,C
Diesel Generator Auxiliary Transfer TDA Room Exhaust Fan, 0-FAN-30-72
480V Diesel Auxiliary Board Room B Exhaust Fan DG TDB, 0-FAN-30-73
Sectionalizing Valves, 0-FCV-67-13 and 14
Diesel Generators A, B, C, D and their associated equipment, 0-GEN-82-000A thru 000D
480V Diesel Aux Boards A, B (0-BDBB-219-0000A & -0000B)
Battery Chargers A and B for each Diesel Generator A, B, C, & D, (0-CHGB-254-0000AA,-0000AB,-0000BA,-0000BB,-0000CA,-0000CB,-0000DA and -0000DB)
125V Diesel Generator Distributor Panels A - D (0-BDGG-254-0000A thru -0000B)
125V DC Diesel System Batteries A, B, C & D (0-BATB-254-0000A thru -0000D)
Diesel Generator Control Information Panel
480V Diesel Auxiliary Board Room Intake Dampers

ADJACENT FIRE AREAS/BASIS FOR FIRE AREAS

Fire Area No.	DESIGNATION	SEPARATION
1	Unit 1, Reactor Building	3-hour
4	Unit 1, 4KV Shutdown Board Rm-B	3-hour
25	Turbine Building, Cable Tunnel, Intake Pumping Station, Radwaste Building	3-hour

FIRE AREA 20

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation, plastics, lube oil, wood, Pyranol, polyester, neoprene and diesel fuel oil.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Electrical Access Room 583.5-DG-1	5,000	*4*
Fan Room A and Air Intake Plenum A 583.5-DG-2	10,000	*8*
Fan Room B and Air Intake Plenum B 583.5-DG-3	10,000	*8*
Fan Room C and Air Intake Plenum C 583.5-DG-4	10,000	*8*
Fan Room D and Air Intake Plenum D 583.5-DG-5	10,000	*8*
Electrical Equipment Room 583.5-DG-7	30,000	*23*
Electrical Equipment Room 583.5-DG-8	35,000	*27*
CO_2 Storage Room 565.5-DG-1	30,000	*23*
Diesel Generator Room A 565.5-DG-2	145,000	*109*
Diesel Generator Room B 565.5-DG-3	145,000	*109*
Diesel Generator Room C 565.5-DG-4	145,000	*109*
Diesel Generator Room D 565.5-DG-5	145,000	*109*
Pipe Tunnel 565.5-DG-9	35,000	*27*
Fuel Oil Transfer Pump Room 565.5-DG-8A	170,000	*128*
Fire Area 20	*55,000*	*41*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Preaction sprinkler system coverage provided for the electrical pipe tunnel.

Carbon Dioxide (CO_2) protection provided for each diesel generator, electrical board (also known as Electrical Equipment Room) and the fuel oil transfer pump room.

Hose stations and fire extinguishers are available throughout the fire area.

DETECTION SYSTEM

Addressable (Analog) smoke and heat detectors are provided throughout the Diesel Generator Building. In Diesel Generator Rooms and in Fuel Oil Transfer Pump Room (EL 565), heat detectors actuate CO_2 system. Addressable smoke detectors are provided in Pipe Tunnel (EL 565) to actuate preaction system. In the Electrical Board Rooms (EL 583), heat and smoke detectors actuate CO_2 system. Smoke detectors are provided in electrical access area for early fire detection. Smoke detectors are also provided within compartments 7 and 10 of the 480V Diesel Auxiliary Boards A and B respectively, EL 583 for early fire detection. Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

FIRE AREA 20

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the installed fire barriers. Fire dampers will isolate the HVAC ducts from the other fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting by opening the individual diesel generator room and the CO_2 tank storage room outside doors.

FIRE PROTECTION EVALUATION

Fire Area 20 is separated by 3-hour barriers from Fire Areas 1, 4, and 25. The adjoining wall to Fire Area 1 is of reinforced concrete with a minimum thickness of 18 inches. This wall extends above the roof of the Diesel Generator Building at EL 593 to EL 664 of the Reactor Building. The door opening in this wall is three hour rated. There are no duct penetrations in this wall. Penetrations through this wall are provided with three-hour fire rated seals. The adjoining wall to Fire Area 25 is a reinforced concrete wall with a minimum thickness of 18 inches and there are no door or duct openings between Fire Area 20 and 25. The compartmentation is adequate to contain and prevent any fire from spreading from this area. Chillers and associated equipment for Control Bay and SDBR HVAC are located on the roof of the diesel generator building. See Section 4.7 for detailed evaluation of the fire protection features for the chiller structure.

Sprinkler coverage is provided for the electrical/pipe tunnel. Some of the closely spaced sprinkler heads (less than 6 ft apart) have been removed (plugged) or baffles installed between sprinkler heads to prevent "cold soldering".

Each diesel room and the fuel oil transfer pump room are protected by an automatic total flooding Carbon Dioxide CO_2 system.

Any detector alarm will release doors between Auxiliary Board Rooms A & B. An area wide detection system is installed to provide early fire detection. In addition, hose stations and fire extinguishers are located throughout the area in order to support manual suppression activities.

The fire protection features are adequate to provide early detection, contain, control, and extinguish any fire which may occur in Fire Area 20.

FIRE AREA 21

DESCRIPTION/LOCATION Unit 3 Diesel Generator Building, All Elevations
Total Area - 12,607 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

Diesel Generator Fuel Oil Transfer Pumps, 0-PMP-18-70A-D & 0-PMP-18-72A-D
Diesel Generator Exhaust Fans A and B for Diesel Generator 3A, 3B, 3C, and 3D, 0-FAN-30-230 through -237
480V Diesel Auxiliary Board Rooms 3EA and 3EB Fans, 0-FAN-30-243 & -244
Exhaust Fans A and B Discharge Dampers, Fan Room Inlet Dampers and Diesel Generator Room Inlet Dampers associated with each Diesel Generator, 0-FCO-30-230A,B,C through -237A,B,C
Diesel Generators 3A, 3B, 3C, 3D, 0-GEN-82-0003A thru 0003D
480V Diesel Auxiliary Boards 3EA, 3EB (0-BDBB-219-0003EA & -0003EB)
4KV SDBD 3EB Control Batteries, (3-BATA-248-000EB), Battery Board (3-PNLA-248-0003EB), Battery Charger (3-CHGA-248-0003EB))
125V Diesel System Battery Chargers A and B for Diesel Generator 3A, 3B, 3C, and 3D (3-CHGB-254-0000AA,-0000AB,-0000BA,-0000CA,-0000CB,-0000DA and -0000DB)
480V Diesel Auxiliary Board Rooms 3EA and 3EB Intake Dampers
125V Diesel System Battery Boards A, B, C, and D (3-BDGG-254-0000A thru -0000D)
125V DC Diesel System Battery 3A, 3B, 3C, and 3D (3-BATB-254-0000A thru -0000D)

ADJACENT FIRE AREAS/BASIS FOR FIRE AREAS

Fire Area No.	DESIGNATION	SEPARATION
3	Unit 3, Reactor Building	3-hour
12	Unit 3, Shutdown Board Room F	3-hour
22	Unit 3, 4KV Shutdown Board Rooms 3EA & 3EB	3-hour
23	Unit 3, 4KV Shutdown Board Rooms 3EC & 3ED	3-hour
24	Unit 3, 4KV Bus Tie Board Room	3-hour

FIRE AREA 21

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation, lube oil, pyranol, polyester and neoprene, plywood, and diesel fuel oil.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Electrical Access Room and Battery Room 583.5-DG3-1	5,000	4
Fan Room A and Air Intake Plenum A 583.5-DG3-2	10,000	8
Fan Room B and Air Intake Plenum B 583.5-DG3-3	10,000	8
Fan Room C and Air Intake Plenum C 583.5-DG3-4	10,000	8
Fan Room D and Air Intake Plenum D 583.5-DG3-5	10,000	8
480-Volt Diesel Aux. Board Room 3EA 583.5-DG3-7	15,000	12
480-Volt Diesel Aux. Board Room 3EB 583.5-DG3-8	30,000	23
Toilet 583.5-DG3-11	10,000	8
CO_2 Storage Room 565.5-DG3-1	5,000	4
250-Volt Shutdown Battery Room 3EB 583.5-DG3-1A	160,000	120
Diesel Generator Room 3A 565.5-DG3-2	145,000	109
Diesel Generator Room 3B 565.5-DG3-3	145,000	109
Diesel Generator Room 3C 565.5-DG3-4	145,000	109
Diesel Generator Room 3D 565.5-DG3-5	145,000	109
Pipe Tunnel 565.5-DG3-6	30,000	23
Fuel Oil Transfer Pump Room 565.5-DG3-8A	215,000	161
Stair D3 Stair 565.5-DG3-ST	35,000	27
Fire Area 21	60,000	45

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Preaction sprinkler and water spray system coverage is provided for the electrical/pipe tunnel.

Carbon Dioxide (CO_2) systems provided for each diesel generator, diesel aux board and the fuel oil transfer pump room.

Hose stations and fire extinguishers are available throughout the fire area.

DETECTION SYSTEM

Addressable (Analog) smoke and heat detectors are provided throughout the Diesel Generator Building for early warning fire detection. Heat detectors in the Diesel Rooms and Fuel Oil Transfer Pump Room actuate the CO_2 system. Smoke and heat detectors actuate the CO_2 system in the Diesel Auxiliary Board Rooms. Smoke detectors in the Electrical Access area provide early fire detection. Smoke detectors in Pipe and Electrical Tunnel actuate preaction and spray systems. Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the installed fire barriers and water curtains. Fire dampers will isolate the HVAC ducts from the other fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to the outside by opening the individual diesel generator rooms and the CO_2 tank storage room outside doors.

FIRE PROTECTION EVALUATION

Fire Area 21 is separated by 3-hour barriers from Fire Areas 3, 12, 22, 23, and 24. The adjoining wall to Fire Area 3 is of reinforced concrete with part 36 inch and part 18 inch thickness and extends above the roof of the Diesel Generator Building at EL 593 to EL 664. The wall in the stairway between Fire Area 21 and Fire Area 23 is 8-inch thick reinforced concrete and is equivalent to a three-hour rating. The adjoining walls for Fire Area 21 to Fire Area 22, 23, and 24 are equivalent to three-hour rated fire barriers. The mechanical equipment rooms, the roof of shutdown board rooms, and the roof of the Diesel Generator Building are considered exterior boundaries. Fire dampers are installed to minimize hazards from a fire in the Diesel Building. The major openings on the protected side of the fire dampers are open to the atmosphere on the Diesel Building roof and are approximately 30 feet from the mechanical equipment room and shutdown board room roof.

There are no duct or door penetrations between Fire Area 21 and Fire Area 3. Two duct penetrations in the stairway between Fire Area 21 and 23 have three hour fire rated dampers. Door openings from Fire Area 21 to 12 and 23 are 3 hours rated. The compartmentation is adequate to contain and prevent any fire from spreading from this fire area.

Any detector alarm will release doors in the building. Sprinkler and water spray coverage is provided for the electrical/pipe tunnel. Each diesel room and the fuel oil transfer pump room are protected by an automatic total flooding CO_2 system. Area wide detection coverage is provided for early warning fire detection. Also, hose stations and fire extinguishers are located throughout the fire area.

The fire protection features are adequate to provide early detection, contain, control, and extinguish any fire which may occur in Fire Area 21.

FIRE AREA 22

DESCRIPTION/LOCATION 4kV Shutdown Board Room 3EA and 3EB,
Unit 3 Diesel Generator Building - EL 565.5 & 583.5
Total Area - 1,605 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

4kV Shutdown Board 3EA (3-BDAA-211-0003EA)
4kV Shutdown Board 3EB (3-BDAA-211-0003EB)

ADJACENT FIRE AREAS/BASIS FOR FIRE AREAS

Fire Area No.	DESIGNATION	SEPARATION
3	Unit 3, Reactor Building	3-hour
21	Unit 3, Diesel Generator Building	3 hour
23	Unit 3, 4KV Shutdown Board Rooms 3EC & 3ED	1½-hour
24	Unit 3, 4KV Bus Tie Board Room	1½-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation, plastics, and wood.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
4160V Shutdown Bd Room 3EA 583.5-DG3-9	35,000	*27*
4160V Shutdown Bd Room 3EB 565.5-DG3-7	55,000	*42*
Fire Area 22	*40,000*	*30*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Hose stations and fire extinguishers are available in the immediate area.

DETECTION SYSTEM

Addressable (Analog) smoke detectors provide area wide coverage for shutdown board rooms for early warning. Smoke detectors in the mechanical equipment room also provide early warning fire detection.

Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

FIRE AREA 22

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the installed fire barriers. Fire dampers will isolate the HVAC ducts from the adjacent fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Fire Areas 23, 24, and using the outside doors in Fire Area 21 or out the ceiling hatch in Fire Area 22.

FIRE PROTECTIONS EVALUATION

This area is separated by 3-hour barriers from Fire Areas 3 and 21 and by 1½-hour barriers from Fire Areas 23 and 24. The west wall of Fire Area 22 to Fire Area 3 Reactor Building is of reinforced concrete with a minimum thickness of 18-inches. The east wall which separates Fire Area 22 from Fire Area 21 Unit 3 Diesel Generator Building is reinforced concrete with a minimum thickness of 24 inches. The north wall between Fire Area 22 and Fire Area 24 on EL 565 is 8-inch thick reinforced concrete. The north wall between Fire Area 22 and Fire Area 23 on EL 565 and 583 is 15-inch thick reinforced concrete. The interface between Fire Area 22 and Fire Area 24 at floor EL 583 is 15-inch thick reinforced concrete. All of these are equivalent to three-hour rated construction. The walls, floors, and ceilings of the shutdown board rooms 3EA and 3ED and the bus tie board room are reinforced concrete equivalent to three-hour fire rated construction. The doors and dampers in the walls, floors, and ceilings that separate these rooms from each other are equivalent to 1½ hour fire rated construction. Thus, the effective fire barrier between Fire Areas 22, 23, and 24 is 1½ hours.

This level of separation is adequate considering the fixed combustible loading in the rooms. The highest combustible loading in this fire area is in the 3EB Board Room which is approximately 45,000 Btu per square foot or an equivalent fire load of 35 minutes. All penetrations have the required fire rated doors, dampers, and seals; therefore, these barriers are adequate to contain and prevent any fire that may occur in this area.

Any detector releases doors in the building. An area wide detection system is installed in order to provide early warning. Also, hose stations and fire extinguishers are available.

The fire protection features are adequate to contain, control, and extinguish any fire which may occur in Fire Area 22.

FIRE AREA 23

DESCRIPTION/LOCATION 4kV Shutdown Board Room 3EC and 3ED
Unit 3 Diesel Generator Building - EL 565.5 & 583.5
Total Area - 1,296 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

4kV Shutdown Board 3EC (3-BDAA-211-0003EC)
4kV Shutdown Board 3ED (3-BDAA-211-0003ED)
Panel 25-295 and 25-305
Lighting Panel LC45

ADJACENT FIRE AREAS/BASIS FOR FIRE AREAS

Fire Area No.	DESIGNATION	SEPARATION
3	Unit 3, Reactor Building	3-hour
12	480V RMOV Board Room 3B	3-hour
21	Unit 3, Diesel Generator Building	3-hour
22	Unit 3, 4KV Shutdown Bd Rms 3EA & 3EB	1½-hour
24	Unit 3, 4KV Bus Tie Board Room	1½-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation and plastics.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
4160V Shutdown Bd Room 3EC 583.5-DG3-10	20,000	15
4160V Shutdown Bd Room 3ED 565.5-DG3-9	45,000	34
Fire Area 23	*30,000*	*23*

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Hose stations and fire extinguishers are available in the immediate area.

DETECTION SYSTEM

Addressable (Analog) smoke detectors provide area wide coverage for the shutdown board rooms and mechanical equipment room for early fire warning. Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

FIRE AREA 23

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the installed fire barriers and water curtains. Fire dampers will isolate the HVAC ducts from the adjacent fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Fire Area 21 and out the outside doors or out the ceiling hatch in Fire Area 22.

FIRE PROTECTION EVALUATION

This area is separated by 3-hour barriers from Fire Areas 3 and 21 and by a 1½-hour barrier from Fire Areas 22 and 24. The wall and ceiling construction is the same as Fire Area 22, except the north wall of Fire Area 23 adjacent to Fire Area 21 Diesel Generator Building is 8-inch thick concrete, which is equivalent to three-hour rated construction. This level of separation is adequate considering the fixed combustible loading in the rooms. The highest combustible loading in this area is in the 3ED Board Room which is 45,000 Btu/ft^2 or an equivalent fire severity of 35 minutes. Penetrations have the required fire rated doors, dampers, and seals; therefore, these barrier ratings are adequate to contain any fire that may occur in this area.

Any detector will release doors in the building. An area wide detection system is installed in order to provide early fire warning. Also, hose stations and fire extinguishers are available.

The fire protection features are adequate to contain, control, and extinguish any fire which may occur in Fire Area 23.

FIRE AREA 24

DESCRIPTION/LOCATION — 4KV Bus Tie Board Room
Unit 3 Diesel Generator Building - EL 565
Total Area - 444 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

4KV Bus Tie Board

ADJACENT FIRE AREAS/BASIS FOR FIRE AREAS

Fire Area No.	DESIGNATION	SEPARATION
3	Unit 3, Reactor Building	3-hour
21	Unit 3, Diesel Generator Building	3-hour
22	Unit 3, 4KV Shutdown Board Rooms 3EA & 3EB	1½-hour
23	Unit 3, 4KV Shutdown Board Rooms 3EC & 3ED	1½-hour

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation and plastics.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
4KV Bus Tie Board Room (Fire Area 24, Room #565.5-DG3-8)	40,000	30

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Hose stations and fire extinguishers are available in the immediate area.

DETECTION SYSTEM

Addressable (Analog) smoke detectors are provided for early warning.

Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

FIRE AREA 24

ISOLATION AND SMOKE REMOVAL

A fire in this area will be contained by the installed fire barriers and water curtains. Fire dampers will isolate the HVAC ducts from the adjacent fire areas. Procedures are in place for the emergency response team to initiate HVAC zone isolation, as required, when a fire is verified in an area. This shuts down ventilation to the specific area and allows the dampers to adequately seal off the affected area. Smoke can be removed by portable smoke ejectors and flexible ducting to adjoining Fire Area 23, 21 and out the outside doors, or through Fire Area 23, and out the ceiling hatch in Fire Area 22.

FIRE PROTECTION EVALUATION

This area is separated by 3-hour barriers from Fire Areas 3 and 21 and by a 1½-hour barriers from Fire Areas 22 and 23. See previous analysis of Fire Areas 3, 21, 22, and 23 for the barrier separations. In all cases the actual walls are equivalent to three-hour rated construction and the doors and dampers into Fire Areas 22 and 23 are 1½ hour rated. Hence, the effective fire barrier rating is 1½ hour. This level of separation is adequate considering the fixed combustibles in the room which is approximately 40,000 Btu/ft^2 or a fire severity of approximately 30 minutes. Penetrations have the required fire rated seals; therefore, these barrier ratings are adequate to contain and prevent any fire that may occur in this area.

Any detector will release doors in the building. An area wide detection system is installed in order to provide early warning. Also, hose stations and fire extinguishers are available.

The fire protection features are adequate to contain, control, and extinguish any fire which may occur in Fire Area 24.

FIRE AREA 25

DESCRIPTION/LOCATION Turbine Building, Cable Tunnel, Intake Pumping Station and Radwaste Building (Collectively referred to as the Turbine Bldg)
Total Area - 429,023 ft^2

MAJOR EQUIPMENT

The following major equipment is located in this area:

Main Steam Line A Outboard Isolation Valves, 1-FCV-1-15, 2-FCV-1-15 & 3-FCV-1-15
Main Steam Line B Outboard Isolation Valves, 1-FCV-1-27, 2-FCV-1-27 & 3-FCV-1-27
Main Steam Line C Outboard Isolation Valves, 1-FCV-1-38, 2-FCV-1-38 & 3-FCV-1-38
Main Steam Line D Outboard Isolation Valves, 1-FCV-1-52, 2-FCV-1-52 & 3-FCV-1-52
MS Drain Line Outboard Containment Iso Valves, 1-FCV-1-56, 1-FCV-1-56 & 3-FCV-1-56
Shutoff Valve for Outboard Main Steam Drain Lines, 3-FCV-1-57
Shutoff Valve for Main Steam Drain Line to Condenser, 3-FCV-1-58
RHRSW Pumps A1, A2, A3, 0-PMP-23-1, -5, -85
RHRSW Pumps B1, B2, B3, 0-PMP-23-15, -19, -88
RHRSW Pumps C1, C2, C3, 0-PMP-23-8, -12, -91
RHRSW Pumps D1, D2, D3, 0-PMP-23-23, -27, -94
Motor Driven Fire Pumps A, B, and C, 0-PMP-26-1, -2 & -3
Vertical Fire Pump, 0-PMP-26-118
EECW Strainers A, B, C, and D, 0-STN-67-925, 926, 927, & 928
EECW Strainers A, B, C, and D Drain Valves, 0-FCV-67-1, 5, 8, & 11
RHRSW/EECW Pump Discharge Inter-tie Valves, 0-FCV-67-48 & 49
Steam Supply Line Outboard Containment Isolation Valve, 3-FCV-71-3
Pump Discharge Line Containment Isolation Valve, 3-FCV-71-40
Pump Discharge Line Containment Isolation Valve, 3-FCV-73-45
250V Main Battery 4 (0-BATA-248-0004)
250V Main Battery 5 (0-BATA-248-0005)
250V Battery Charger 4 (0-CHGA-248-0004)
250V DC Battery Board 4 (0-BDDD-280-0004)
250V DC Battery Board 5 (0-BDDD-280-0005)

ADJACENT FIRE AREAS/BASIS FOR FIRE AREAS

Fire Area No.	DESIGNATION	SEPARATION
1	Unit 1, Reactor Building	3-hour
2	Unit 2, Reactor Building	3-hour
3	Unit 3, Reactor Building	3-hour
16	Control Building	3-hour
17	Unit 1 Battery and Battery Board Room	3-hour
18	Unit 2 Battery and Battery Board Room	3-hour
19	Unit 3 Battery and Battery Board Room	3-hour
20	Units 1 and 2 Diesel Generator Building	3-hour

FIRE AREA 25

COMBUSTIBLE LOADING

Combustible materials in fire area: cable insulation, foam plastics, oil, lube oil, hydraulic fluid, wood, paper, cloth, Pyranol, polyester and neoprene, charcoal, rubber, Plexiglas, cellulose, PCB, Styrofoam, plywood, and Thermo-Lag330-1.

LOCATION	TOTAL COMBUSTIBLE LOADING (Btu/ft^2)	FIRE SEVERITY (Minutes)
Fire Area 25 (all rooms in fire area)	65,000	49

DESCRIPTION OF FIRE PROTECTION CAPABILITIES

SUPPRESSION SYSTEM

Turbine Building

Water Spray System:

Reactor feed pump turbine, EL 617
Turbine head end, EL 586
Main turbine oil tanks, EL 586
Cable tray penetrations from cable spreading room into the Turbine Building, EL 586
Hydrogen seal oil units, EL 565

Carbon Dioxide - CO_2 total flooding systems:

Lube oil purification room, EL 565

Hose stations and fire extinguishers are available throughout the fire area.

INTAKE PUMPING STATION

Sprinkler coverage, EL 550, north bay

Hose stations and fire extinguishers are available throughout the fire area.

RADWASTE BUILDING

Hose stations and fire extinguishers are available throughout the fire area.

DETECTION SYSTEM

Turbine Building

Detectors are installed in areas protected by water spray systems and CO_2 in order to actuate the individual fire suppression systems.

FIRE AREA 25

CABLE TUNNEL - Turbine Building to the intake pump station.

General area coverage provided for early warning fire detection.

INTAKE PUMPING STATION

Addressable (Analog) smoke detectors provide area wide coverage on EL 550. Detectors in the North Bay area of EL 550 actuate the preaction sprinkler system.

Smoke detectors in other areas of EL 550 and linear beam detectors in cable tunnel are provided for early warning fire detection.

Reference 29 provides the basis for selection, location, and spacing of fire detection and alarm devices.

RADWASTE BUILDING

None.

ISOLATION AND SMOKE REMOVAL

In the Turbine Building smoke can be removed by portable smoke ejectors and flexible ducting to outside areas through the Turbine Building railroad bay. Smoke can be removed from the cable tunnel through the Turbine Building railroad bay or through the Intake Pumping Station. Smoke can be removed from the intake Pumping Station and Radwaste Building by using outside doors.

FIRE PROTECTION EVALUATION

Fire Area 25 consists of the Turbine Building, Radwaste Building, the Cable Tunnel and the Intake Pumping Station. The adjacent fire areas are the Reactor Buildings (Fire Areas 1, 2, and 3), the Control Building (Fire Area 16), the Battery and Battery Board Rooms (Fire Areas 17, 18, 19) and the Units 1 and 2 Diesel Generator Buildings Fire Area 20. The evaluations of the fire barriers are presented in the evaluations for the respective adjacent fire areas.

In summary, the Turbine Building has adequate barrier separation from the adjacent fire areas. The walls that separate the Turbine Building from each unit's Reactor Building provide equivalent three-hour fire rated separation, except for the doors into the main steam and feedwater piping tunnels, and the doors on the Turbine Building side of the personnel locks and equipment locks. These doors are not fire rated. See Section 4.2 and 4.3 for technical evaluations of these doors.

Safe shutdown circuits are located in the Cable Tunnel between the Turbine Building and the Intake Pumping Station and the redundant circuits are located in the pipe tunnel inside the Turbine Building. Division II safe shutdown circuits for the RHRSW systems (RHRSW pumps B2 and D2) are routed in embedded conduit through the Turbine

Building until they enter the cable tray tunnel located under EL 565 of the Turbine Building. The circuits are routed in cable trays from there to the Intake Pumping Station. The other division II safe shutdown circuits for RHRSW systems (RHRSW pump B1 and D1) are routed directly from the Intake Pumping Station to the 4KV Shutdown Board 3ED located in the Unit 3 Diesel Generator Building. Division I of RHRSW circuits (RHRSW pumps A1, A2, C1 and C2) are routed in embedded conduits in the ceiling of the pipe chase to the Intake Pumping Station.

The Cable Tray Tunnel and Pipe Chase are separated by a 15-inch reinforced concrete wall that is equivalent to three-hour fire rated construction. There are two recessed cable pull boxes located in the ceiling of the pipe tunnel at column lines T8 and T15 through which pass the power cables for RHRSW pumps A1, A2, C1 and C2. The cover plates for these boxes are non-fire rated metal covers.

The engineering evaluation documented in Reference 35 provides justification that the power circuits for RHRSW pump A1, A2, C1, and C2 are adequately separated from the power circuits of RHRSW pumps B2 and D2 and meet the intent of the Appendix R separation requirements.

The Intake Pumping Station is of reinforced concrete construction. EL 550 of the Intake Pumping Station contains the redundant safe shutdown circuits. Division I of shutdown circuits is routed in conduit and the redundant division II is routed in open cable trays. The division I circuits (RHRSW/EECW pumps) which are routed in conduits are protected with one hour fire rated wraps (See Reference 34 for further details). This area of EL 550 of the Intake Pumping Station is also provided with detection and an automatic sprinkler system. Hose stations and portable extinguishers are also available in the area. Hence, the redundant safe shutdown circuits for the RHRSW/EECW are adequately separated. The EECW and RHRSW pump groups A, B, C, and D are located on EL 565 of the Intake Pumping Station and are in separate rooms. The walls are of reinforced concrete construction equivalent to three-hour fire rated construction. The floors are also of reinforced concrete construction equivalent to three-hour fire rating and have equipment hatches capped with approximately ¼ inch steel, and ventilation penetrations which extend well above the floor level and are constructed of heavy gauge steel. The rooms are open to the atmosphere at the top which will prevent any heat build up in the room. The maximum fixed combustible load for each room is 4,000 Btu/ft^2 and consists mainly of the lube oil for the three pumps per room. This equates to a fire severity of about 3.0 minutes. The low fire severity precludes the possibility of a fire spreading beyond each room. Therefore, adequate separation exists between redundant components of the RHRSW and EECW systems in the Intake Pumping Station.

The effects of fire on the unprotected structural and supporting steel located in the Intake Pumping Stations have been analyzed. The area of the Intake Pump Station where safe shutdown circuits are located is the north part of floor elevation 550. This area is protected with automatic sprinkler system. This system, upon actuation, will ensure that temperatures in this area remain below the critical temperature of the supporting steel. Localized failure of tray supports near the origin of a fire in the cable trays would not affect redundant cables routed in conduit. The RHRSW

pumps are located on elevation 565 in four different areas. The pump rooms are separated from the adjacent rooms by concrete walls. The structural steel that supports the grating above each room does not traverse other rooms; therefore, a fire in one room will not affect the RHRSW pumps in adjacent rooms. Hence, a fire in the Intake Pumping Station will not cause a failure of structural or supporting steel such that the ability to achieve safe shutdown would be impaired. (Reference 16)

Localized water spray system coverage is provided to protect the oil hazards located in the Turbine Building: EL 617 for the reactor feed pump turbines; EL 586 for the turbine head end, the main turbine oil tanks, and cable tray penetrations from the cable spreading rooms into the Turbine Building; and EL 565 for the hydrogen seal oil units.

Carbon Dioxide - CO_2 automatic total flooding systems protect the Permanent Record Storage Room and the Lube Oil Purification Rooms located on EL 565.

Localized detection systems are provided in order to actuate the water spray systems and the CO_2 systems.

Hose stations and fire extinguishers are available throughout the area in order to support manual fire suppression activities.

The fire protection capabilities are adequate to contain, control, and extinguish any fire which may occur in Fire Area 25.

7.0 REFERENCES

1. "Cable Tray Combustible Loading", Calculation, MD-N0026-910155.

2. Combustible Load Tables, Calculation, MD-N0026-910163.

3. EPRI TR-100370 "Fire Induced Vulnerability Evaluation (Five)".

4. EPRI TR-100443 "Methods of Quantitative Fire Hazards Analysis."

5. Letter, D. G. Eisenhut (NRC) to All Power Reactor Licenses and All Applications for Power Reactor Licenses, "Implementation of Fire Protection Requirements (Generic Letter 86-10)", April 24, 1986.

6. "Fire Evaluation of Drywell Polyurethane Foam Liner",Calculation, MD-Q0303-890001, RIMS B22 890120 105.

7. TVA Drawings 47W391 series and 47W393 series. Design criteria for fire and pressure seals, BFN-50-799

8. OMEGA Point Laboratories, "Full-Scale 3-Hour Testing of Internal Conduit Smoke and Gas Seals", Project No. 8913-89048, Tennessee Valley Authority Ref. No. 89NNQ-75417A, June 29, 1989, RIMS B22 890705 202 and B22 890720 720.

9. "Engineering Evaluation of the Bus Duct Penetrations", TENERA, July 27, 1988, RIMS B22 911004 003.

10. "Engineering Evaluation for the RWCU Unprotected Openings in 1-Hour Floor/Ceiling Assemblies on Elevation 621.25 and 639 Reactor Buildings", TENERA, July 6, 1988, RIMS B22 911104 201.

11. "Engineering Evaluation of the Seismic Gaps", TENERA, July 27, 1988, RIMS B22 911007 002.

12. (a) "Appendix R - Effect of Fire on Embedded Conduits", Calculation EPM-ASR-092786.

    (b) "Effect of Fire on Embedded Conduits Serving Equipment in Fire Areas 17, 18 and 19", Calculation MD-Q0100-930090.

13. "Appendix R Suppression Damage Evaluation", Calculation MD-Q0026-890024.

14. "Appendix R Fire Pump Availability Study", Calculation BFN-25-D053, EPM-R-A-111585.

15. "Flooding and Drainage Evaluation Due to Discharge from Fixed Water Sprinklers and Hose Stations", RIMS B22 890630 013.

16. "Fire Hazards Analysis for the Structural and Supporting Steel in the Unit 2 Reactor Building and Intake Pumping Station", Calculation, MD Q2303-880380.

17. "Fire Hazards Analysis for the Structural Steel on Elevation 593 of the Control Building", Calculation MD Q0303 880381.

7.0 REFERENCES (continued)

18. "Evaluation of Fire Barrier Walls Separating the Battery and Battery Board Room Fire Areas from the Control Bay Corridor", RIMS B22 911007 001.

19. Safety Assessment for DCN H7145B, SABFMDCN 90149.

20. Memo from R. J. Ogle, Project Engineer, Task Engineering Project, to R. J. Smith, Project Engineer, Browns Ferry Nuclear Project, "Task Engineering Project (TEP) - Task Closure Report", September 8, 1989 (RIMS B90 890908 002).

21. Appendix R - Fire Suppression Damage Calculation, Unit 1, MD-Q1999-2003-0066.

22. Safety Assessment for DCN W0252D, SABFMDCN 90081.

23. "Fire Pump Capability to Meet Fire and RSW Loads", Calculation, MD-N0026-900075, RIMS R14 930924 113 (For information only) and HPFP Design Study Request SO50, RIMS B44 850709 005.

24. "Engineering Evaluation of Penetration Seals, Calculation MD-Q0100-980006.

25. "An Introduction to Fire Dynamics", by Dougal Drysdale, Table 10.4.

26. Safety Evaluation for ECN L1854.

27. Gewain et al, 'Evaluation of Duct Opening Protection in Two-Hour Fire Walls and Partitions", Fire Technology Volume 27-3.

28. "Fire Resistance of Seismic Gaps", Calculation, SQN-00-D052-EPM-MHS-112391.

29. "Selection, Location, and Spacing of Fire Detection and Alarm Devices", Calculation ND-N0026-920065.

30. "Unit 3, Appendix R, Fire Suppression Damage Evaluation", Calculation ND-Q3999-930023.

31. Engineering Evaluation of NFPA 24, Private Fire Service Mains and Their Appurtenances, and NFPA 30, Flammable and Combustible Liquids, December 30, 1993 (RIMS R92 931230 801).

32. "Appendix R - Welded Plate Penetration Seal Evaluation", Calculation MD-Q0100-940033.

33. Press Mechanical, Inc., UL Qualification Report No. 1167-COM-AFNEX/ DURA-1, titled "Commentary on Press-QUAL-AFNEX/DURASTEEL-UL-1, Rev. 1", Job No. 1167, Contract No. 21042-M0328Q.

34. DCN T20662A.

35. Letter, O. J. Zeringue (TVA) to NRC, "Response to Generic Letter 92-08, "Thermo-Lag 330-1 Fire Barriers, Revision 1", May 10, 1993 (RIMS R08 930510 952).

TABLE 1 - HEAT OF COMBUSTION/COMBUSTIBLE LOADING

PCB TRANSFORMER FLUID - PYRANOL		79,000 BTU/GAL
HYDRAULIC FLUID		106,300 BTU/GAL
FYRQUEL EHC FLUID		128,500 BTU/GAL
LUBE OIL		145,000 BTU/GAL
XYLENE		127,093 BTU/GAL
SOLVENT (DEGREASING)		101,000 BTU/GAL
WOOD - PAPER	9,000 BTU/LB OR	333,000 BTU/FT3
CELLULOSIC - CLOTH	8,000 BTU/LB OR	200,000 BTU/FT3
ELECTRICAL CABLE INSULATION	14,000 BTU/LB OR	1,207,000 BTU/FT3
FOAM PLASTIC		19,600 BTU/FT3
PLASTIC - PLEXIGLASS	1,207,000 BTU/FT3 OR	20,000 BTU/LB
CHARCOAL		14,900 BTU/LB
RUBBER	1,128,375 BTU/FT3 OR	19,125 BTU/LB
FIRE HOSE		12,000 BTU/LB
ACETYLENE		20,800 BTU/LB
PVC		7,730 BTU/LB
FIBERGLASS		14,000 BTU/LB
CORK	168,605 BTU/FT3 OR	11,240 BTU/LB
VINYL		11,428 BTU/LB
POLYSTRENE		18,088 BTU/LB
NYLON		13,652 BTU/LB

CABLE TRAYS

A. COMBUSTIBLE LOADING OF EXISTING CABLE TRAYS

TRAY TYPE	UNIT TYPE	BTU/FT
1-V4 TRAYS	UNIT 1 RB	126,294
1-V1 TRAYS	UNIT 1 RB	126,294
1-V2 TRAYS	UNIT 1 RB	126,294
1-V3 TRAYS	UNIT 1 RB	126,294
1-V5 TRAYS	UNIT 1 RB	116,109
2-V4 TRAYS	UNIT 2 RB	112,035
2-V1 TRAYS	UNIT 2 RB	112,035
2-V2 TRAYS	UNIT 2 RB	112,035
2-V3 TRAYS	UNIT 2 RB	112,035
2-V5 TRAYS	UNIT 2 RB	107,961
3-V4 TRAYS	UNIT 3 RB	86,233
3-V1 TRAYS	UNIT 3 RB	86,233
3-V2 TRAYS	UNIT 3 RB	86,233
3-V3 TRAYS	UNIT 3 RB	86,233
3-V5 TRAYS	UNIT 3 RB	143,948
4-V4 TRAYS	UNITS 1 & 2 DGB	64,505
4-V1 TRAYS	UNITS 1 & 2 DGB	64,505
4-V2 TRAYS	UNITS 1 & 2 DGB	64,505
4-V3 TRAYS	UNITS 1 & 2 DGB	64,505
4-V5 TRAYS	UNITS 1 & 2 DGB	64,505

TABLE 1 - HEAT OF COMBUSTION/COMBUSTIBLE LOADING (Cont'd)

TRAY TYPE	UNIT TYPE	BTU/FT
5-V4 TRAYS	UNIT 3 DGB	49,770
5-V1 TRAYS	UNIT 3 DGB	49,770
5-V2 TRAYS	UNIT 3 DGB	49,770
5-V3 TRAYS	UNIT 3 DGB	49,770
5-V5 TRAYS	UNIT 3 DGB	49,770
6-V4 TRAYS	CONTROL BAY	84,420
6-V1 TRAYS	CONTROL BAY	84,420
6-V2 TRAYS	CONTROL BAY	84,420
6-V3 TRAYS	CONTROL BAY	84,420
6-V5 TRAYS	CONTROL BAY	84,420
7-V4 TRAYS	INTAKE PUMP STATION	131,726
7-V1 TRAYS	INTAKE PUMP STATION	131,726
7-V2 TRAYS	INTAKE PUMP STATION	131,726
7-V3 TRAYS	INTAKE PUMP STATION	131,726
7-V5 TRAYS	INTAKE PUMP STATION	163,720
V-1 TRAYS	TB/SBGT/RW	126,294
V-2 TRAYS	TB/SBGT/RW	126,294
V-3 TRAYS	TB/SBGT/RW	126,294
V-4 TRAYS	TB/SBGT/RW	126,294
V-5 TRAYS	TB/SBGT/RW	143,948

B. COMBUSTIBLE LOADING OF NEW CABLE TRAYS

These values will be used for any future additions of cable trays to determine combustible loading.

CABLE TRAY TYPE (18")

	BTU/Ft
480V (V4 TRAYS)	116,900
CONTROL/SIGNAL (V1, V2, & V3)	233,690
4KV (V5 TRAYS, 3 PH GROUPING)	129,060
4KV (V5 TRAYS, RANDOM GROUPING)	163,720

C. COMBUSTIBLE LOADING OF NEW UNIT 1 CABLE TRAYS

24" Control/Signal (V2 trays)	311,587
15" Control/Signal (V2 trays)	194,742
12" Control/Signal (V2 trays)	155,793
9" Control/Signal (V2 trays)	116,845
6" Control/Signal (V2 trays)	77,897
4" Control/Signal (V2 trays)	51,931

C. COMBUSTIBLE LOADING OF NEW UNIT 1 CABLE TRAYS (cont.)

	BTU/Ft
24" Control/Signal (V3 trays)	311,587
12" Control/Signal (V3 trays)	155,793
6" Control/Signal (V3 trays)	77,897
5" Control/Signal (V3 trays)	64,914
4" Control/Signal (V3 trays)	51,931
3" Control/Signal (V3 trays)	38,948
2" Control/Signal (V3 trays)	25,966
30" Control/Signal (V3/V2 trays)	389,483
24" Control/Signal (V3/V2 trays)	311,587
18" Control/Signal (V3/V2 trays)	233,690
12" Control/Signal (V3/V2 trays)	155,793
6" Control/Signal (V3/V2 trays)	77,897
24" 480V (V4 trays)	155,867
12" 480V (V4 trays)	77,934
18" 480V/Control,Signal (V4/V3 trays)	175,295
24" 480V/Control,Signal (V4/V3 trays)	233,727
24" 4KV/Power (V5 trays)	218,294

TABLE 2 - FIRE AREA COMPARTMENTATION DRAWINGS LIST

REFERENCE DRAWINGS

47W216-51
47W216-52
47W216-54
47W216-55
47W216-56
47W216-57
47W216-58
47W216-59
47W216-60
47W216-61
47W216-62

BROWNS FERRY NUCLEAR PLANT

UNITS 1, 2 AND 3

SAFE SHUTDOWN ANALYSIS

TABLE OF CONTENTS

1.0 INTRODUCTION AND SUMMARY OF ANALYSIS

The Code of Federal Regulations, 10CFR50.48 and 10CFR50 Appendix R, require that plant equipment which is necessary for safe shutdown be adequately protected from a fire event in any plant location. The scope of safe shutdown evaluations to demonstrate compliance can be achieved by defining a set of minimum safe shutdown systems and optimal operator action times required for safe shutdown. This analysis is valid for Units 1, 2 and 3.

Browns Ferry Nuclear Plant Units 1, 2 and 3 have been analyzed for an extended power uprate of 20% from 3,293 MWt to 3,952 MWt. The analysis provided herein reflects uprated conditions. References 69, 82 and 86 (Units 2 & 3) and Reference 85 and 87 (Unit 1) provide the detailed evaluation of the impact on various plant safety parameters based on power uprate. The objectives of the evaluations were (1) to determine if the SSDS were capable of performing their design function at the increased power level in compliance with the requirements of 10CFR50.48 and 10CFR50 Appendix R and, (2) to determine if a change of operator action time during a fire event is required to support the power increase. Results of the evaluations demonstrate that EPU has no adverse effect on BFN Appendix R compliance.

The fire event postulated for the analysis can occur in any plant area and is severe enough to cause loss of system control or personnel evacuation of the control room. Under these circumstances, plant shutdown will be performed at the control room or at various locations outside the control room which have manual control of three MSRVs, one RHR pump aligned in the LPCI mode, one RHR heat exchanger, and one RHRSW pump. These systems form the minimum SSDS. High-pressure systems, i.e. HPCI or RCIC would be used for maintaining hot shutdown conditions in plant areas where they remain free of fire damage. At the start of the event, Units 1, 2 and 3 are assumed to be operating at full power, normal water level, and steady state conditions. The minimum SSDS are assured available for shutdown for all plant areas, and high pressure systems (HPCI or RCIC) are assured to be available for selected areas. As soon as entry conditions for the safe shutdown instructions (SSIs) are reached, the operator manually scrams the reactor, trips the main turbine, closes the Main Steam Isolation Valve (MSIVs), verifies scram, and, if necessary, evacuates the control room.

Immediately after scram and isolation, the reactor pressure increase is limited by the MSRVs operating in the pressure actuation mode. The function of the MSRVs in this mode is not affected by the fire, since the MSRVs are located in the inerted containment and they function in a mechanical mode which does not rely on external power. There is no credible potential for reactor overpressurization because the MSRVs are sized to accommodate this type of isolation event. There is no credible potential for fuel damage

1.0 INTRODUCTION AND SUMMARY OF ANALYSIS (Continued)

because this event is similar to the transient event of MSIV closure analyzed in the BFN UFSAR.

The isolation also causes a loss of steam supply to the feed water pumps which results in a loss of feed water flow to the reactor. Normally, other high pressure makeup systems such as High Pressure Coolant Injection (HPCI) and Reactor Core Isolation Cooling (RCIC) would operate to maintain reactor coolant inventory when substantial reactor inventory is lost due to the relief valve actuations. However, for the limiting case, these high pressure systems are assumed to be inoperable and the rate of inventory loss is maximized. This "boil off" continues with the reactor maintained at high pressure (1,100 psig) with inventory loss through the pressure actuation mode of the MSRVs until the operator can initiate manual actions at the control room or appropriate plant locations.

To achieve safe shutdown and to maintain reactor coolant inventory, the operator opens the MSRVs to reduce reactor pressure. When the reactor pressure drops below the shutoff head of the RHR system, the RHR pump, operating in the LPCI mode begins to inject water into the reactor. The high rate of coolant injection will rapidly replenish the inventory and reflood the core. The operator will continue to allow the reactor to depressurize and allow the LPCI flow to refill the system. Eventually the water level will rise to the main steam lines and spill out the MSRV lines back into the suppression pool. This mode is referred to as the alternate shutdown cooling path (Figure 3-1). By three hours into the event, a RHRSW pump is aligned to provide cooling water to the RHR heat exchanger to remove decay heat and to bring the reactor to cold shutdown.

To perform the safe shutdown analysis, the plant was subdivided into several fire areas. Each fire area has been evaluated to determine if one train of the minimum safe shutdown systems was available for a postulated fire. If the systems were available, the fire area met the Appendix R requirements. Otherwise, appropriate modifications were identified to bring the fire area into compliance with 10CFR50 Appendix R or exemption requests were submitted for approval.

Therefore, the documentation in this report is intended to demonstrate compliance with the regulatory requirements for a plant licensed to operate prior to January 1, 1979.

It should be noted that Section III.O of 10CFR50 Appendix R is not applicable to BFN because its primary containment's are inerted during normal power operation.

2.0 ANALYSIS METHOD

The methodology used to demonstrate the safe shutdown capability of the plant is consistent with the fire protection goals of the regulations in 10CFR50.48, 10CFR50 Appendix R, and the guidance of Generic Letters 81-12, 83-33, and 86-10. The analysis carefully integrated three major factors in demonstrating the plant compliance to 10CFR50 Appendix R:

a. Safe shutdown system performance,
b. Associated circuits effects, and
c. Plant configuration including equipment location and cable routing.

Identification of the safe shutdown system equipment is necessary so that it can be demonstrated that sufficient equipment is free from fire damage to safely shutdown the plant. Consideration of the associated circuits effects is necessary so that it can be demonstrated that the effects of a fire cannot defeat the available safe shutdown systems or create new events which are beyond the capabilities of the safe shutdown systems. Consideration of the plant configuration is essential in establishing the fire areas which have boundary fire barrier ratings exceeding the combustible loads within the area. A systems approach was used to obtain the necessary inputs from system performance and associated circuits. The systems input were made through the identification of acceptable safe shutdown systems based on their ability to meet the pre-established criteria consistent with the requirements of 10CFR50 Appendix R. The criteria were established in terms of limiting safety consequences, performance goals, and design basis requirements for BFN. A set of minimum safe shutdown systems was then selected and analyses were performed to demonstrate that they do indeed meet these criteria. The equipment, components, and cabling, including associated circuits were then identified for each system, so that their functions could be identified in the various fire areas.

The potential impact of associated circuits was also evaluated using a system approach. The associated circuits of common power source type and common enclosure type were evaluated to identify where they might affect safe shutdown. The potential impact of associated circuits of spurious operation type was determined by a systems analysis of all components which have the potential through spurious operation to defeat the safe shutdown system functions or potentially lead to a significant loss of reactor coolant inventory. The associated circuits were then identified by fire areas through the use of cable locations.

2.0 ANALYSIS METHOD (continued)

The fire areas were used to represent the actual plant geometry. All safe shutdown system functions and associated circuits were identified with their respective fire areas. These fire areas were established to readily demonstrate the ability of existing plant geometry to meet the separation requirements of 10CFR50 Appendix R. In some cases, fire zones were established within a fire area. The fire zones are those areas which meet the separation requirements of 10CFR50 Appendix R, Section III.G.2 but do not have a boundary barrier.

All three major inputs (systems, associated circuits and plant configurations) were combined in the safe shutdown evaluation for each fire area. In this evaluation, the availability of the minimum SSDS within a fire area was determined.

3.0 SAFE SHUTDOWN SYSTEM REQUIREMENTS AND CAPABILITY

The SSDS design requirements are based on the NRC requirements in 10CFRS0.48 and 10CFR50 Appendix R, subsequent NRC staff positions and guidelines and considering the current BFN design and systems performance capability.

The SSDS design requirements consist of a set of limiting safety consequences, functional performance goals, and design basis requirements. The limiting safety consequences are used in the evaluation of the SSDS in any fire area in the plant. The performance goals are used as the system requirements for safe shutdown. The design basis requirements are used to define the conditions under which the SSDS must operate. These design requirements and their bases are described below.

3.1 LIMITING SAFETY CONSEQUENCES

The limiting safety consequences used in the evaluation of the SSDS are:

a. No calculated fuel failure due to cladding temperature increases.

b. No primary system pressure in excess of the safety limits.

c. No primary containment pressure or suppression pool temperature in excess of allowable values.

3.0 SAFE SHUTDOWN SYSTEM REQUIREMENTS AND CAPABILITY (continued)

3.2 BASES FOR LIMITING SAFETY CONSEQUENCES

The limiting safety consequences for BFN are based on the required shutdown functions and guidance in Generic Letter 81-12, and in particular, those related to the fission product boundary integrity.

The limiting safety consequences associated with cladding temperature increases and primary system pressure increases inherently place constraints on the primary system parameters sufficient to assure adequate protection during a fire. The guidance given in Generic Letter 81-12 is that the process variables will be limited by those predicted for a loss of offsite power event. However, the design basis event defined in Generic Letters 81-12 and 86-10 is more severe than the loss of offsite power event. Therefore, the process variables may momentarily exceed those associated with the loss of offsite power event.

The BFN limiting safety consequence placed on suppression pool bulk temperature inherently places a constraint on the time allowed in hot shutdown without a tie to the ultimate heat sink. To preclude the suppression pool bulk temperature from exceeding its acceptable limit, the primary system is required to be depressurized and cold shutdown attained in less than 72 hours as identified in Generic Letter 81-12.

3.3 PERFORMANCE GOALS

To satisfy the requirements of the limiting safety consequences, unique performance goals were identified to establish the SSDS requirements with or without offsite power available. These performance goals are:

a. Reactor shutdown - insert sufficient negative reactivity to maintain the reactor in a cold subcritical condition.

b. Maintain coolant inventory - restore and maintain the reactor vessel water at an acceptable level sufficient to preclude calculated fuel failure due to cladding heatup.

c. Overpressure protection - prevent overpressurization of the reactor vessel in excess of the safety limits.

d. Decay heat removal - remove sufficient decay heat to achieve and maintain cold shutdown conditions to prevent fuel damage and to limit containment pressure and suppression pool bulk temperature increases.

3.0 SAFE SHUTDOWN SYSTEM REQUIREMENTS AND CAPABILITY (continued)

3.4 SSDS DESIGN REQUIREMENTS

Based on the performance goals, the following SSDS requirements are derived:

a. Cladding Heatup - Cladding temperature must be limited to less than 1,500°F to preclude fuel damage. Test results demonstrated that BWR fuel would not incur any fuel damage below 1,500°F cladding temperature (Reference 1). The use of a peak cladding temperature as a design requirement rather than no core uncovery is consistent with NRC guidance which establishes that short-term uncovery of the upper portion of the core during depressurization prior to reflooding is acceptable for a BWR (Reference 2).

b. Primary System Pressure - The peak reactor pressure shall not exceed 1,375 psig at the bottom head for upset events. The requirement that the primary system not exceed the Technical Specifications safety limit minimizes the potential for failure of the primary system pressure boundary (Reference 3).

c. Primary Containment Pressure and Temperature - The design requirements for the integrity of the primary containment (drywell and suppression pool) boundary are:

(1) The primary containment pressure shall be maintained below the ASME code design pressure of 56 psig to prevent overpressure of the primary containment boundary (Reference 4).

(2) The primary containment wall temperature shall be maintained below the design temperature of 281°F to prevent overstress of the primary containment boundary (Reference 4).

(3) The bulk pool temperature must be low enough to assure adequate suppression capability during reactor depressurization and to assure adequate net positive suction head (NPSH) for the systems using the suppression pool as a water source (Reference 64, 85 and 86).

By requiring that the bulk pool temperature is low enough for reactor pressure suppression and for continuous operation of the systems using suppression pool as a water source, the ability to achieve safe shutdown is assured. The suppression capability is determined by the heat capacity temperature limit (HCTL) of the suppression pool.

3.0 SAFE SHUTDOWN SYSTEM REQUIREMENTS AND CAPABILITY (continued)

3.5 DESIGN BASIS REQUIREMENTS

In order to demonstrate the safe shutdown capability of a given fire area, the conditions under which the SSDS must operate to achieve safe shutdown are as follows.

a. Separation Criteria

Based on Section III.G.2 of 10CFR50 Appendix R, the following means of protecting the redundant safe shutdown capability from postulated fires is acceptable.

(1) Separation of equipment, cables and associated circuits of redundant safe shutdown equipment shall be provided by a fire barrier having a three-hour rating or exceeding the maximum anticipated combustible loading for that area.

(2) Separation of equipment, cables and associated circuits of redundant safe shutdown equipment shall be provided by a horizontal distance of more than 20 feet free of intervening combustibles. Fire detectors and an automatic fire suppression system are required for such areas.

(3) Separation of equipment, cables and associated circuits of redundant safe shutdown equipment shall be provided by a fire barrier having a one-hour rating. Fire detectors and an automatic fire suppression system are required for such areas.

b. Initial Conditions

Units 1, 2 and 3 are operating at 100% power.

c. Primary Containment Fire

A postulated fire is not considered inside the primary containment since it is inerted with nitrogen during power operations.

d. Postulated Fire

A postulated fire is assumed to occur in any area containing electrical circuits or components necessary for safe shutdown, whether or not the area contains permanent combustible materials.

3.5 DESIGN BASIS REQUIREMENTS (continued)

e. Zone of Influence

A postulated fire will not exceed the zone of influence. The zone of influence of a postulated fire is assumed to be a 20-ft diameter cylinder from floor to ceiling in areas protected by detection and automatic suppression or areas bounded by fire rated structures. Equipment, cables, and associated circuits inside the zone of influence may be damaged by the fire.

A zone of influence is also a 20 ft. horizontal separation area which acts as a required boundary between two Fire Zones or redundant systems/components. The area within the zone of influence must have detection and automatic area suppression with no intervening combustibles unless otherwise approved. An exemption for no intervening combustibles in the Reactor Building's zones of influence has been approved by the NRC (Reference 51 and Item 9.0.d of this Safe Shutdown Analysis Report).

f. Intervening Combustibles

Intervening combustibles are significant quantities of in situ combustible materials located between redundant shutdown systems. Transient materials are not considered as intervening combustibles; however, they must be considered as part of the overall fire hazards within the area. Cables that are in cable trays which are either open or fully enclosed are considered as intervening combustibles. Cables coated with a fire retardant material are also considered as intervening combustibles. Cables that are enclosed in conduits are not considered as intervening combustibles.

g. Independent of Affected Fire Areas

One redundant path of systems, components, and circuits required to achieve and maintain hot shutdown shall be free of fire damage.

h. Associated Circuits

Associated circuits located in a fire area shall not defeat the shutdown capability of the plant. Associated circuits are those cables that have a physical separation less than that required by 10CFR50 Appendix R, Section III.G.2, and have one of the following:

3.5 DESIGN BASIS REQUIREMENTS (continued)

(1) a common power source with the shutdown equipment and the power source is not electrically protected from the circuit of concern by coordinated breakers, fuses, or similar devices, or

(2) a connection to circuits of equipment, including high-low pressure interface components, whose spurious operation would adversely affect the shutdown capability, or

(3) a common enclosure with the shutdown cables and

(a) are not electrically protected by circuit breakers, fuses or similar devices, or

(b) will allow propagation of the fire into the common enclosure, or

(4) a 250V DC control circuit whose failure would cause the loss of control power to electrically operated breakers creating associated circuits of concerns of either the common power source type or the common enclosure type, should a sequential failure of an associated load power feed cable occur.

Spurious actuation associated circuits of concern outside of containment are analyzed in accordance with Appendix R Sections III.G.2a, III.G.2b and III.G.2c criteria as required safe shutdown circuits. Credible electrical faults considered in the analysis included open circuit, short circuit (conductor-to-conductor, short to ground, and cable-to-cable hot short). Analog signal conditioning devices affected by fire are considered to have full scale or zero output. Three phase hot shorts and/or double hot shorts on underground DC circuits were considered credible for high-low pressure interface valves, but not credible for analysis of other circuits.

A fire in any single fire area or fire zone (1) will not result in the spurious opening of all available isolation valves in a single high-low pressure interface line, if such opening would adversely affect the safe shutdown capability, and (2) will not result in a spurious actuation or signal that affects safe shutdown components so as to adversely affect the safe shutdown capability. Based on the fire detection and suppression installed in the plant, fire development is considered to be slow and progressive allowing time to respond to spurious actuations one at a time.

3.5 DESIGN BASIS REQUIREMENTS (continued)

i. Application of Safety Criteria

The SSDS is exempted from the following safety criteria or standards, except those portions of the SSDS which interface with or impact other safety systems:

(1) Seismic Class I

(2) Institute of Electrical and Electronics Engineers (IEEE) Class IE requirements

(3) Single failure criteria

j. Event Assumptions

No design basis event, except for the loss of offsite power, is considered concurrent with a postulated fire. A fire is not assumed to occur simultaneously or coincident with the recovery from any abnormal condition. Safe shutdown system alignments, due to abnormal and/or infrequent operating modes, are not required to be considered in the Appendix R analysis.

k. Independent of Offsite Power

The SSDS shall be capable of operation with either offsite power available or unavailable for up to 72 hours.

l. Process Monitoring

Direct process signals shall be provided to monitor the safe shutdown process and to assist in determining proper actions for operation of the SSDS.

m. Auxiliary Systems

Supporting functions capable of providing process cooling, lubrications, etc., necessary for operation shall be included in the SSDS.

n. Manual Operation

Manual actions by operations personnel may include manipulation of equipment located anywhere in the plant if accessibility and staffing levels permit such actions.

3.5 DESIGN BASIS REQUIREMENTS (continued)

o. Manual Action Time

Time limits for manual operation of the SSDS outside the control room shall be defined and justified.

3.6 MINIMUM SYSTEM SELECTION

Evaluation of the various possible combinations of systems was performed to determine the minimum systems within each train required to satisfy the four performance goals. These minimum systems were used to provide the safe shutdown capability with a loss of offsite power and/or degradation of onsite power boards. They also determined if a fire area has adequate shutdown capability or if alternative shutdown capability must be provided to satisfy the performance goals and meet the design requirements.

The systems required to satisfy each of the performance goals and meet the separation requirements of Appendix R are described as follows:

3.6.1 Reactor Shutdown

To accomplish the reactor shutdown function, either automatic scram or manual reactor shutdown is required. If automatic scram is required the RPS must be capable of initiating reactor scram through actuation of the CRD scram function. If manual control rod insertion is required, a manual reactor shutdown can be initiated.

The RPS is designed to initiate an automatic scram. The RPS initiating parameters must be available for the automatic scram. The RPS is a fail-safe design and thus meets the performance goals under the design basis requirements. If automatic scram is not available during a fire event in a fire area, including the control room or cable spreading room, the operator can perform the manual control rod insertion. The manual control rod insertion via a manual scram is also fail-safe. Reference 4 describes the fail safe scram function.

Therefore, both the RPS and the CRD are safe shutdown systems which are always available to perform their intended functions for any given fire. The subsequent fire area evaluation will consider that the RPS and CRD are available independent of the presence of their components or circuits.

3.6 MINIMUM SYSTEM SELECTION (continued)

3.6.2 Overpressure Protection

Overpressure protection prior to depressurization is provided by the MSRVs. This function is provided by the self-actuation mechanical mode of the MSRVs which is located in the inerted drywell. Since a fire cannot affect the mechanical operation of the MSRVs and the MSRVs are sized to provide adequate overpressure protection (Reference 4), the performance goal of overpressure protection is always satisfied for a given fire event.

3.6.3 Maintenance of Coolant Inventory

a. With Low Pressure Systems

Restoration and maintenance of reactor coolant inventory is accomplished through the automatic or manual actuation of the main steamline isolation system when required and the manual operation of the MSRVs to depressurize the reactor vessel followed by the manual operation of the RHR system in the LPCI mode. The main steamline isolation system consists of the MSIVs, and associated logic instrumentation.

As described in Reference 7, the main steam line isolation system is a fail-safe design and is therefore available for all fire areas. The availability of the automatic or manual operation mode of the MSRV and RHR systems for each fire area was determined by detailed evaluation.

b. With High Pressure Systems

Restoration and maintenance of reactor coolant inventory prior to depressurization is accomplished through the automatic or manual actuation of the HPCI or RCIC system(s). Suction can be taken from either the condensate storage tank or suppression pool. However, automatic switchover is only available and credited for the HPCI system, and RCIC will require a manual alignment of the suction source if the CST becomes depleted. The availability of these systems and makeup water sources for specific fire areas/zones was determined by detailed evaluation.

3.6.4 Decay Heat Removal

Decay heat removal is provided by manual operation of the RHR system in the LPCI mode. The RHR pump circulates suppression pool water through the RHR heat exchanger into the reactor

3.6 MINIMUM SYSTEM SELECTION (continued)

vessel. The manually operated MSRVs provide a path for the heated reactor water to return to the suppression pool. Decay heat is removed by the RHR service water (RHRSW) as the coolant passes through the heat exchanger. The availability of these systems for each fire area was determined by detailed evaluations.

3.7 MINIMUM SSDS DESCRIPTION AND EQUIPMENT SELECTION

This section describes the minimum SSDS and identifies the necessary components of the system required to achieve safe shutdown for any fire area in BFN. The discussion presented in Section 3.6 concludes that, by virtue of their design, the MSRVs in mechanical operation, RPS, CRD, and MSL isolation systems are available for every fire area to satisfy their intended performance goals. Thus, these systems do not require further considerations in the fire area analysis.

The minimum SSDS, therefore, includes only the manual or automatic control of the MSRVs, RHR in LPCI mode, and the RHRSW system. The control for HPCI or RCIC is also included in the minimum SSDS capability for fire areas where they are available. For presentation purposes, those systems are considered the primary systems, i.e., systems which directly satisfy the performance goals. The primary systems require support from the auxiliary systems, such as onsite ac and DC power. They also require instrumentation to monitor for proper operation. The primary systems, auxiliary systems and instrumentation which comprise the minimum SSDS are described below.

3.7.1 Primary Systems for Minimum SSDS Capability W/O H.P.Systems

This section describes the primary systems for the minimum SSDS in fire areas where high pressure systems are not available. The primary systems which provide the safe shutdown capability to fulfill the established performance goals are:

a. MSRV system
b. RHR system in LPCI mode
c. RHRSW system

The primary systems are shown in Figure 3-1.

3.7.1.1 MSRV System

The MSRVs for the minimum SSDS are required for two shutdown functions. They must have the capability to manually depressurize the reactor vessel. This enables the RHR system to operate in the LPCI mode to perform the inventory makeup function. They must also provide a path to transfer decay heat removal.

Each BFN unit has 13 MSRVs. All valves are capable of manual operation from the control room. Four of these 13 valves for each unit can also be operated (open-close) from outside the control room at the backup control panels. The electrical operation for the remaining valves may be disabled (closed) from outside the control room to prevent spurious operation.

The manual operation of each valve requires the MSRV itself, air supply, a solenoid valve for the air supply, a 250V DC power supply for the solenoid valve, and the circuitry for manual operation. For the minimum SSDS, any combination of three operable MSRVs is sufficient to satisfy the performance goals within the design basis requirements. To operate the three MSRVs for the minimum SSDS, the manual control and power cables are required. To facilitate the safe shutdown analysis, any three MSRVs are considered as a redundant train. Thus, the safe shutdown analysis only needed to show that the MSRV cable routings are adequately separated so that three MSRVs are available for safe shutdown.

3.7.1.2 RHR System

The LPCI mode of the RHR system is the minimum SSDS to maintain reactor inventory. The RHR system in its LPCI mode is designed to provide a high capacity low pressure source of makeup water to the reactor vessel to assure adequate core cooling for a spectrum of conditions which can depressurize the rector vessel. Following reactor depressurization, the RHR system may be manually operated to inject flow from the suppression pool to the reactor vessel through the recirculation line.

3.7.1.2 RHR System (continued)

In addition to providing makeup inventory, the LPCI mode is also used for decay heat removal. This function is accomplished by continuously pumping suppression pool water through the RHR heat exchanger to allow the RHRSW to remove the pool heat to the ultimate heat sink (Figure 3-1). This function is normally provided by the SPC mode of the RHR system. However, for minimum SSDS, the LPCI mode combined with the MSRVs will be adequate for decay heat removal.

The minimum set of equipment which would allow the RHR system to operate in the LPCI mode and satisfy the performance goals of maintaining coolant inventory and removing decay heat is one RHR pump, the pool suction valve and the two LPCI injection valves. The pool suction valve and the outboard LPCI injection valves are normally open. The inboard LPCI injection valve is normally closed. The pool suction valves do not have automatic control circuitries.

The LPCI injection valves have automatic opening circuitries. The automatic open circuitries and limit switch circuitries of the LPCI inboard injection valves and the manual control circuitries of the RHR pumps and outboard injection valves are required to be independent of the fire area under consideration.

3.7.1.3 RHRSW System

To limit suppression pool bulk temperature and containment pressure, the RHRSW system is used to remove decay heat from the suppression pool. This mode of operation is known as the alternate shutdown cooling mode. Operation of the alternate mode includes opening of the MSRVs and filling the reactor vessel so that it overflows through the MSRVs back into the suppression pool. The RHRSW system will provide cooling water to the RHR heat exchangers to remove the reactor decay heat stored in the suppression pool.

3.7.1.3 RHRSW System (continued)

The RHRSW system is a shared system for all three units. This shared system consists of four pairs of RHRSW pumps assigned to the RHR systems. Each of the pairs feeds one independent RHRSW header which, in turn, feeds one RHR heat exchanger in each unit.

Each RHRSW header is physically, mechanically, and electrically independent of the alternate headers performing the same function. The entire RHRSW system also includes the EECW system. The EECW system will be discussed in Subsection 3.7.3.3. The RHRSW and the EECW systems are connected such that the RHRSW pumps A1, B1, C1, and D1 are backups for the normal EECW pumps. The backup design has been analyzed for availability but is not required for the minimum SSDS.

Although the RHRSW system is a shared system, manual operation of the system is available at each unit from inside and outside the control room. The normal operation of the RHRSW system requires AC power for its pumps and valves. For the minimum SSDS, at least one RHRSW pump per unit must be available to remove decay heat. Analysis for the evaluation fire event shows that safe shutdown can be achieved by placing the RHRSW pump in service at two hours after event initiation. The allowable time for RHRSW provides the flexibility of local manual operation of its pump and valves. The start of the RHRSW pump requires the power cables and backup control circuitry. The RHRSW valves are either manually opened without electrical power or operated from the main control room with electrical power.

3.7.2 Primary Systems for Minimum SSDS Capability With H.P. Systems

This section describes the primary systems for the minimum SSDS in fire areas where high pressure systems are available to maintain hot shutdown. These are in addition to SSDS described in Section 3.7.1. These primary systems are:

a) HPCI System
b) RCIC System

3.7.2 Primary Systems for Minimum SSDS Capability - With High Pressure Systems Available (continued)

a. The HPCI system can maintain the unit in hot shutdown conditions for two hours without suppression pool cooling (Reference 64, 85 and 86). After this period, the manual control of the MSRVs, RHR in LPCI mode, the RHRSW system, the required auxiliary systems, and the monitoring instrumentation must also be available for cold shutdown. The HPCI system is designed to supply high pressure makeup water to the reactor vessel under conditions where the normal feedwater supply is not available. The HPCI system consists of a turbine-driven pump, turbine lube oil system, gland seal condenser and associated piping, valves and instrumentation. The HPCI system is powered from the plant 250V DC power system.

   The HPCI system is located within the Reactor Building, Control Building, and Turbine Building. However, the Turbine Building only contains connection from the HPCI pump to the condensate storage tank and the HPCI steam line drain. This portion of the HPCI system is not required for its operation during a Turbine Building fire. Therefore, the minimum equipment for HPCI is only that located inside the Reactor Building and the Control Building.

b. The RCIC System can maintain the unit in hot shutdown conditions for two hours without suppression pool cooling (Reference 64, 85 and 86). The RCIC system is designed to supply high pressure makeup water to the reactor vessel under conditions when normal feedwater and HPCI are not available. The RCIC system consists of a turbine driven pump, turbine lube oil system, associated piping, valves and instrumentation. The RCIC system is located in the Reactor Building, Control Building, and Turbine Building. Its availability for specific fire areas was determined by evaluation, including its power requirements from the plant 250V DC power system.

3.7 MINIMUM SSDS DESCRIPTION AND EQUIPMENT SELECTION (continued)

3.7.3 Auxiliary Systems for Minimum SSDS

The auxiliary systems support the functioning of the primary systems. The auxiliary systems used to support minimum SSDS are:

- Auxiliary Power System (Onsite AC)
- 250V DC Power System
- EECW
- Diesel Auxiliary System
- MSRV Control Air Supply System
- Fire Protection
- HVAC
- Instrumentation
- Emergency Lighting
- Communication

The function of the individual auxiliary system and its relationship to the minimum SSDS is described as follows:

3.7.3.1 Auxiliary Power Supply System (APS)

The required AC power supply for the minimum SSDS can be supplied from either offsite or onsite sources.

Because of the requirement to consider the loss of offsite power concurrent with the fire, the onsite AC power source is selected for the auxiliary systems. The onsite AC power system consists of the standby diesel generators, 4kV and 480V shutdown boards, 480V HVAC boards, 480V reactor motor operated valve (RMOV) boards, 480V diesel auxiliary board and associated components of the AC power distribution system.

The Auxiliary Power System (APS) consists of four diesel generators for Units 1 and 2 and four for Unit 3. Each diesel generator supplies power to a 4kV shutdown board. Each 4kV shutdown board provides power to the RHR, RHRSW, EECW pumps and electric driven fire pumps. The 4kV shutdown boards also provide power to the 480V boards via stepdown transformers. The 480V shutdown boards supply power to the 480V RMOV boards which

3.7.3.1 Auxiliary Power Supply System (APS) (continued)

provide power to the RHR valves and the RHRSW valves. The 480V shutdown boards also supply power to the 250V battery chargers.

System design also allows alternate diesel generators to supply power to the shutdown boards through the intertie lines. The intertie design feature provides various combinations of diesel generator and power boards to achieve safe shutdown.

3.7.3.2 250V DC Power System

The DC power system provides power to the solenoid valves for the manual operation of the MSRVs and for the instrumentation required for event monitoring capability. It also provides control power to the 4kV and 480V electrically operated breakers. For areas where high pressure systems are available, 250V DC power is also required to support the operation of certain valves associated with HPCI, RCIC and RHR.

The 250V DC power system is a shared system consisting of batteries, battery chargers, and battery boards. The 250V DC power system is made up of two subsystems:

a. The 250V DC plant system, which consists of three batteries, (one unit battery and battery charger per unit, and one spare battery charger).

b. The 250V DC control power supply system provides control power supply to 4kV shutdown boards A, B, C, D, and 3A, 3EB, 3EC, 3ED and 480V shutdown boards 1A, 2A, 1B, 2B, 3A and 3B. It has eight batteries (one battery and battery charger for each shutdown board). The 8 batteries are: 1, 2, 3, SB-A, SB-B, SB-C, SB-D and SB-3EB.

For the safe shutdown operation during an Appendix R fire event, the unit batteries must provide continuous DC power supply to operate MSRVs, HPCI or RCIC and event monitoring. To meet the performance goals of the minimum SSDS, sufficient DC power must be available to

3.7.3.2 250V DC Power System (continued)

achieve and maintain cold shutdown. The DC power requirement is to provide one battery charger (normal or alternate) for each required unit battery and shutdown board battery after event initiation where the battery charger is available. For those cases where a battery charger is not available, the battery has sufficient power to perform its required functions (Reference 6).

3.7.3.3 Emergency Equipment Cooling Water System (EECW)

To satisfy the performance goals for the minimum SSDS, the EECW is to provide cooling water to the standby diesel generators and HVAC equipment. The EECW system consists of four RHRSW pumps (A3, B3, C3, and D3) which have been assigned as the principal supply. Two pumps feed each EECW supply header. There are two completely redundant and independent headers. The headers provide flow distribution to the necessary equipment through the piping and valving arrangement. However, the EECW is designed such that valve alignment is not required to provide cooling water to the standby diesel generators. Strainers are provided for each of the EECW pumps. These strainers are of the continuous backwash type. For certain fire areas, power supply to these strainers may not be available due to fire damage. Procedures are in place to manually backwash these strainers at designated intervals.

Hence, the minimum SSDS for BFN requires at least two EECW pumps to provide cooling water automatically after the start of a diesel generator.

Two EECW pumps are assured on the same header, and spurious operation of the EECW sectionalizing valves has been precluded from affecting the EECW flow paths to the minimum SSDS equipment.

3.7.3.3 Emergency Equipment Cooling Water System (EECW) (continued)

At least one of the EECW pumps in the pair credited for a given fire area or zone could potentially have a portion of its auto-start capability impacted due to a fire. This impact is the result of cables associated with the Raw Water low pressure start signal being damaged during the fire. While the auto start from a low water header pressure could be lost, the auto start signal that is generated as a result of the associated EDG running (i.e. diesel running recognition) will not be impacted. (Reference 56)

For those fire areas/zones where the auto start capability might be affected (except for Fire Areas 16 and 25), the ability to manually start the EECW pumps from the Main Control Room will also be available. This action would be carried out by the MCR Unit Operator when instructed by the SSI to verify that the EECW pumps are operating. In the event of a fire in Fire Areas 16 or 25 an operator action would need to be taken at the 4KV SDBDs to isolate the control circuit, and start the pump. In the event a manual start of the EECW pumps is required, this action needs to be completed with 10 minutes of the diesel starting to prevent its potential overheating.

Details of the above are provided in the EECW pump control circuit analysis (Reference 56). Thus, the minimum equipment for EECW includes the power cables to the pumps and the control cables for the auto-start circuitries on the diesel generator running recognition signals.

3.7.3.4 Diesel Auxiliary Systems

The successful operation of the standby diesel generator to supply AC power to the minimum SSDS requires diesel control power, diesel starting air system, diesel fuel oil storage and transfer system, diesel lube oil and diesel HVAC. The diesel control power is provided by a 125V DC battery. Each diesel generator has its own battery located in the diesel generator room. Each diesel generator also has two completely independent air staring systems, either of which is capable of starting the

diesel generator. These starting air systems are also located in the diesel generator room and are not connected to any other control air systems in the plant. The diesel fuel oil storage and transfer system located inside the diesel generator building consists of three interconnected, horizontal, cylindrical tanks for each diesel unit, a total of 24 for the eight diesel generators. The tanks are embedded in the substructure of the Diesel Generators Buildings. Minimum storage capacity contains an adequate fuel supply for operating six diesel generators at full load for more than seven days. Lubricating oil for the diesel generators is provided by an internal gear driven pump located inside the respective Diesel Generator. The diesel HVAC is provided by the exhaust fans. The exhaust fans require power from the 480V diesel auxiliary boards.

These boards and the control circuits are located inside the Diesel Generator Building for their respective diesel generators.

Hence, Diesel Auxiliary System is self-contained in each Diesel Generator Building (i.e., fire areas 20 and 21) and will remain available for fires occurring outside the Diesel Generator Building fire areas.

3.7.3.5 MSRV Control Air Supply

The MSRVs require control air (pneumatic) supply for the manual operation. The drywell control air system provides the normal air supply to all 13 MSRVs for each unit. The six valves with the ADS functions are equipped with their own accumulators,

3.7.3.5 MSRV Control Air Supply (continued)

one for each valve, as the emergency air supply. The accumulators are sized to contain sufficient air for a minimum of five valve operations. The MSRV air supply is normally available through the automatic air depressurization system (ADS) accumulators and drywell control air receiver tanks. Two mechanical connections to the CAD system will be used to provide long term air (nitrogen) supply. Each CAD system connection to the drywell control air system is able to supply nitrogen to one-half of the MSRVs. The connections use manual

valves. Electrical cables are not involved. Post fire shutdown procedures require the manual cross-connect valves on the CAD system to be opened in two hours, to provide long term air supply to the MSRVs. Analysis has shown that during this period sufficient air supply will be available through the ADS accumulators for MSRV operation (Reference 9). To satisfy the performance goals for the minimum SSDS, CAD system nitrogen will be adequate to sustain the 72 hours of safe shutdown operations.

3.7.3.6 Fire Protection System

The fire protection system does not directly contribute to the safe shutdown process. However, the fire protection system is required to confine and extinguish a fire so that at least one train of SSDS remains free of fire damage.

Refer to the Fire Hazard Analysis and Fire Protection Plan Sections for details of the various fire protection features.

3.7.3.7 HVAC System

HVAC systems are required to maintain suitable environmental conditions for post fire shutdown procedures and maintain temperatures within specified limits in areas where safe shutdown equipment is located. A detailed analysis was performed (Reference 10) using the Martin Marietta Interactive Thermal Analysis System (MITAS II) program, Thermal Model Generator (TMG), and other conventional heat transfer methods to determine temperature rise in various areas of the plant (i.e., reactor, control and diesel building, and intake pump station) upon loss of HVAC. The thermal

3.7.3.7 HVAC System (continued)

analysis model considered concrete as heat sinks. Transient conduction and convection heat transfer were also considered. Based on this analysis, those areas where a loss of HVAC was not acceptable, due to substantial increase in temperatures, corrective actions were identified. Other areas where there was no significant increase in temperatures or areas where the effect of loss of HVAC could be mitigated by utilizing compensatory measures (e.g., 3.7.3.7 open doors, turn off lights, use portable fan units) were also identified. The HVAC Systems serving the control building, diesel generator rooms, RHR pump rooms, and the Unit 3 shutdown board rooms are available free of fire damage for fires outside those areas except for a fire in Fire Zone 3-3 where required fire dampers may spuriously close to block air flow into and out of the Unit 3 Electrical Board Room. Manual actions have been specified to realign the affected dampers to address the loss of normal ventilation in this area (Reference 68). HVAC systems serving the Unit 2 and Unit 3 shutdown board rooms are available for a fire inside the control building. Suitable environmental conditions can also be maintained in these and other required areas of the plant by taking compensatory measures such as opening doors, turning off normal plant lighting, and use of portable air blowers if necessary. Detailed procedures in conjunction with the Safe Shutdown Instructions (SSI) are available outlining actions to be taken to preclude unacceptable temperature increases in areas housing safe shutdown components. Reference 68 evaluates the acceptance of these compensatory measures when the normal ventilation systems are not available.

The minimum requirement for the HVAC system is to provide cooling in the control building, Units 1, 2 and 3 shutdown board rooms in reactor building, diesel generator rooms and RHR pump rooms. The minimum equipment includes chillers, air handling units, air conditioning units, chilled water pumps, exhaust fans, supply fans, associated dampers and instrumentation. See Reference 56 for detailed listing of required minimum HVAC equipment.

3.7.3.8 Instrumentation for Minimum SSDS

The required instrumentation to support the minimum SSDS includes reactor vessel pressure, reactor water level, suppression pool level, suppression pool temperature. Drywell pressure and temperature indication is not required for Appendix R based on bounding conditions in the Extended Power Uprate and Station Blackout Analyses (References 44 and 45).

Even though not required, these instruments are included in the Appendix R analysis, FPR Part 3, Section 8 table and SSI's as credited additional monitoring instrumentation for the operators. The measurement of reactor vessel pressure is used to determine when the RHR system can function. The reactor water level is utilized to determine the need for additional coolant inventory. The combined information from the reactor vessel pressure and reactor water level alerts the operator to the need to depressurize the reactor to allow proper function of the RHR system.

The Suppression pool level and temperature instrumentation provides confirmation that the pool is operated within acceptable design limits to ensure its design function as a heat sink. Where available, drywell pressure and/or temperature indication has been added for those fire areas relying on HPCI and/or RCIC for the initial two hours. This is to provide the operators confirmation that the drywell shell temperature is within acceptable limits prior to initiation of a manual blowdown prior to two hours, if necessary.

The reactor pressure and level indications are provided by the Analog Trip Unit (ATU) system and the backup control system. The required instruments to supply these indications include transmitters and trip units. The instrumentation is grouped into three trains based on the divisional power supply and display location. For fires outside the control building, either train 1 or 2 will be available. For fires in the Control Building, indication will

3.7.3.8 Instrumentation for Minimum SSDS (continued)

be available at the backup control panels

(Reference 56).

The suppression pool level and temperature indication will be available in the main control room for all fire areas except for a control building fire (Fire Areas 16). For a fire in Fire Area 16, indication will be available at the backup control panels (Reference 56).

The drywell instrumentation is located inside the Units 1, 2 and 3 Reactor Buildings and the Control Building. The availability for this indication is determined by the availability of the 120V instrument and control buses powered from the 480V shutdown boards. The availability of drywell instrumentation is discussed in Reference 56.

3.7.3.9 Emergency Lighting

The emergency lighting is provided to ensure adequate lighting for the performance of the shutdown procedures. The locations for every manual action outside the control rooms as well as the access and egress routes to these locations are identified in Reference 31. The positioning of the existing emergency lights has been evaluated for suitability and human factors. The design of the lights was examined to ensure that they can provide up to eight hours of emergency lighting. Any inadequate lighting has been modified to meet the requirements of 10CFR50 Appendix R, Section III.J.

3.7.3.10 Communications

The large number of manual actions required for shutdown during a fire in vital areas dictates special considerations for communications. Redundant radio systems which can not be disabled by a single fire must be available for use by the operators when performing manual shutdown actions. The F4 radio repeater system and the cellular radio system provide two separate and independent communication circuits for use during these manual shutdown actions.

3.7.3.10 Communications (continued)

The F4 radio repeater system is located in the Unit 2 Reactor Building on Elevation 593'. The associated antenna system, which basically consists of long runs of coaxial cable (Radiax), extends from Unit 2 into Units 1 and 3, providing radio coverage for the Reactor Building. The F4 repeater system can be totally disabled only by a fire at the repeater location, Fire Area 2-4. However the cellular radio system remains available. The cellular radio system equipment is located on Elevation 586' of the Turbine Building, in the Yard in and around the Cellular Tower Communications Building, and at other remote locations controlled by the service provider. Its associated intra plant antenna system also consisting of Radiax, is routed in the Reactor Building on Elevation 565' and below, except for one vertical run in Unit 1 that extends up to Elevation 664'. The cellular radio intraplant antenna system also extends into the Diesel Generator Buildings, the Radwaste Building, the Radwaste Evaporator Building, the Service Building and the Turbine Building. Cellular radio coverage in site areas outside the primary plant buildings is provided by the cellular radio tower antenna located in the Yard. The cellular radio system can be totally disabled by a fire in the Turbine Building (Fire Area 25), a fire in the Yard, or a fire at the cellular service provider's premises. However the F4 radio repeater system will be available. Both the cellular radio system and the F4 radio repeater power supplies are backed by local uninterruptible power sources (Reference 57).

FIGURE 3-1 Primary Systems for Minimum SSDS W/O H.P. Systems

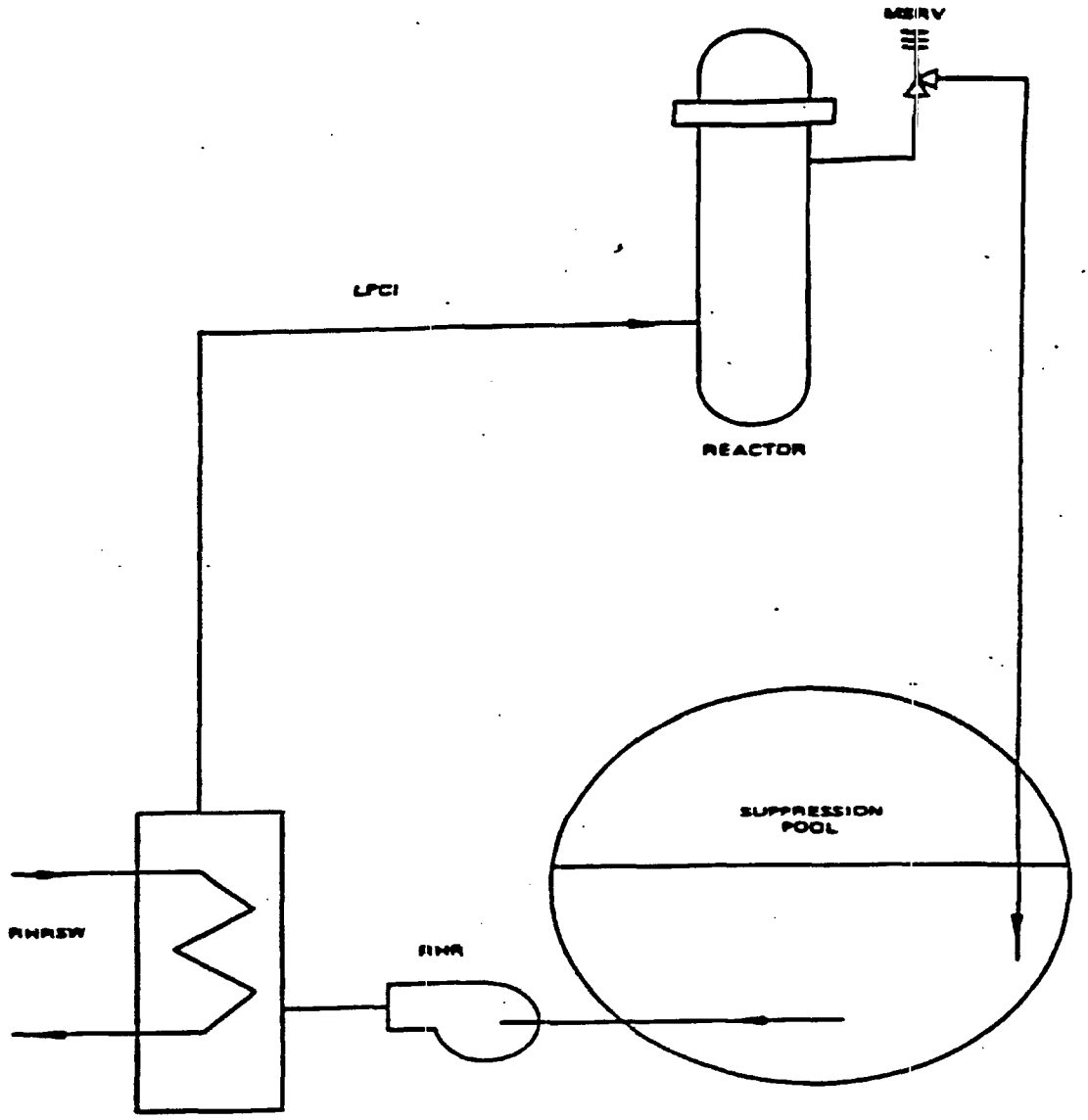


FIGURE 3-1. PRIMARY SYSTEMS FOR MINIMUM SSDS— WITHOUT HIGH PRESSURE SYSTEMS AVAILABLE

4.0 SAFE SHUTDOWN SYSTEMS PERFORMANCE ANALYSIS

This section presents the analyses which evaluate the safe shutdown capability of the minimum SSDS. The minimum SSDS was evaluated against the performance goals with the design basis requirements stated previously. As noted in Section 3.3, the four performance goals are reactor shutdown, overpressure protection, coolant inventory maintenance, and decay heat removal. The unique fail-safe design of the RPS and CRD will ensure that reactor shutdown can always be achieved. The self-actuated design of the mechanical mode of the MSRVs inside the inerted drywell will ensure that overpressure protection is always available. Therefore, these two performance goals are not evaluated here. The fail-safe design of the MSIVs will ensure reactor vessel isolation. This will maintain reactor inventory. Presented herein are the thermal-hydraulic analyses performed to evaluate the ability of the primary systems of the minimum SSDS to satisfy the performance goals. The minimum SSDS must provide sufficient coolant inventory to prevent fuel cladding damage and remove decay heat to preserve containment boundary integrity. The analyses also considered the effects of associated circuits on the shutdown process performed by the minimum SSDS. Evaluations were also performed to assess the performance of the auxiliary systems and instrumentation.

4.1 PRIMARY SYSTEMS PERFORMANCE EVALUATION

Thermal-hydraulic analyses were performed to demonstrate the capability of the minimum SSDS to bring the plant to safe shutdown in an evaluation fire event. These analyses demonstrate that the primary systems are sufficient to achieve safe shutdown by satisfying the performance goals for fuel cladding integrity and containment integrity.

Specifically, the maximum core uncovery, uncovery duration, and subsequent peak cladding temperature (PCT), and the peak suppression pool temperature and pressure were evaluated for a postulated fire event to ensure fuel and suppression pool integrity. The minimum safe shutdown systems (SSDS) are composed of three MSRVs, one RHR pump aligned in the LPCI mode, one RHR heat exchanger, and one RHR service water pump. The postulated Appendix R fire event using the minimum SSDS was analyzed for three cases described below:

Case 1: No spurious operation of plant equipment occurs and the operator initiates ADS (3 MSRVs) at 30 minutes into the event.

4.1 PRIMARY SYSTEMS PERFORMANCE EVALUATION (continued)

Case 2: One MSRV opens immediately due to a spurious opening signal generated as a result of the fire. The MSRV is reclosed at 10 minutes into the event due to the operator action. The operator initiates ADS (3 MSRVs at 20 minutes into the event.

Case 3: One MSRV opens immediately as in Case 2, but remains open throughout the event. The operator initiates ADS (3 MSRVs) at 20 minutes into the event.

In addition, spurious operation of high pressure systems (feedwater, HPCI, RCIC and CRD) were reviewed and evaluated as appropriate. The MSL piping integrity was also calculated.

It should be noted that the analyses presented here address the long term effects of the worst case fire event. These analyses results are obtained from Reference 17, 85 and 86. Short term transient effects on fuel integrity and peak pressure limits are covered by the safety analyses performed in Reference 4.

4.1.1 Analysis Methods

The analysis methods used for determining the reactor vessel response and suppression pool response are discussed below.

4.1.1.1 Reactor Vessel Response

For the vessel performance evaluation, the SAFER model (Reference 70) was applied. The SAFER model is a thermal-hydraulic transient code developed by GE and approved by the NRC for long term inventory analysis of BWR loss-of coolant accidents (LOCAs) as well as other off normal reactor transients where the neutron kinetics are of no consequence. The SAFER model simulates all the BWR major vessel regions: lower plenum, guide tubes, core, core bypass, upper plenum, the initially subcooled region outside the core shroud, the saturated region outside the core shroud and the steam dome. In addition, flow, inventory, and heat transfer calculations are performed for a high power fuel assembly. The program solves the mass and energy balances for each region and the momentum equation for the flow loops. A single pressure is used for the thermodynamic property calculation. The SAFER model can simulate all BWR water makeup systems.

4.1.1.1 Reactor Vessel Response (continued)

The heat slabs corresponding to the vessel and the internals are treated as lumped bodies. The countercurrent flow limiting (CCFL) phenomenon is considered at all restrictions between the major regions. Thermodynamic non-equilibrium is not considered.

For the fuel heatup analysis, the GESTR-LOCA model was used. This model provides the parameters to initialize the fuel stored energy and fuel rod fission gas inventory at the onset of a postulated LOCA or an Appendix R fire event for input to SAFER. Core heat transfer calculations are performed for seven axial nodes (five in the heated region). The one-dimensional radial conduction equation is solved for the fuel and cladding at each axial plane, using the GESTR-LOCA model for gap conductance. Rod temperatures are calculated for five fuel rods, simulating the range of power distributions in fuel assembles of different power levels.

4.1.1.2 Suppression Pool Response

For the containment evaluation, the SHEX code was used. The NRC has reviewed and approved the use of SHEX on a generic basis, as described in References 71 and 72. The SHEX models the long term thermal-hydraulic response of a BWR and its pressure suppression containment system during various normal and abnormal operating transients and LOCAs. The code models the major components of the reactor system which are the primary system or reactor pressure vessel and the pressure suppression containment system, which include the drywell and wetwell. The auxiliary components of the containment system transfer mass and energy from one major component to the other. The auxiliary systems includes all BWR water makeup systems.

4.1.2 Event Description

This section describes the event scenario for the evaluation fire event, i.e., a highly unlikely event of an uncontrolled fire in any plant area, such as the Reactor Building or

4.1.2 Event Description (continued)

Control Building, with the minimum SSDS as the only available systems. The fire is postulated to be severe enough to cause loss of system control or personnel evacuation of the control room. Under these circumstances, plant shutdown will be performed at the control room or at various locations outside the control room which has manual control of the minimum SSDS, i.e., three MSRVs, one RHR pump aligned in the LPCI mode, one RHR heat exchanger, and one RHR service water pump. The case with no spurious equipment operation is described below. At the start of the event, the reactor is assumed to be operating at full power, normal water level, and in steady state conditions. As soon as the operator decides that the fire cannot be extinguished immediately and control has deteriorated to an extent that it becomes necessary, he manually scrams the reactor, trips the main turbine, and verifies scram. The MSIVs will be closed and verified closed for all fire areas and zones. This set of manual actions can be performed easily and quickly. It should be noted that the consequences of the above manual actions are similar to those of a loss of offsite power (LOOP) event. During a LOOP event, the loss of power to the RPS and the fail-safe design of RPS will result in an automatic scram and MSIV isolation. The main turbine will also trip during a LOOP event. Therefore, the operator actions are also applicable for the unlikely event described above with concurrent LOOP.

Immediately after scram and isolation, the reactor pressure increase is limited by the MSRVs operating in the mechanical over pressure actuation mode. The MSRV components required for this function are located in the inerted containment. This is a function in the mechanical mode of operation, which does not rely on external power. There is no potential for reactor over pressurization because the MSRVs are sized to accommodate this type of isolation event. There is no potential for fuel damage because this event is similar to the transient event of MSIV closure analyzed in the FSAR.

The isolation also causes a loss of steam supply to the turbine driven feedwater pumps which results in a loss of feedwater flow to the reactor. Normally, other high pressure makeup systems, e.g., HPCI and RCIC, will operate to maintain water inventory when substantial reactor inventory is lost due to the relief valve actuations. However, for the limiting case these high pressure systems are postulated to be inoperable and the rate of reactor inventory loss is maximized. This "boil off" continues with the reactor

4.1.2 Event Description (continued)

maintained at high pressure (approximately 1,100 psig) with inventory loss through the pressure actuation mode of the MSRVs until the operators can initiate manual actions at the control room or appropriate plant locations. When required, the operator would open the MSRVs to reduce vessel pressure to achieve safe shutdown. The initial pressure decrease causes flashing of the saturated water and results in an increase in reactor water level during the blowdown. Eventually, the water level drops as the depressurization continues. When the reactor pressure drops below the shutoff head of the RHR system, the RHR pump, operating in the LPCI mode, would inject subcooled water into the reactor. The subcooled water will collapse the steam voids in the two-phase mixture which may result in a momentary drop in water level below TAF. However, the high rate of LPCI coolant injection will rapidly replenish the inventory and reflood the core. (It should be noted that the above scenarios conservatively assume that the automatic initiation of the core spray system and other RHR pumps would also be inoperative and hence not be available to maintain core inventory.) The operator will continue to allow the reactor to depressurize and allow the LPCI flow to refill the system. Eventually the water level will rise to the main steam lines and spill out the MSRV lines back into the suppression pool. This mode of operation is referred to as the alternate shutdown cooling path. The RHRSW pump is aligned to provide cooling water to the RHR heat exchanger to remove decay heat and bring the reactor to cold shutdown conditions.

4.1.3 Analysis Assumptions

Key parameters and assumptions are listed in Table 4-1.

a. Fuel Cladding Integrity Evaluation

The key inputs and assumptions for the fuel integrity evaluation are listed below.

1) The reactor is assumed to be operating at a full power of 3,952 MWt, 1,055 psia dome pressure and at normal water level at the time of event initiation. The 1,055 psia dome pressure is conservatively used to bound the operating dome pressure of 1,050 psia.

2) Loss of offsite power (LOOP) occurs concurrently with the event initiation.

4.1.3 Analysis Assumptions (continued)

3) The reactor scrams at event initiation.

4) The MSIVs begin to close at event initiation, fully closed in 4 seconds (nominal value).

5) Feedwater flow is assumed to ramp to zero in 5 seconds.

6) Spurious operation of one MSRV is assumed where appropriate.

7) The 1979 ANS 5.1 decay heat model is used.

8) A full GE14 fuel core is assumed because it yielded the worst small break peak cladding temperature (PCT) in the SAFER/GESTR-LOCA analysis (References 73, 74 and 82).

9) Note that an evaluation was performed for Units 2 & 3 to support the introduction of ATRIUM-10 fuel design (Reference 82). This evaluation was based on assumptions similar to the GE13 fuel analysis with the exception of reactor power and pressure parameters. The ATRIUM-10 analysis was based on the extended power uprate (EPU) parameters of 3,952 MWt and 1,050 psia dome pressure. The results of the ATRIM-10 evaluation demonstrated that the GE14 Appendix R analyses are bounding and therefore remain valid for the ATRIUM-10 fuel at the current licensed power level.

b. Suppression Pool Integrity Evaluation

The initial condition and key parameters utilized in addition those listed in "a" above are listed below.

1) The initial suppression pool bulk temperature and pressure are assumed to be 95°F and 15.95 psia, respectively (Reference 75).

2) The RHR heat exchanger is initiated at 2 or 3 hours into the event.

3) The RHR heat exchanger effectiveness is assumed to be 225.4 Btu/sec-°F corresponding to one RHR pump (in alternate shutdown cooling path)

4.1.3 Analysis Assumptions (continued)

at 6,000 gpm and one RHR service water pump at 4,500 gpm (Reference 17).

4) The service water temperature is 92°F (Reference 75).

4.1.4 Discussion of Results

The analysis results of fuel cladding and suppression pool integrity for each case in Section 4.1 are presented in Sections 4.1.4.1 through 4.1.4.3. The results for spurious operation of high pressure systems and the MSL drain piping integrity are included in Sections 4.1.4.4 and 4.1.4.5, respectively. The summary of Appendix R results for fuel integrity and suppression pool integrity evaluations are listed in Tables 4-2 and 4-3, respectively.

4.1.4.1 No Spurious Operations, Case 1

a. Fuel Cladding Integrity

Results of the analysis evaluating the fuel cladding integrity for Case 1 are shown in Figures 4-1, 4-2, 4-3 and 4-4. Figure 4-1 shows that immediately after scram and isolation, the reactor pressure increase is limited by the MSRVs. There is no potential for vessel overpressurization, since the MSRVs are sized for the most severe isolation event. The maximum reactor pressure is approximately 1,150 psig which is well below the Technical Specification Safety Limit of 1,375 psig. Therefore, the performance goal of overpressure protection is satisfied.

After the initial pressure peak, the reactor pressure cycles between the opening and closing setpoints of the MSRVs, at approximately 1,100 psig. This cycling continues until manual depressurization occurs at 30 minutes into the event. Because all high pressure makeup systems are not available, the reactor coolant inventory will be reduced by each MSRV actuation as shown in Figure 4-2. As the depressurization continues, the core begins to uncover. The core uncovery is defined as the water level

4.1.4.1a No Spurious Operations, Case 1 (continued)

(inside the core shroud) in both the average and hot channels below the top of active fuel (TAF). The extent of this core uncovery results in significant fuel cladding heatup.

The core uncovery and fuel cladding heatup are terminated when the reactor pressure drops below the shutoff head of the RHR pump (in the LPCI mode) which allows the RHR pump to rapidly reflood the core. For this event, the fuel hot bundle node having the highest PCT will be uncovered for approximately 450 seconds (Figure 4-3). As shown in Figure 4-4, the calculated PCT for this node is 1,485°F which is within the performance goal requirement of 1,500°F. Therefore, fuel cladding integrity is maintained.

b. Suppression Pool Integrity

The suppression pool bulk temperature and containment pressure response for this event is shown in Figures 4-5 and 4-6, respectively. As shown in Figure 4-5, the pool bulk temperature increases from its initial temperature of 95°F to approximately 130°F, at which manual depressurization is initiated as assumed. Suppression pool cooling mode is not available throughout the event. After depressurization, the RHR pump operating in the LPCI mode begins to inject water and refills the reactor. It continues to transfer the decay heat from the reactor vessel to the suppression pool by circulating the pool water through the reactor core and the three open MSRVs to complete the alternate shutdown cooling path. The RHR flow through the three open MSRVs is calculated to be in excess of 6,000 gpm.

If the RHRSW pump becomes available at two hours after event initiation, the pool temperature at two hours is approximately 200°F. When the RHRSW pump is first initiated, the heat removal capacity is less

4.1.4.1b No Spurious Operations, Case 1 (continued)

than the reactor decay power, and the pool bulk temperature continues to rise until the decay power drops below the RHR capacity. The calculated peak pool temperature is approximately 212°F at approximately 9 hours into the event. The corresponding pool pressure is approximately 18 psig (Figure 4-6). The maximum suppression pool bulk temperature and pressure are well below the design limits of 281°F and 56 psig, respectively.

c. NPSH Calculation

New ECCS suction strainers have been installed to provide the solution for the NRC concern of strainer blockage, the NPSH has been recently recalculated by the ECCS suction strainers replacement project (References 76 and 77). For the Appendix R fire event, the calculation is based on 212°F suppression pool bulk temperature, 10 psig suppression pool pressure and 6,000 gpm RHR pump flow. From the original vendor pump curves, RHR pump required NPSH at the pump design flow of 10,000 gpm is 24 feet. Therefore, the required NPSH value of 24 feet at 6,000 gpm as used in this analysis is conservative. The available NPSH is calculated to be approximately 37 feet. Consequently, the NPSH margin is approximately 13 feet. This combination of pool temperature and pressure are adequate to assure long term RHR pump operability. The 10 psig suppression pool pressure is conservatively used to calculate the NPSH instead of 18 psig. The required NPSH for flow rates below 6,000 gpm is assumed to be the same as the required NPSH for 6,000 gpm.

4.1.4.2 MSRV Spurious Operation for 10 Minutes, Case 2

The analysis results for the case of MSRV spurious operation for 10 minutes are shown in Figures 4-7, 4-8, 4-9 and 4-10. Figure 4-7 shows the initial pressure rise and cycling due to the reactor isolation. This is followed by a pressure decrease

4.1.4.2 MSRV Spurious Operation for 10 Minutes, Case 2 continued)

due to the spuriously opened MSRV. The reactor pressure reaches approximately 800 psia at 10 minutes when the operator takes action to close the valve. After the MSRV is reclosed the reactor pressure increases to the MSRV setpoints. The MSRVs then cycle to maintain the reactor pressure at approximately 1,150 psig until manual depressurization occurs at 20 minutes. The response of the reactor water level outside of the shroud response is shown in Figure 4-8. The water level outside of the shroud decreases steadily when the MSRV is opened. After the manual closure at 10 minutes, the water level becomes stable until the MSRVs actuate again at the pilot setpoints. Prior to manual depressurization, the core remains covered so that there is no fuel heatup. The depressurization, however, removes sufficient reactor inventory to cause some core uncovery. Compared to the Case 1 event, the uncovery period is shorter, approximately 405 seconds (Figure 4-9). The resulting PCT shown in Figure 4-10 is approximately 1,227°F which meets the performance goal of maintaining sufficient reactor coolant inventory to prevent fuel cladding damage.

The suppression pool bulk temperature response for this case is bounded by the results in Case 1. This is because less reactor inventory is lost to the pool as evident by the shorter uncovery period. Therefore, the performance goals of assuring long term RHR pump operation and maintaining primary containment integrity are satisfied.

4.1.4.3 MSRV Spurious Operation Throughout the Event, Case 3

The analysis results for the case where the spuriously opened MSRV is not closed are shown in Figures 4-11, 4-12, 4-13 and 4-14. For this case, the reactor pressure continuously decreases for 20 minutes. At this point, the reactor pressure is approximately 620 psia. Manual depressurization

4.1.4.3 MSRV Spurious Operation Throughout the Event, Case 3 (continued)

is then initiated and the reactor pressure decreases at a more rapid rate.

The reactor water level outside of the shroud also decreases at a steady rate for 20 minutes causing the core to be uncovered momentarily before the manual depressurization. The initial stage of the depressurization recovers the core. As the depressurization continues, the core becomes uncovered again. However, since the depressurization begins at a lower pressure, the RHR pump begins injection soon after initiation. This results in a short uncovery period of approximately 390 seconds (Figure 4-13). The water level inside the shroud, however, remains above the high power regions of the core so that the core heatup is much lower than the previous case. The calculated PCT is 1,155°F. Therefore, the performance requirement of maintaining fuel cladding integrity is met.

The suppression pool bulk temperature response for this case is bounded by the results in Cases 1 and 2. This is because less reactor inventory is lost to the pool as evident by the shorter uncovery period. Therefore, the performance goals of assuring long term RHR pump operation and maintaining primary containment integrity are satisfied.

4.1.4.4 Spurious Operation of High Pressure Systems

The low flow rates of RCIC and CRD, approximately 600 gpm and 200 gpm, respectively, are barely adequate to overcome the inventory loss due to the decay heat within the first 30 minutes into the event. Therefore, spurious operation of the RCIC and CRD systems will not cause water intrusion into the MSL.

During a fire event, the feedwater controller may spuriously operate to cause an increase in the feedwater flow. This could happen only if the fire event occurs with offsite power available and the operators in the control room. If offsite power

4.1.4.4 Spurious Operation of High Pressure Systems (continued)

is not available, the MSIVs would close automatically by their fail-safe design and the motive power to the feedwater pumps is isolated. If the fire requires control room evacuation, the operators would manually isolate the MSIVs prior to leaving the control room. This would prevent the feedwater pumps from overfilling the vessel. Consequently, both offsite power and control room must be available during the fire event in order for spurious operation of feedwater system to occur. Under these conditions, the operator would have full knowledge of the reactor conditions and could trip the feedwater pumps from the control room when the reactor water level approaches the MSL. Therefore, spurious operation of the feedwater system will not lead to water intrusion into the MSL.

The time at which the spuriously operated HPCI pump would fill the reactor vessel up to the MSL using the SAFER code is approximately 6 minutes without a high water level (level 8) trip (Reference 80). Spurious operation of HPCI was assumed to occur at event initiation. Therefore, operator action will be required to prevent water intrusion into the MSL in the case of spurious operation of HPCI. This conservatively assumes that the high water level trip is not available. The reactor water level response is shown in Figure 4-15. Analysis of the HPCI event with ATRIUM-10 fuel (Reference 82) indicates that the ATRIUM-10 and GE fuel have very similar thermal-hydraulic characteristics and the current analysis is applicable to cores containing ATRIUM-10 fuel.

4.1.4.5 MSL Drain Piping Integrity

Analysis Method to Determine Piping Integrity

The high-low pressure interface of the MSL drain is comprised of three motor operated valves. The pressure distribution in the MSL drain was found by determining the maximum flow rate achievable

4.1.4.5 MSL Drain Piping Integrity (continued)

through the pipe and the corresponding pressure drop.

Since the three valves cannot be instantaneously opened, the pipe will experience gradual pressurization as the valves stroke open. Thus, the maximum flow through the pipe is limited to a quasi-steady flow condition. The maximum flow through the pipe is limited due to choke flow in the piping system. The location of the choked flow was determined by comparing the maximum achievable flow rate through each restriction. This flow rate was derived using References 21 and 22, assuming compressible two-phase flow and an operating vessel pressure of 1,055 psia. With the maximum flow rate determined, the pressure drop in the piping was determined assuming two-phase flow.

Once the peak pressure in the low pressure section of the MSL drain was determined, it was compared to the rated pressure and the maximum allowable pressure for this pipe. The low pressure section of piping is 4-inch schedule 80, ASTM A106-B carbon steel. The design specification for this pipe is 400 psig at 450°F. However, the maximum allowable pressure for the as-built schedule 80 piping is significantly higher than 400 psig at the operating temperature. The allowable pressure and the analysis results are presented below.

The flow for the section of the MSL drain piping between the header and the main condenser was found to be limited at valve 1-58 which is a Y-globe valve. The choked flow rate is approximately 20.2 lb/sec. Based on this flow rate, the pressure distribution in the MSL drain was found. The pressure at the header upstream of the discharge piping was found to be approximately 1,022 psia. The maximum pressure in the low pressure section of the piping is 455 psia. This value is approximately 40 psi above the design value (less than 10%). However, the maximum allowable pressure for this section of piping was determined to be greater than

4.1.4.5 MSL Drain Piping Integrity (continued)

1,100 psig, based on the thickness of the piping, the allowable stress of the material, and the service temperature. Since the maximum pressure is less than 50% of the allowable value, it is concluded that this section of the piping would not be overpressurized and hence no pipe break would occur due to the spurious operation of the three isolation valves in the MSL drain piping.

4.2 AUXILIARY SYSTEMS PERFORMANCE EVALUATION

Auxiliary systems were selected for the minimum SSDS using the systems selection process previously described. The requirements on the auxiliary systems were based on analyses and engineering judgment. The following evaluation justifies the requirements for the auxiliary systems.

4.2.1 Evaluation of Auxiliary Power Supply System (APS)

The requirement for the APS is to assure sufficient diesel generators for the plant to provide 72 hours of AC power to the required minimum and auxiliary safe shutdown equipment. Reference 37 has calculated the diesel generator loading with Appendix R alignments for the various fire areas and zones. It was concluded that if the loads required for Appendix R APS alignment and the associated manual actions are considered, the diesel generator capacity will not be exceeded. The actual number of diesel generators required for each fire area will depend on the required load and load distribution on the diesel generators.

4.2.2 Evaluation of 250V DC System

The requirements for the 250V DC system are to provide a unit battery for operation of MSRV and event monitoring. Batteries for the 250V DC control power supply must also be available to protect the 4kV and 480V shutdown boards from associated circuit effects and for electrical operation of the breakers located on these boards. The unit battery must also support HPCI and/or RCIC operation. The battery chargers are connected where available. For those cases where the battery charger is not available, the battery has sufficient power to perform its required function (Reference 6).

4.2.3 Evaluation of EECW System

The two EECW pumps can provide up to 9,000 gpm flow to cool the diesel generators (Reference 4). The maximum required design EECW flow for the three unit plant is 9,800 gpm for the design basis events. These requirements include many loads which are not required for safe shutdown during an evaluation fire event, such as RBCCW system, air compressor coolers, and H_2-O_2 analyzers. These non-required loads account for approximately 50% of the maximum required design EECW flow and will be automatically isolated if the EECW pressure drops below the specified setpoint. Therefore, the two EECW pumps are more than adequate to provide the necessary cooling water for the minimum SSDS. Spurious closure of the EECW sectionalizing valves will be prevented by maintaining the valve breakers open during normal power operation.

For most plant areas, one set of the EECW pumps (A3 and C3, or B3 and D3) can start automatically. For areas where automatic start of both EECW pumps cannot be assured, one of the EECW pumps must be able to automatically start on the diesel generator run recognition signals. The EECW pump with auto-start capability for a specific fire area or fire zone will be able to provide cooling water for the diesel generators without being adversely interrupted by any spurious operation of the section isolation valves on the EECW headers. The other EECW pump is required to be manually started within 10 minutes after the start of a diesel generator, normally assumed to be at the event initiation.

This manual start requirement is supported by the diesel generator design and test results. The diesel generator is assumed inoperable if the jacket water reaches 208°F (Reference 23). The initial temperature for the jacket water is normally at 125°F. Two special tests were performed to determine the heatup rate of the jacket water without EECW available. The tests were performed by monitoring the temperature of the jacket water and the time when the

4.2.3 Evaluation of EECW System (continued)

thermostat would open. The first test was performed with the diesel generator unloaded (Reference 24). For this condition, the jacket water will not reach the design limit of 208°F within 16 minutes. The second test was performed with the diesel generator loaded to 2,200kW (Reference 25). The duration for the jacket water to reach the design limit is approximately 5 minutes for the loaded condition. The heatup rates from these tests would bound all possible load conditions for a diesel generator during a fire event (Reference 56). Therefore, if only one EECW pump is available to provide automatic cooling for the diesel generators the diesel generator will be partially cooled. Since one EECW pump provides approximately 80% of the cooling flow for the diesel generator, the diesel generator heatup rate will be less than those tested. Therefore, implementation of procedures with the necessary priority to start the other EECW pump within 10 minutes of the fire event will ensure the integrity of the diesel generator and the availability of APS. The above evaluation shows that the automatic start of one EECW pump combined with a manual start of another EECW pump within 10 minutes of event initiation would ensure safe shutdown with the minimum SSDS.

4.2.4 Evaluation of Diesel Auxiliary System

The Diesel Auxiliary System consists of the 125V DC power supply, the starting air system, the diesel fuel supply, diesel lube oil and HVAC. The Diesel Auxiliary System is required to support the minimum SSDS for 72 hours. The 125V DC power supply is designed to provide 3 starts of the diesel generator in 30 minutes without recharging (Reference 41). Thus, implementing appropriate procedures to supply power to the diesel auxiliary board within 30 minutes following diesel generator start would ensure the 125V DC power for the entire 72 hour period. The starting air system will provide two starts. Since the diesel generators are intended to run continuously, the two start capability would accommodate any necessary trip and restart of the diesel generator. The diesel fuel supply has adequate supply for operating six diesel generators at full load for more than seven days. The diesel lube oil is supplied by a gear driven pump inside its Diesel. The design basis of the lube oil system assures that adequate lube oil will be available for long term operation of the diesel generators. The diesel HVAC uses the exhaust fans. The exhaust fans will operate as long as power from

4.2.4 Evaluation of Diesel Auxiliary System (continued)

the 480V diesel auxiliary boards is available. The 480V diesel auxiliary boards are located inside their respective Diesel Generator Buildings.

Power to these boards is considered in the APS availability. The exhaust fans are sized for long term operation of the diesel generators. Therefore, the Diesel Auxiliary System has sufficient capacity to fulfill its function to support the maximum SSDS.

4.2.5 Evaluation of RHR Auxiliary Systems

The RHR auxiliary system provides RHR pump seal cooling when the RHR pump is placed in service. The RHR pump seal coolers utilize EECW to support its operation. Since the EECW pumps are available within 10 minutes after event initiation, the RHR pump seal coolers are also available then. The pool water temperature at this time is less than 130°F. The original rating for the RHR pump seals is a minimum of 160°F. However, the RHR pump seals rating have been re-evaluated and the new rating is well above 215°F (Reference 27).

Therefore, the integrity of the RHR pump seal and the RHR pump are maintained with this requirement. In fact, since the maximum suppression pool temperature is less than the RHR pump seal temperature rating, this eliminates the need for the seal cooling during safe shutdown operation. For this reason, the requirement for the RHR Auxiliary system has been deleted from SSDS.

4.2.6 Evaluation of MSRV Control Air Supply

The purpose of the MSRV control air supply is to provide pneumatic (nitrogen) supply to operate the MSRVs for safe shutdown after a fire event. The MSRVs have two safe shutdown functions. The MSRVs are required to depressurize the reactor vessel which allows the RHR system to operate in the LPCI mode and maintain coolant inventory. For this function, three MSRVs are required within the first 20 minutes of the fire event. The initial pneumatic supply for these MSRVs is from the two receiver tanks of the drywell control air system, each with a 57 ft^3 capacity. For those MSRVs with the ADS function, these valves have their own accumulators as backup pneumatic supply. These ADS accumulators are sized for five valve operations. Only one valve operation (to open valve) is required of the MSRVs (both ADS and non-ADS).

4.2.6 Evaluation of MSRV Control Air Supply (continued)

It is estimated that the receiver tanks of the drywell control air system are capable of holding the MSRVs open for at least one hour. The reactor will be sufficiently depressurized by then. Therefore, no manual actions or further analysis is required to provide the pneumatic supply to the MSRVs for the first safe shutdown function of the MSRVs.

After the initial depressurization, the MSRVs are used to provide a flow path for removing decay heat from the reactor vessel to the suppression pool. Only one MSRV is required for this function. For each fire area or fire zone, at least one MRSV used for the initial depressurization will be an ADS valve. This valve will be sufficient to satisfy the second safe shutdown function since it has its own accumulator sized for five operations. Except for minor leakage through the solenoid valve to the MSRV pneumatic actuator, the operation of holding the MSRV open will not expend any pneumatic supply.

It is estimated that the ADS accumulator can keep the valve open for at least 2.5 hours (Reference 28). Therefore, no manual action is required to ensure the flow path for the RHR circulation from the reactor vessel to the suppression pool within the first 2.5 hours of the blowdown.

Also, the system allows local manual connection to the Containment Atmosphere Dilution (CAD) system to ensure the long term availability of the MSRV air supply. Therefore, the MSRV air supply is adequate to support the minimum SSDS.

4.2.7 Evaluation of Fire Protection System

Evaluation of the fire protection system, availability of fire pumps and hydraulic analysis to substantiate that a single fire pump can meet the "worst case" demand in a safety related area is discussed in the "Fire Hazards Analysis" Section.

4.2.8 Evaluation of HVAC System

Detailed room temperature analyses were performed for those areas of the plant where safe shutdown components are located. These analyses were based on the expected heat load to be present in each area, including heat transmission from adjacent areas. These expected heat loads, and resulting room temperatures, were originally determined from the theoretical heat loads from the equipment and cables in the area. Since this initial effort, actual measured heat loads have been established for several areas in the plant. From these measured heat loads, with appropriate safety margins applied, revised room temperature profiles have been established. For those areas where measured heat load data does not exist, the previous room temperature profiles remain in effect. It was concluded from these analyses that cooling would be required for the control bay, the battery/ battery board rooms, the Unit 1, 2 and Unit 3 shutdown board rooms, the RHR pump rooms and the diesel generator buildings. Where the normal HVAC equipment is available, it will be utilized, and for those areas where the normal HVAC equipment is not available, alternative cooling methods (e.g., portable ventilation) will be used. These analyses also determined at what time following the entry into the Appendix R event the HVAC equipment would be required. These analyses concluded that sufficient time would exist for the normal HVAC equipment to be established or alternative cooling methods established prior to exceeding acceptable room temperatures (References 10 and 68).

An analysis was performed to determine the time required to generate a 2% hydrogen concentration if the HVAC is inoperable for the A, B, C, and D 250V Shutdown Board Battery Rooms. The evaluation was based on normal plant operation with a loss of ventilation to the rooms. The analysis determined that with normal operator rounds, unavailability of ventilation in the battery rooms will be detected prior to reaching explosive conditions for a wide range of electrolyte temperatures and charging voltages (Reference 83).

4.2.9 Evaluation of Instrumentation

Reactor pressure indication from 0 to 1,200 psig and reactor water level from -155 inches to +60 inches (instrument zero

4.2.9 Evaluation of Instrumentation (continued)

at 528 inches above vessel bottom) are provided. The reactor pressure indication provides a full range of possible reactor pressure. This gives the operator the necessary information to depressurize and to operate the LPCI pump in providing makeup inventory. The reactor water level indication provides a range of conditions where the operator may have to initiate depressurization for LPCI injection or to trip any high pressure systems which have spuriously operated.

Suppression pool level and temperature indications are provided to confirm the availability of the suppression pool as a heat sink during the post fire shutdown process.

Drywell pressure and/or temperature indication will be used with reactor vessel pressure and level to provide the operators with additional monitoring to initiate manual blowdown if necessary for areas where HPCI and/or RCIC are available. This depressurization action is currently called out in the existing safe shutdown instructions (SSIs) see Reference 12, 56 and Section 3.7.3.8 for further details.

In addition to the reactor pressure and water level, suppression pool level and temperature indications and drywell pressure and temperature, information on equipment status, such as breaker position and valve position, is available for the operator. The post fire shutdown procedures are based on the availability of the identified instrumentation. Therefore, the minimum SSDS instrumentation capability is sufficient for safe shutdown.

4.2.10 Evaluation of HPCI System

In fire areas where the HPCI system remains operable, extended HPCI operation is used to maintain hot shutdown. A 250V DC unit battery study was done (Reference 6) to determine the battery capacity to supply loads required to shutdown Units 1, 2 and 3 for an Appendix R event. It was determined that the battery capacity was adequate to provide power for HPCI operation for a period of at least three hours (Reference 6 and 53).

4.2.11 Evaluation of RCIC System

In fire areas where the RCIC system remains operable, extended RCIC operation is used to maintain hot shutdown. A 250V DC unit battery study was done (Reference 6) to

4.2.11 Evaluation of RCIC System (continued)

determine the battery capacity to supply loads required to shutdown Units 1, 2, and 3 for an Appendix R event. It was determined that the battery capacity was adequate to provide power for RCIC operation for a period of at least three hours (Reference 6 and 53).

4.3 MISCELLANEOUS EVALUATIONS

a. Justification for Not Requiring RHR Minimum Flow Valve

This section provides the justifications for not requiring the RHR minimum flow valve in the minimum SSDS. The evaluation for the need of the RHR minimum flow valve during an Appendix R fire event is documented in References 30 and 79. The following is a summary of the evaluation.

A minimum flow bypass line is provided for each pair of the RHR pumps to protect the pump from overheating at low flow rates. The bypass line routes water from the pump discharge to the suppression pool. An orifice is provided at each pump discharge to limit the flow to 500 gpm. A single motor operated valve controls the bypass line condition. The valve is normally open, but will close if the RHR line has sufficient flow. During a fire event, the valve may stay open if power is lost or it may fail closed if a spurious operation occurs.

If the valve stays open, part of the RHR flow in the LPCI mode is diverted to the pool. Analysis in Reference 27 shows that less than 6,000 of the rated 10,000 gpm of RHR flow is required to prevent fuel damage. Therefore, the potential flow diversion of up to 500 gpm due to the failure of this RHR minimum flow valve is insignificant.

If the valve fails closed due to spurious operation, the loss of the minimum flow path creates a potential for pump heatup because the pump is dead-headed when it starts. During a fire event, the pump will start on either manual action or automatic initiation on low water level. The automatic initiation on the high drywell pressure signal requires a concurrent signal of low reactor pressure. The low pressure signal will not occur unless the reactor is sufficiently depressurized by appropriate manual actions. The possibility of starting an RHR pump due to a fire induced spurious low reactor pressure signal concurrent with a spurious close of the minimum flow valve is very low. Based on the fire

4.3 MISCELLANEOUS EVALUATIONS (continued)

detection and suppression installed in the plant, fire development would be slow and progressive allowing time to respond to either spurious operation prior to occurrence of the second. Therefore, the RHR pump start is limited to those two signals (manual initiation or low water level) both of which will occur at approximately 20 minutes into the event.

Plant procedures will limit the dead-head operation of the pump for a period of time not to exceed 7½ minutes. This limited time of dead-headed operation is not likely to cause pump failure (References 30 and 79). This assessment is based on pump heat-up calculations performed by G.E. (Reference 79). Therefore, the spurious operation of the RHR minimum flow valve is not detrimental to the RHR pumps at BFN.

Based on this evaluation, the RHR minimum flow valve is not required for safe shutdown during an Appendix R fire event at BFN.

b. Local Pool Temperature Limit Evaluaton

This section provides the evaluation in response to a NRC question related to compliance to the local pool temperature requirements during a fire event.

During plant transients requiring MSRV actuation, steam is discharged from the main steam lines through the MSRVs and their accompanying discharge lines into the suppression pool where it is condensed. This results in an increase in the suppression pool temperature. The local pool temperature limit for MSRV discharge is specified in NUREG-0783, because of concerns about possible unstable condensation observed at high pool temperatures in plants without quenchers. BFNP has installed MSRV quenchers. The geometry of the torus and ECCS piping coupled with the thermal-hydraulic conditions will ensure that the local suppression pool temperature will remain below the 200 degrees F limit for structural loads. See Reference 81 for details of the evaluation.

TABLE 4-1 Appendix R Evaluation Key Parameters and Assumptions for Browns Ferry Units 1, 2 and 3

Parameters and Assumptions	Value
Core Thermal Power, MWt	3,952
Dome Pressure, psia	1,055[1]
Initial Water Level	Normal
MSIV Closure Time, second	4
Feedwater Flow Ramps to Zero, second	5
Decay Heat	1979 ANS 5.1
LOOP, Reactor Scram , second	0
Fuel Type	GE13
MSRV Setpoint, psig	1,140/1,150/1,160[1]
1 LPCI Pump Flow, gpm[2]	9,400
Code used for Fuel Integrity	SAFER/GESTR-LOCA
Initial Suppression Pool Bulk Temperature, °F	95
Initial Suppression Pool Pressure, psia	15.95
RHR K-factor, Btu/sec-°F	225.4
RHR Pump Flow (Alternate Shutdown Cooling Path), gpm[3]	6,000
RHRSW Pump Flow, gpm	4,500
RHRSW Temperature, °F	92
Code used for Containment Integrity	SHEX

[1] Bounding for the operating dome pressure of 1,050 psia
[2] Used for the fuel integrity evaluation (short-term calculation)
[3] Used for the long-term containment integrity evaluation, corresponding to minimum liquid flow through MSRVs in alternate shutdown cooling path

TABLE 4-2 Summary of Appendix R Fuel Integrity Evaluation Results for Units 1, 2 and 3

	Case 1	Case 2	Case 3
PCT (°F)	1,485	1,227	1,155
Core Uncovery Duration (second)	450	405	390

TABLE 4-3 Summary of Appendix R Suppression Pool Integrity[1] Evaluation for Browns Ferry Units 1, 2 and 3

	Case 1[2]
Maximum Bulk Pool Temperature (°F)	212
Maximum Pool Pressure (psia)	33
Primary System Pressure (psia)	1,165

[1] Only Case 1 was evaluated since it is the limiting case.
[2] RHRSW pump initiated at 2 hours using the SHEX code and the RHR K-factor of 225.4 Btu/sec-°F.

FIGURE 4-1 Reactor Pressure Response for Case 1

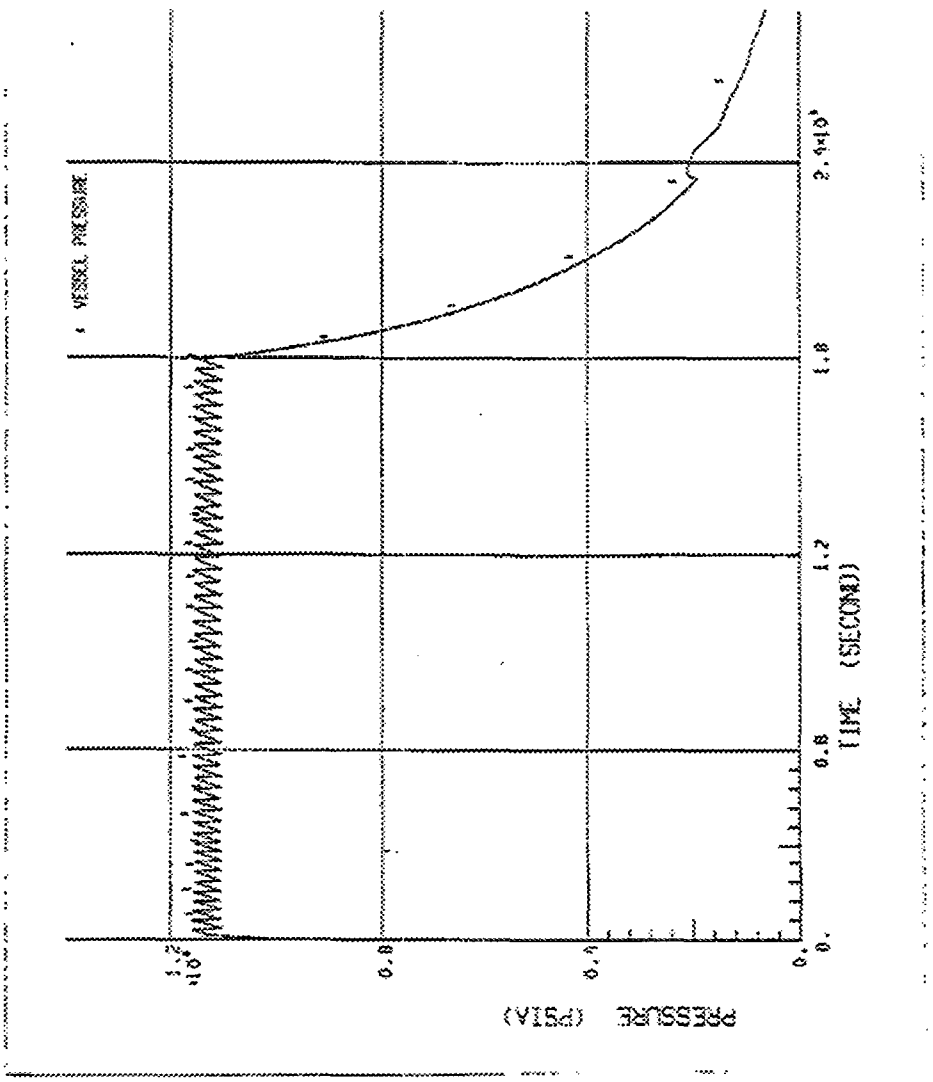


FIGURE 4-2 Reactor Water Level Response for Case 1 (Outside the Shroud)

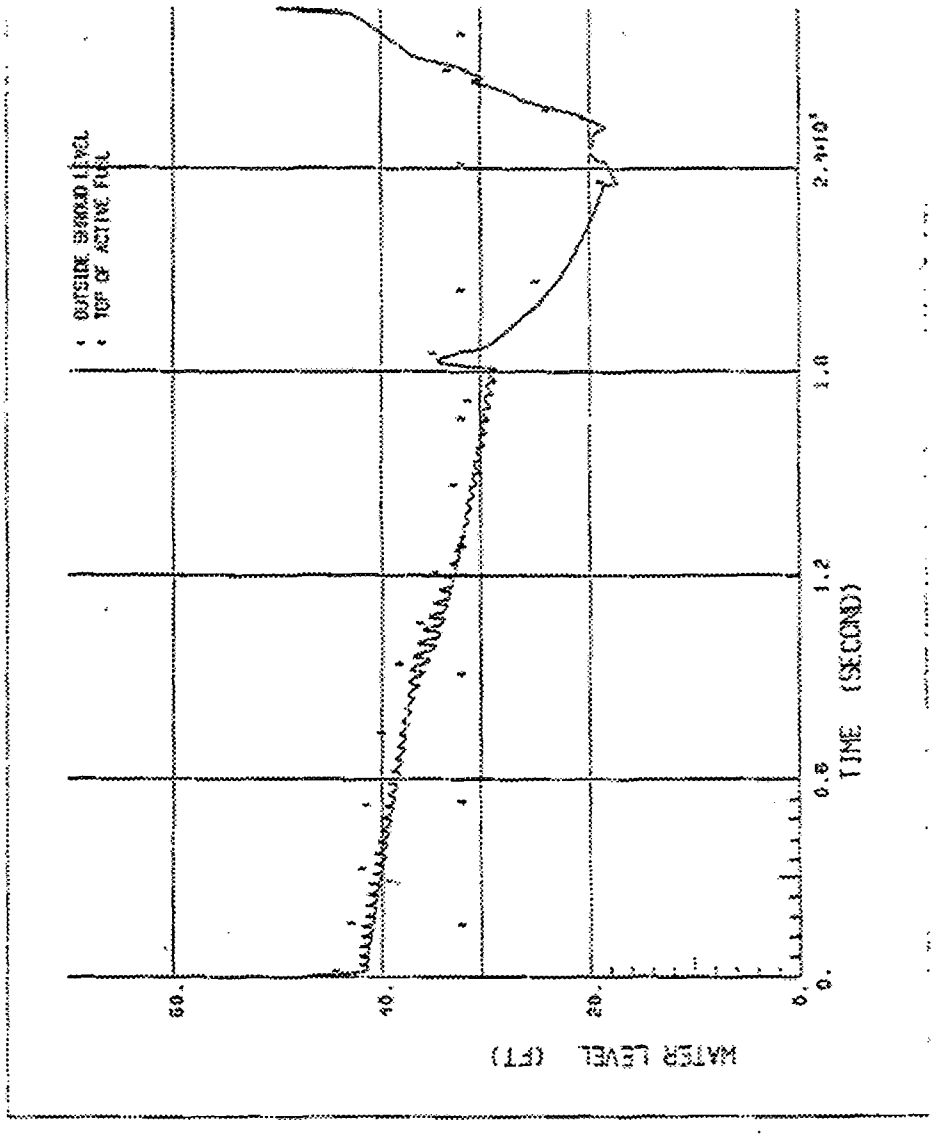


FIGURE 4-3 Reactor Water Level Response for Case 1 (Inside the Shroud)

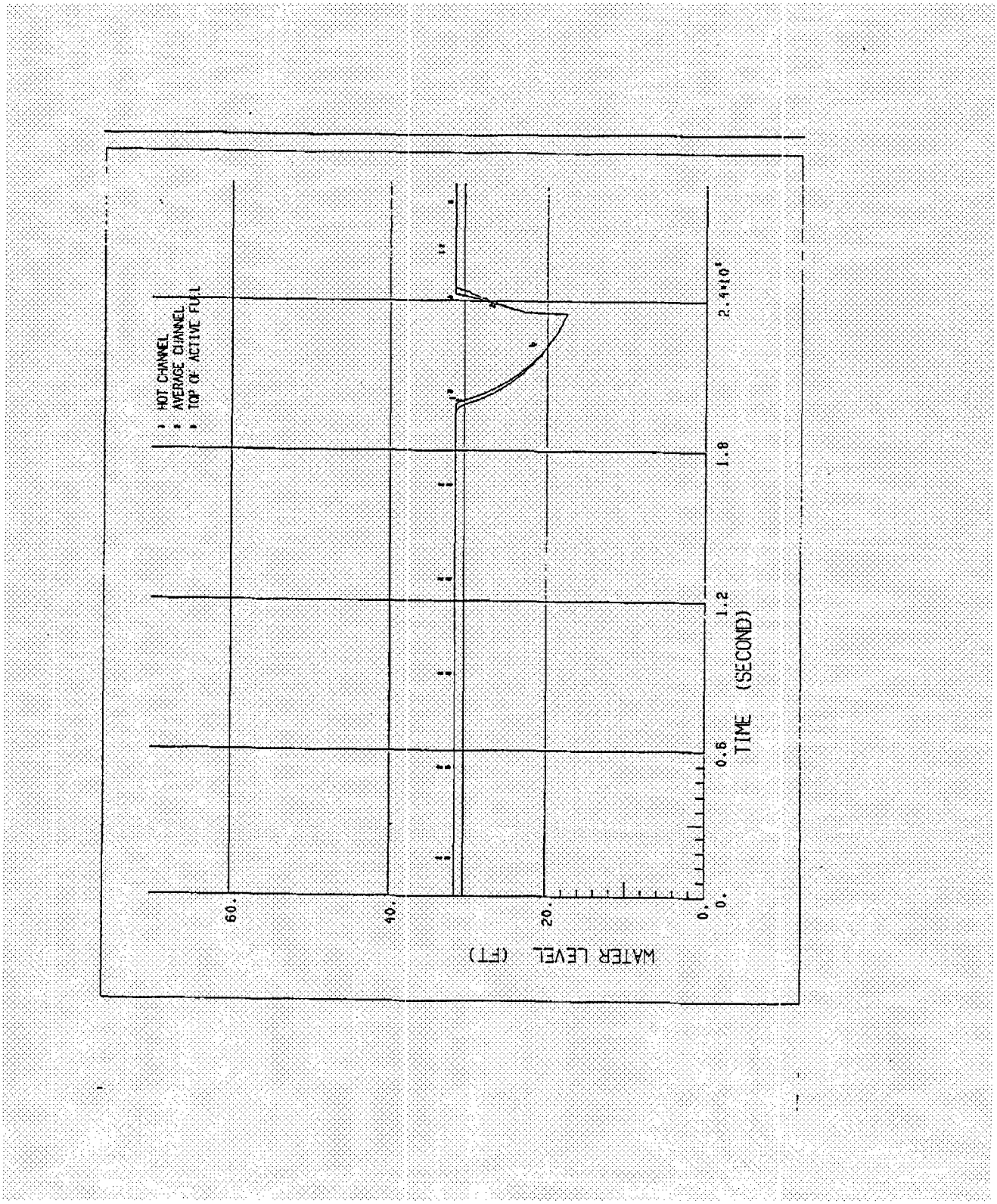


FIGURE 4-4 Peak Cladding Temperature Response for Case 1

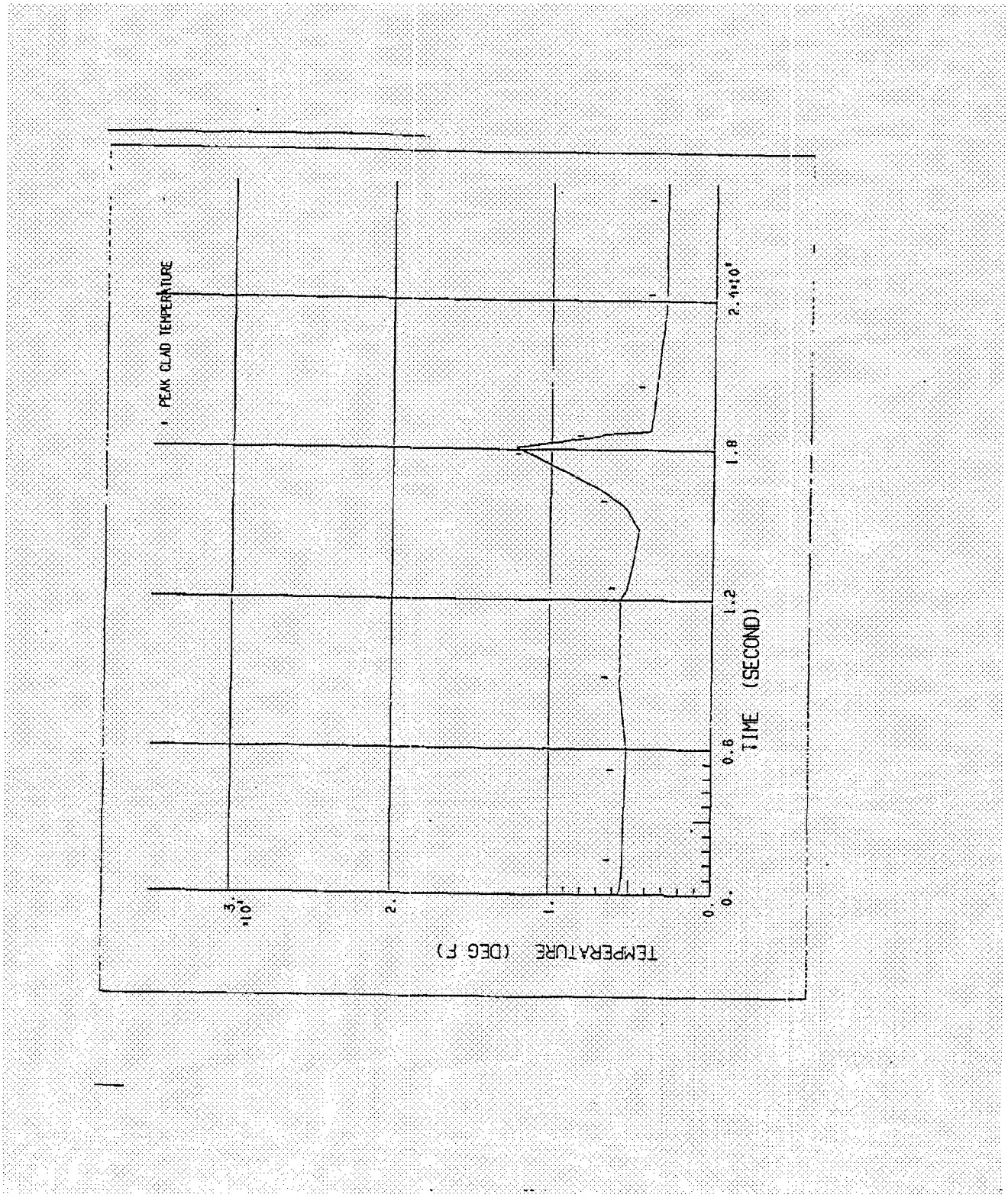


FIGURE 4-5 Suppression Pool Temperature Response for Case 1 (2 hour RHR)

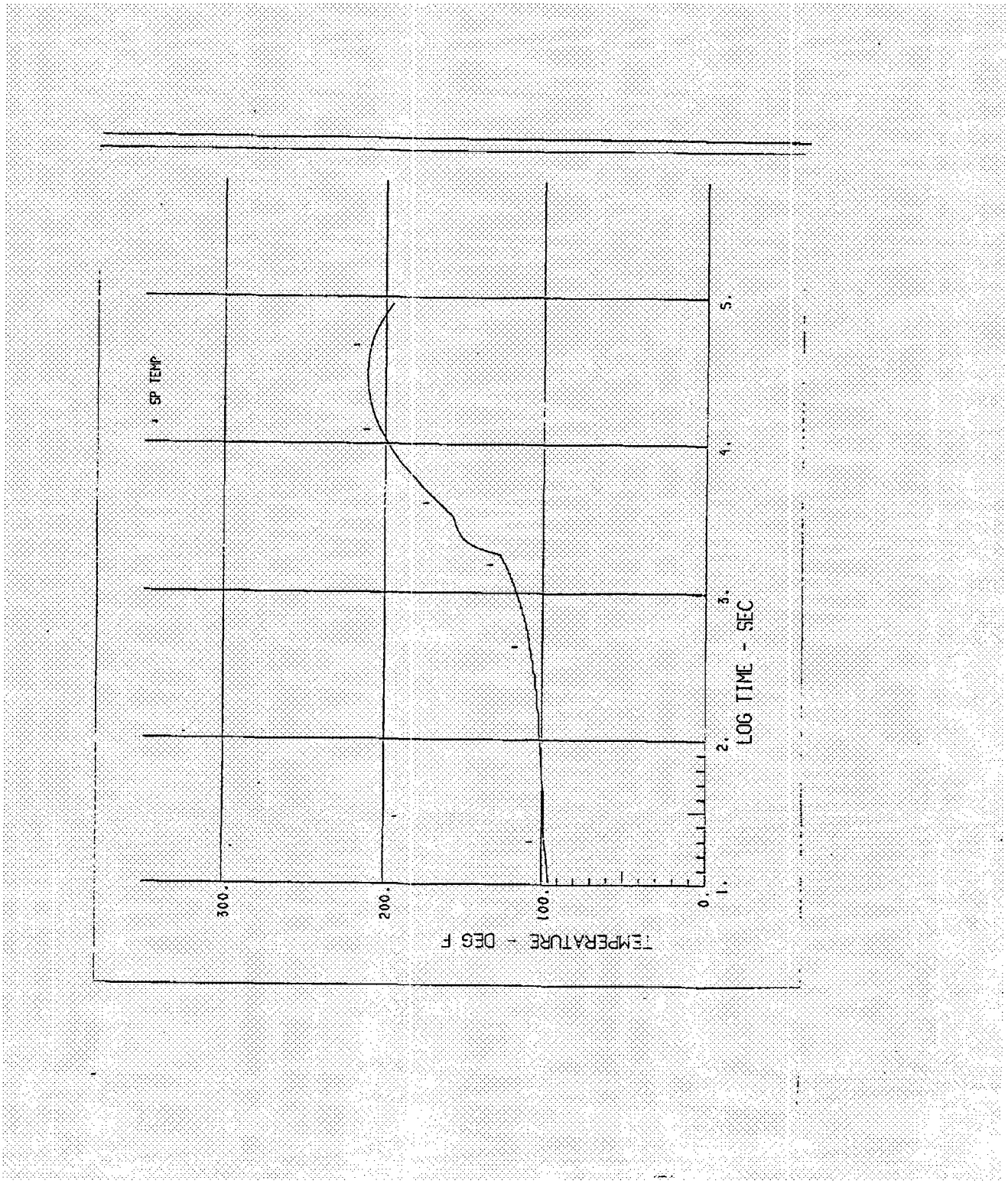


FIGURE 4-6 Containment Pressure Response for Case 1 (2 hour RHR)

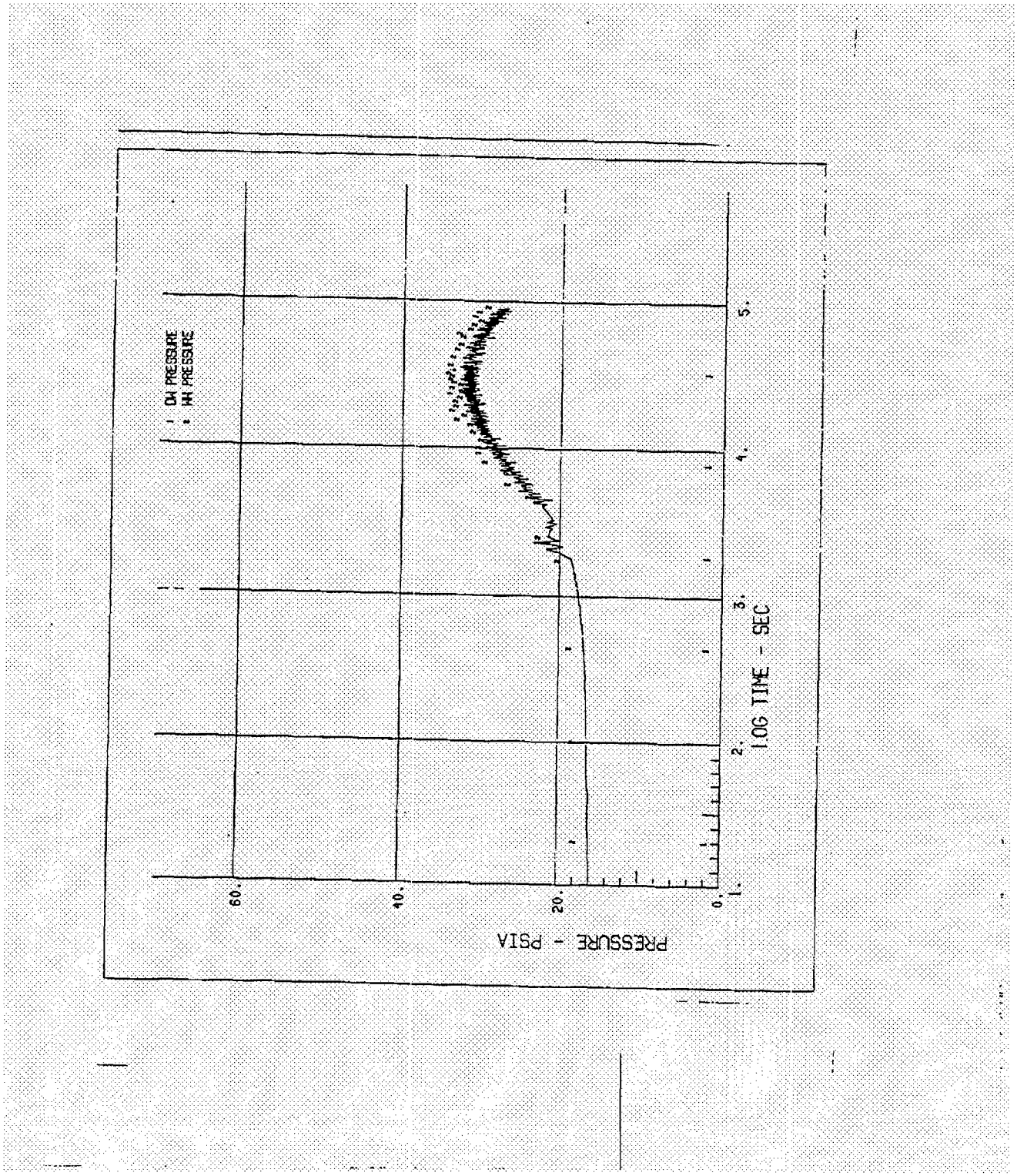


FIGURE 4-7 Reactor Pressure Response for Case 2

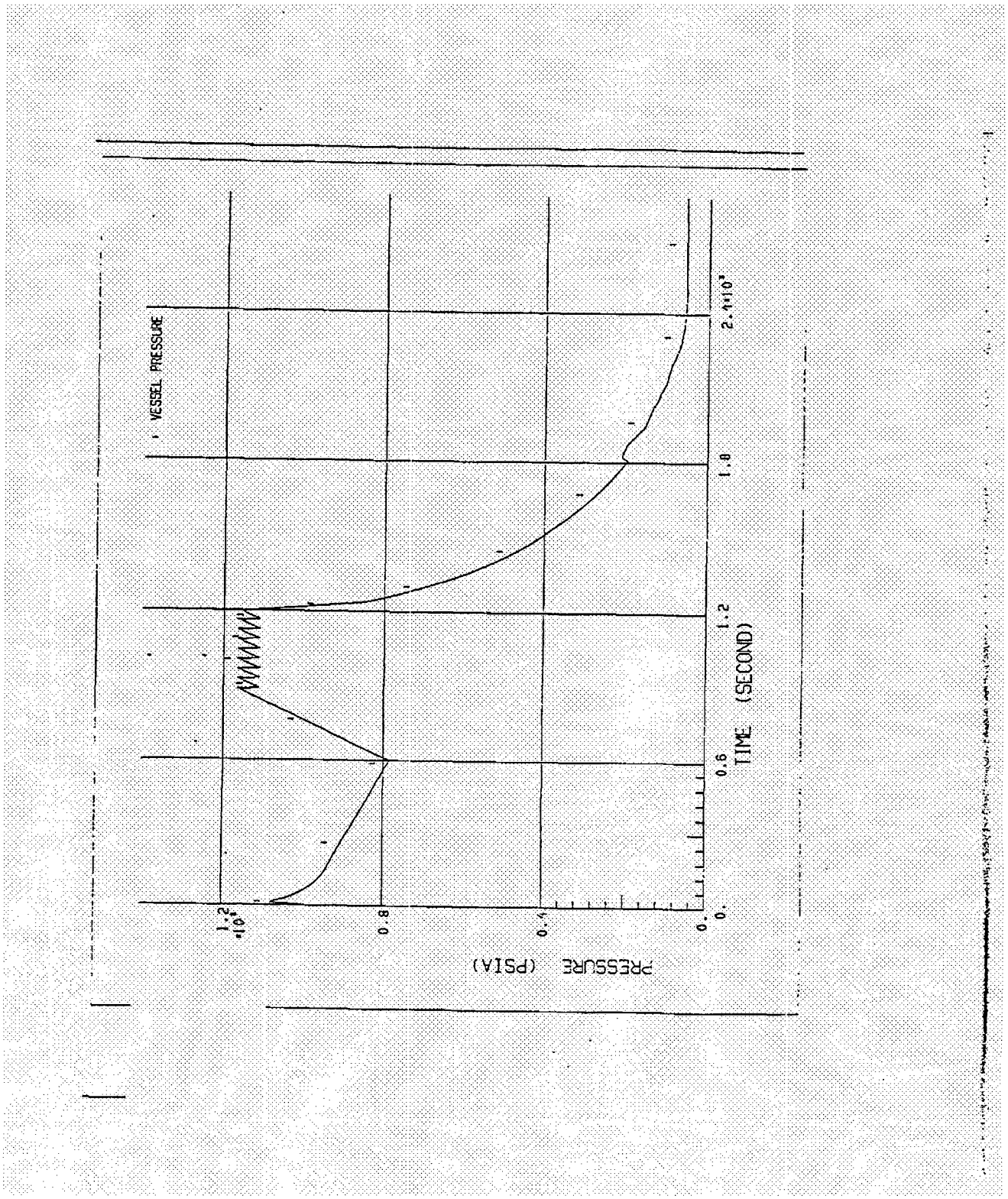


FIGURE 4-8 Reactor Water Level Response for Case 2 (Outside the Shroud)

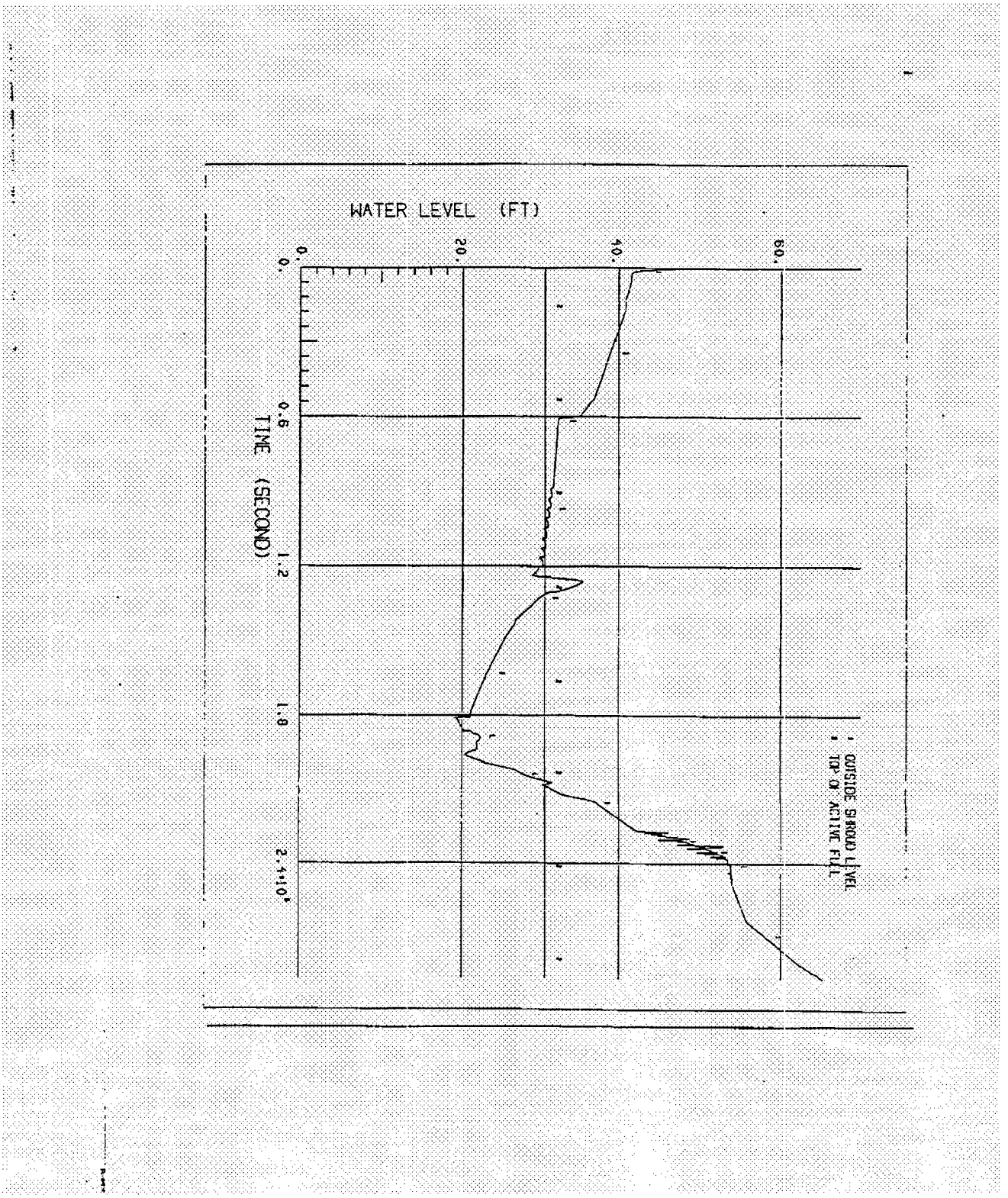


FIGURE 4-9 Reactor Water Level Response for Case 2 (Inside the Shroud)

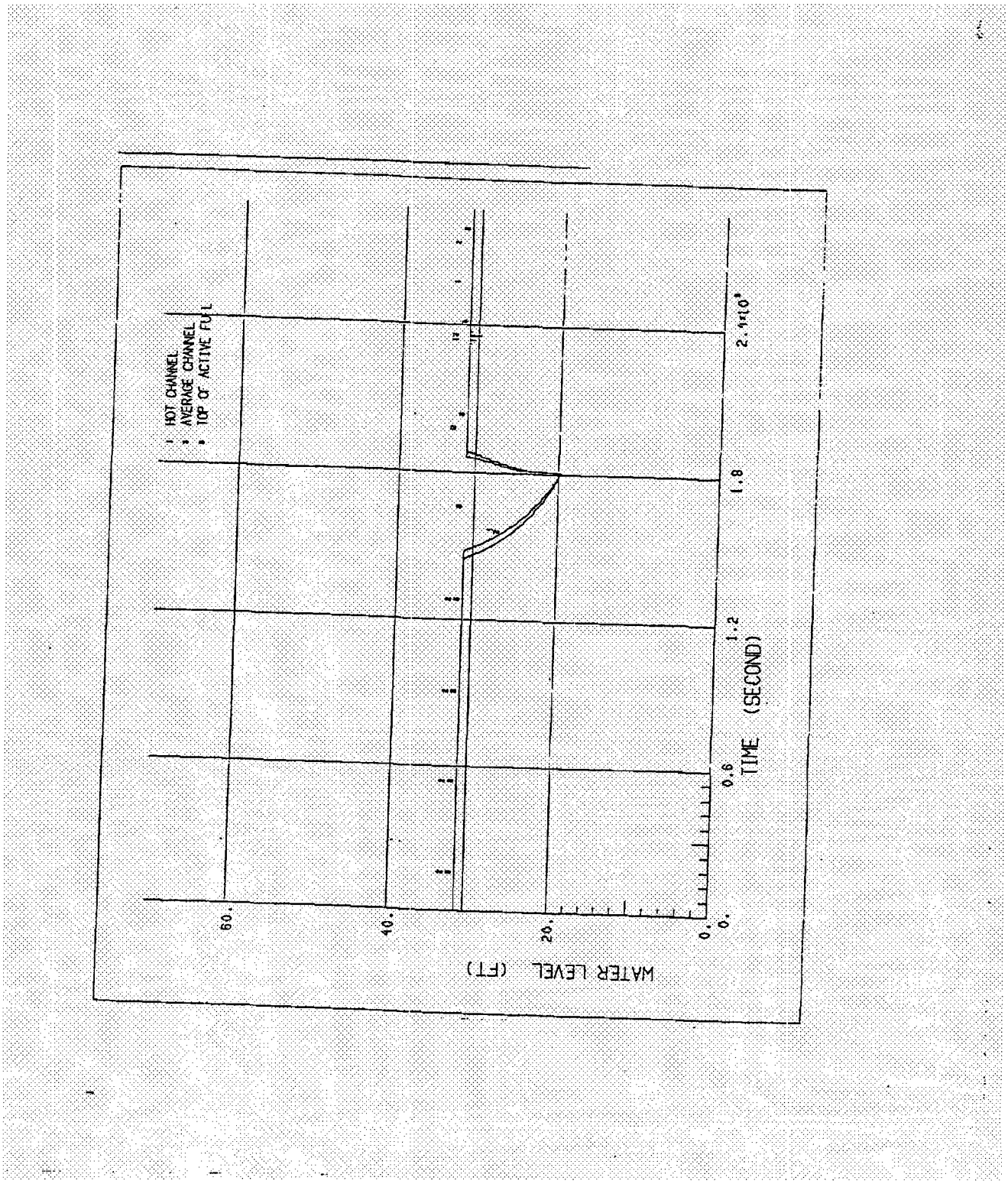


FIGURE 4-10 Peak Cladding Temperature Response for Case 2

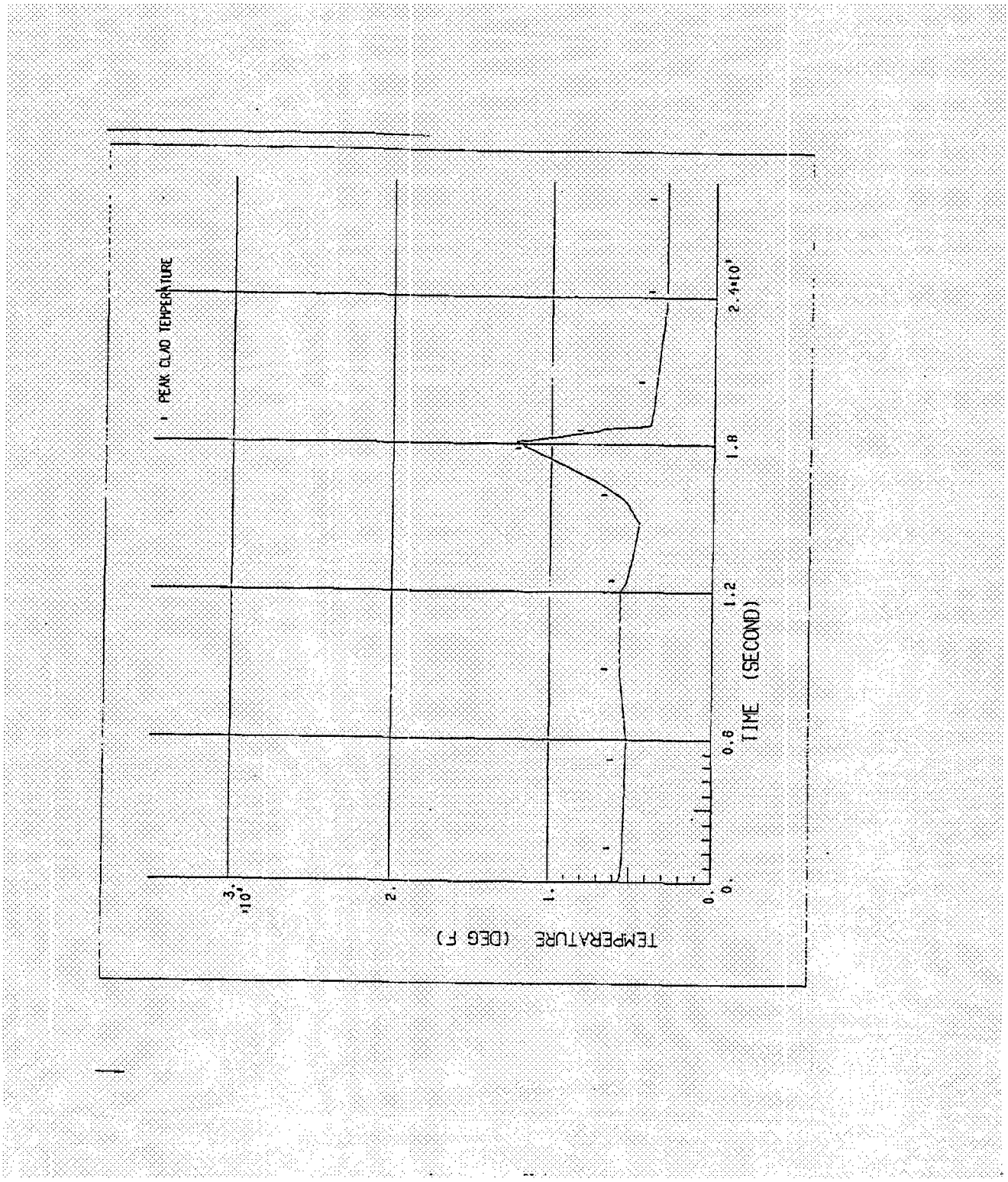


FIGURE 4-11 Reactor Pressure Response for Case 3

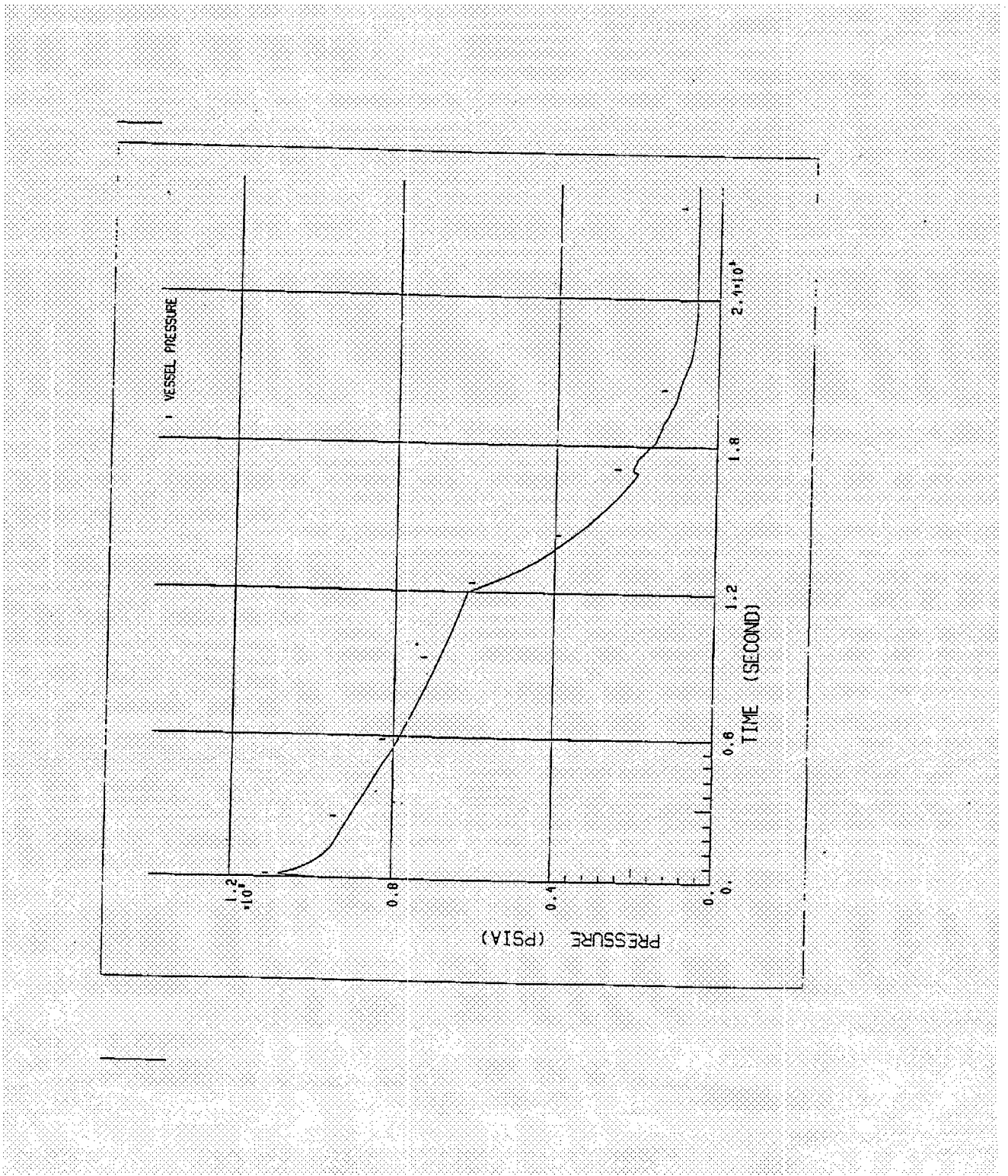


FIGURE 4-12 Reactor Water Level Response for Case 3 (Outside the Shroud)

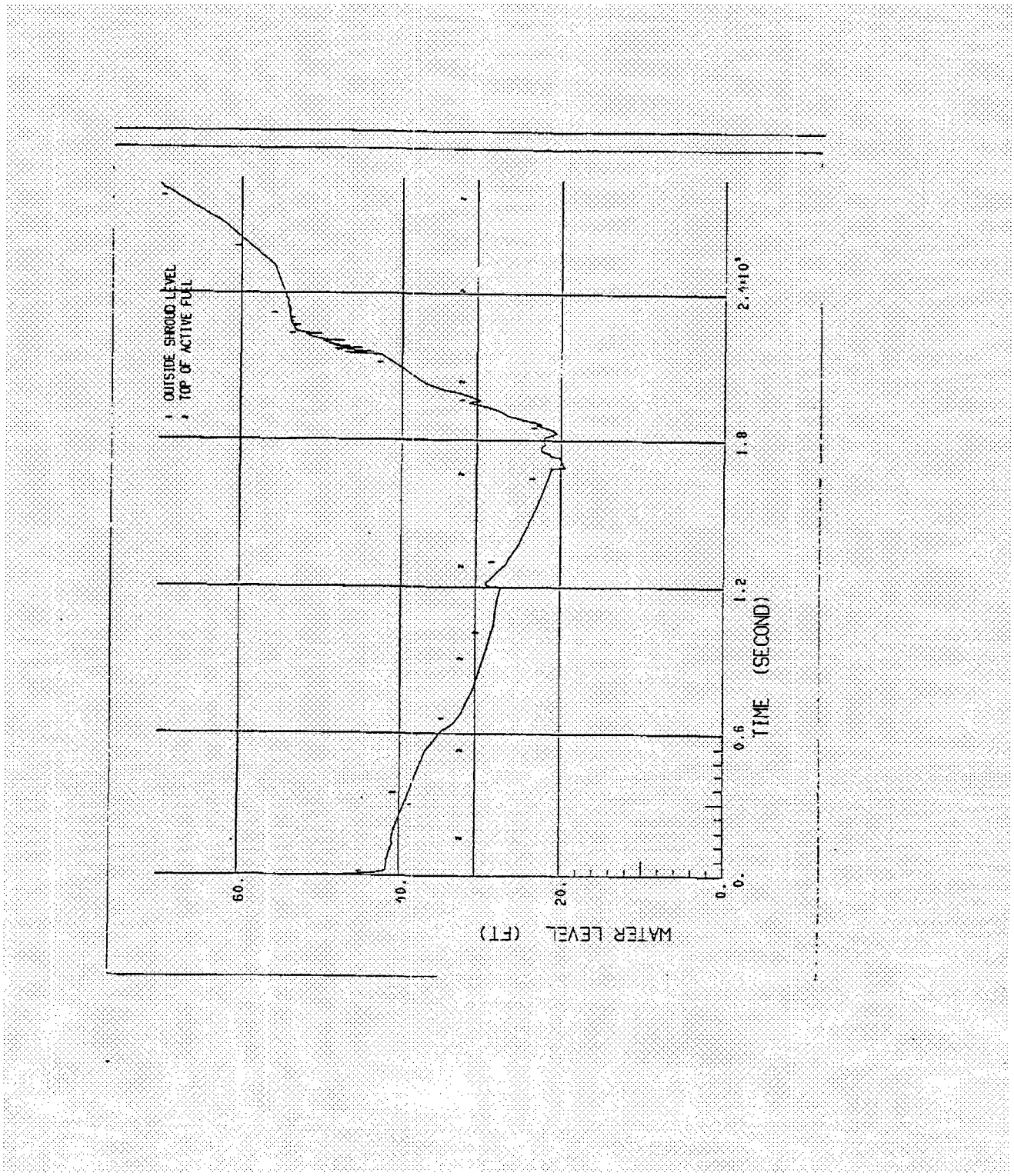


FIGURE 4-13 Reactor Water Level Response for Case 3 (Inside the Shroud)

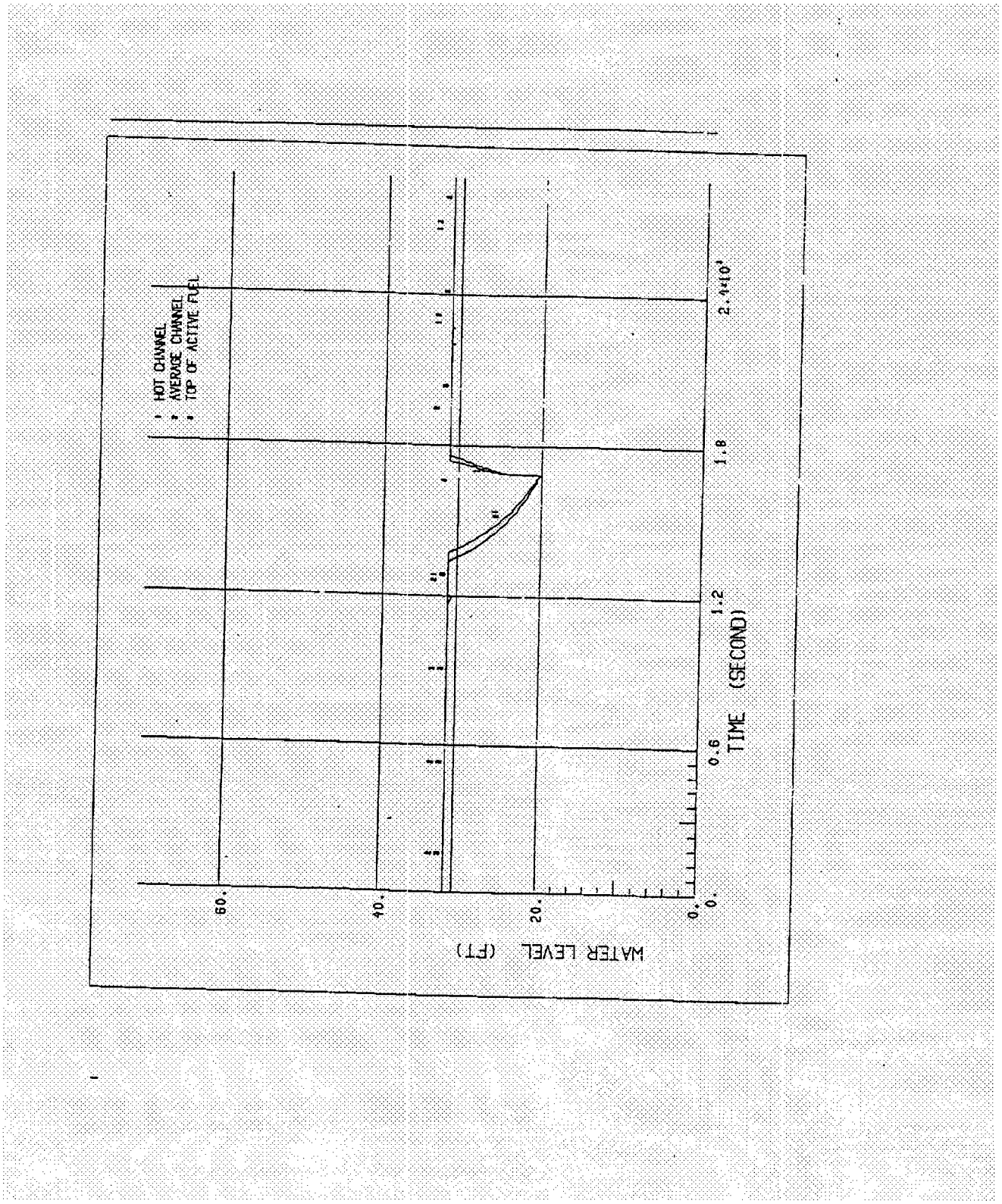


FIGURE 4-14 Peak Cladding Temperature Response for Case 3

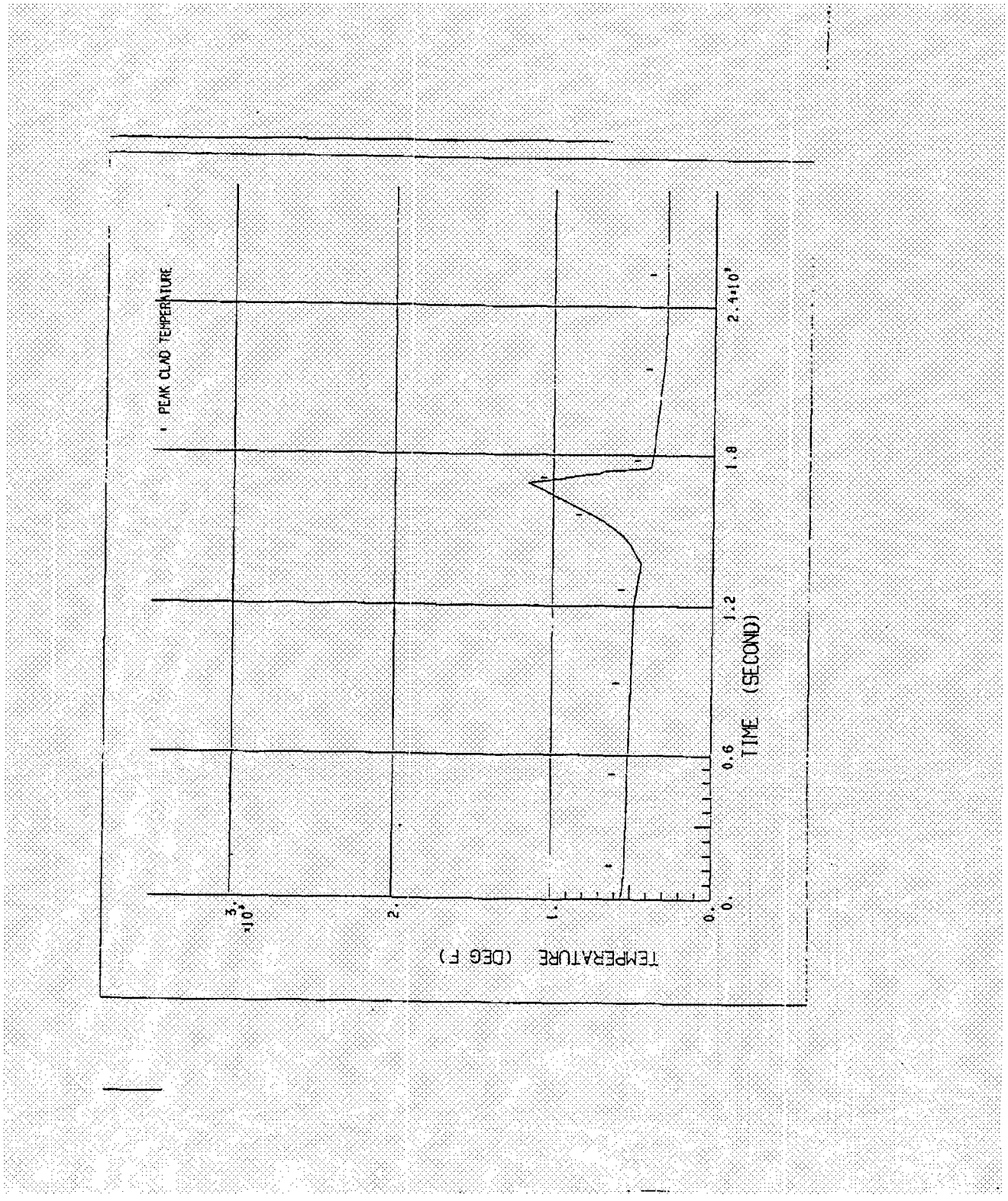
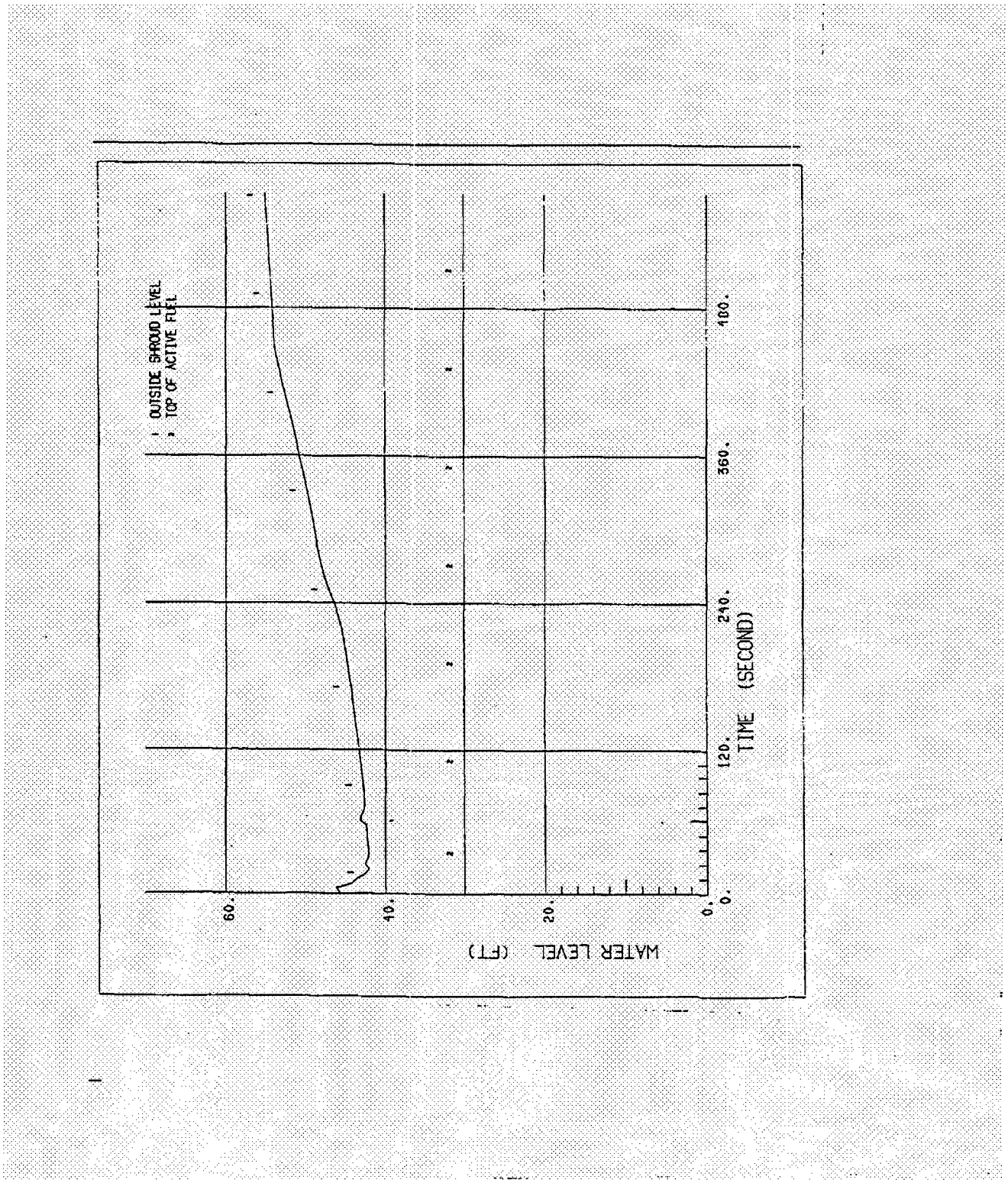


FIGURE 4-15 Reactor Water Level Response for Spurious Operation of HPCI



5.0 ASSOCIATED CIRCUITS

A requirement for the minimum SSDS is that the systems must be able to achieve and maintain safe shutdown regardless of the potential failures to all associated circuits of concern (including non-safety circuits) such as hot shorts, open circuits, or shorts to ground. These circuit failures shall not prevent operation of the minimum SSDS or result in spurious operation which could adversely affect the shutdown capability of the minimum SSDS. The NRC Generic Letter 81-12 defines three types of associated circuits: common power source, spurious operation, and common enclosure. The effects of each type of associated circuits on the minimum SSDS were evaluated. In addition, a special type of associated circuits involving the 250V DC control circuits was identified for BFN. These four types of associated circuits are shown in Figure 5-1. The evaluation of associated circuits also established the analyses which must be considered to demonstrate plant safe shutdown capability in compliance with Section III.G of 10CFR50 Appendix R.

5.1 CABLE ARRANGEMENT

Browns Ferry Nuclear Plant has five different voltage level groupings of raceway (conduit and cable tray) systems, namely: 4,160V, 480V, control, medium level signal, and low level signal cables. The 4,160V cables are located at the top position of vertically stacked trays. The 480V raceways have 480V power cables, lighting cabinet feeders, and instrumentation and control power cables carrying 10A or more. Control level raceway contain AC and/or DC control cables of 250V or less that carry less than 10A* and communication cables, such as for telephone circuits. The non-safety-related cables are the same type and have the same circuit protection and short circuit rating as the safety-related cables.

Medium level signal and low level signal trays contain only non-divisional cables and are located at or near the lowest level of stacked trays. Divisional medium level signal cables are routed in conduit. Medium level signal trays carry the following type cables: signal cables of digital input to and outputs from the computer (other than thermocouples); instrument transmitters, recorders, and indicators; eccentricity and rotor detector; RTD's tachometers, and shielded annunciator cables used with solid state equipment, signal cables for thermocouples, strain gauges, vibration detectors, and thermal converters are nondivisional and are run in low level signal raceways. These types of cables are for very low power circuits used to convey information. Instrument control loop and related instrument signal cables operate in a range of 10 to 50 milliampere with power supply voltages up to 85V DC. The annunciator circuits operate at approximately one milliampere, 140V DC intermittent duty.

5.0 ASSOCIATED CIRCUITS (Continued)

The computer cables operate at 160 millivolts into high impedance. Thermocouples, strain gauges, accelerometer, and resistance type temperature detectors are low excitation voltage devices; cables from these devices operate at 15V or less and carry negligible current.

Thus, energy produced by electrical faults in the cables routed in medium level signal and low-level signal trays is considered insignificant and is considered no challenge to shutdown capability. The instrumentation includes Analog Trip Units (ATU). The instrumentation circuits required for shutdown will meet Appendix R, Reference 32. Therefore, the instrumentation circuits do not have associated circuits of concern for the common power source and common enclosure types.

With respect to identifying associated circuits of concern for power and control cables, it was determined that if a cable fault occurs, overcurrent protective devices will interrupt the fault before required cables are damaged (References 34, and 35). The fault will be cleared before auto-ignition temperature of the cable insulation is reached.

Cables used for 4160V circuits are shielded 5kV cables. The minimum size cable used for these circuits is 2/0 AWG. The 4160V circuits are protected by both phase-to-phase overcurrent and ground fault protective devices. The phase-to-phase fault protection is instantaneous (no intentional delay). The ground fault devices operate instantaneously and are set to operate for ground fault currents from 5 to 20 amperes.

The 480V cables are part of the 480V ungrounded delta distribution system. Overcurrent protection is provided by molded case circuit breakers with an interrupting time of less than two cycles and by low voltage power circuit breakers with interrupting times of less than four cycles if equipped with instantaneous trip devices or up to 35 cycles if equipped with short time-delay devices. Thus, the protective device will clear the fault before the cable insulation reaches its auto-ignition temperature.

* NOTE: Prior to issuance of Design Criteria BFN-50-758, control level raceway were allowed to carry up to 30A. Cables installed prior to issuance of BFN-50-758 were allowed to remain, provided such currents were shown to not result in the overheating of any safety-related cables.

5.0 ASSOCIATED CIRCUITS (Continued)

Control level cables are used to provide instrumentation and control power (less than 10A*) to convey information, or to intermittently operate devices controlling power switching or conversion equipment. The 250V DC control power circuit was determined to have the highest available fault energy. Each polarity of this ungrounded 250V DC circuit is protected by a fuse or circuit breaker sized to protect the cable from damage. Thus, a fault will be cleared by a protective device before the cable insulation's auto-ignition temperature is reached.

5.2 COMMON POWER SOURCE

Each circuit (safety-related and nonsafety-related) that shares a common power source with required shutdown equipment is analyzed (Reference 34) to ensure that the power source is adequately protected from electrical faults by coordinated breakers, fuses, or similar devices.

* See Note on previous page.

This analysis consisted of a review of the overcurrent protection devices for the switchgear which shares a common power source with required safe shutdown equipment for verification of proper coordination of the load and feeder breakers. Coordination of protection devices has been reviewed for the 480V and 4kV switchgear and 480V motor control centers.

Each circuit of the instrumentation and control (I&C) power system that shares a common source with required shutdown equipment was also analyzed (Reference 34). The analysis assumed that a fault occurs at the point closest to the distribution panel where nonessential cables could be involved in a postulated fire without also involving the required cables or the distribution panel itself. The analysis determined if the load/feeder overcurrent protective devices are adequately coordinated to ensure that instrument and control power is available to a minimum set of shutdown equipment for any postulated fire.

5.3 COMMON ENCLOSURE

Non-essential circuits (cables) may share a common enclosure (e.g., raceway, panel, junction box) with required shutdown cables. An analysis was made of all switchgear, distribution panels and cabinets (for both auxiliary power and instrumentation and control power systems) that could affect shutdown capability to determine if the load cables are adequately protected from damage by circuit breakers, fuses, or similar devices (References 34 and 35).

5.0 ASSOCIATED CIRCUITS (Continued)

5.4 SPURIOUS OPERATIONS

Analyses were performed to determine the effects of spurious operations on the shutdown capability of the minimum SSDS. The analyses were performed for four categories of plant equipment.

a. Minimum SSDS
b. MSRVs
c. High-Low Pressure Interface
d. Other Plant Equipment

Spurious operation of equipment becomes a concern for post fire safe shutdown if it has the potential for defeating the safe shutdown systems or causing an unacceptable loss of reactor coolant inventory. The process of identifying the significant spurious operation for a fire within the nuclear steam supply system and balance-of-plant systems was performed by locating the following:

a. High-Low Pressure Interfaces
b. Potential Paths for Coolant Inventory Loss
c. Potential Paths for Flow Diversion
d. Potential Flow Blockages

Each of these potential adverse spurious operations was evaluated for its potential consequence in accordance with the assumptions described below:

a. Spurious operation occurs simultaneously with other fire effects.
b. Spurious operation for any equipment is considered plausible unless the equipment is protected in the fire area.
c. The number of spurious operations considered in this analysis is limited by the design requirements specified in Section 3.5.
d. Spurious operation which could defeat the RPS or MSIVs is not considered plausible (Reference 7).
e. Spurious operation of three-phase electrical power equipment due to hot shorts of the power circuit cable is considered to be incredible (with the exception of high-low pressure interface) (Reference 7).

In addition to the above, the BFNP motor operated valve control circuit design has been evaluated with respect to USNRC Information Notice 92-18. The BFNP design configuration is consistent with that recommended in Information Notice 92-18. Control Room fire damage can not cause spurious valve operation and also bypass valve protection (limit and torque switches).

5.0 ASSOCIATED CIRCUITS (Continued)

5.4.1 Minimum SSDS Equipment

The minimum SSDS must be able to handle spurious operations within its own equipment. The minimum SSDS includes three MSRVs, one RHR pump in LPCI mode, one RHRSW pump, two EECW pumps, associated piping equipment, and diesel generators with associated electrical equipment for each unit. Spurious operations of the MSRVs are addressed in Subsection 4.1.4.2 and 4.1.4.3. Typically, implementation or adherence to the 10CFR50 Appendix R Section III.G.2 separation criteria would ensure that spurious operation of the minimum SSDS would not occur. However, these separation criteria cannot be met in the Control Building. Therefore, such spurious operations will be mitigated by alternative capability to manually control the minimum SSDS outside the control room.

Therefore, it is possible to correct any undesirable spurious operation once the manual control has been transferred from the control room to local panels. Following transfer of control, the minimum SSDS equipment will be isolated from the fire affected area. Therefore, the evaluation of spurious operation and the minimum SSDS is limited to the time before manual transfer of control can be accomplished. Table 5-1 presents the evaluation of the spurious operation of the minimum SSDS.

5.4.2 Main Steam Relief Valves

There is a potential for spurious operation of a MSRV due to a fire. Spurious MSRV operation, where the valve fails open, can reduce reactor coolant inventory and increase suppression pool temperature. It has been analyzed that a fire in any area of the plant will not cause spurious opening of more than one ADS/MSRV valve, except in the Control Complex. Spurious opening is mitigated by closing valves from the alternative control stations (References 11 and 64). Hence, the transient analysis only addresses spurious operation of one MSRV. Thermal-hydraulic analysis was performed and is presented in Section 4 to demonstrate that spurious operation of one MSRV will not adversely affect the system operability of the minimum SSDS to achieve safe shutdown.

5.0 ASSOCIATED CIRCUITS (Continued)

5.4.3 High-Low Pressure Interface

A high-low pressure interface is a special case of spurious operation which may result in a breach of the barrier between a low pressure system and the reactor coolant pressure boundary. One exception is the case of the MSIVs, since these valves will be in the open position at the start of the Appendix R event, they are not only a spurious concern, but rather they must be closed and remain closed for the duration of the event. A list of all high-low pressure interfaces is provided in Table 5-2. The following types of high-low pressure interface are considered adequate:

a. One-inch or smaller lines inside the containment because the amount of inventory loss is minimal.
b. Lines which have normally closed manual valves or check valves to prevent potential inventory loss.
c. Lines with fail-safe isolation valves if analysis demonstrates that these valves will not spuriously operate.
d. Lines that contain an isolation valve which has its three-phase electrical power disabled during normal operation and no cable-to-cable hot shorts are possible.
e. Lines with MSRV or equivalent sizes because analysis demonstrated that the plant can tolerate their spurious operation.

Based on this method, manual actions and/or justifications are provided in TABLE 5-2 for all High-Low pressure interfaces.

5.0 ASSOCIATED CIRCUITS (Continued)

5.4.4 Other Plant Components

Other plant components include all the equipment in the plant which is not a component of the minimum SSDS, a high-low pressure interface, or an MSRV. Examples of these components are core spray, HPCI, RCIC, and components of the RHR system not in the LPCI mode. These components will not prevent the minimum SSDS from achieving cold shutdown for the following reasons:

a. No credit is taken for operation of these components unless specifically analyzed for selected areas. Spurious stop of a component is equivalent to the loss of the component. Spurious start of any of these components will not degrade the performance of the minimum SSDS.

   The most severe type of spurious start would be spurious HPCI injection which could lead to water intrusion into the main steam lines. However, analysis in Section 4 shows that if such spurious operation occurs, the operator has sufficient time to trip HPCI thus preventing water intrusion into the main steam lines and subsequent subcooled liquid discharge through the MSRVs.

b. Effects of spurious operation are bounded by other events. For example, spurious operation of the HPCI or RCIC system could lead to inventory loss because of the steam-driven turbines. However, the amount of inventory loss due to these spurious operations is bounded by the spurious opening of a single MSRV. Therefore, additional analysis of spurious operation of these components is not required. Also, the resulting inventory make-up from these systems would more than offset the steam fluid losses.

c. The same evaluation was applied to all other equipment which is outside the domain of the minimum SSDS but a component of a system in the minimum SSDS. For example, the RHR system includes the suppression pool cooling mode and the containment spray mode. Neither modes are included in the minimum SSDS. There are two motor operated isolation valves for each mode. A spurious operation of these valves would not divert the minimum LPCI flow from the vessel.

5.0 ASSOCIATED CIRCUITS (Continued)

Table 5-3 and References 11, 40, and 56 provide detailed evaluation of the spurious operation of the other plant equipment. The evaluation is limited to systems which may affect reactor inventory or reactor inventory makeup capability. This evaluation shows that, even if a spurious operation of other plant equipment would occur, the minimum SSDS can achieve safe shutdown.

5.5 250V DC CONTROL CIRCUITS

The review of associated circuits identified a special case of associated circuits which involved the 250V DC control circuits for switchgears. Some 4kV and 480V switchgears use 250V DC control power for breaker operation. Since the control level trays are usually below the power level trays, a postulated exposure fire could possibly cause the first fault on the control cable.

These faults could trip the control circuit's protective device for a given equipment before the corresponding load power feed cable is affected by the fire. If the power feed is in the common power source or in a common enclosure with a cable for equipment required for the minimum SSDS for that fire area, the control cable is an associated circuit of concern. In essence, such 250V DC control circuits are either associated circuits of common power source or common enclosure. However, since specific sequential failures are required, the 250V DC control circuits are considered separately.

This type of associated circuit has been examined based on the following criteria:

a. Control power must be available to interrupt 4kV and 480V electrically operated breakers that do not have mechanical interrupt devices when fault conditions occur during a fire event and the equipment is required for safe shutdown for that fire area.

b. The control power cable and the 4kV or 480V power cables which have a potential for being associated circuits of concern either as common power source type or of common enclosure type must be in the same fire area.

c. Circuits with normally open breakers have been addressed in the associated circuit analysis.

Based on these criteria, the required equipment has been analyzed for associated circuit concerns in Reference 35d.

5.0 ASSOCIATED CIRCUITS (Continued)

5.6 HIGH IMPEDENCE FAULTS

High impedence faults is a special condition where an individual fault may not be large enough to trip an individual breaker but the sum of the normal loads and the high impedence fault may trip the main breaker. High impedence faults have been considered for the required power supplies and it has been determined that adequate margin exists for credible high impedence faults such that the incoming feeder breaker will not trip (References 33 and 36).

TABLE 5-1 - Spurious Operation of Minimum SSDS Equipment

SYSTEM	COMPONENT	SPURIOUS OPERATION AND EFFECTS
RHR	Pool Suction Valve (1-74-1, 1-74-12, 1-74-24, 1-74-35, 2-74-1, 2-74-12, 2-74-24, 2-74-35 and 3-74-24)	Spurious operation will cause this normally open valve to close. Such spurious closure after automatic start of the RHR pump on high drywell pressure or low water level would cause the loss of the RHR pump and defeat the minimum SSDS. To ensure the valve is open for safe shutdown and to reduce operator action, a circuit modification is provided for this valve to remove the control power during normal power operation. Thus, spurious operation of this valve is prevented to ensure the availability of the RHR suction path for the minimum SSDS.
RHR	Pump (A,B,C,D)	Spurious operation will cause the pump to run. Running the pump with the pool suction valve and minimum flow valve open will not cause damage. It requires two spurious operations to affect both pump and either valve to cause damage to the minimum SSDS. This is beyond the design basis requirements. This affect has also been precluded with the removal of control power to the suction valves above. Therefore, this spurious operation would not affect the availability of the minimum SSDS. However, to prevent the potential overload of the associated emergency diesel generator, the pump will be manually stopped as part of the post fire re-alignment of the 4KV board.
RHR	Injection Valve Outboard (74-53, 74-67)	Spurious operation will cause the normally closed valve tc reverse its position. Such spurious operations will not affect the RHR pump. The RHR loop is protected from vessel pressure by the air operated check valve which will not spuriously operate. However, the valve(s) is required to open for LPCI operation. The circuit design for the valve(s) ensures the availability for operation in the LPCI mcde.

TABLE 5-1 (Continued)
Spurious Operation of Minimum SSDS Equipment

SYSTEM	COMPONENT	SPURIOUS OPERATION AND EFFECTS
RHR	Injection Valve Outboard (74-52, 74-66)	Spurious operation will cause this normally open valve to close. Such spurious operation will not affect the RHR pump. However, the valve must be open for LPCI operation. The circuit design for the valve ensures operation of this valve in the LPCI mode.
RHRSW	Pump (A1,A2,B1,B2, C1,C2,D1,D2)	For an Appendix R fire event, the RHRSW pumps are manually started at two hours after scram. Spurious start of the RHRSW would enhance cooling and would result in lower pool temperature. Therefore, this spurious operation does not affect safe shutdown. However, to prevent the potential overload of the associated emergency diesel generator, the non-credited pump(s) will be manually stopped as part of the post fire re-alignment of the 4KV board.
RHRSW	Units 1, 2 and 3 Heat Exchanger Discharge Valve (23-34, 23-40, 23-46, 23-52)	Spurious opening of this normally closed valve would allow the RHRSW flow through the RHR heat exchanger. The spuriously, opened valve would help to establish the RHRSW flow. This spurious operation does not affect safe shutdown, if sufficient RHRSW pumps are available. If only one (1) RHRSW pump per loop is available, then the required valves are verified opened/closed within two (2) hours for the desired configuration.
Auxiliary Power	Diesel Generator	Depending on the status of the diesel generator, spurious operation will either start or trip the diesel generator. Neither action would damage the diesel generator. The diesel generator can be restarted after a spurious trip. Therefore, these spurious operations would not affect the shutdown capability of the minimum SSDS.

TABLE 5-1(Continued)
Spurious Operation of Minimum SSDS Equipment

SYSTEM	COMPONENT	SPURIOUS OPERATION AND EFFECTS
Auxiliary Power	Switchgear/Relays	Depending on the status, spurious operation will either trip (open) or close a switch gear or relay. The spurious trip will drop off the load. This would not affect safe shutdown since this is consistent with the assumption of no automatic function. The spurious closing of a switchgear or relay may add loads to the diesel generator which can be manually tripped if necessary. Therefore, these spurious operations would not affect the shutdown capability of the minimum SSDS.
EECW	Pump (A3,B3,C3,D3)	Spurious operation will start these pumps if they are idle and trip them if they are running. No credit is taken for any spurious start. The spurious trip is equivalent to loss of power to the pump. The spurious operation would cause the loss of cooling water to the diesel generator. To provide adequate cooling to the diesel generators, at least two EECW pumps with automatic start capability are required. If this requirement cannot be met, a fire area or zone specific evaluation was performed. The post-fire procedure (SSI) would also instruct the operator to verify the operation of the EECW pumps within 10 minutes. Therefore, this spurious operation would not affect the shutdown capability of the minimum SSDS.

TABLE 5-1(Continued)
Spurious Operation of Minimum SSDS Equipment

SYSTEM	COMPONENT	SPURIOUS OPERATION AND EFFECTS
EECW	Sectionalizing Valves (67-13, 67-14, 67-17, 67-18, 67-21, 67-22, 67-25, 67-26)	The EECW piping uses twc common intake Valves and common manifclds to discharge water to various equipment. Two EECW pumps feed each header from opposite directions, which requires two EECW pumps available for all three units during a fire event. The sectionalizing valves are open with motive power removed to preclude spurious operations. Therefore, no spurious cperation of the EECW valves would occur and affect the shutdown capability of the minimum SSDS.
EECW/RHRSW RHR INTERTIE	Valves (67-48, 67-49 and 23-57)	Spurious opening of these normally closed valve(s) would divert part of the required EECW flow through the RHRSW heat exchanger(s) if valve 23-52 or 23-40, spuriously open along with valve 67-48 or 67-49, respectively. The required positions are manually verified. Closure and administrative control (motive power removed) of 2(3)-FCV-74-100 and 1(2)-FCV-74-101 precludes RHR flow to the ultimate heat sinks via 1(2)-FCV-23-57. A single spurious operation cannot open both valves and/or administrative controls on these valves assure the required position.
250V DC Power	Batteries, Battery Chargers, and Battery Boards	The battery chargers can be tripped by spurious operation. However, the battery, chargers are nct required for short term safe shutdown operation. Procedures have been established to ensure the availability of the battery chargers for long term cperation. Other portions of the 250V DC power system are passive and will not spuriously operate.

TABLE 5-1 (Continued)
Spurious Operation of Minimum SSDS Equipment

SYSTEM	COMPONENT	SPURIOUS OPERATION AND EFFECTS
Diesel Auxiliary System	Battery, Air Starter, Diesel Fuel Transfer	The Diesel Auxiliary System is self-contained within each Diesel Generator Building. The diesel generators and their auxiliary equipment would not be used for a fire within their building. Therefore, spurious operation of the Diesel Auxiliary System would not affect safe shutdown.
MSRV Air Supply	Accumulator	The accumulators are mechanical devices located inside the inert drywell. They would not experience spurious operation during a fire.
Fire Protection	Pumps	At least one fire pump is provided for each fire area/zone. Additionally, a portable fire pump and diesel driven fire pumps serving auxiliary facilities can be tied to the HPFP system. Therefore, spurious stop of a fire pump would not adversely affect the fire protection capability. Spurious start of these fire pumps would enhance fire protection. Electric and diesel fire pumps are modeled in calculation ED-Q0999-2003-0037, considered in calculation ED-Q0999-2003-0055 with respect to EDG loading and manual actions are provided in calculation ED-Q0999-2003-0048 to ensure load shed of non-credited electrical fire pumps. However, to prevent the potential overload of the associated emergency diesel generator, the non-credited pump(s) will be manually stopped as part of the post fire re-alignment of the 4KV board.

TABLE 5-2 - High-Low Pressure Interface Components

SYSTEM	COMPONENT	SPURIOUS OPERATION AND EFFECTS
RHR	FCV-74-47, 74-48	Motive power is removed and the breaker for FCV-74-47 is tagged out during normal power operation. The power cable for FCV-74-47 is routed in dedicated conduits to prevent hot shorts.
RWCU	FCV-69-1, FCV-69-2, FCV-69-94	Manual actions will be performed to assure either valve FCV-69-01, FCV-69-02 or FCV-69-94 is closed. Should a high temperature condition occur downstream of the RWCU non-regenerative heat exchangers, valve FCV-69-94 is designed to close automatically.
RHR	FCV-74-53	See Note 1.
RHR	FCV-74-67	See Note 1.
RHR	FCV-74-76, FCV-74-77 FCV-74-78	See Note 1.
Core Spray	FCV-75-25	See Note 1.
Core Spray	FCV-75-53	See Note 1.
HPCI	FCV-73-44	See Note 1.
RCIC	FCV-71-39	See Note 1.
HPCI	LCV-73-5, FCV-73-6A, FCV-73-6B	See Note 2.
RCIC	LCV-71-5, FCV-71-6A, FCV-71-6B	See Note 2.
CRD	FCV-85-39B, FCV-85-82, FCV-85-82A	See Note 3.
CRD	FCV-85-39B, FCV-85-83, FCV-85-83A	See Note 3.
CRD	FCV-85-39B, 85-37C, FCV-85-37D	See Note 3.

TABLE 5-2 (Continued)
High-Low Pressure Interface Components

SYSTEM	COMPONENT	SPURIOUS OPERATION AND EFFECTS
CRD	FCV-85-39B, 85-37E, FCV-85-37F	See Note 3.
Feedwater	FCV-3-98, 3-99	See Note 2.
Recirc Sampling	FCV-43-13, 43-14	See Note 1.
Main Steam	FCV-1-55,56,57,58	See Note 4.
ADS/MSRV	Main Steam Relief Valves	See Note 5.
MSIVs	FCV-01-14,15,26,27, 37,38,51,52	The main steam isolation valves will be manually closed at the initiation of the Appendix R event for each fire area/zone. The valves are of a fail-safe design and thus, are closed for each fire area/zone.

NOTES:

1. Mechanical check valves or manual valves are available to prevent reactor inventory loss through the injection valve from makeup system.

2. Reactor inventory loss is limited by line size (one-inch or less) and/or minimum SSDS has sufficient capacity to mitigate consequences.

3. Valve would fail closed on loss of air after scram. Therefore, spurious operation of these valves is incredible (Reference 7.)

4. Effect of spurious operation is bounded by the spurious operation of one MSRV. See analyses for isolation of the main steam line drain in Section 4.1.4.5. The spurious operation is corrected by manually closing valve FCV-1-55 or FCV-1-56 or valves FCV-1-57 and FCV-1-58 at greater than eight hours after event initiation.

5. Spurious operation of one MSRV can be mitigated by the minimum SSDS. See analysis for MSRV in Section 4.1.4.2 and 4.1.4.3.

TABLE 5-3 - Spurious Operation of Other Plant Equipment

SYSTEM	COMPONENT	SPURIOUS OPERATION AND EFFECTS
Core Spray	Prevent core spray injection (e.g., spurious closure of pool suction valve)	None, because no credit is taken for core spray injection.
Core Spray	Initiate core spray injection (e.g., spurious start of core spray injection)	None, because core spray cannot inject until the reactor is depressurized and no credit is taken for core spray injection. The core spray pumps will be tripped before depressurization.
Feedwater	Prevent feedwater injection (e.g., spurious trip of feedwater pump)	None, because no credit is taken for feedwater.
Feedwater	Initiate feedwater runoff (e.g., spurious failure of feedwater controller)	None, because feedwater pumps will be tripped when the reactor is isolated. See Section 4.1.4.4 for the evaluation of feedwater runoff.
HPCI	Prevent HPCI injection (e.g., spurious turbine trip)	None, because no credit is required to be taken for HPCI injection. If HPCI turbine starts but does not inject, the amount of reactor inventory loss is less than that of a MSRV. Therefore, the case of MSRV spurious operation will bound this event of spurious HPCI start but no HPCI injection.
HPCI	Initiate HPCI injection (e.g., spurious HPCI start	Spurious HPCI injection is analyzed in Section 4.1.4.4.
RCIC	Prevent RCIC injection (e.g., spurious turbine trip)	None, because no credit is required to be taken for RCIC injection. The HPCI evaluation bounds the RCIC spurious operation. RCIC operation is taken credit for only in selected areas of the plant where circuits remain free of fire damage.

TABLE 5-3 (Continued)
Spurious Operation of Other Plant Equipment

SYSTEM	COMPONENT	SPURIOUS OPERATION AND EFFECTS
RCIC	Initiate RCIC injection (e.g., spurious RCIC start	Spurious RCIC injection is analyzed in Section 4.1.4.4.
CRD	Prevent CRD injection (e.g., spurious CRD pump trip)	None, because no credit is taken for CRD.
CRD	Initiate CRD injection (e.g., spurious CRD pump start)	Spurious CRD injection is analyzed in Section 4.1.4.4
RHR (SPC)	The Suppression Pool Cooling valves FCV-74-57, 59 (Loop A) and FCV-74-71, 73 (Loop B) are normally closed. A spurious operation mode is to open the valves to divert LPCI flow away from the reactor vessel. The spurious operation could also cause drain down of the RHR injection lines.	None, because the SPC valves are two normally closed valves in series without automatic opening controls. A single spurious operation cannot open both valves. Opening of these valves is a desirable function following reflood and well within the 4,000 gpm excess LPCI flow available, and therefore, is of no concern. Note: LPCI requires 6,000 gpm of the available 10,000 gpm RHR flow during reflood and 5,000 gpm during alternate shutdown cooling.
RHR (SDC)	The SDC valves include the suction valves which are a high-low pressure interface and the LPCI valves which are the minimum SSDS.	None, because this possibility has been eliminated. See the analysis on the high-low pressure interface and minimum SSDS. Section 5.4.4 and Table 5-1
RHR (CSC)	The containment spray cooling valves FCV-74-57, 58 (Loop A) and FCV-74-71, 72 (Loop B) are normally closed. A spurious operation mode is to open the valves to divert LPCI flow away from the reactor. The spurious operation could also cause drain down of the RHR injection lines.	None, because these containment spray cooling valves are two normally closed valves in series without automatic opening controls. A single spurious operation cannot open both valves.

TABLE 5-3 (Continued)
Spurious Operation of Other Plant Equipment

SYSTEM	COMPONENT	SPURIOUS OPERATION AND EFFECTS
RHR (Inter-tie Valves)	The intertie valves (e.g., 2-74-100, 3-74-100, 1-74-101, 2-74-101, 1-74-98, 2-74-98, 1-74-99, 2-74-99, 3-74-96, 2-74-97, 3-74-97, 2-74-46, 3-74-46, 1-78-62, 2-78-62, 3-78-62) are normally closed. The only mode of spurious operation is to open the valves and divert LPCI flow away from the reactor vessel.	None, because the intertie valves are two normally closed valves in series without automatic opening control. In addition, power has been disabled to these valves to assure spurious operation cannot open them. Also, 3-74-46 may be left open if manual valve 3-74-150 is closed.
RHR (Flush Suction Valves)	Loop I Flush Suction Valves 1-74-104, 2-74-104, 3-74-104 and Loop II Flush Suction Valves 1-74-106, 2-74-106, 3-74-106 are normally closed. The only mode of spurious operation is to open the valve and result in the associated RHR pump to not start due to a start circuit interlock.	None, because the Loop I flush suction valves are located in the same fire zone as the Loop I RHR pumps and the Loop II flush suction valves are located in the same fire zone as the Loop II RHR pumps.
Recirculation System	Prevent or stop recirculation flow (e.g., trip recirculation pumps).	None, because recirculation flow is not required for core cooling. Also, see Reference 11 and 56, Section 4.10.
Recirculation System	Start recirculation pump after trip.	Pressure from pump may limit LPCI injection flow. Recirc pump breakers are manually tripped to secure pumps.
RWCU	Prevent RWCU flow (e.g., spurious isolation of the RWCU suction line).	None, because RWCU flow is not required for core cooling.
RWCU	Initiate RWCU flow (e.g., spurious start of RWCU pump after trip).	None, because the RWCU system isolation will be assured by closure of either valve FCV-69-1, FCV-69-2 or FCV-69-94.

TABLE 5-3 (Continued)
Spurious Operation of Other Plant Equipment

SYSTEM	COMPONENT	SPURIOUS OPERATION AND EFFECTS
Turbine	Prevent main steam turbine from operation (e.g., spurious closure of the turbine stop valves.	None, because the turbine trip is an anticipated transient which the plant is designed for and a spurious turbine trip during a fire event will not affect safe shutdown.
Turbine	Initiate opening of turbine stop valves or bypass valves.	None, because the reactor will be isolated (Reference 7) and spurious opening of these valves will not affect core inventory.
SBGT	Prevent SBGT from operation.	None, because SBGT is not required for safe shutdown because SBGT is designed for maintaining the secondary containment boundary and secondary containment is not required for a fire event.
SBGT	Initiate SBGT operation.	None because SBGT is not associated with reactor inventory makeup nor does it provide auxiliary functions.
RHRSW and EECW Intertie	Diverts RHRSW flow or EECW flow from the intended path by opening valves FCV-67-48, 67-49, 23-57.	None, the intertie valves are two normally closed valves in series without automatic opening controls. Spurious operation of these valves is evaluated as required equipment in the fire safe shutdown analysis (see References 3 and 56).
Pressure Suppression Chamber (PSC) head tank pumps	Initiate PSC head tank pumps.	None because the pumps discharge either fills the ECCS piping systems or fills the PSC head tank. PSC head pumps tank pumps cannot reduce inventory or water contained in the torus.

FIGURE 5-1 Types of Associated Circuits

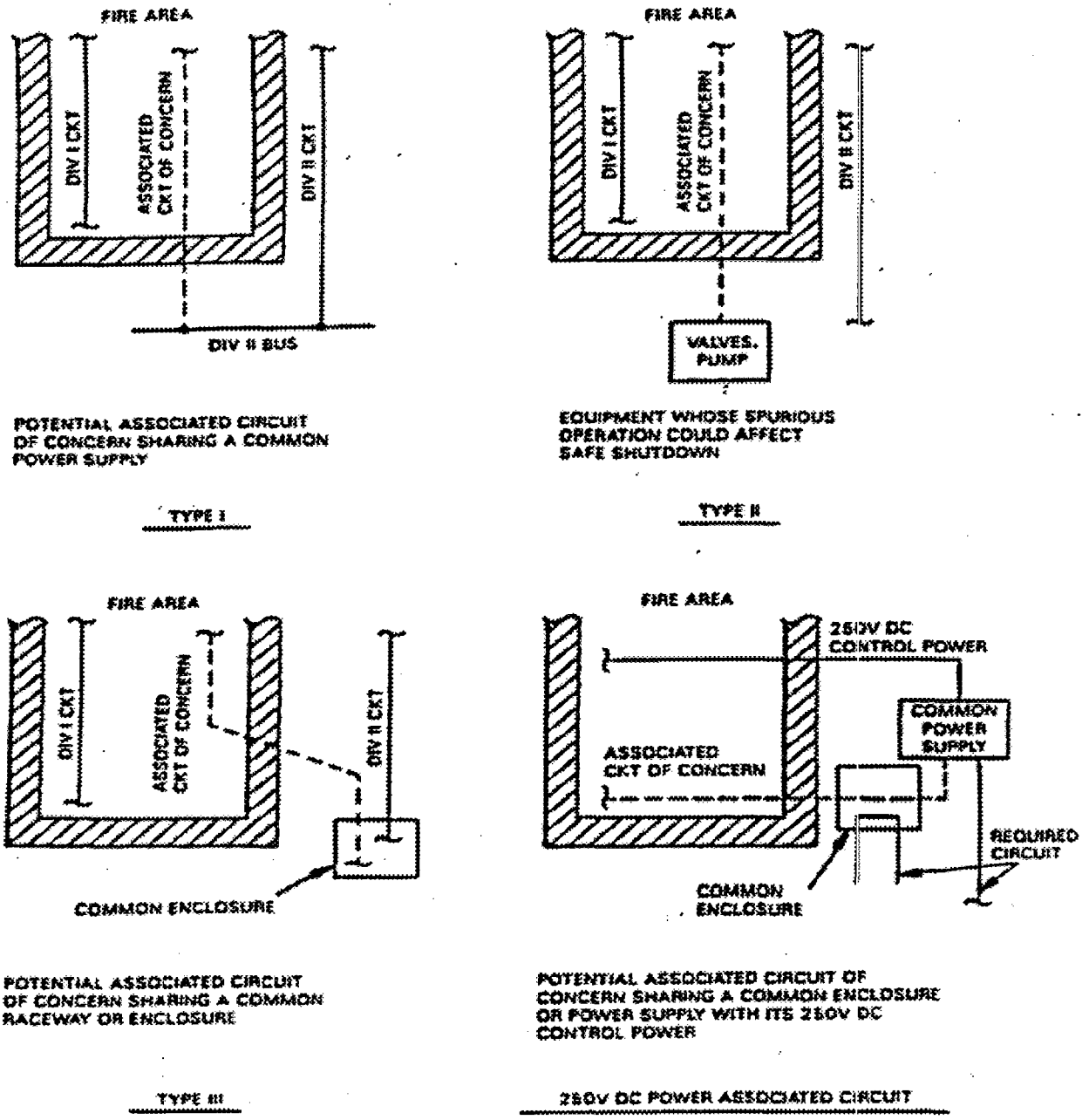


FIGURE 5-1. TYPES OF ASSOCIATED CIRCUITS

6.0 SECTION FOR FUTURE USE

7.0 APPENDIX R - LONG TERM COMPLIANCE

An assessment of any future modification is made to determine its impact on the existing fire hazards/safe shutdown analysis for the area, combustible loading and distribution. The assessment also considers whether circuits or components, including associated circuits for a train of equipment needed for safe shutdown, are being affected or new elements are introduced in the area. If the evaluation determines the results of the modification in the area are not in conformance with Appendix R, then appropriate corrective actions are made to achieve conformance or engineering evaluations are performed to justify that the change will provide an equivalent level of fire protection safety.

Plant procedures exist (SPP-9.3) to ensure long term compliance. Changes to the Fire Protection Report-Volume 1 are prepared, reviewed and approved in accordance with procedure FPDP-3, Management of the Fire Protection Report.

8.0 AVAILABILITY OF MINIMUM SSDS CAPABILITY FOR FIRE AREAS / ZONES

The safe shutdown analysis assures that the listed equipment will remain free of fire damage for fires in each of the fire areas/zones to perform safe shutdown functions. Safe Shutdown Instructions (SSIs) are prepared to provide the operator with the equipment and actions necessary to shutdown the plant in the event of a fire in any area of the plant. Reference 53 provides the operator manual action requirements.

The Safe Shutdown Assumptions are:

- Units 1, 2 and 3 are at 100% power and in normal system alignment.
- The safe shutdown equipment is the only equipment available.
- A loss of offsite power may occur concurrent with the fire.

The design requirements are:

Maximum fuel clad temperature of 1,500°F.
Maximum reactor pressure of 1,375 psig at the bottom head.
Maximum drywell pressure of 56 psig.
Maximum drywell temperature of 281°F.
Suppression pool temperature low enough to ensure steam condensation and RHR pump NPSH.

The components which make up the Safe Shutdown Systems for Units 1, 2 and 3 are:

- Three to eight diesel generators, 250V DC batteries and the electrical boards for the necessary equipment.
- One RHR pump per unit.
- Two EECW pumps.
- One RHRSW pump per unit.
- Three Main Steam Relief Valves per unit.
- Control Bay/Units 1, 2 and 3 Shutdown Board Room HVAC and RHR Pump Room Coolers.
- Necessary instrumentation.
- HPCI or RCIC for selected areas of the plant.

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

The entry conditions for an Appendix R event are:

- A confirmed fire exists that cannot immediately be extinguished.
- Units 1, 2 and/or 3 reactor pressures are greater than atmospheric.
- Inability to maintain reactor water level with high pressure systems. **
- Offsite power is lost or unavailable or degraded plant electrical system.

** It is possible to satisfy the entry conditions for an Appendix R event scenario in some plant fire areas, even where HPCI or RCIC systems still remain available, depending on the degree of degradation of required minimum SSD systems due to the fire event.

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Zone 1-1 U-1 Reactor Bldg. EL 519' - 565', west of column line R4

Applicable Appendix R Separation Criteria: III.G.2

A fire in Unit 1 Reactor Building, El. 519' - 565', Fire Zone 1-1, would affect Unit 1 HPCI and RCIC operation but would not affect Unit 2 HPCI or Unit 3 HPCI/RCIC operation. A rapid depressurization of the Unit 1 RPV would be required within 20 minutes of the entry conditions being met, but would not be required for two hours for Unit 2 or 3. All of the Unit 1 and 2 Diesel Generators are affected and power to 4 KV Shutdown Boards A, C and D will be supplied from Diesel Generators 3A, 3C and 3D, respectively. 4KV SDBD B will not be credited for this fire zone analysis. The Safe Shutdown Equipment for a fire in this zone is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,C,D,3EA,3EB,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3D
480V SDBD 1B,2A,2B,3A,3B	250V RMOV BD 1A,1B	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1B,2A,2B,3A,3B			
480V DSL AUX BD 3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD B			
Diesel Gen 3A,3B,3C,3D		HPCI	HPCI
BATT BD 1,2,3,4,5	RHR Pump 1D	RHR Pump 2B	RCIC
			RHR Pump 3A
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump D2	RHRSW Pump B1	RHRSW Pump A2
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-4 (MSRV-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-4 (MSRV-CAD_A)
Pumps A3 and C3	1-PCV-1-18 (MSRV-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-5 (ADS-CAD_A)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-30 (MSRV-CAD_B)
	1-PCV-1-41 (MSRV-CAD_A)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-34 (ADS-CAD_B)
	1-PCV-1-42 (MSRV-CAD_B)		
	OR	ONLY CAD_B AVAILABLE	ONLY CAD_B AVAILABLE
	1-PCV-1-22 (ADS-CAD_A)		
	1-PCV-1-31 (ADS-CAD_B)		
	1-PCV-1-179 (MSRV-CAD_A)		
	ONLY CAD_B AVAILABLE		
Instrumentation List	**Unit 1 Specific Equipment**	**Unit 2 Specific Equipment**	**Unit 3 Specific Equipment**
RPV Level	1-LI-3-58B	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74B	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-66	3-LI-64-54A,66
Torus Suppression Pool Temp.	1-TR-64-162 (1-TE-04-162E,F,G & H)	2-TI-64-162	3-TI-64-161,162
Instrumentation List	**Unit 1 Specific Equipment**	**Unit 2 Specific Equipment**	**Unit 3 Specific Equipment**

Drywell Pressure	None	2-PI-64-67B	3-PI-64-50
Drywell Temperature	None	2-TI-64-52AB	3-TI-64-52AB

Common HVAC Equipment

CB CWP B(0-PMP-31-2201)
CB Wtr Chiller B(0-CHR-31-2200)
CWP 3B(3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
U1/U2 BBR Exh. Fn 1B(0-FAN-31-75)
U1/U2 El 593 AHU 1B(0-AHU-31-89)
U1/U2 CR AHU 1B 0-AHU-31-82)
U1 SDBD Rm AHU 1B(1-AHU-31-2310)
U2 SDBD Rm AHU 2B(2-AHU-31-2330)
U3 El 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 **AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES** (Continued)

Fire Zone 1-2 U-1 Reactor Bldg. EL 519' - 565', east of column line R4

Applicable Appendix R Separation Criteria: III.G.2

A fire in Unit 1 Reactor Building, El. 519' - 565', Fire Zone 1-2, would affect Unit 1 HPCI and RCIC operation but would not affect Unit 2 HPCI or Unit 3 HPCI/RCIC operation. A rapid depressurization of the Unit 1 RPV would be required within 20 minutes of the entry conditions being met, but would not be required for two hours for Unit 2 or 3. The Diesel Generators B, C and D are affected and power to 4KV Shutdown Board D will be supplied from Diesel Generator 3D. 4KV SDBDs B and C will not be credited for this fire zone analysis. The Safe Shutdown Equipment for a fire in this zone is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,D,3EA,3EB,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3E
480V SDBD 1A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1A,2A,2B,3A,3B			
480V DSL AUX BD A,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen A,3A,3B,3C,3D		HPCI	HPCI
BATT BD 1,2,3,4,5	RHR Pump 1A	RHR Pump 2D	RCIC
			RHR Pump 3B
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump A1	RHRSW Pump D2	RHRSW Pump B1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-4 (MSRV-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-4 (MSRV-CAD_A)
Pumps A3 and C3	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-5 (ADS-CAD_A)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-30 (ADS-CAD_B)
	1-PCV-1-41 (MSRV-CAD_A)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-34 (MSRV-CAD_B)
	ONLY CAD_A AVAILABLE	ONLY CAD_A AVAILABLE	ONLY CAD_A AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-159A	2-LI-64-66	3-LI-64-54A,66
Torus Suppression Pool Temp.	1-TR-64-161(1-TE-64-161B,C & D)	2-TI-64-162	3-TI-64-161,162
Drywell Pressure	None	2-PI-64-67B	3-PI-64-160A
Drywell Temperature	None	2-TI-64-52AB	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CB Emerg Air Comp(0-CMP-31-128)
CB CWP B(0-PMP-31-2201)
CB Wtr Chiller B(0-CHR-31-2200)
CWP 3B(3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
U1/2 BBR Exh. Fn 1B(0-FAN-31-75)
U1/U2 El 593 AHU 1B(0-AHU-31-89)
U1/U2 CR AHU 1B 0-AHU-31-82)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2B(2-AHU-31-2330)
U3 El 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Zone 1-3 U-1 Reactor Bldg. EL 593', north of column line R

Applicable Appendix R Separation Criteria: III.G.2

A fire in Unit 1 Reactor Building, El. 593', Fire Zone 1-3, would affect Unit 1 HPCI and RCIC operation but would not affect Unit 2 HPCI or Unit 3 HPCI/RCIC operation. A rapid depressurization of the Unit 1 RPV would be required within 20 minutes of the entry conditions being met, but would not be required for two hours for Unit 2 or 3. All of the Unit 1 and 2 Diesel Generators are affected and power to 4KV Shutdown Boards B, C and D will be supplied from Diesel Generators 3B, 3C and 3D, respectively. 4KV SDBD A will not be credited for this fire zone analysis. The Safe Shutdown Equipment for a fire in this zone is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD B,C,D,3EA,3EB,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3D
480V SDBD 1B,2B,3A,3B	250V RMOV BD 1B,1C	250V RMOV BD 2A,2B	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1B,2B,3A,3B			
480V DSL AUX BD 3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD B			
Diesel Gen 3A,3B,3C,3D		HPCI	HPCI
BATT BD 2,3,4,5	RHR Pump 1D	RHR Pump 2B	RCIC
			RHR Pump 3C
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump D2	RHRSW Pump B2	RHRSW Pump C1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-18 (MSRV-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-4 (MSRV-CAD_A)
Pumps A3 and C3	1-PCV-1-19 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-5 (ADS-CAD_A)
	1-PCV-1-31 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-30 (MSRV-CAD_B)
	1-PCV-1-179 (MSRV-CAD_A)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-34 (ADS-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-54A	2-LI-64-66	3-LI-64-54A,66
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-162	3-TI-64-161,162
Drywell Pressure	None	2-PI-64-67B	3-PI-64-50
Drywell Temperature	None	2-TI-64-52AB	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CB CWP B(0-PMP-31-2201)
CB Wtr Chiller B(0-CHR-31-2200)
CWP 3B(3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
U1/2 BBR Exh. Fn 1B(0-FAN-31-75)
U1/U2 El 593 AHU 1B(0-AHU-31-89)
U1/U2 CR AHU 1B 0-AHU-31-82)
U2 SDBD Rm AHU 2B(2-AHU-31-2330)
U3 El 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 **AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES** (Continued)

Fire Zone 1-4 U-1 Reactor Bldg. EL 593', south of col.line Q & RHR HX Rms.

Applicable Appendix R Separation Criteria: III.G.2

A fire in Unit 1 Reactor Building, El. 593', Fire Zone 1-4, would affect Unit 1 HPCI and RCIC operation but would not affect Unit 2 HPCI or Unit 3 HPCI/RCIC operation. A rapid depressurization of the Unit 1 RPV would be required within 20 minutes of the entry conditions being met, but would not be required for two hours for Unit 2 or 3. All of the Unit 1 and 2 Diesel Generators are affected and power to 4KV Shutdown Boards A and D will be supplied from Diesel Generators 3A and 3D, respectively. 4KV SDBDs B and C will not be credited for this fire zone analysis. The Safe Shutdown Equipment for a fire in this zone is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,D,3EA,3EB,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3E
480V SDBD 1A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1A,2A,2B,3A,3B			
480V DSL AUX BD 3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD B			
Diesel Gen 3A,3B,3C,3D		HPCI	HPCI
BATT BD 2,3,4,5	RHR Pump 1A	RHR Pump 2D	RCIC
			RHR Pump 3B
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump A1	RHRSW Pump D2	RHRSW Pump B1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-4 (MSRV-CAD_A)
Pumps A3 and C3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-5 (ADS-CAD_A)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-30 (MSRV-CAD_B)
	1-PCV-1-34 (ADS-CAD_A)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-34 (ADS-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58B	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74B	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-66	3-LI-64-54A,66
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-162	3-TI-64-161,162
Drywell Pressure	None	2-PI-64-67B	3-PI-64-50
Drywell Temperature	None	2-TI-64-52AB	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CB CWP B(0-PMP-31-2201)
CB Wtr Chiller B(0-CHR-31-2200)
CWP 3B(3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
U1/2 BBR Exh. Fn 1B(0-FAN-31-75)
U1/U2 El 593 AHU 1B(0-AHU-31-89)
U1/U2 CR AHU 1B 0-AHU-31-82)
U2 SDBD Rm AHU 2B(2-AHU-31-2330)
U3 El 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 **AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES** (Continued)

Fire Zone 1-5 U-1 Reactor Bldg. EL 621' & north of col. line R on EL 639'

Applicable Appendix R Separation Criteria: III.G.2

A fire in Unit 1 Reactor Building, El. 621' and 639' (north of column line R), Fire Zone 1-5, would affect Unit 1 HPCI and RCIC operation but would not affect Unit 2 HPCI or Unit 3 HPCI/RCIC operation. A rapid depressurization of the Unit 1 RPV would be required within 20 minutes of the entry conditions being met, but would not be required for two hours for Unit 2 or 3. The Diesel Generator A is affected and 4KV SDBD A will not be credited for this fire zone analysis. The Safe Shutdown Equipment for a fire in this zone is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD B,C,D,3EA,3EB,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3E
480V SDBD 1A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1A,1B,2B,3A,3B			
480V DSL AUX BD A,B,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen B,C,D,3A,3B,3C,3D		HPCI	HPCI
BATT BD 1,2,3,4,5	RHR Pump 1B	RHR Pump 2D	RCIC
			RHR Pump 3B
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump B2	RHRSW Pump D2	RHRSW Pump B1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-18 (MSRV-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-4 (MSRV-CAD_A)
Pumps A3 and C3	1-PCV-1-19 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-5 (ADS-CAD_A)
	1-PCV-1-31 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-30 (MSRV-CAD_B)
	1-PCV-1-179 (MSRV-CAD_A)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-34 (ADS-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A or 58B	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A or 74B	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-66	3-LI-64-54A,66
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-162	3-TI-64-161,162
Drywell Pressure	None	2-PI-64-67B	3-PI-64-160A
Drywell Temperature	None	2-TI-64-52AB	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CB CWP B(0-PMP-31-2201)
CB Wtr Chiller B(0-CHR-31-2200)
CB Emerg Air Comp(0-CMP-031-128)
CWP 3B(3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
U1/2 BBR Exh. Fn 1B(0-FAN-31-75)
U1/U2 El 593 AHU 1B(0-AHU-31-89)
U1/U2 CR AHU 1B 0-AHU-31-82)
U1 SDBD Rm AHU 1B(1-AHU-31-2310)
U2 SDBD Rm AHU 2B(2-AHU-31-2330)
U3 El 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Zone 1-6 U-1 Reactor Bldg. EL 639', south of column line R

Applicable Appendix R Separation Criteria: III.G.2

A fire in Unit 1 Reactor Building, El. 639' (south of column line R), Fire Zone 1-6, would not affect Unit 1 HPCI, Unit 2 HPCI or Unit 3 HPCI/RCIC operation. A rapid depressurization of the Units 1, 2 and 3 RPV would not be required until two hours after the entry conditions are met. The Diesel Generator C is affected and 4KV SDBD C will not be credited for this fire zone analysis. The Safe Shutdown Equipment for a fire in this zone is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,D,3EA,3EB,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3E
480V SDBD 1A,2A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1A,2A,2B,3A,3B			
480V DSL AUX BD A,B,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen A,B,D,3A,3B,3C,3D	HPCI	HPCI	HPCI
BATT BD 1,2,3,4,5	RHR Pump 1A	RHR Pump 2D	RCIC
			RHR Pump 3B
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump A1	RHRSW Pump D2	RHRSW Pump B1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-4 (MSRV-CAD_A)
Pumps A3 and C3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-5 (ADS-CAD_A)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-30 (MSRV-CAD_B)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-34 (ADS-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-66	3-LI-64-54A,66
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-162	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	2-PI-64-67B	3-PI-64-160A
Drywell Temperature	None	2-TI-64-52AB	3-TI-64-52AB

Instrument List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CB CWP B(0-PMP-31-2201)
CB Wtr Chiller B(0-CHR-31-2200)
CB Emerg Air Comp(0-CMP-031-128)
CWP 3B(3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
U1/2 BBR Exh. Fn 1B(0-FAN-31-75)
U1/U2 El 593 AHU 1B(0-AHU-31-89)
U1/U2 CR AHU 1B (0-AHU-31-82)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2B(2-AHU-31-2330)
U3 El 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Zone 2-1 U-2 Reactor Bldg. EL 519' - 565', west of column line R11

Applicable Appendix R Separation Criteria: III.G.2

A fire in Unit 2 Reactor Building, El. 519' - 565', Fire Zone 2-1, would affect Unit 2 HPCI/RCIC operation, but the Unit 1 and 3 HPCI/RCIC remains available. A rapid depressurization of the Unit 2 RPV would be required within 20 minutes of the entry conditions being met, but would not be required for two hours for Unit 1 or 3. The Diesel Generator C and D are affected. Power to 4 KV Shutdown Board D will be supplied from Diesel Generator 3D, but 4KV SDBD C will not be credited for this fire zone analysis. The Safe Shutdown Equipment for a fire in this zone is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,D,3EA,3EB,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3E
480V SDBD 1A,2A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1A,2A,2B,3A,3B			
480V DSL AUX BD A, 3EA, 3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A, B			
Diesel Gen A,B,3A,3B,3C,3D	HPCI	RHR Pump 2D	HPCI
BATT BD 1,2,3,4,5	RCIC		RCIC
	RHR Pump 1A		RHR Pump 3B
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump A1	RHRSW Pump D2	RHRSW Pump B1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps A3 and C3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-18 (MSRV-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-179 (MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-180 (MSRV-CAD_B)
		OR	
	ONLY CAD_B AVAILABLE	2-PCV-1-19 (ADS-CAD_A)	ONLY CAD_B AVAILABLE
		2-PCV-1-22 (ADS-CAD_A)	
		2-PCV-1-31 (ADS-CAD_B)	
		2-PCV-1-179 (MSRV-CAD_A)	
		ONLY CAD_B AVAILABLE	

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-66	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TR-64-162 (2-TE-64-162E,F,G & H)	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	None	3-PI-64-160A
Drywell Temperature	None	None	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CB CWP B(0-PMP-31-2201)
CB Wtr Chiller B(0-CHR-31-2200)
CWP 3B(3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1B(0-FAN-31-75)
U1/U2 El 593 AHU 1B(0-AHU-31-89)
U1/U2 CR AHU 1B(0-AHU-31-82)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2B(2-AHU-31-2330)
U3 El 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 **AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES** (Continued)

Fire Zone 2-2 U-2 Reactor Bldg. EL 519' - 565', east of column line R11

Applicable Appendix R Separation Criteria: III.G.2

A fire in Unit 2 Reactor Building, Fire Zone 2-2, would affect Unit 2 HPCI operation, but Unit 1 and 3 HPCI/RCIC remains available. A rapid depressurization of the Unit 2 RPV would be required within 20 minutes of the entry conditions being met, but would not be required for two hours for Unit 1 or 3. The Diesel Generators C, D, and 3D are affected and 4KV SDBDs C, D and 3ED will not be credited for this fire zone analysis. The Safe Shutdown Equipment for a fire in this zone is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,3EA,3EB,3EC		480V RMOV BD 2D	480V RMOV BD 3D
480V SDBD 1A,2A,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1A,2A,3A,3B			
480V DSL AUX BD A,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen A,B,3A,3B,3C	HPCI	RHR Pump 2C	HPCI
BATT BD 1,2,3,4,5	RCIC		RCIC
	RHR Pump 1A		RHR Pump 3A
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump A1	RHRSW Pump C1	RHRSW Pumps A2
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
Loop A North Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps A3 and C3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-5 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-18 (MSRV-CAD_A)	3-PCV-1-179 (MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-19 (ADS-CAD_A)	3-PCV-1-180 (MSRV-CAD_B)
		2-PCV-1-30 (ADS-CAD_B)	
	ONLY CAD_A AVAILABLE	2-PCV-1-31 (ADS-CAD_B)	ONLY CAD_A AVAILABLE
		2-PCV-1-34 (ADS-CAD_B)	
		2-PCV-1-41 (MSRV-CAD_B)	
		2-PCV-1-42 (MSRV-CAD_B)	
		2-PCV-1-179 (MSRV-CAD_A)	
		OR	
		2-PCV-1-22 (ADS-CAD_A)	
		2-PCV-1-23 (MSRV-CAD_A)	
		2-PCV-1-180 (MSRV-CAD_B)	
		ONLY CAD_A AVAILABLE	

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58A	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74A	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-66 or 2-LI-64-159A*	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-T1-64-161	2-TR-64-161 (2-TE-64-161B & C)	3-TI-64-161,162

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Drywell Pressure	1-PI-64-160A	None	3-PI-64-160A
Drywell Temperature	None	None	3-TI-64-52AB

Common HVAC Equipment

CB CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3B (3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

*NOTE: Either indicator 2-LI-64-66 or indicator 2-LI-64-159A will be available, depending upon the location of the fire.

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Zone 2-3 U-2 Reactor Bldg. El 593', north of column line R

Applicable Appendix R Separation Criteria: III.G.2

A fire in Unit 2 Reactor Building, Fire Zone 2-3, would affect Unit 2 HPCI operation, but Unit 1 and Unit 3 HPCI/RCIC remain available. A rapid depressurization of the Unit 2 RPV would be required within 20 minutes of the entry conditions being met, but would not be required for two hours for Unit 1 or 3. The Diesel Generators A and C are affected. Power to 4KV Shutdown Board A will be supplied from Diesel Generator 3A, but 4KV SDBD C will not be credited for this fire zone analysis. The Safe Shutdown Equipment for a fire in this zone is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,D,3EA,3EB,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3D
480V SDBD 1A,2A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2B,2C	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1A,2A,2B,3A,3B			
480V DIESEL AUX BD A,B,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen B,D,3A,3B,3C,3D	HPCI	RHR Pump 2D	HPCI
BATT BD 1,3,4,5	RCIC		RCIC
	RHR Pump 1C		RHR Pump 3C
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump C1	RHRSW Pump D2	RHRSW Pump C2
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North	1-PCV-1-19 (ADS-CAD_A)	2-PCV-1-19 (ADS-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Header Pumps A3 and C3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-31 (ADS-CAD_B)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-179 (MSRV-CAD_A)	3-PCV-1-179 (MSRV-CAD_A)
	1-PCV-1-31 (ADS-CAD_B)		3-PCV-1-180 (MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58A	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74A	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A or 2-LI-64-54A*	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-161	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	None	3-PI-64-160A
Drywell Temperature	None	None	3-TI-64-52AB

*NOTE: Either indicator 2-LI-64-54A or indicator 2-LI-64-159A will be available, depending upon the location of the fire.

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3B(3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U3 EL 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 **AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES** (Continued)

Fire Zone 2-4 U-2 Reactor Bldg. EL 593', south of col.line Q & RHR HX Rms.

Applicable Appendix R Separation Criteria: III.G.2

A fire in Unit 2 Reactor Building, Fire Zone 2-4, would affect Unit 2 HPCI operation, but Unit 1 and 3 HPCI/RCIC remain available. A rapid depressurization of the Unit 2 RPVs would be required within 20 minutes of the entry conditions being met, but would not be required for two hours for Unit 1 or 3. All diesel generators are available. The Safe Shutdown Equipment for a fire in this zone is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA,3EB,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3D
480V SDBD 1A,1B,2A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1A,1B,2A,2B,3A,3B			
480V DSL AUX BD A,B,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen A,B,C,D,3A,3B,3C,3D	HPCI	RHR Pump 2D	HPCI
BATT BD 1,2,3,4,5	RCIC		RCIC
	RHR Pump 1A		RHR Pump 3C
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump A2	RHRSW Pump D1	RHRSW Pump C2
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-19 (ADS-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps A3 and C3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-31 (ADS-CAD_B)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-179 (MSRV-CAD_A)	3-PCV-1-179 (MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)		3-PCV-1-180 (MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-66	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-161	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	None	3-PI-64-160A
Drywell Temperature	1-TI-64-52AB	None	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3B(3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U3 EL 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Zone 2-5 U-2 Reactor Bldg. EL 621' & north of col. line R on EL 639'

Applicable Appendix R Separation Criteria: III.G.2

A fire in Unit 2 Reactor Building, Elevation 621' and 639' (north of column line R), Fire Zone 2-5, would affect Unit 2 HPCI operation, but Unit 1 and 3 HPCI/RCIC remain available. A rapid depressurization of the Unit 2 RPV would be required within 20 minutes of the entry conditions being met, but would not be required for two hours for Unit 1 or 3. All diesel generators are available. The Safe Shutdown Equipment for a fire in this zone is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA,3EB,3EC,3ED		480V RMOV BD 2C,2D	480V RMOV BD 3E
480V SDBD 1A,1B,2A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1A,1B,2A,2B,3A,3B			
480V DSL AUX BD A,B,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen A,B,C,D,3A,3B,3C,3D	HPCI	RHR Pump 2C	HPCI
BATT BD 1,2,3,4,5	RCIC		RCIC
	RHR Pump 1A		RHR Pump 3B
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pumps A1	RHRSW Pump C1 or C2	RHRSW Pumps B2
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-18 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps A3 and C3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-19 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-31 (ADS-CAD_B)	3-PCV-1-179 (MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-179 (MSRV-CAD_A)	3-PCV-1-180 (MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58A or 58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74A or 74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-66	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-161	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	None	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	1-TI-64-52AB	None	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP B(0-PMP-31-2201)
CB Wtr Chiller B(0-CHR-31-2200)
CWP 2B(3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1B(0-FAN-31-75)
U1/U2 EL 593 AHU 1B(0-AHU-31-89)
U1/U2 CR AHU 1B(0-AHU-31-82)
U1 SDBD Rm AHU 1B(1-AHU-31-2310)
U2 SDBD Rm AHU 2B(2-AHU-31-2330)
U3 EL 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 **AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES** (Continued)

Fire Zone 2-6 U-2 Reactor Bldg. EL 639' south of column line R

Applicable Appendix R Separation Criteria: III.G.2

A fire in Unit 2 Reactor Building, Elevation 639', south of column line R, Fire Zone 2-6, would affect Unit 2 HPCI operations, but Unit 1 and 3 HPCI/RCIC remain available. A rapid depressurization of the Unit 2 RPV would be required within 20 minutes of the entry conditions being met, but would not be required for two hours for Unit 1 or 3. All diesel generators are available. The Safe Shutdown Equipment for a fire in this zone is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA,3EB,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3D
480V SDBD 1A,1B,2A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1A,1B,2A,2B,3A,3B			
480V DSL AUX BD A,B,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen A,B,C,D,3A,3B,3C,3D	HPCI	RHR Pump 2D	HPCI
BATT BD 1,2,3,4,5	RCIC		RCIC
	RHR Pump 1B		RHR Pump 3A
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump B2	RHRSW Pump D2	RHRSW Pump A2
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-18 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps A3 and C3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-19 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-31 (ADS-CAD_B)	3-PCV-1-179 (MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-179 (MSRV-CAD_A)	3-PCV-1-180 (MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58A	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74A	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-161	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	None	3-PI-64-160A,3-XR-64-159
Drywell Temperature	1-TI-64-52AB	None	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP B(0-PMP-31-2201)
CB Wtr Chiller B(0-CHR-31-2200)
CWP 3B(3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1B(0-FAN-31-75)
U1/U2 EL 593 AHU 1B(0-AHU-31-89)
U1/U2 CR AHU 1B(0-AHU-31-82)
U1 SDBD Rm AHU 1B(1-AHU-31-2310)
U2 SDBD Rm AHU 2B(2-AHU-31-2330)
U3 EL 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Zone 3-1 U-3 Reactor Bldg. EL 519' - 565' west of column line R18

Applicable Appendix R Separation Criteria: III.G.2

A fire in Unit 3 Reactor Building, Fire Zone 3-1, would affect Unit 3 HPCI/RCIC operations, but Unit 1 HPCI/RCIC and 2 HPCI remain available. A rapid depressurization of the Unit 3 RPV would be required within 20 minutes after the entry conditions are met, but would not be required for two hours for Unit 1 or 2. The Unit 3 Diesel Generator 3B is affected and 4KV SDBD 3EB will not be credited for this fire zone analysis. The Safe Shutdown Equipment for a fire in this zone is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3E
480V SDBD 1A,1B,2A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B
480V HVAC BD B			
480V RMOV BD 1A,1B,2A,2B,3A,3B			
480V DSL AUX BD A,B,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen A,B,C,D,3A,3C,3D	HPCI	HPCI	RHR Pump 3B
BATT BD 1,2,3,4,5	RCIC	RHR Pump 2D	
	RHR Pump 1B		
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump B2	RHRSW Pump D2	RHRSW Pump B1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop B South Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-4 (MSRV-CAD_A)
Pumps B3 and D3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-30 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-41 (ADS-CAD_B)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-42 (MSRV-CAD_B)
			or
	ONLY CAD_B AVAILABLE	ONLY CAD_B AVAILABLE	3-PCV-1-19 (ADS-CAD_A)
			3-PCV-1-22 (ADS-CAD_A)
			3-PCV-1-31 (MSRV-CAD_B)
			3-PCV-1-179 (MSRV-CAD_A)
			ONLY CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58B	3-LI-3-58B
RPV Pressure	1-PI-3-74A	2-PI-3-74B	3-PI-3-74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-66
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-162	3-TR-64-162 (3-TE-64-162E,F & H)

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Drywell Pressure	1-PI-64-160A	2-PI-64-67B	None
Drywell Temperature	1-TI-64-52AB	2-TI-64-52AB	None

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3A(3-PMP-31-1947)
CB Wtr Chiller 3A(3-CHR-31-1943)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3A(3-AHU-31-107)
U3 CR AHU 3A(3-AHU-31-104)
U3 Elect BD Rm ACU 3B
(3-ACU-31-7206)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Zone 3-2 U-3 Reactor Bldg. El 519' - 565', east of column line R18

Applicable Appendix R Separation Criteria: III.G.2

A fire in Unit 3 Reactor Building, Fire Zone 3-2, would affect Unit 3 HPCI/RCIC operation, but Unit 1 and 2 HPCI remain available. A rapid depressurization of the Unit 3 RPV would be required within 20 minutes after the entry conditions are met, but would not be required for two hours for Unit 1 or 2. The Unit 3 Diesel Generators 3C and 3D are affected and 4KV SDBDs 3EC and 3ED will not be credited for this fire zone analysis. The Safe Shutdown Equipment for a fire in this zone is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA,3EB		480V RMOV BD 2E	480V RMOV BD 3D
480V SDBD 1A,1B,2A,2B,3A	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V RMOV BD 1A,1B,2A,2B,3A			
480V DSL AUX BD A,B,3EA			
480V CBVNT BD A	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
Diesel Gen A,B,C,D,3A,3B			
BATT BD 1,2,5	HPCI	HPCI	RHR Pump 3C
	RCIC	RHR Pump 2D	
	RHR Pump 1A		
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump A1	RHRSW Pump D2	RHRSW Pump C2
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop B South Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-4 (MSRV-CAD_A)
Pumps B3 and D3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-5 (ADS-CAD_A)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-30 (MSRV-CAD_B)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-42 (MSRV-CAD_B)
	ONLY CAD_A AVAILABLE	ONLY CAD_A AVAILABLE	ONLY CAD_A AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58B	3-LI-3-58B
RPV Pressure	1-PI-3-74A	2-PI-3-74B	3-PI-3-74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-162	3-TR-64-161(3-TE-64-161B,C & D)
Drywell Pressure	1-PI-64-160A	2-PI-64-67B	None
Drywell Temperature	1-TI-64-52AB	2-TI-64-52AB	None

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3A(3-PMP-31-1947)
CB Wtr Chiller 3A(3-CHR-31-1943)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3A(3-AHU-31-107)
U3 CR AHU 3A(3-AHU-31-104)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Zone 3-3 U-3 Reactor Bldg. EL 593' and RHR HX Rooms

Applicable Appendix R Separation Criteria: III.G.2

A fire in Unit 3 Reactor Building, Fire Zone 3-3, would affect Unit 3 HPCI/RCIC operation, but Unit 2 HPCI and Unit 1 HPCI/RCIC remain available. A rapid depressurization of the Unit 3 RPV would be required within 20 minutes after the entry conditions are met, but would not be required for two hours for Unit 1 or 2. The Unit 3 Diesel Generators 3A and 3D are affected and 4KV SDBDs 3EA and 3ED will not be credited for this fire zone analysis. The Safe Shutdown Equipment for a fire in this zone is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EB,3EC		480V RMOV BD 2E	480V RMOV BD 3E
480V SDBD 1A,1B,2A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V RMOV BD 1A,1B,2A,2B,3A,3B			
480V DSL AUX BD A,B,3EA,3EB			
480V CBVNT BD A	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
Diesel Gen A,B,C,D,3B,3C			
BATT BD 1,2,3,5	HPCI	HPCI	RHR Pump 3B
	RCIC	RHR Pump 2D	
	RHR Pump 1A		
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump A2	RHRSW Pump D2	RHRSW Pump B2
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop B South Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-18 (ADS-CAD_A)
Pumps B3 and D3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-179 (MSRV-CAD_A)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58B	3-LI-3-58A or -58B
RPV Pressure	1-PI-3-74A	2-PI-3-74B	3-PI-3-74A or -74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-66
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-162	3-TI-64-161
Drywell Pressure	1-PI-64-160A	2-PI-64-67B	None
Drywell Temperature	1-TI-64-52AB	2-TI-64-52AB	None

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3A(3-PMP-31-1947)
CB Wtr Chiller 3A(3-CHR-31-1943)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3A(3-AHU-31-107)
U3 CR AHU 3A(3-AHU-31-104)

8.0 **AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES** (Continued)

Fire Zone 3-4 U-3 Reactor Bldg. EL 621' & 639' north of col. line R

Applicable Appendix R Separation Criteria: III.G.2

A fire in Unit 3 Reactor Building, Fire Zone 3-4, would not affect Unit 1 HPCI/RCIC or Units 2 and 3 HPCI operation. A rapid depressurization of the Units 1, 2 and 3 RPV would not be required until two hours after the entry conditions are met. All diesel generators are available. Diesel Generator's 3C and 3D are not credited in this fire zone. The Safe Shutdown Equipment for a fire in this zone is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA,3EB		480V RMOV BD 2E	480V RMOV BD 3C,3D
480V SDBD 1A,1B,2A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V RMOV BD 1A,1B,2A,2B,3A,3B			
480V DSL AUX BD A,B,3EA,3EB			
480V CBVNT BD A	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
Diesel Gen A,B,C,D,3A,3B			
BATT BD 1,2,3,4,5	HPCI	HPCI	HPCI
	RCIC	RHR Pump 2D	RHR Pump 3A
	RHR Pump 1B		
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump B2	RHRSW Pump D2	RHRSW Pump A2
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop B South Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps B3 and D3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-179 (MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-180 (MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58B	3-LI-3-58A or 58B
RPV Pressure	1-PI-3-74A	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-66
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-162	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	2-PI-64-67B	3-PI-64-50
Drywell Temperature	1-TI-64-52AB	2-TI-64-52AB	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3A(3-PMP-31-1947)
CB Wtr Chiller 3A(3-CHR-31-1943)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3A(3-AHU-31-107)
U3 CR AHU 3A(3-AHU-31-104)
U3 Elect BD Room ACU 3B
(3-ACU-31-7206)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 4 U-1, 4KV Shutdown Board Room B

Applicable Appendix R Separation Criteria: III.G.1

A fire in 4KV Shutdown Board Room B, Fire Area 4, would affect Unit 1 HPCI/RCIC operation, but Unit 2 HPCI and Unit 3 HPCI/RCIC remain available. A rapid depressurization of the Unit 1 RPV would be required within 20 minutes after the entry conditions are met, but would not be required for two hours for Unit 2 or 3. The Diesel Generators B and C are affected and 4KV SDBDs B and C will not be credited for this fire zone analysis. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,D,3EA,3EB,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3D
480V SDBD 1A,2B,3A,3B	250V RMOV BD 1A,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1A,2B,3A,3B			
480V DSL AUX BD A,B,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen A,D,3A,3B,3C,3D	RHR Pump 1A	HPCI	HPCI
BATT BD 1,2,3,4,5		RHR Pump 2D	RCIC
			RHR Pump 3A
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump A1	RHRSW Pump D2	RHRSW Pump A2
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-18 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps A3 and C3	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-19 (ADS-CAD_B)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-31 (ADS-CAD_B)	3-PCV-1-179(MSRV-CAD_A)
	1-PCV-1-41 (MSRV-CAD_A)	2-PCV-1-179(MSRV-CAD_A)	3-PCV-1-180(MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58B	2-LI-3-58A	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74B	2-PI-3-74A	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-162	2-TI-64-161	3-TI-64-161,162
Drywell Pressure	None	2-PI-64-67B	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	None	2-TI-64-52AB	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP B(0-PMP-31-2201)
CB Wtr Chiller B(0-CHR-31-2200)
CWP 3B(3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
CB Emerg Air Comp(0-CMP -31-128)
U1/U2 BBR Exh Fn 1B(0-FAN-31-75)
U1/U2 EL 593 AHU 1B(0-AHU-31-89)
U1/U2 CR AHU 1B(0-AHU-31-82)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2B(2-AHU-31-2330)
U3 EL 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Electric Board Room ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 5 U-1, 4KV Shutdown Board Room A & 250V Battery Rms at EL 621'

Applicable Appendix R Separation Criteria: III.G.1

A fire in 4KV Shutdown Board Room A, Fire Area 5, would affect Unit 1 HPCI/RCIC operation, but the Unit 2 HPCI and Unit 3 HPCI/RCIC remain available. A rapid depressurization of the Unit 1 RPV would be required within 20 minutes after the entry conditions are met, but would not be required for two hours for Unit 2 or 3. The Diesel Generators A, B and C are affected. Power to 4 KV Shutdown Board C will be supplied from Diesel Generator 3C and 4KV SDBDs A and B will not be credited for this fire zone analysis. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD C,D,3EA,3EB,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3E
480V SDBD 1B,2A,2B,3A,3B	250V RMOV BD 1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1B,2A,2B,3A,3B			
480V DSL AUX BD B,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD B			
Diesel Gen D,3A,3B,3C,3D	RHR Pump 1B	HPCI	HPCI
BATT BD 1,2,3,4,5		RHR Pump 2D	RCIC
			RHR Pump 3D
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump B1	RHRSW Pump D2	RHRSW Pump D1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-18 (MSRV-CAD_A)	2-PCV-1-18 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps A3 and C3	1-PCV-1-19 (ADS-CAD_A)	2-PCV-1-19 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-31 (ADS-CAD_B)	2-PCV-1-31 (ADS-CAD_B)	3-PCV-1-179(MSRV-CAD_A)
	1-PCV-1-179(MSRV-CAD_A)	2-PCV-1-179(MSRV-CAD_A)	3-PCV-1-180(MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58A	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74A	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-161	3-TI-64-161,162
Drywell Pressure	None	2-PI-64-67B	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	None	2-TI-64-52AB	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP B(0-PMP-31-2201)
CB Wtr Chiller B(0-CHR-31-2200)
CWP 3B(3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
U1/U2 BBR Exh Fn 1B(0-FAN-31-75)
U1/U2 EL 593 AHU 1B(0-AHU-31-89)
U1/U2 CR AHU 1B(0-AHU-31-82)
U1 SDBD Rm AHU 1B(1-AHU-31-2310)
U2 SDBD Rm AHU 2B(2-AHU-31-2330)
U3 EL 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 **AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES** (Continued)

Fire Area 6 U-1, 480V Shutdown Board Room 1A

Applicable Appendix R Separation Criteria: III.G.1

A fire in 480V Shutdown Board Room 1A, Fire Area 6, would affect Unit 1 HPCI and RCIC operation, but not affect the Unit 2 HPCI and Unit 3 HPCI/RCIC operation. A rapid depressurization of the Unit 1 RPV would be required within 20 minutes after the entry conditions are met, but would not be required for two hours for Unit 2 or 3. All diesel generators are available. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA,3EB,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3E
480V SDBD 1B,2A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1B,2A,2B,3A,3B			
480V DSL AUX BD A,B,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD B			
Diesel Gen A,B,C,D,3A,3B,3C,3D	RHR Pump 1B	HPCI	HPCI
BATT BD 1,2,3,4,5		RHR Pump 2D	RCIC
			RHR Pump 3B
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump B2	RHRSW Pump D2	RHRSW Pump B1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-18 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps A3 and C3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-19 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-31 (ADS-CAD_B)	3-PCV-1-179 (MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-179 (MSRV-CAD_A)	3-PCV-1-180 (MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58A	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74A	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-161	3-TI-64-161,162
Drywell Pressure	None	2-PI-64-67B	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	None	2-TI-64-52AB	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP B(0-PMP-31-2201)
CB Wtr Chiller B(0-CHR-31-2200)
CWP 3B(3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
U1/U2 BBR Exh Fn 1B(0-FAN-31-75)
U1/U2 L 593 AHU 1B(0-AHU-31-89)
U1/U2 CR AHU 1B(0-AHU-31-82)
U1 SDBD Rm AHU 1B(1-AHU-31-2310)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 7 U-1, 480V Shutdown Board Room 1B

Applicable Appendix R Separation Criteria: III.G.1

A fire in 480V Shutdown Board Room 1B, Fire Area 7, would not affect Unit 2 HPCI and Unit 1 or 3 HPCI/RCIC operation. A rapid depressurization of the Units 1, 2 and 3 RPV would not be required until two hours after the entry conditions are met. All the diesel generators are available except for Diesel Generator C. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,D,3EA,3EB,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3D
480V SDBD 1A,2A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1A,1B,2A,2B,3A,3B			
480V DSL AUX BD A,B,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen A,B,D,3A,3B,3C,3D	HPCI	HPCI	HPCI
BATT BD 1,2,3,4,5	RCIC	RHR Pump 2D	RCIC
	RHR Pump 1A		RHR Pump 3C
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump A1	RHRSW Pump D2	RHRSW Pump C1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-18 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps A3 and C3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-19 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-31 (ADS-CAD_B)	3-PCV-1-179(MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-179(MSRV-CAD_A)	3-PCV-1-180(MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58A	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74A	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-161	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	2-PI-64-67B	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	None	2-TI-64-52AB	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP B(0-PMP-31-2201)
CB Wtr Chiller B(0-CHR-31-2200)
CWP 3B(3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1B(0-FAN-31-75)
U1/U2 EL 593 AHU 1B(0-AHU-31-89)
U1/U2 CR AHU 1B(0-AHU-31-82)
U1 SDBD Rm AHU 1B(1-AHU-31-2310)
U2 SDBD Rm AHU 2B(2-AHU-31-2330)
U3 EL 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 8 U-2, 4KV Shutdown Board Room D

Applicable Appendix R Separation Criteria: III.G.1

A fire in 4KV Shutdown Board Room D, Fire Area 8, would not affect Unit 2 HPCI and Unit 1 or 3 HPCI/RCIC operation. A rapid depressurization of the Units 1, 2 and 3 RPV would not be required until two hours after the entry conditions are met. The Diesel Generators C and D are affected and 4KV SDBDs C and D will not be credited for this fire zone analysis. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,3EA,3EB,3EC,3ED		480V RMOV BD 2D	480V RMOV BD 3D
480V SDBD 1A,2A,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2C	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1A,2A,3A,3B			
480V DSL AUX BD A,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen A,B,3A,3B,3C,3D	HPCI	HPCI	HPCI
BATT BD 1,2,3,4,5	RCIC	RHR Pump 2C	RCIC
	RHR Pump 1A		RHR Pump 3A
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump A1	RHRSW Pump C1 or C2	RHRSW Pumps A2
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps A3 and C3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-179 (MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-180 (MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-162	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	2-PI-64-160A	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	None	None	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3B(3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 9 U-2, 4KV Shutdown Board Room C & 250V Battery Rms at EL 621'

Applicable Appendix R Separation Criteria: III.G.1

A fire in 4KV Shutdown Board Room C, Fire Area 9, would affect Unit 2 HPCI, but not Unit 1 HPCI or Unit 3 HPCI/RCIC operation. A rapid depressurization of the Unit 2 RPV would be required within 20 minutes after the entry conditions are met, but would not be required for two hours for Unit 1 or 3. The Diesel Generators A, B, C, and 3D are affected. Power to 4 KV Shutdown Board A will be supplied from Diesel Generator 3A and 4KV SDBDs B, C and 3ED will not be credited for this fire area analysis. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,D,3EA,3EB,3EC		480V RMOV BD 2E	480V RMOV BD 3E
480V SDBD 1A,2B,3A,3B	250V RMOV BD 1A,1B	250V RMOV BD 2B,2C	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1A,2B,3A,3B			
480V DSL AUX BD B,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen D,3A,3B,3C	HPCI	RHR Pump 2D	HPCI
BATT BD 1,3,4,5	RHR Pump 1A		RCIC
			RHR Pump 3B
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump A1	RHRSW Pump D2	RHRSW Pump B1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-19 (ADS-CAD_A)	2-PCV-1-19 (ADS-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps A3 and C3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-31 (ADS-CAD_B)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-179 (MSRV-CAD-A)	3-PCV-1-179 (MSRV-CAD-A)
	1-PCV-1-31 (ADS-CAD_B)		3-PCV-1-180 (MSRV-CAD-B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58A	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74A	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-161	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	None	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	None	None	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP B(0-PMP-31-2201)
CB Wtr Chiller B(0-CHR-31-2200)
CWP 3B(3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
U1/U2 BBR Exh Fn 1B(0-FAN-31-75)
U1/U2 EL 593 AHU 1B(0-AHU-31-89)
U1/U2 CR AHU 1B(0-AHU-31-82)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2B(2-AHU-31-2330)
U3 EL 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 10 U-2, 480V Shutdown Board Room 2A

Applicable Appendix R Separation Criteria: III.G.1

A fire in 480V Shutdown Board Room 2A, Fire Area 10, would not affect Unit 2 HPCI and Unit 1 and 3 HPCI/RCIC operation. A rapid depressurization of the Units 1, 2 and 3 RPV would not be required until two hours after the entry conditions are met. All the diesel generators are available. Diesel generator 3B is not credited in this fire zone. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,C,D,3EA,3EB,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3E
480V SDBD 1A,1B,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1A,1B,2A,2B,3A,3B			
480V DSL AUX BD A,B,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen A,C,D,3A,3B,3C,3D	HPCI	HPCI	HPCI
BATT BD 1,2,3,4,5	RCIC	RHR Pump 2D	RCIC
	RHR Pump 1A		RHR Pump 3B
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump A1	RHRSW Pump D2	RHRSW Pump B1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-18 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps A3 and C3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-19 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-31 (ADS-CAD_B)	3-PCV-1-179(MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-179(MSRV-CAD_A)	3-PCV-1-180(MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58A	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74A	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-161	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	2-PI-64-67B	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	1-TI-64-52AB	None	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP B(0-PMP-31-2201)
CB Wtr Chiller B(0-CHR-31-2200)
CWP 3B(3-PMP-31-1955)
CB Wtr Chiller 3B(3-CHR-31-1951)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1B(0-FAN-31-75)
U1/U2 EL 593 AHU 1B(0-AHU-31-89)
U1/U2 CR AHU 1B(0-AHU-31-82)
U1 SDBD Rm AHU 1B(1-AHU-31-2310)
U2 SDBD Rm AHU 2B(2-AHU-31-2330)
U3 EL 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 Elect BD Rm ACU 3A(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 11 U-2, 480V Shutdown Board Room 2B

Applicable Appendix R Separation Criteria: III.G.1

A fire in 480V Shutdown Board Room 2B, Fire Area 11, would not affect Units 2 RCIC and Unit 1 and 3 HPCI/RCIC operation. A rapid depressurization of the Units 1, 2 and 3 RPV would not be required until two hours after the entry conditions are met. All diesel generators are available. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA,3EB,3EC,3ED		480V RMOV BD 2D	480V RMOV BD 3E
480V SDBD 1A,1B,2A,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1A,1B,2A,3A,3B			
480V DSL AUX BD A,B,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen A,B,C,D,3A,3B,3C,3D	HPCI	RCIC	HPCI
BATT BD 1,2,3,4,5	RCIC	RHR Pump 2C	RCIC
	RHR Pump 1A		RHR Pump 3B
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump A1	RHRSW Pump C1 or C2	RHRSW Pump B1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps A3 and C3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-179(MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-180(MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-162	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	2-PI-64-160A	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	1-TI-64-52AB	None	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3A(3-PMP-31-1947)
CB Wtr Chiller 3A(3-CHR-31-1943)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3A(3-AHU-31-107)
U3 CR AHU 3A(3-AHU-31-104)
U3 Elect BD Rm ACU 3A(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 12 U-3, 480V RMOV Board Room 3B

Applicable Appendix R Separation Criteria: III.G.1

A fire in the 480V RMOV BD Room 3B, Fire Area 12, would affect Unit 3 HPCI/RCIC operation, but Unit 1 HPCI/RCIC and Unit 2 HPCI remain available. A rapid depressurization of the Unit 3 RPV would be required within twenty minutes after the entry conditions are met, but would not be required for two hours for Unit 1 or 2. All the diesel generators are available except for Diesel Generators 3B and 3D. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA,3EC		480V RMOV BD 2E	480V RMOV BD 3D
480V SDBD 1A,1B,2A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3C
480V RMOV BD 1A,1B,2A,2B,3A			
480V DSL AUX BD A,B,3EA,3EB			
480V CBVNT BD A	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
Diesel Gen A,B,C,D,3A,3C			
BATT BD 1,2,3,4,5	HPCI	HPCI	RHR Pump 3A
	RCIC	RHR Pump 2D	
	RHR Pump 1C		
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump C1	RHRSW Pump D2	RHRSW Pump A2
EECW	**Main Steam Relief Valves*(SEE NOTE)**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop B South Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-4 (MSRV-CAD_A)
Pumps B3 and D3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-23 (MSRV-CAD_A)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-30 (MSRV-CAD_B)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-41 (ADS-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58A	3-LI-3-58B
RPV Pressure	1-PI-3-74A	2-PI-3-74A	3-PI-3-74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-162	3-TI-64-162
Drywell Pressure	1-PI-64-160A	2-PI-64-67B	None
Drywell Temperature	1-TI-64-52AB	2-TI-64-52AB	None

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3A(3-PMP-31-1947)
CB Wtr Chiller 3A(3-CHR-31-1943)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1B(1-AHU-31-2310)
U2 SDBD Rm AHU 2B(2-AHU-31-2330)
U3 EL 593 AHU 3A(3-AHU-31-107)
U3 CR AHU 3A(3-AHU-31-104)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 13 U-3, 480V RMOV Board Room 3A

Applicable Appendix R Separation Criteria: III.G.1

A fire in the 480V RMOV Bd Room 3A, Fire Area 13, would affect Unit 3 HPCI/RCIC, but not Unit 1 HPCI/RCIC and Unit 2 HPCI operation. A rapid depressurization of the Unit 3 RPV would be required within 20 minutes after the entry conditions are met, but would not be required for two hours for Unit 1 or 2. Diesel generator 3B is affected and 4KV SDBD 3EB will not be credited for this fire area analysis. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3E
480V SDBD 1A,1B,2A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3B,3C
480V HVAC BD B			
480V RMOV BD 1A,1B,2A,2B,3B			
480V DSL AUX BD A,B,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen A,B,C,D,3A,3C,3D	HPCI	HPCI	RHR Pump 3B
BATT BD 1,2,3,4,5	RCIC	RHR Pump 2D	
	RHR Pump 1B		
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump B2	RHRSW Pump D2	RHRSW Pump B1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop B South Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-18 (ADS-CAD_A)
Pumps B3 and D3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-179 (MSRV-CAD_A)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58A	3-LI-3-58A
RPV Pressure	1-PI-3-74A	2-PI-3-74A	3-PI-3-74A
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-162	3-TI-64-161
Drywell Pressure	1-PI-64-160A	2-PI-64-67B	None
Drywell Temperature	1-TI-64-52AB	2-TI-64-52AB	None

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3A(3-PMP-31-1947)
CB Wtr Chiller 3A(3-CHR-31-1943)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3A(3-AHU-31-107)
U3 CR AHU 3A(3-AHU-31-104)
U3 Elect BD Rm ACU 3B
(3-ACU-31-7206)

8.0 AVAIABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 14 U-3, 480V Shutdown Board Room 3A

Applicable Appendix R Separation Criteria: III.G.1

A fire in Unit 3, 480V Shutdown Board Room 3A, Fire Area 14, would not affect Unit 2 HPCI and Unit 1 and 3 HPCI/RCIC operation. A rapid depressurization of the Units 1, 2 and 3 RPV would not be required until two hours after the entry conditions are met. The Diesel Generators 3A and 3B are affected and 4KV SDBDs 3EA and 3EB will not be credited for this fire area analysis. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3E
480V SDBD 1A,1B,2A,2B,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V HVAC BD B			
480V RMOV BD 1A,1B,2A,2B,3A,3B			
480V DSL AUX BD A,B,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen A,B,C,D,3C,3D	HPCI	HPCI	HPCI
BATT BD 1,2,3,4,5	RCIC	RHR Pump 2D	RCIC
	RHR Pump 1A		RHR Pump 3B
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump A1	RHRSW Pump D2	RHRSW Pump B1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop B South Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps B3 and D3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-179(MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-180(MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-162	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	2-PI-64-67B	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	1-TI-64-52AB	2-TI-64-52AB	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3A(3-PMP-31-1947)
CB Wtr Chiller 3A(3-CHR-31-1943)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3A(3-AHU-31-107)
U3 CR AHU 3A(3-AHU-31-104)
U3 Elect BD Rm ACU 3B
(3-ACU-31-7206)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 15 U-3, 480KV Shutdown Board Room 3B

Applicable Appendix R Separation Criteria: III.G.1

A fire in Unit 3, 480V Shutdown Board Room 3B, Fire Area 15, would not affect Unit 2 HPCI and Unit 1 and Unit 3 HPCI/RCIC operation. A rapid depressurization of the Units 1, 2 and 3 RPV would not be required until 2 hours after the entry conditions are met. The Diesel Generators 3B, 3C and 3D are affected and 4KV SDBDs 3EB, 3EC and 3ED will not be credited for this fire area analysis. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA		480V RMOV BD 2E	480V RMOV BD 3D
480V SDBD 1A,1B,2A,2B,3A	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V RMOV BD 1A,1B,2A,2B,3A			
480V DSL AUX BD A,B,3EA			
480V CBVNT BD A	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
Diesel Gen A,B,C,D,3A			
BATT BD 1,2,3,5	HPCI	HPCI	HPCI
	RCIC	RHR Pump 2D	RCIC
	RHR Pump 1C		RHR Pump 3A
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump C1	RHRSW Pump D2	RHRSW Pump A2
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop B South Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps B3 and D3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-179(MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-180(MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-162	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	2-PI-64-67B	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	1-TI-64-52AB	2-TI-64-52AB	None

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3A(3-PMP-31-1947)
CB Wtr Chiller 3A(3-CHR-31-1943)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3A(3-AHU-31-107)
U3 CR AHU 3A(3-AHU-31-104)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 16 Control Building EL 593', 606' and 617'

Applicable Appendix R Separation Criteria: III.G.3

A fire in the Control Building, Fire Area 16, would affect Units 1 and 2 HPCI/RCIC and 3 HPCI operation. A rapid depressurization of the Unit 2 RPV will be required within 20 minutes of the entry conditions being met. Unit 1 and 3 RCIC operation would not be affected and Unit 1 and 3 would not require rapid depressurization until two hours after the entry conditions are met. Unit 1 RCIC is not credited in this fire area. The Diesel Generators 3B, 3C, and 3D are affected and 4KV SDBDs 3EB, 3EC and 3ED will not be credited for this fire area analysis. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA		480V RMOV BD 2D	480V RMOV BD 3D
480V SDBD 1A,1B,2A,2B,3A	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V RMOV BD 1A,1B,2A,2B,3A,3B			
480V DSL AUX BD A,B,3EA			
Diesel Gen A,B,C,D,3A	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
BATT BD 1,2,3,5			
			RCIC
	RHR Pump 1B	RHR Pump 2C	RHR Pump 3A
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump B2	RHRSW Pump C2	RHRSW Pump A1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop B South Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-5 (ADS-CAD_A)	3-PCV-1-5 (ADS-CAD_A)
Pumps B3 and D3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-22 (ADS-CAD_A)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-34 (ADS-CAD_B)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-34 (ADS-CAD_B)	3-PCV-1-41 (ADS-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-46A	2-LI-3-46A	3-LI-3-46A
RPV Pressure	1-PI-3-79	2-PI-3-79	3-PI-3-79
Torus Suppression Pool Level	1-LI-64-54B	2-LI-64-54B	3-LI-64-54B
Torus Suppression Pool Temp.	1-TI-64-55B	2-TI-64-55B	3-TI-64-55B
Drywell Pressure	None	None	3-PI-64-50
Drywell Temperature	None	None	None

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 Electric Board Room ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 17 U-1 Battery and Battery Board Room, Control Building EL 593'

Applicable Appendix R Separation Criteria: III.G.1

A fire in Unit 1, Battery and Battery Board Room, Fire Area 17, would affect Unit 1 HPCI operation, but Unit 2 HPCI and Unit 3 HPCI/RCIC remain available. A rapid depressurization of the Unit 1 RPV would be required within 20 minutes after the entry conditions are met, but would not be required for two hours for Unit 2 or 3. All diesel generators are available. Diesel generator 3B and 3D are not credited in this fire area. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA,3EC		480V RMOV BD 2E	480V RMOV BD 3D
480V SDBD 1A,1B,2A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B	250V RMOV BD 3A,3B,3C
480V RMOV BD 1A,1B,2A,2B,3A,3B			
480V DSL AUX BD A,B,3EA,3EB			
480V CBVNT BD A	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
Diesel Gen A,B,C,D,3A,3C			
BATT BD 2,3,4,5	RHR Pump 1B	HPCI	HPCI
		RHR Pump 2D	RCIC
			RHR Pump 3A
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump B2	RHRSW Pump D2	RHRSW Pump A2
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop B South Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps B3 and D3	1-PCV-1-19 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-31 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-179(MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-180(MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58B	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74B	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-162	2-TI-64-162	3-TI-64-161,162
Drywell Pressure	None	2-PI-64-67B	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	None	2-TI-64-52AB	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3A(3-PMP-31-1947)
CB Wtr Chiller 3A(3-CHR-31-1943)
CB Emer Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3A(3-AHU-31-107)
U3 CR AHU 3A(3-AHU-31-104)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 **AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES** (Continued)

Fire Area 18 U-2 Battery and Battery Board Room, Control Building EL 593'

Applicable Appendix R Separation Criteria: III.G.1

A fire in Unit 2, Battery and Battery Board Room, Fire Area 18, would affect Unit 2 HPCI, but not Unit 1 and 3 HPCI/RCIC operation. A rapid depressurization of the Unit 2 RPV will be required within 20 minutes of the entry conditions being met, but would not be required until two hours for Unit 1 or 3. The Diesel Generator 3B and 3D is affected and 4KV SDBD 3ED will not be credited for this fire area analysis. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA,3EC		480V RMOV BD 2D	480V RMOV BD 3E
480V SDBD 1A,1B,2A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V RMOV BD 1A,1B,2A,2B,3A,3B			
480V DSL AUX BD A,B,3EA,3EB			
480V CBVNT BD A	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
Diesel Gen A,B,C,D,3A,3C			
BATT BD 1,3,4,5	HPCI	RHR Pump 2C	HPCI
	RCIC		RCIC
	RHR Pump 1B		RHR Pumps 3B
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pumps B2	RHRSW Pumps C1 or C2	RHRSW Pump B1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop B South Header	1-PCV-1-19 (ADS-CAD_A)	2-PCV-1-5 (ADS-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps B3 and D3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-19 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-31 (ADS-CAD_B)	3-PCV-1-179 (MSRV-CAD_A)
	1-PCV-1-31 (ADS-CAD_B)	2-PCV-1-179 (MSRV-CAD_A)	3-PCV-1-180 (MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58A	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74A	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-54A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-161	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	None	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	1-TI-64-52AB	None	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3A(3-PMP-31-1947)
CB Wtr Chiller 3A(3-CHR-31-1943)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3A(3-AHU-31-107)
U3 CR AHU 3A(3-AHU-31-104)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 **AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES** (Continued)

Fire Area 19 U-3 Battery and Battery Board Room, Control Building EL 593'

Applicable Appendix R Separation Criteria: III.G.1

A fire in Unit 3, Battery and Battery Board Room, Fire Area 19, would not affect Unit 1 HPCI/RCIC, Unit 2 HPCI and Unit 3 RCIC operation. A rapid depressurization of the Units 1, 2 and 3 RPV would not be required until two hours after the entry conditions were met. The Diesel Generators 3B and 3D are affected and 4KV SDBD 3EB and 3ED will not be credited for this fire area analysis. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA,3EC		480V RMOV BD 2E	480V RMOV BD 3D
480V SDBD 1A,1B,2A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V RMOV BD 1A,1B,2A,2B,3A,3B			
480V DSL AUX BD A,B,3EA,3EB			
480V CBVNT BD A	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
Diesel Gen A,B,C,D,3A,3C			
BATT BD 1,2,4,5	HPCI	HPCI	RCIC
	RCIC	RHR Pump 2D	RHR Pump 3A
	RHR Pump 1B		
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump B2	RHRSW Pump D2	RHRSW Pump A2
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop B South Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps B3 and D3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-179 (MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-180 (MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58B	2-LI-3-58B	3-LI-3-58A
RPV Pressure	1-PI-3-74B	2-PI-3-74B	3-PI-3-74A
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-66,159A
Torus Suppression Pool Temp.	1-TI-64-162	2-TI-64-162	3-TI-64-161
Drywell Pressure	1-PI-64-160A	2-PI-64-67B	3-PI-64-160A
Drywell Temperature	1-TI-64-52AB	2-TI-64-52AB	None

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3A(3-PMP-31-1947)
CB Wtr Chiller 3A(3-CHR-31-1943)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3A(3-AHU-31-107)
U3 CR AHU 3A(3-AHU-31-104)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 20 U-1 & 2 Diesel Generator Building.

Applicable Appendix R Separation Criteria: III.G.1

A fire in the Unit 1 and 2 Diesel Generator Building, Fire Area 20, would not affect Unit 2 HPCI and Unit 1 and 3 HPCI/RCIC operation. A rapid depressurization of the Units 1, 2 and 3 RPV would not be required until two hours after the entry conditions are met. All of the Unit 1 and 2 Diesel Generators would be affected. Power to the 4KV Shutdown Boards A, C and D would be supplied from the 4KV Shutdown Boards 3EA, 3EC and 3ED, respectively. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,C,D,3EA,3EB,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3D
480V SDBD 1A,1B,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V RMOV BD 1A,1B,2A,2B,3A,3B			
480V HVAC BD B			
480V DSL AUX BD 3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen 3A,3B,3C,3D	HPCI	HPCI	HPCI
BATT BD 1,2,3,4,5	RCIC	RHR Pump 2D	RCIC
	RHR Pump 1B		RHR Pump 3A
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump B2	RHRSW Pump D2	RHRSW Pump A2
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps A3 and C3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-179 (MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-180 (MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58A	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74A	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-66	3-LI-64-54A,66
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-161	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	2-PI-64-67B	3-PI-64-50
Drywell Temperature	1-TI-64-52AB	2-TI-64-52AB	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP B(0-PMP-31-2201)
CB Wtr Chiller B(0-CHR-31-2200)
CWP 3B(3-PMP-31-1955)
CB Wtr Chiller 3B (3-CHR-31-1951)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1B(0-FAN-31-75)
U1/U2 EL 593 AHU 1B(0-AHU-31-89)
U1/U2 CR AHU 1B(0-AHU-31-82)
U1 SDBD Rm AHU 1B(1-AHU-31-2310)
U2 SDBD Rm AHU 2B(2-AHU-31-2330)
U3 EL 593 AHU 3B(3-AHU-31-108)
U3 CR AHU 3B(3-AHU-31-105)
U3 SDBD Rm ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 21 U-3 Diesel Generator Building.

Applicable Appendix R Separation Criteria: III.G.1

A fire in the Unit 3 Diesel Generator Building, Fire Area 21, would not affect Unit 2 HPCI and Unit 1 and 3 HPCI/RCIC operation. A rapid depressurization of the Units 1, 2 and 3 RPV would not be required until two hours after the entry conditions are met. All of the Unit 3 Diesel Generators are affected. Power to the 4KV Shutdown Board 3EA would be supplied from the 4KV Shutdown Board A. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA		480V RMOV BD 2E	480V RMOV BD 3D
480V SDBD 1A,1B,2A,2B,3A	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V RMOV BD 1A,1B,2A,2B,3A			
480V DSL AUX BD A,B			
480V CBVNT BD A	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
Diesel Gen A,B,C,D			
BATT BD 1,2,3,5	HPCI	HPCI	HPCI
	RCIC	RHR Pump 2D	RCIC
	RHR Pump 1C		RHR Pump 3A
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump C2	RHRSW Pump D2	RHRSW Pump A2
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop B South Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps B3 and D3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-179(MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-180(MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-162	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	2-PI-64-67B	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	1-TI-64-52AB	2-TI-64-52AB	None

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3A(3-PMP-31-1947)
CB Wtr Chiller 3A(3-CHR-31-1943)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3A(3-AHU-31-107)
U3 CR AHU 3A(3-AHU-31-104)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 22 U-3, 4KV Shutdown Board Rooms 3EA & 3EB

Applicable Appendix R Separation Criteria: III.G.1

A fire in the Unit 3, 4KV Shutdown Board Rooms 3EA and 3EB, Fire Area 22, would not affect Unit 2 HPCI and Unit 1 and 3 HPCI/RCIC operation. A rapid depressurization of the Units 1, 2 and 3 RPV would not be required until two hours after the entry conditions are met. Diesel Generators 3A, 3B, and 3D are affected and 4KV SDBDs 3EA, 3EB and 3ED will not be credited for this fire area analysis. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EC		480V RMOV BD 2E	480V RMOV BD 3E
480V SDBD 1A,1B,2A,2B,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V RMOV BD 1A,1B,2A,2B,3A,3B			
480V DSL AUX BD A,B,3EB			
480V CBVNT BD A	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
Diesel Gen A,B,C,D,3C			
BATT BD 1,2,3,4,5	HPCI	HPCI	HPCI
	RCIC	RHR Pump 2D	RCIC
	RHR Pump 1A		RHR Pump 3B
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump A1	RHRSW Pump D2	RHRSW Pump B2
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop B South Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps B3 and D3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-179(MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-180(MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-162	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	2-PI-64-67B	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	1-TI-64-52AB	2-TI-64-52AB	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3A(3-PMP-31-1947)
CB Wtr Chiller 3A(3-CHR-31-1943)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3A(3-AHU-31-107)
U3 CR AHU 3A(3-AHU-31-104)
U3 Elect BD Rm ACU 3B
(3-ACU-31-7206)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 23 U-3, 4KV Shutdown Board Rooms 3EC & 3ED

Applicable Appendix R Separation Criteria: III.G.1

A fire in the Unit 3, 4KV Shutdown Board Rooms 3EC and 3ED, Fire Area 23, would not affect Unit 2 HPCI and Unit 1 and 3 HPCI/RCIC operation. A rapid depressurization of the Units 1, 2 and 3 RPV would not be required until two hours after the entry conditions are met. The Diesel Generators 3B, 3C, and 3D are affected and 4KV SDBDs 3EB, 3EC and 3ED will not be credited for this fire area analysis. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA		480V RMOV BD 2E	480V RMOV BD 3D
480V SDBD 1A,1B,2A,2B,3A	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V RMOV BD 1A,1B,2A,2B,3A			
480V DSL AUX BD A,B,3EA			
480V CBVNT BD A	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
Diesel Gen A,B,C,D,3A			
BATT BD 1,2,3,5	HPCI	HPCI	HPCI
	RCIC	RHR Pump 2D	RCIC
	RHR Pump 1C		RHR Pump 3A
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump C1 or C2	RHRSW Pump D2	RHRSW Pump A2
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop B South Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps B3 and D3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-179 (MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-180 (MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-162	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	2-PI-64-67B	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	1-TI-64-52AB	2-TI-64-52AB	None

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3A(3-PMP-31-1947)
CB Wtr Chiller 3A(3-CHR-31-1943)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3A(3-AHU-31-107)
U3 CR AHU 3A(3-AHU-31-104)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 24 U-3, 4KV Bus Tie Board Room, Diesel Generator Bldg EL 565'

Applicable Appendix R Separation Criteria: III.G.1

A fire in the Unit 3, Bus Tie Board Room, Fire Area 24, would not affect Unit 2 HPCI and Unit 1 and 3 HPCI/RCIC operation. A rapid depressurization of the Units 1, 2 and 3 RPV would not be required until two hours after the entry conditions are met. The Diesel Generators 3B and 3D are affected and 4KV SDBDs 3EB and 3ED will not be credited for this fire area analysis. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA,3EC		480V RMOV BD 2E	480V RMOV BD 3E
480V SDBD 1A,1B,2A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V RMOV BD 1A,1B,2A,2B,3A,3B			
480V DSL AUX BD A,B,3EA,3EB			
480V CBVNT BD A	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
Diesel Gen A,B,C,D,3A,3C			
BATT BD 1,2,3,4,5	HPCI	HPCI	HPCI
	RCIC	RHR Pump 2D	RCIC
	RHR Pump 1A		RHR Pump 3B
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump A1	RHRSW Pump D2	RHRSW Pump B1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop B South Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps B3 and D3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-179 (MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-180 (MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58A	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74A	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-161	2-TI-64-162	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	2-PI-64-67B	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	1-TI-64-52AB	2-TI-64-52AB	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3A(3-PMP-31-1947)
CB Wtr Chiller 3A(3-CHR-31-1943)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3A(3-AHU-31-107)
U3 CR AHU 3A(3-AHU-31-104)
U3 Elect BD Rm ACU 3A
(3-ACU-31-7205)

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 25(I)* Turbine & Radwaste Bldgs.& Cable Tunnel & Intake P.S.

Applicable Appendix R Separation Criteria: III.G.2

A fire in the Turbine Building, Cable Tunnel, Intake Pumping Station and Radwaste Building, Fire Area 25(I), would not affect Unit 1, 2 or 3 HPCI operation. A rapid depressurization of the Units 1, 2 and 3 RPV would not be required until two hours after the entry conditions are met. Cables in this area are routed mostly in conduit. All diesel generators are available except for Diesel Generator C and D. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,3EA,3EB,3EC,3ED		480V RMOV BD 2D	480V RMOV BD 3D
480V SDBD 1A,2A,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V HVAC B			
480V RMOV BD 1A,2A,3A,3B			
480V DSL AUX BD A,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen A,B,3A,3B,3C,3D	HPCI	HPCI	HPCI
BATT BD 1,2,3	RHR Pump 1A	RHR Pump 2C	RHR Pump 3A
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pumps A2	RHRSW Pumps C1 or C2	RHRSW Pump A1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop A North Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps A3 and C3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-179(MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-180(MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58B	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74B	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-162	2-TI-64-162	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	2-PI-64-160A	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	None	None	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3A(3-PMP-31-1947)
CB Wtr Chiller 3A(3-CHR-31-1943)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3A(3-AHU-31-107)
U3 CR AHU 3A(3-AHU-31-104)
U3 Elect BD Rm ACU 3A(3-ACU-31-7205)

* Fire Area 25(I) represents the availability of primarily Division I dependent systems and other associated components (e.g., EECW Pumps A3 and C3).

8.0 AVAILABILITY OF MINIMUM SSDS FOR INDIVIDUAL FIRE AREAS/ZONES (Continued)

Fire Area 25(II)* Turbine & Radwaste Bldgs.& Intake P.S., Duct Banks,Yard

Applicable Appendix R Separation Criteria: III.G.2

A fire in the Turbine Building, Intake Pumping Station, and Radwaste Building, Fire Area 25(II) including Yard Area and Duct Bank, would not affect Unit 1, 2 or 3 HPCI operation. A rapid depressurization of the Units 1, 2 and 3 RPV would not be required until two hours after the entry conditions were met. Cables are routed mostly in trays. All diesel generators are available except for Diesel Generator 3B. The Safe Shutdown Equipment for a fire in this area is:

Common Equipment	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
Electrical Power Supplies	**Electrical Power Supplies**	**Electrical Power Supplies**	**Electrical Power Supplies**
4KV SDBD A,B,C,D,3EA,3EC,3ED		480V RMOV BD 2E	480V RMOV BD 3E
480V SDBD 1A,1B,2A,2B,3A,3B	250V RMOV BD 1A,1B,1C	250V RMOV BD 2A,2B,2C	250V RMOV BD 3A,3B,3C
480V HVAC B			
480V RMOV BD 1A,1B,2A,2B,3A,3B			
480V DSL AUX BD A,B,3EA,3EB	**Inventory Recovery**	**Inventory Recovery**	**Inventory Recovery**
480V CBVNT BD A,B			
Diesel Gen A,B,C,D,3A,3C,3D	HPCI	HPCI	HPCI
BATT BD 1,2,3	RHR Pump 1B	RHR Pump 2D	RHR Pump 3B
	Decay Heat Removal	**Decay Heat Removal**	**Decay Heat Removal**
	RHRSW Pump B2	RHRSW Pump D2	RHRSW Pump B1
EECW	**Main Steam Relief Valves**	**Main Steam Relief Valves**	**Main Steam Relief Valves**
EECW Loop B South Header	1-PCV-1-5 (ADS-CAD_A)	2-PCV-1-4 (MSRV-CAD_A)	3-PCV-1-19 (ADS-CAD_A)
Pumps B3 and D3	1-PCV-1-22 (ADS-CAD_A)	2-PCV-1-22 (ADS-CAD_A)	3-PCV-1-31 (MSRV-CAD_B)
	1-PCV-1-30 (ADS-CAD_B)	2-PCV-1-30 (ADS-CAD_B)	3-PCV-1-179(MSRV-CAD_A)
	1-PCV-1-34 (ADS-CAD_B)	2-PCV-1-41 (MSRV-CAD_B)	3-PCV-1-180(MSRV-CAD_B)
	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE	CAD_A AND CAD_B AVAILABLE

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment
RPV Level	1-LI-3-58B	2-LI-3-58B	3-LI-3-58A,58B
RPV Pressure	1-PI-3-74B	2-PI-3-74B	3-PI-3-74A,74B
Torus Suppression Pool Level	1-LI-64-66	2-LI-64-159A	3-LI-64-54A,66,159A
Torus Suppression Pool Temp.	1-TI-64-162	2-TI-64-162	3-TI-64-161,162
Drywell Pressure	1-PI-64-160A	2-PI-64-160A	3-PI-64-160A, 3-XR-64-159
Drywell Temperature	1-TI-64-52AB	2-TI-64-52AB	3-TI-64-52AB

Instrumentation List	Unit 1 Specific Equipment	Unit 2 Specific Equipment	Unit 3 Specific Equipment

Common HVAC Equipment

CWP A(0-PMP-31-2101)
CB Wtr Chiller A(0-CHR-31-2100)
CWP 3A(3-PMP-31-1947)
CB Wtr Chiller 3A(3-CHR-31-1943)
CB Emerg Air Comp(0-CMP-31-128)
U1/U2 BBR Exh Fn 1A(0-FAN-31-74)
U1/U2 EL 593 AHU 1A(0-AHU-31-88)
U1/U2 CR AHU 1A(0-AHU-31-81)
U1 SDBD Rm AHU 1A(1-AHU-31-2300)
U2 SDBD Rm AHU 2A(2-AHU-31-2320)
U3 EL 593 AHU 3A(3-AHU-31-107)
U3 CR AHU 3A(3-AHU-31-104)
U3 Elect BD Rm ACU 3A(3-ACU-31-7205)

* Fire Area 25(II) represents the availability of primarily Division II dependent systems and other associated components (e.g., EECW Pumps B3 and D3).

9.0 EXEMPTIONS

Exemption requests are alternative ways to address the requirements of 10CFR50 Appendix R. Exemptions are necessary because the backfit of the Appendix R requirements to operating plants may not necessarily increase the level of plant safety. In some cases, exemptions are not required as indicated in Generic Letter 86-10. Reference 51 documents the acceptance of "Exemptions" applicable to all three units which were submitted to NRC. Exemptions to the requirements of 10CFR50.48 and Sections III.G and III.L of Appendix R for BFN are presented as follows:

The following exemption requests are in effect for the BFN Appendix R program:

a. Exemption From No Core Uncovery - Section III.L.1 of Appendix R requires that the alternative shutdown capability be able to maintain the reactor coolant system process variables within those predicted for a loss of normal AC power and Section III.L.2b of Appendix R requires that the alternative shutdown capability be able to maintain reactor coolant inventory above the core for BWR. Contrary to this, some core uncovery may be experienced as noted in the analyses for the evaluation fire event.

   Justification - As noted in Section 3, the process variables would exceed those predicted for a loss of normal AC power. This is because the design basis event as defined in Generic Letter 81-12 and 86-10 are more severe than a loss of normal AC power. Although some momentary core uncovery can be expected for the systems used for BFN, the core uncovery will not result in any fuel damage, which satisfies the requirement specified in Section III.L.1 of Appendix R. Analyses support the fact that the integrity of the fission product boundary will be maintained by the alternative shutdown system. In Reference 52, the NRC staff expressed their concurrence in this approach.

b. Exemption From Fixed Suppression in Main Control Rooms - Section III.G.3 requires that fire detection, and fixed fire suppression be provided for areas which require alternative shutdown capability. Contrary to this requirement, the fixed fire suppression is not provided for the main control rooms which require alternative shutdown capability.

   Justification - Smoke detectors are provided in the main control rooms (Figures 9-1 and 9-2). Hose stations and fire extinguishers are also provided for the rooms. These features coupled with the fact that the rooms are continuously manned ensure that any fire in the rooms will be quickly detected and extinguished.

9.0 EXEMPTIONS (Continued)

c. Exemption For RHR Pump Rooms - Section III.G.2.b requires that cable, equipment, and associated circuits of redundant trains be separated by a horizontal distance of 20 or more feet with no intervening combustibles and fire detection and automatic suppression be installed in the area. In the Reactor Buildings, circuits required to support RHR located on Elevation 519 are separated from the redundant circuits located on the same elevation by a cumulative horizontal distance of more than 20 feet but automatic suppression is not provided.

Justification - The RHR pump rooms and heat exchanger rooms are constructed of reinforced concrete except for the RHR pump room ceiling which forms a portion of the heat exchanger room floor. Crossed zoned detectors will be provided on the ceilings of the RHR pump rooms. A water curtain and draft stop will be added to separate the RHR pump rooms from the RHR heat exchanger rooms, and the fire zone on Elevation 593 which has automatic suppression and detection throughout the general area (Figures 9-3 and 9-4).

The typical in situ combustible load of each RHR pump room is approximately 14,000 Btu/ft^2 and is due to lube oil in pumps, valves, and HVAC equipment and plastics in the form of gauge covers and cable insulation in junction boxes and control panels. This equates to a fire severity of approximately 11 minutes. There are not appreciable amounts of combustibles located in the heat exchanger rooms.

The closest distance between unprotected openings of the two RHR pump rooms for each unit is approximately 70 feet via the torus area. The combustible loading inside the torus area is very low (approximately 333 Btu/ft^2 or equivalent fire severity of 0.2 minutes). The combustible materials inside the torus area are sufficiently dispersed that they will not be intervening combustibles. Thus, a fire in one of the RHR pump rooms will not propagate to the RHR pump room on the other corner of the Reactor Building.

One of the RHR pump rooms for each unit is adjacent to the HPCI room. The HPCI room has automatic suppression and detection to protect the potential fire hazards of the lube oil tank inside the HPCI room. The typical combustible loading for each HPCI room is approximately 15,500 Btu/ft^2 which equates to a fire severity of approximately 12 minutes. The HPCI pipe line which penetrates into the torus area is approximately 48 feet away from the non-adjacent RHR pump room.

9.0 EXEMPTIONS (Continued)

Considering the large spatial separation, the existing automatic suppression and detection system in the HPCI room, and the lack of intervening combustibles inside the torus area, it is highly unlikely that a fire in the HPCI room could affect both RHR pumps rooms. It is also highly unlikely that a fire in the adjacent RHR pump room would spread into the HPCI room and then affect the RHR pump through the HPCI piping penetrations and the torus area.

The RHR pump rooms are two of the four corner rooms in each Reactor Building. The other two corner rooms are for the core spray and RCIC pumps. Each of the core spray/RCIC corner rooms is in the same fire zone for the same side of the RHR pump rooms. Since the core spray and RCIC equipment are not relied on for the Appendix R fire event, a fire in one of these rooms would not affect safe shutdown capability of BFN. The fire loading in these two corner rooms is also very low. The same spatial separation and low combustible loading for the RHR pump rooms exist for the core spray and RCIC corner rooms. Therefore, it is highly unlikely that a fire in one of these corner rooms (RHR or core spray) would spread to the opposite corner rooms to simultaneously affect two fire zones at Elevation 519 of the Reactor Building.

The low combustible loading and the large spatial separation in the area provide a level of plant safety equivalent to the intent of 10CFR50 Appendix R, Section III.G. Therefore, an exemption from the automatic suppression requirement of Section III.G.2b of 10CFR50 Appendix R is hereby requested.

d. Exemption for Intervening Combustible - Section III.G.2.b of 10CFR50 Appendix R requires separation of redundant paths of safe shutdown cables and equipment by a horizontal distance of more than 20 feet with no intervening combustibles. In addition, the section requires fire detectors and an automatic fire suppression system to be installed in the area containing the redundant cables and equipment. Contrary to these requirements, each Reactor Building has open ladder type cable trays located between redundant cables and equipment that will be separated by more than 20 feet. The insulation on cables in these trays is considered an intervening combustible material.

Justification - The locations in the Reactor Building where redundant cables and equipment are spatially separated have no significant in situ fire hazards present except for cable insulation in the cable trays.

9.0 EXEMPTIONS (Continued)

These concerns are addressed by relying upon existing sprinkler systems coupled with supplemental sprinkler protection, where required, to compensate for the intervening combustibles. Sprinkler coverage has been or will be provided in areas containing spatially separated redundant safe shutdown circuits and equipment. The cooling effect provided by these suppression systems will prevent the formation of a high temperature heat plume and will control room temperatures. The cascading effect of the water will stop the propagation of fire along cable trays between redundant cables and equipment. Therefore, transient combustibles at the floor level present the only significant fire exposure to the redundant cables and equipment for those areas protected by existing sprinklers. To mitigate the effects of an exposure fire from transient combustibles at the floor level, additional sprinkler coverage will be provided under intermediate obstructions for up to a 30-foot wide path for spatially separated redundant cables and equipment.

By coupling the ensure floor level coverage with the existing sprinkler protection, an exposure fire located in the protected path between redundant cables and equipment will be quickly extinguished. In addition, a fire originating outside the protected path will not propagate between the redundant cables or equipment due to the effective water barrier between the redundant cables or equipment.

The Reactor Buildings were evaluated for combustible hazards. The average fire severity for each of these buildings is approximately 30 minutes. One of the significant fire loads is due to cables in cable trays. The cables and trays were liberally coated with flamemastic. Current practice is to use IEEE 383 fire resistant cables for any new additions to these trays. The ceiling height for the elevations in the Reactor Buildings ranges from 20 to 30 feet. Hose stations and portable extinguishers are strategically located throughout the Reactor Building.

The use of the sprinklers below intermediate level obstructions to compensate for intervening combustibles has been recommended by the staff in Reference [52]. Therefore, the modified sprinkler systems will provide a level of protection that adequately compensates for the presence of intervening combustibles located between spatially separated redundant safe shutdown cables and equipment and the intent of Section III.G.2.b will be satisfied. An exemption to the requirement of 20 foot separation with no intervening combustible is hereby requested.

9.0 EXEMPTIONS (Continued)

e. Exemption for Fixed Suppression and Detection of III.G.3* - In accordance with Section III.G.3 of 10CFR50 Appendix R, fixed fire suppression and detection systems shall be provided in fire areas which require alternative shutdown capability. Contrary to this requirement, the Control Building for BFN will require alternative shutdown capability but does not have either fixed suppression or detection throughout the area.

Justification - The Control Building is a fire area separated from adjacent fire areas by reinforced concrete construction equivalent to three hour fire rated barriers except for the Battery and Battery Board Rooms (Fire Areas 17, 18, 19). Some of the walls around these rooms are 1 and 1½ hour rated. However, these areas are provided with suppression and detection. The Control Building does not have fixed suppression or detection throughout the building. It does not have fire detection for areas containing only non-safety related equipment. Such areas include computer services room, lunch room, corridors and stairs. It also does not have fixed fire suppression for the unit control rooms and other areas. The exemption request for not providing fixed suppression for the unit control rooms is described in item c above. The areas inside the Control Building which do not have detection or suppression are shown in Table 9-1. Based on the fire protection features provided and the limited quantity of combustible materials located in the rooms without fixed fire suppression or detection systems, a fire in these locations of the Control Building will be unlikely to propagate to cause an uncontrolled fire in the building. Thus, the fire would not damage the redundant trains of safe shutdown equipment requiring the use of alternative shutdown capability for the plant. Even if this unlikely scenario occurs, a fire in the Control Building will not damage the alternative safe shutdown capability which is located in the Reactor Buildings and shutdown board rooms.

Therefore, the lack of fixed suppression or detection throughout the Control Building does not affect the safe shutdown capability of BFN and an exemption from the requirements of Section III.G.3 to provide fixed suppression or detection throughout the Control Building is hereby requested.

TABLE 9-1 Areas Inside Control Building (Fire Area 16)

A. Without Fire Detection and Suppression*

ROOM	ELEVATION	ROOM NUMBER
Corridor	593	C1
Computer Services Room	593	C27
Stairs	593	C7, C16, C23
Stairs	606	C2, C4, C6
Stairs	617	C8, C14, C21
Corridor	617	C1, C3, C13A, C20
Lunch Room	617	C16B, C16C

B. With Fire Detection Only*

ROOM	ELEVATION	ROOM NUMBER
Computer Maint. Rooms	593	C2A
Electrical Rooms	593	C2, C4A
Corridor	593	C4
RPS MG Set Rooms	593	C6, C8A, C12A, C13, C14, C22, C24, C25
Communication Room	593	C19
Comm. Batt. Board Room	593	C18
Comm. Battery Room	593	C17
Mechanical Equip. Room	593	C28
Mechanical Equip. Room	606	C1
Relay Room	617	C16

*NOTE: Since submittal of the exemption request, a complete area wide fire detection system has been installed in the Control Building.

FIGURE 9-1 Detector Location in Main Control Room, Unit 1

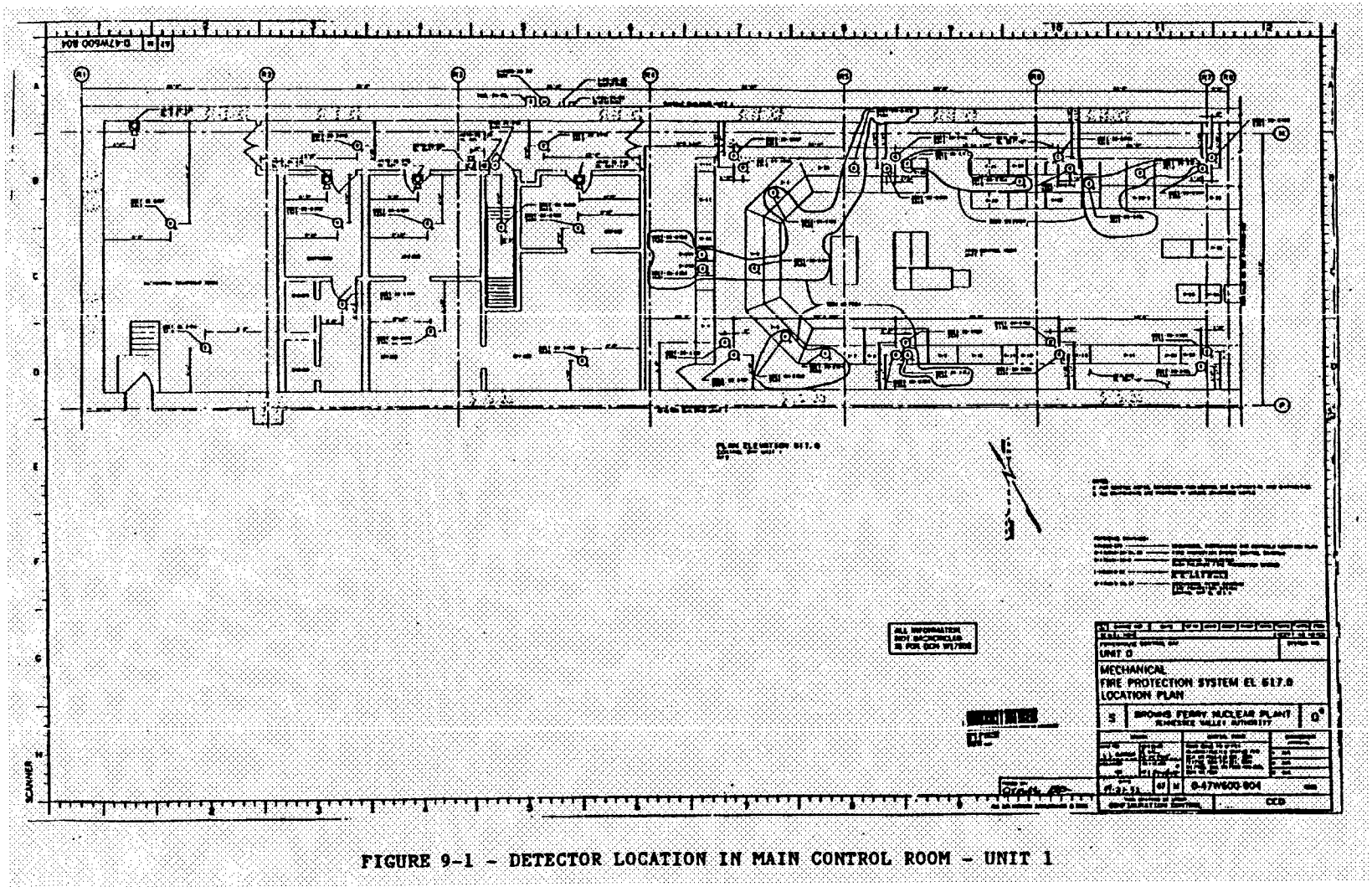


FIGURE 9-1 - DETECTOR LOCATION IN MAIN CONTROL ROOM - UNIT 1

FIGURE 9-2 Detector Location in Main Control Room, Unit 2

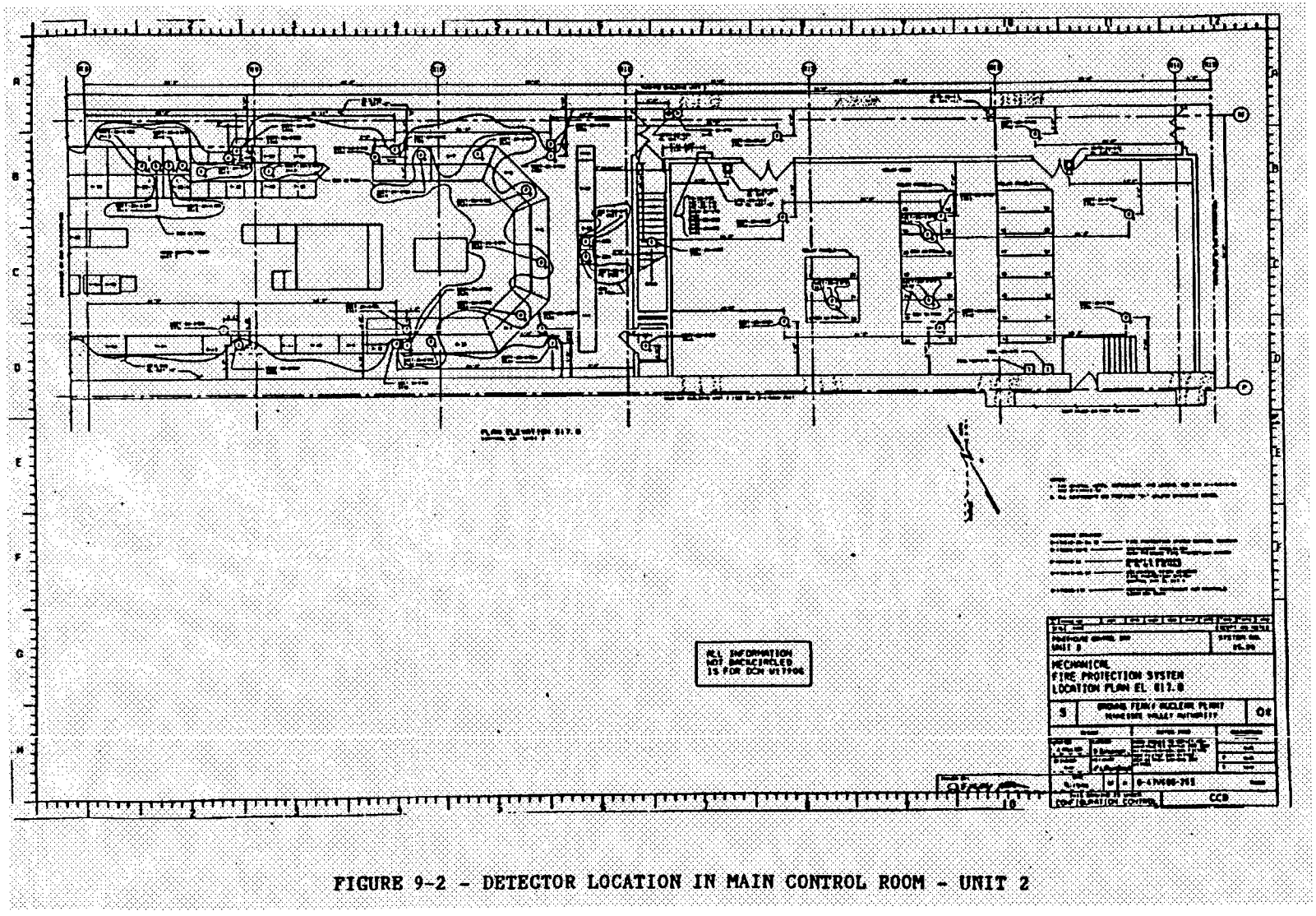


FIGURE 9-2 - DETECTOR LOCATION IN MAIN CONTROL ROOM - UNIT 2

FIGURE 9-3 Detector Location in Main Control Room, Unit 3

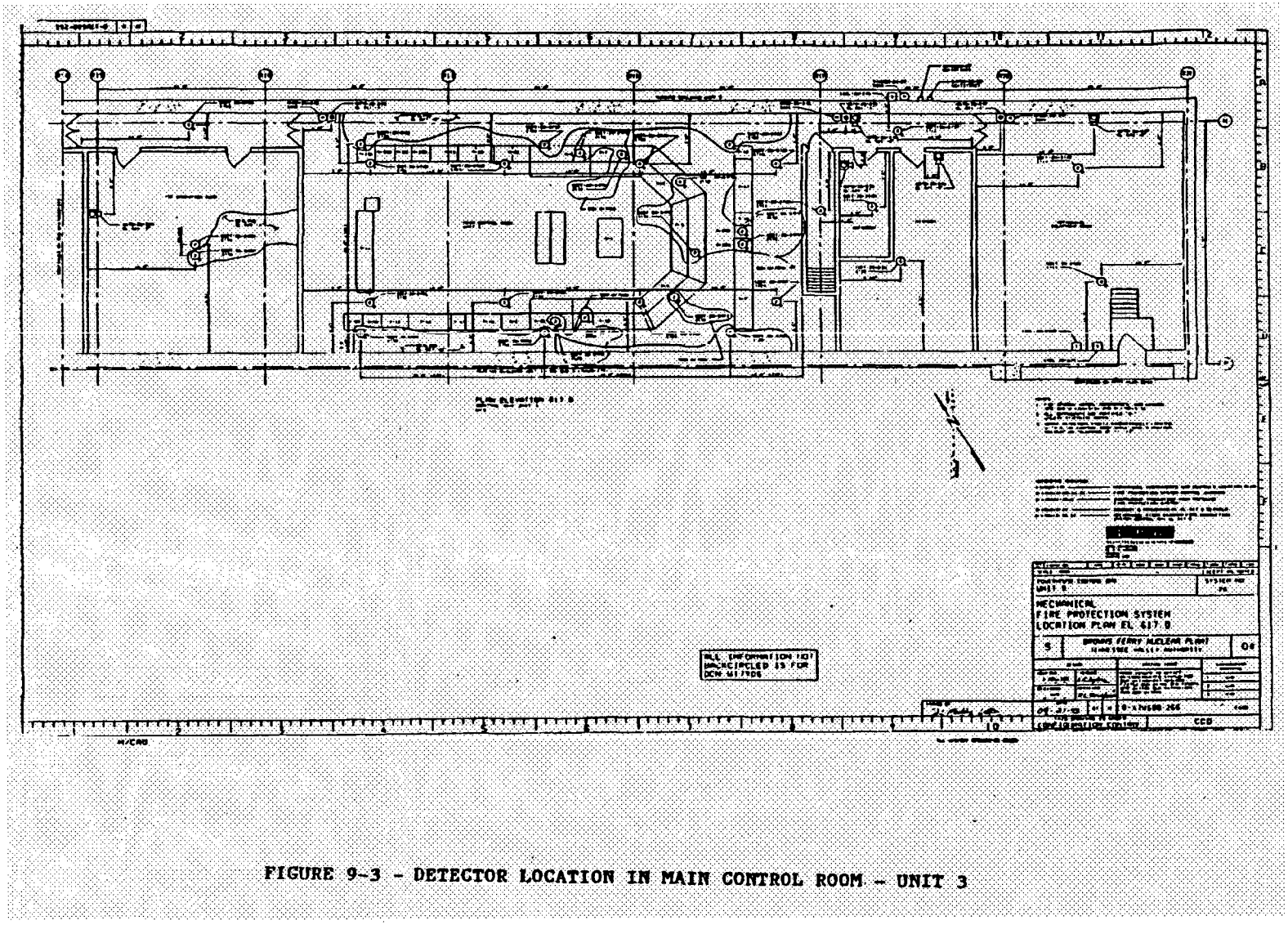


FIGURE 9-3 - DETECTOR LOCATION IN MAIN CONTROL ROOM - UNIT 3

FIGURE 9-4 Fire Protection Features for RHR Pump and Heat Exchanger Room

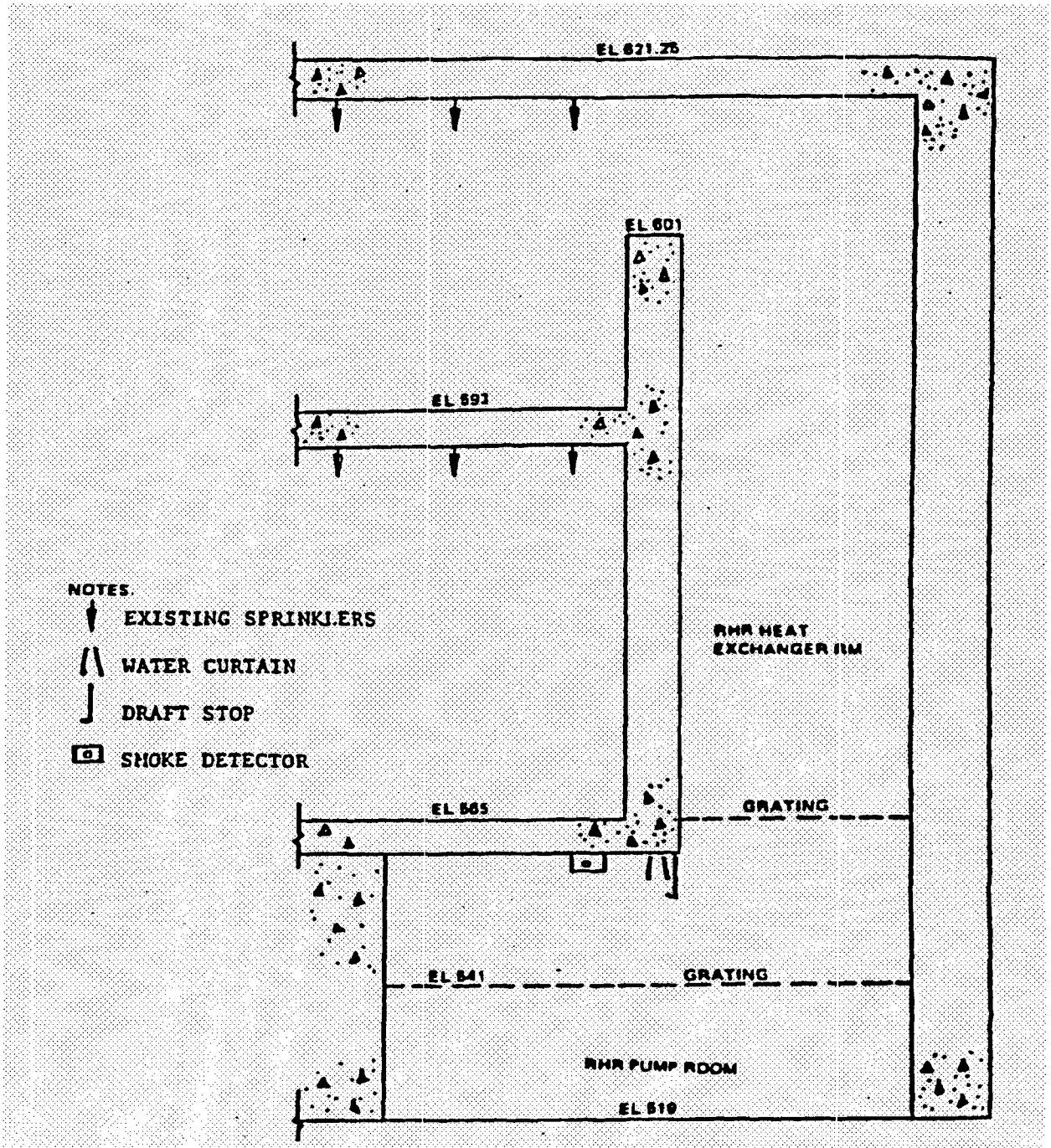


FIGURE 9-4 - FIRE PROTECTION FEATURES FOR RHR PUMP AND HEAT EXCHANGER ROOM

FIGURE 9-5 Fire Protection Features for RHR Pump and Heat Exchanger Rooms

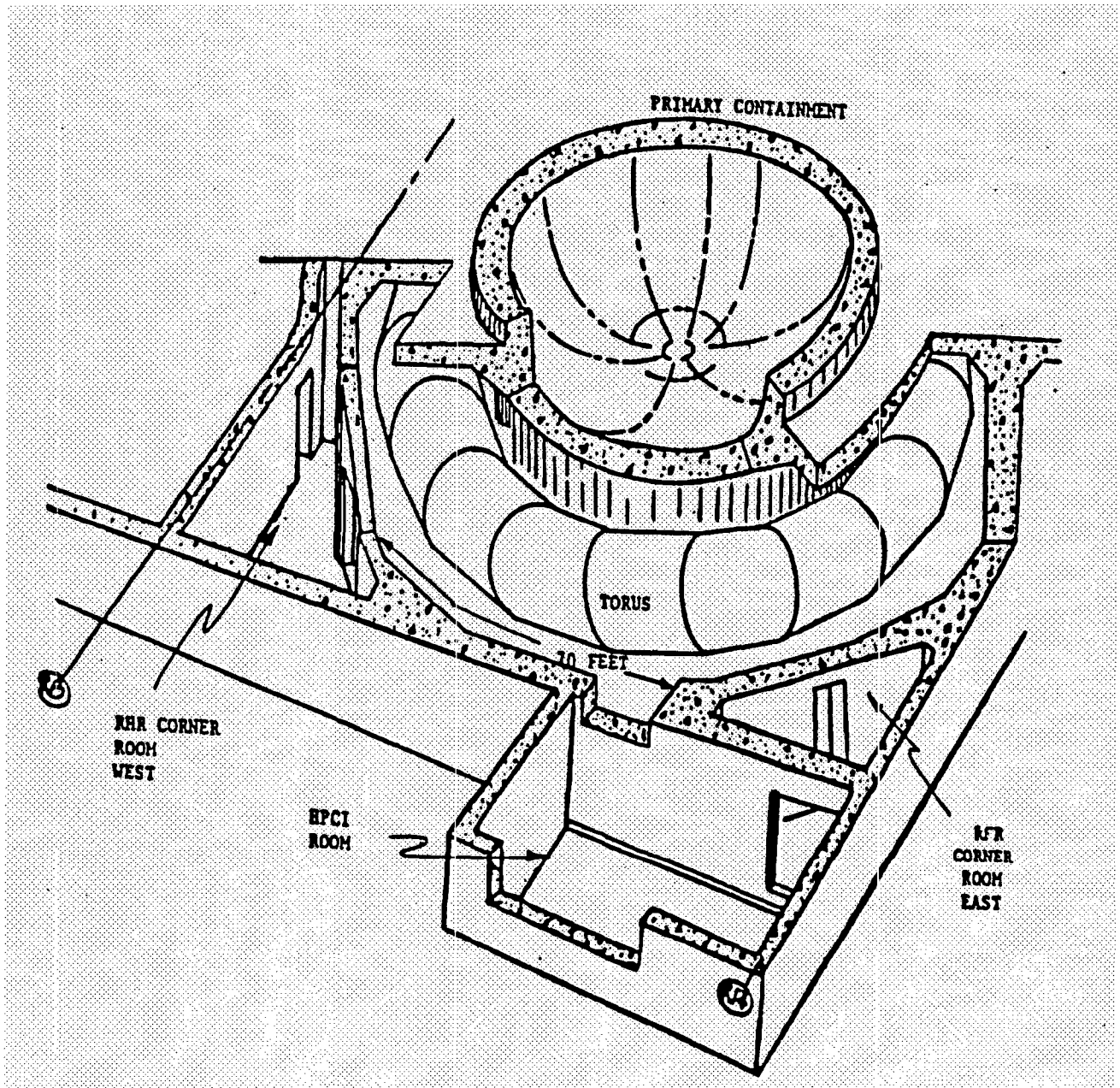


FIGURE 9-5 - FIRE PROTECTION FEATURES FOR RHR PUMP AND HEAT EXCHANGER ROOMS

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(B) Three Phase Hot Shorts
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9. SER dated July 24, 1985, Subject: NUREG 0737, Item II.K.3.28, "Qualification of ADS Accumulator (A02 850729 011).

10. "10CFR50, Appendix R, Heating, Ventilating, and Air Conditioning Review", Calculation ND-Q0999-880166.

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14. Not used.

15. Not used.

16. Not used.

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24. "Diesel Generator Temperature Rise Evaluation", TVA, OE Calculation MD-Q0082-900091.

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31. "Appendix R - Locations of Emergency Lighting", TVA, Calculation ND-Q0999-920115.

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32. "Replace Specified Switches with Transmitters and Electronic Switches to Reduce the Number of Scrams in Testing and Calibration Time", TVA, Engineering Change Notice, ECN-P0126, March 1979.

33. High Impedance Faults on Aux. Power & Cont. Power Cables EE-GEN-90001.

34. Cable and Bus Protection/Breaker/Fuse Coordination

    a) 24V DC System Calculations ED-Q2283-880084 (Unit 1 and 2), ED-Q3283-920001 (Unit 3)
    b) 125V DC System Calculation ED-Q0254-880085
    c) 250V DC System Calculations ED-Q1999-2002-0061, ED-Q2000-870550, ED-Q3999-920058
    d) 120V AC System Calculations ED-Q1999-2002-0070, ED-Q2000-880086, ED-Q3999-920121
    e) 480V AC MCC Calculations ED-Q1999-2002-0071, ED-Q2999-870549, ED-Q3999-910225
    f) 4KV Shutdown, 480V Shutdown Calculations ED-Q1999-2002-0072, ED-Q2000-870548, ED-Q3999-910224
    g) Appendix R Associated Circuits Analysis For Shutdown Components, Calculation ED-Q3999-920187

35. Cable Auto-Ignition Protection

    a) Appendix R Study of Cable Auto-Ignition Protection Calculation ED-Q2999-880562
    b) Appendix R Study DC Low Impedance Faults Calculation ED-Q0999-880675 (historical reference)
    c) Analysis of the Auxiliary & Control Power System to Identify Associated Circuits - 10CFR50 Appendix R", TVA, Calculation, ED-Q0999-870077
    d) Normal DC Control Power for Associated Circuit Analysis, Calculation ED-N0999-880700.

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46. Not used.

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48. Appendix R - Fire Area Compartmentation and Zone Drawings 47W216-51 through -62.

49. Appendix R - Emergency Lighting Ingress/Egress Routes and Major Equipment Drawings 45W400-RW Series (some sheets are in Series "E").

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62. Not used.

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70. General Electric Company, "The GESTR-LOCA and SAFER Models for the Evaluation of the Loss-of-Coolant Accident, Volume III, SAFER/GESTR Application Methodolcgy," NEDE-23785-1-PA, Revision 1, October 1984.

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73. General Electric Company, "Brown Ferry Nuclear Plant Units 1, 2 and 3 SAFER/GESTR-LOCA Loss-of-Coolant Accident Analysis," NEDC-32484P, Revision 1, February 1996.

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76. General Electric Company, "ECCS Suction Strainer Hydraulic Sizing Report," GENE-E12-00148-01, Revision 0, July 1997.

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80. G.E. Calculation GE-ERO-AEP-02-391, R0 " Appendix R Inadvertent HPCI Injection" (EDMS #: R05 020523 005)

81. Letter, T. E. Abney (TVA) to NRC "Units 2&3 corrected information for Tech Spec Change request TS-384, Power Uprate" (R08991201679)

82. EMF-2982(P), "Browns Ferry Units 2 and 3 Safety Analysis Report for Extended Power Uprate ATRIUM™-10 Fuel Supplement.

83. Hydrogen Generation Rate in 250V Battery Rooms, Calculation MD-Q0999-2004-0019.

84. IPEEE Fire Induced Vulnerability Evaluations, Calculations MDN1-999-2004-0010 (Unit 1), NDN2-999-2002-0012 (Unit 2), and NDN3-999-2003-0010 (Unit 3)

85. GE-ER1-AEP-04-229P, "Tennessee Valley Authority Browns Ferry Unit 1 Asset Enhancement Program - Task Report T0611, Appendix R Fire Protection. W79-040126-002 and W83-040322-003

86. GE-ER0-AEP-02-449P, "Tennessee Valley Authority Browns Ferry Unit 2 and 3 Extended Power Uprate - Task Report T0611, Appendix R Fire Protection. W79-020522-001 and R05-020523-002

87. NEDC-33101P, "Browns Ferry Unit 1 Safety Analysis Report for Extended Power Uprate", June 2004.

BROWNS FERRY NUCLEAR PLANT

UNITS 1, 2 AND 3

APPENDIX R SAFE SHUTDOWN PROGRAM

TABLE OF CONTENTS

I. PROGRAM AND DESCRIPTION

10CFR50 APPENDIX R applies to licensed nuclear reactors with respect to certain generic issues concerning fire protection features required to satisfy Criterion 3 to 10 CFR 50 Appendix A. When considering the effects of fire, those systems associated with achieving safe shutdown conditions assume major importance because damage to them can lead to loss of primary system integrity, release of radioactive material or exposure of the public to excess radiation.

For this reason, a plant Appendix R evaluation was performed for the Browns Ferry Nuclear Plant (BFN), to ensure that safe shutdown capability can be maintained during and after a fire in compliance with Section III.G, III.J, and III.L of Appendix R. The initial Appendix R evaluation identified the minimum systems required for post fire safe shutdown and the modifications that were necessary to ensure the operability of the minimum systems capability. The plant Appendix R evaluation was performed assuming concurrent operation of the three BFN units and did not factor in the unavailability of equipment based on the possible outage of a unit. A supplemental evaluation was performed for only Unit 2 operating. Based on this evaluation, this program and the Safe Shutdown Instructions (SSIs) were developed to provide the operators with the necessary actions to shutdown the Unit 2 reactor in the event of an Appendix R fire in that unit. With the completion of the Unit 3 Appendix R Safe Shutdown Analysis, the program and procedures are updated for both Units 2 and 3 operating (References A2, A3 and A7). Completion of the Unit 1 Restart Modifications resulted in a combined Unit 1, 2 and 3 Appendix R Safe Shutdown Analysis with the program and procedures updated for all units operating. (Reference A4 and A10)

This program has two objectives. The first objective is to ensure that the equipment relied upon to shutdown Units 1, 2 and 3 during or after a fire will be available when called upon by the SSIs. This program is intended to meet this objective regardless of whether or not the required equipment is covered by Technical Specifications. The second objective is to provide a mechanism to ensure safe shutdown is available, or ensure prompt detection and suppression of a fire, if any required safe shutdown equipment is not available.

The program accomplishes these objectives by providing the following:

1) A list of required safe shutdown equipment.
2) A list of compensatory measures for required equipment when unavailable.
3) A list of testing requirements and implementing procedures for required equipment.
4) A technical basis for 1, 2 and 3 above.
5) A method by which this program interacts with the design output documents referenced in it.
6) A method by which this program interacts with the SSIs.
7) A method for tracking the compensatory measures listed by 2 above.

II. REFERENCES

A) Requirement Documents

1) Not used.

2) ED-Q0999-880489 - Tabulation of Equipment Power Supplies and Detailing Criteria for the Auxiliary Power System. (historical reference superseded by Reference A4, Calculation ED-Q0999-2003-0055)

3) TVAN Engineering Bulletin - Appendix R - Valve Positioning, April 16, 1996 (RIMS B45960416001).

4) ED-Q0999-2003-0055 - "Unit 1, 2, 3 Appendix R - Auxiliary Power System Alignments and Diesel Generator Loading".

5) Not used.

6) Not used.

7) Appendix R Computerized Safe Shutdown Separation Analysis, Calculation ED-Q0999-940040 (historical reference to be superseded by Reference A10, ED-Q0999-2003-0037).

8) Not used.

9) Letter, Suzanne C. Black (NRC) to Oliver D. Kingsley, Jr., [(TVA), TVA BFN Technical Specification No. 249 - Guidance, March 3, 1989 (RIMS A02 890320 011].

10) Appendix R Computerized Safe Shutdown Separation Analysis (Units 1, 2 and 3), Calculation ED-Q0999-2003-0037.

11) Unit 1, 2 and 3 Appendix R Manual Action Requirements - Calculation ND-Q0999-2003-0048.

12) Evaluation of RWCU Piping at Elevated Temperature - Calculation MD-N0069-950010.

13) Control Air Analysis for 3-FCV-69-94, 2-FCV-69-94 and 1-FCV-69-94 - MD-N0032-950012.

14) Evaluation of Expected Condition for Extended Power Uprate (EPU) and 24 Month Fuel Cycle for BFN U1- Calculation ND-Q1999-2002-0016.

15) Station Blackout Evaluation- Calculation MD-N0999-980114.

16) IPEEE Fire Induced Vulnerability Evaluations, Calculations MD-N1999-2004-

0010, ND-N2999-2002-0012, and ND-N3999-2003-0010

17) Appendix R Analysis for Interplant Communication System, Calculation ED-N0244-890050.

B) Interface Documents

1) Unit 1, 2 and Unit 3 Licenses and Technical Specifications.

2) FPDP-3 - Management of the Fire Protection Report.

3) OPDP-8 - Limiting Conditions for Operation Tracking.

4) NEDP-10 - Design Output (supersedes SSP-2.4 - Source Document Tracking).

5) SPP-2.1 - Administration of Standard Programs and Procedures (SPP's); and Standard Department Procedures (SDP's).

6) SPP-2.2 - Administration of Site Technical Procedures.

7) SPP-2.3 - Document Control.

8) SPP-3.1 - Corrective Action Program.

9) SPP-9.4 - 10CFR50.59 Evaluations of Changes, Tests and Experiments.

III. REQUIRED SAFE SHUTDOWN EQUIPMENT

This section includes tables which identify the Unit 1, 2 and 3 equipment required for BFN Appendix R Safe Shutdown. These Tables list specific equipment, the system containing the equipment, the unit(s) for which the equipment is required, the function(s) the equipment provides, the compensatory measures to be taken if the function(s) is (are) not available, and the fire areas/zones for which the equipment is required to safely shutdown Units 1, 2 and 3.

The functions and the compensatory measures listed in the Unit 1 Table must be satisfied anytime the Unit 1 reactor is not in a COLD SHUTDOWN CONDITION as defined by the Unit 1 Technical Specifications. Likewise, the functions and compensatory measures listed in the Unit 2 or 3 Table must be satisfied anytime the unit's reactor is not in a COLD SHUTDOWN CONDITION as defined by the unit's Technical Specifications. In addition, functions and the compensatory measures listed in the Unit 0 Table must be satisfied anytime Unit's 1, 2 and 3 reactors are not in a COLD SHUTDOWN CONDITION as defined by the unit's Technical Specifications.

If the listed piece of equipment is not able to perform one of its functions due to equipment degradation, and its function/position has not been achieved, the compensatory measure next to the unavailable function must be implemented. If the listed piece of equipment is not able to perform any of its functions, the compensatory measure for all functions of that equipment must be implemented. The compensatory measure is defined below.

If the listed piece of equipment is not able to perform its required Appendix R Safe Shutdown function due to lack of spatial separation (i.e. failure to meet 10CFR50 Appendix R Section III.G.2.b or where Safe Shutdown components are identified outside their designated areas), then within one hour the compensatory actions defined by paragraph 9.3.11.G.1.a of the Fire Protection Plan shall be established. If the detection system in the affected area is operable, the firewatch is hourly; otherwise the fire watch is continuous.

The listed compensatory measure in the Unit 1, 2 & 3 tables due to equipment degredation or the compensatory measures due to lack of spatial separation per 9.3.11.G.1.a of the Fire Protection Plan may be removed if:

- the affected unit is brought to COLD SHUTDOWN, or
- an engineering analysis is performed, this program is changed and the Safe Shutdown Instructions are changed to provide an alternative shutdown path.

Compensatory Measure A will be documented and tracked in accordance with Attachment A of this instruction.

COMPENSATORY MEASURES

A. Restore the equipment function in 7 days or provide equivalent shutdown capability by one of the following methods.

1) A temporary alteration in accordance with plant procedures that allows the equipment to perform its intended function, or

2) A fire watch in accordance with the site impairment program in the affected areas/zones as specified in Section III.

Note:

- Fire watch must be continuous for Fire Areas 4, 5, 6 & 7 and may be hourly for all other areas. Fire Areas 5, 6, and 7 may be covered by a single 'continuous' fire watch who will check all of the rooms every 15 +/- 5 minutes. Therefore, only 1 fire watch would be required if all 3 fire areas required compensatory measures.
- Fire watch requirements in the Turbine Building (FA #25) and Control Building (FA #16) may be evaluated on a case by case basis due to the large size of these areas. For example, fire watches in the Turbine Building can be limited to within 20 feet of the south wall (near M-Line wall on EL 565' and 586') or the Intake Pumping Station due to the location of the RHRSW power cables in the areas. No Safe Shutdown circuits are located in any other location within the Turbine building. Control Building areas, even though not separated by fire resistive barriers, provide substantial protection against the spread of fire due to installed fire suppression systems and concrete floor slabs and walls. The potential of fire spread between control building compartments and the turbine building compartments has been evaluated in Section 3.0 of the IPEEE Fire Induced Vulnerability Evaluations for Units 1-3 (Reference A16 Section 3). These evaluations may be reviewed to determine the extent of fire watches.

3) A temporary change to the SSI's which provide safe shutdown without the required function.

If equivalent shutdown capability is used, restore the equipment function in 60 days or provide an engineering evaluation and a change to this program that provides an alternate method to perform the Appendix R function, otherwise provide PORC review and Plant Manager approval of the equivalent shutdown capability to ensure its adequacy. This review shall be conducted every 60 days until an alternate method is in place. Site Engineering may be contacted for assistance in determining what constitutes equivalent shutdown capability. An example would be the use of the spare SHDN BD battery charger in lieu of one of the permanent SHDN BD chargers (i.e., 0-CHGA-248-0000A, B, C, D or 3-CHGA-248-0003EB).

UNIT 0

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 018 - FUEL OIL		
0-LS-018-0055A	DSL GEN A DAY TANK LEVEL SWITCH	0	OPERABLE	A	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-LS-018-0055B	DSL GEN B DAY TANK LEVEL SWITCH	0	OPERABLE	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-LS-018-0055C	DSL GEN C DAY TANK LEVEL SWITCH	0	OPERABLE	A	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-LS-018-0055D	DSL GEN D DAY TANK LEVEL SWITCH	0	OPERABLE	A	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-LS-018-0057A	DSL GEN A DAY TANK LEVEL SWITCH	0	OPERABLE	A	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-LS-018-0057B	DSL GEN B DAY TANK LEVEL SWITCH	0	OPERABLE	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 018 - FUEL OIL (CONT.)		
0-LS-018-0057C	DSL GEN C DAY TANK LEVEL SWITCH	0	OPERABLE	A	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-LS-018-0057D	DSL GEN D DAY TANK LEVEL SWITCH	0	OPERABLE	A	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-PMP-018-0055A	DSL GEN A FUEL OIL XFR PUMP	0	OPERABLE	A	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-PMP-018-0055B	DSL GEN B FUEL OIL XFR PUMP	0	OPERABLE	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-PMP-018-0055C	DSL GEN C FUEL OIL XFR PUMP	0	OPERABLE	A	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-PMP-018-0055D	DSL GEN D FUEL OIL XFR PUMP	0	OPERABLE	A	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 018 - FUEL OIL (CONT.)		
0-PMP-018-0056A	DSL GEN A FUEL OIL XFR PUMP	0	OPERABLE	A	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-PMP-018-0056B	DSL GEN B FUEL OIL XFR PUMP	0	OPERABLE	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-PMP-018-0056C	DSL GEN C FUEL OIL XFR PUMP	0	OPERABLE	A	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-PMP-018-0056D	DSL GEN D FUEL OIL XFR PUMP	0	OPERABLE	A	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
3-LS-018-0070A	DSL GEN 3A DAY TANK LEVEL SWITCH	0	OPERABLE	AA	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II
3-LS-018-0070B	DSL GEN 3B DAY TANK LEVEL SWITCH	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 018 - FUEL OIL (CONT.)		
3-LS-018-0070C	DSL GEN 3C DAY TANK LEVEL SWITCH	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
3-LS-018-0070D	DSL GEN 3D DAY TANK LEVEL SWITCH	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II
3-LS-018-0072A	DSL GEN 3A DAY TANK LEVEL SWITCH	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II
3-LS-018-0072B	DSL GEN 3B DAY TANK LEVEL SWITCH	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
3-LS-018-0072C	DSL GEN 3C DAY TANK LEVEL SWITCH	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
3-LS-018-0072D	DSL GEN 3D DAY TANK LEVEL SWITCH	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 018 - FUEL OIL (CONT.)		
3-PMP-018-0070A	DSL GEN 3A FUEL OIL XFR PUMP	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II
3-PMP-018-0070B	DSL GEN 3B FUEL OIL XFR PUMP	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
3-PMP-018-0070C	DSL GEN 3C FUEL OIL XFR PUMP	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
3-PMP-018-0070D	DSL GEN 3D FUEL OIL XFR PUMP	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II
3-PMP-018-0072A	DSL GEN 3A FUEL OIL XFR PUMP	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II
3-PMP-018-0072B	DSL GEN 3B FUEL OIL XFR PUMP	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 018 - FUEL OIL (CONT.)		
3-PMP-018-0072C	DSL GEN 3C FUEL OIL XFR PUMP	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
3-PMP-018-0072D	DSL GEN 3D FUEL OIL XFR PUMP	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 023 - RHR SERVICE WATER		
0-PMP-023-0085	RHRSW PUMP A3	0	AUTO START	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 20
		0	ISOLATE AND START AT 4KV SHDN BD 3EA	A	25-1
0-PMP-023-0088	RHRSW PUMP B3	0	AUTO START	A	3-1, 3-2, 3-3, 3-4, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24
		0	ISOLATE AND START AT 4KV SHDN BD C	A	16, 25-II
0-PMP-023-0091	RHRSW PUMP C3	0	AUTO START	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 20
		0	ISOLATE AND START AT 4KV SHDN BD 3EC	A	25-I
0-PMP-023-0094	RHRSW PUMP D3	0	AUTO START	A	3-1, 3-2, 3-3, 3-4, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24
		0	ISOLATE AND START AT 4KV SHDN BD C	A	16, 25-II
1-FCV-023-0034	RHR HEAT EXCH A SW OUTLET VLV	0	OPEN FROM MCR	A	2-2, 4, 8, 25-I
1-FCV-023-0040	RHR HEAT EXCH C SW OUTLET VLV	0	OPEN FROM MCR	A	2-3

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 023 - RHR SERVICE WATER (CONT.)		
1-FCV-023-0046	RHR HX B SW OUTLET VLV	0	OPEN FROM MCR	A	3-1, 6, 13, 18, 25-II
1-FCV-023-0052	RHR HEAT EXCH D SW OUTLET VLV	0	CLOSE FROM MCR	A	5
2-FCV-023-0034	RHR HEAT EXCH A SW OUTLET VLV	0	CLOSE FROM MCR	A	2-2, 8, 25-I
		0	MANUALLY CLOSE VLV	A	4
		0	OPEN BKR AT 480V RMOV BD 2A BKR 17C	A	4
2-FCV-023-0040	RHR HEAT EXCH C SW OUTLET VLV	0	MANUALLY CLOSE VLV	A	2-3
		0	OPEN BKR AT 480V RMOV BD 2A BKR 18C	A	2-3
2-FCV-023-0046	RHR HX B SW OUTLET VLV	0	CLOSE FROM MCR	A	6, 13, 18, 25-II
		0	MANUALLY CLOSE VLV	A	3-1
		0	OPEN BKR AT 480V RMOV BD 2B BKR 7E	A	3-1

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 023 - RHR SERVICE WATER (CONT.)		
2-FCV-023-0052	RHR HEAT EXCH D SW OUTLET VLV	0	OPEN FROM MCR	A	5
3-FCV-023-0034	RHR HEAT EXCH A SW OUTLET VLV	0	OPEN FROM MCR	A	2-2, 4, 8, 25-I
3-FCV-023-0040	RHR HEAT EXCH C SW OUTLET VLV	0	MANUALLY OPEN VLV	A	2-3
		0	OPEN BKR AT 480V RMOV BD 3A BKR 18C	A	2-3
3-FCV-023-0046	RHR HX B SW OUTLET VLV	0	OPEN FROM MCR	A	3-1, 6, 18, 25-II
		0	OPEN BKR AT 480V RMOV BD 3B BKR 7E	A	13
		0	MANUALLY OPEN VLV	A	13
3-FCV-023-0052	RHR HEAT EXCH D SW OUTLET VLV	0	OPEN FROM MCR	A	5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 026 - HIGH PRESSURE FIRE PROTECTION		
0-PMP-026-0001	FIRE PUMP A	0	VERIFY START FROM MCR	A	3-3
0-PMP-026-0003	FIRE PUMP C	0	ISOLATE AND START FROM 4KV SHDN BD C	A	16
		0	VERIFY START FROM MCR	A	21, 22, 23, 24
0-PMP-026-0118	DSL FIRE PUMP	0	START FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 030 - DIESEL GENERATOR VENTILATION		
0-FAN-030-0064	DSL GEN A EXH FAN A	0	OPERABLE	A[1]	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-FAN-030-0065	DSL GEN A EXH FAN B	0	OPERABLE	A[2]	1-6, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FAN-030-0066	DSL GEN B EXH FAN A	0	OPERABLE	A[1]	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-FAN-030-0067	DSL GEN B EXH FAN B	0	OPERABLE	A[2]	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FAN-030-0068	DSL GEN C EXH FAN A	0	OPERABLE	A[1]	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FAN-030-0069	DSL GEN C EXH FAN B	0	OPERABLE	A[2]	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II

[1] Provided the secondary fan and associated components (dampers, switches) are available, no compensatory measures are required.
[2] Provided the primary fan and associated components (dampers, switches) are available, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 030 - DIESEL GENERATOR VENTILATION (CONT.)		
0-FAN-030-0070	DSL GEN D EXH FAN A	0	OPERABLE	A[1]	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FAN-030-0071	DSL GEN D EXH FAN B	0	OPERABLE	A[2]	1-5, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FAN-030-0072	DSL GEN AUX XFMR TDA ROOM EXHAUST FAN	0	OPERABLE	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-FAN-030-0073	DSL GEN AUX XFMR TDB ROOM EXHAUST FAN	0	OPERABLE	A	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FCO-030-0064A	DSL GEN A EXH FAN A DISCHG DAMPER	0	REMAIN OPEN	A[1]	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-FCO-030-0064B	DSL GEN A FAN ROOM INLET DAMPER	0	REMAIN OPEN	A[1]	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

[1] Provided the secondary fan and associated components (dampers, switches) are available, no compensatory measures are required.
[2] Provided the primary fan and associated components (dampers, switches) are available, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 030 - DIESEL GENERATOR VENTILATION (CONT.)		
0-FCO-030-0064C	DSL GEN A DSL GEN ROOM INLET DAMPER	0	REMAIN OPEN	A[1]	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-FCO-030-0065A	DSL GEN A EXH FAN B DISCHG DAMPER	0	OPEN	A[2]	1-6, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FCO-030-0065B	DSL GEN A FAN ROOM INLET DAMPER	0	OPEN	A[2]	1-6, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FCO-030-0065C	DSL GEN A DSL GEN ROOM INLET DAMPER	0	OPEN	A[2]	1-6, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FCO-030-0066A	DSL GEN B EXH FAN A DISCHG DAMPER	0	REMAIN OPEN	A[1]	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-FCO-030-0066B	DSL GEN B FAN ROOM INLET DAMPER	0	REMAIN OPEN	A[1]	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

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[2] Provided the primary fan and associated components (dampers, switches) are available, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 030 - DIESEL GENERATOR VENTILATION (CONT.)		
0-FCO-030-0066C	DSL GEN B DSL GEN ROOM INLET DAMPER	0	REMAIN OPEN	A[1]	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-FCO-030-0067A	DSL GEN B EXH FAN B DISCHG DAMPER	0	OPEN	A[2]	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FCO-030-0067B	DSL GEN B FAN ROOM INLET DAMPER	0	OPEN	A[2]	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FCO-030-0067C	DSL GEN B DSL GEN ROOM INLET DAMPER	0	OPEN	A[2]	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FCO-030-0068A	DSL GEN C EXH FAN A DISCHG DAMPER	0	REMAIN OPEN	A[1]	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FCO-030-0068B	DSL GEN C FAN ROOM INLET DAMPER	0	REMAIN OPEN	A[1]	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II

[1] Provided the secondary fan and associated components (dampers, switches) are available, no compensatory measures are required.
[2] Provided the primary fan and associated components (dampers, switches) are available, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 030 - DIESEL GENERATOR VENTILATION (CONT.)		
0-FCO-030-0068C	DSL GEN C DSL GEN ROOM INLET DAMPER	0	REMAIN OPEN	A[1]	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FCO-030-0069A	DSL GEN C EXH FAN B DISCHG DAMPER	0	OPEN	A[2]	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FCO-030-0069B	DSL GEN C FAN ROOM INLET DAMPER	0	OPEN	A[2]	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FCO-030-0069C	DSL GEN C DSL GEN ROOM INLET DAMPER	0	OPEN	A[2]	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FCO-030-0070A	DSL GEN D EXH FAN A DISCHG DAMPER	0	REMAIN OPEN	A[1]	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FCO-030-0070B	DSL GEN D FAN ROOM INLET DAMPER	0	REMAIN OPEN	A[1]	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II

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SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 030 - DIESEL GENERATOR VENTILATION (CONT.)		
0-FCO-030-0070C	DSL GEN D DSL GEN ROOM INLET DAMPER	0	REMAIN OPEN	A[1]	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FCO-030-0071A	DSL GEN D EXH FAN B DISCHG DAMPER	0	OPEN	A[2]	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FCO-030-0071B	DSL GEN D FAN ROOM INLET DAMPER	0	OPEN	A[2]	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FCO-030-0071C	DSL GEN D DSL GEN ROOM INLET DAMPER	0	OPEN	A[2]	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FS-030-0060A	DSL GEN A EXH FAN A DISCHG FLOW SWITCH	0	OPERABLE	A[1]	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-FS-030-0060B	DSL GEN A FAN ROOM INLET FLOW SWITCH	0	OPERABLE	A[2]	1-6, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II

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SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 030 - DIESEL GENERATOR VENTILATION (CONT.)		
0-FS-030-0061A	DSL GEN B EXH FAN A DISCHG FLOW SWITCH	0	OPERABLE	A[1]	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-FS-030-0061B	DSL GEN A FAN ROOM INLET FLOW SWITCH	0	OPERABLE	A[2]	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FS-030-0062A	DSL GEN C EXH FAN A DISCHG FLOW SWITCH	0	OPERABLE	A[1]	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FS-030-0062B	DSL GEN C FAN ROOM INLET FLOW SWITCH	0	OPERABLE	A[2]	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FS-030-0063A	DSL GEN D EXH FAN A DISCHG FLOW SWITCH	0	OPERABLE	A[1]	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FS-030-0063B	DSL GEN D FAN ROOM INLET FLOW SWITCH	0	OPERABLE	A[2]	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II

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[2] Provided the primary fan and associated components (dampers, switches) are available, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 030 - DIESEL GENERATOR VENTILATION (CONT.)		
3-FAN-030-0230	DSL GEN 3A EXH FAN A	0	OPERABLE	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II
3-FAN-030-0231	DSL GEN 3A EXH FAN B	0	OPERABLE	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 24, 25-I, 25-II
3-FAN-030-0232	DSL GEN 3B EXH FAN A	0	OPERABLE	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
3-FAN-030-0233	DSL GEN 3B EXH FAN B	0	OPERABLE	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
3-FAN-030-0234	DSL GEN 3C EXH FAN A	0	OPERABLE	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 22, 24, 25-I, 25-II
3-FAN-030-0235	DSL GEN 3C EXH FAN B	0	OPERABLE	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 24, 25-I, 25-II

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[2] Provided the primary fan and associated components (dampers, switches) are available, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 030 - DIESEL GENERATOR VENTILATION (CONT.)		
3-FAN-030-0236	DSL GEN 3D EXH FAN A	0	OPERABLE	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II
3-FAN-030-0237	DSL GEN 3D EXH FAN B	0	OPERABLE	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 10, 11, 13, 20, 25-I, 25-II
3-FAN-030-0243	DSL AUX BD RM 3EA EXHAUST FAN (GEN 3A & 3B)	0	START EXHAUST FAN AT 480V DSL AUX BD 3EA	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II
3-FAN-030-0244	DSL AUX BD RM 3EB EXHAUST FAN (GEN 3C & 3D)	0	START EXHAUST FAN AT 480V DSL AUX BD 3EB	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
3-FCO-030-0230A	DSL GEN 3A FAN A DISCHG DAMPER	0	REMAIN OPEN	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II
3-FCO-030-0230B	FAN ROOM 3A INLET DAMPER	0	REMAIN OPEN	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II

[1] Provided the secondary fan and associated components (dampers, switches) are available, no compensatory measures are required.
[2] Provided the primary fan and associated components (dampers, switches) are available, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 030 - DIESEL GENERATOR VENTILATION (CONT.)		
3-FCO-030-0230C	DSL GEN ROOM 3A INLET DAMPER	0	REMAIN OPEN	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II
3-FCO-030-0231A	DSL GEN 3A FAN B DISCHG DAMPER	0	OPEN	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 24, 25-I, 25-II
3-FCO-030-0231B	FAN ROOM 3A INLET DAMPER	0	OPEN	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 24, 25-I, 25-II
3-FCO-030-0231C	DSL GEN ROOM 3A INLET DAMPER	0	OPEN	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 24, 25-I, 25-II
3-FCO-030-0232A	DSL GEN 3B FAN A DISCHG DAMPER	0	REMAIN OPEN	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
3-FCO-030-0232B	FAN ROOM 3B INLET DAMPER	0	REMAIN OPEN	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I

[1] Provided the secondary fan and associated components (dampers, switches) are available, no compensatory measures are required.
[2] Provided the primary fan and associated components (dampers, switches) are available, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 030 - DIESEL GENERATOR VENTILATION (CONT.)		
3-FCO-030-0232C	DSL GEN ROOM 3B INLET DAMPER	0	REMAIN OPEN	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
3-FCO-030-0233A	DSL GEN 3B FAN B DISCHG DAMPER	0	OPEN	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
3-FCO-030-0233B	FAN ROOM 3B INLET DAMPER	0	OPEN	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
3-FCO-030-0233C	DSL GEN ROOM 3B INLET DAMPER	0	OPEN	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
3-FCO-030-0234A	DSL GEN 3C FAN A DISCHG DAMPER	0	REMAIN OPEN	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
3-FCO-030-0234B	FAN ROOM 3C INLET DAMPER	0	REMAIN OPEN	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II

[1] Provided the secondary fan and associated components (dampers, switches) are available, no compensatory measures are required.
[2] Provided the primary fan and associated components (dampers, switches) are available, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 030 - DIESEL GENERATOR VENTILATION (CONT.)		
3-FCO-030-0234C	DSL GEN ROOM 3C INLET DAMPER	0	REMAIN OPEN	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
3-FCO-030-0235A	DSL GEN 3C FAN B DISCHG DAMPER	0	OPEN	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 24, 25-I, 25-II
3-FCO-030-0235B	FAN ROOM 3C INLET DAMPER	0	OPEN	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 24, 25-I, 25-II
3-FCO-030-0235C	DSL GEN ROOM 3C INLET DAMPER	0	OPEN	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 24, 25-I, 25-II
3-FCO-030-0236A	DSL GEN 3D FAN A DISCHG DAMPER	0	REMAIN OPEN	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II
3-FCO-030-0236B	FAN ROOM 3D INLET DAMPER	0	REMAIN OPEN	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II

[1] Provided the secondary fan and associated components (dampers, switches) are available, no compensatory measures are required.
[2] Provided the primary fan and associated components (dampers, switches) are available, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 030 - DIESEL GENERATOR VENTILATION (CONT.)		
3-FCO-030-0236C	DSL GEN ROOM 3D INLET DAMPER	0	REMAIN OPEN	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II
3-FCO-030-0237A	DSL GEN 3D FAN B DISCHG DAMPER	0	OPEN	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 10, 11, 13, 20, 25-I, 25-II
3-FCO-030-0237B	FAN ROOM 3D INLET DAMPER	0	OPEN	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 10, 11, 13, 20, 25-I, 25-II
3-FCO-030-0237C	DSL GEN ROOM 3D INLET DAMPER	0	OPEN	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 10, 11, 13, 20, 25-I, 25-II
3-FS-030-0230	DSL GEN 3A FAN A DISCHG SHUTOFF	0	OPERABLE	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II
3-FS-030-0231	FAN ROOM 3A INLET FAN B SHUTOFF	0	OPERABLE	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 24, 25-I, 25-II

[1] Provided the secondary fan and associated components (dampers, switches) are available, no compensatory measures are required.
[2] Provided the primary fan and associated components (dampers, switches) are available, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 030 - DIESEL GENERATOR VENTILATION (CONT.)		
3-FS-030-0232	DSL GEN 3B FAN A DISCHG SHUTOFF	0	OPERABLE	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
3-FS-030-0233	FAN ROOM 3B INLET FAN B SHUTOFF	0	OPERABLE	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
3-FS-030-0234	DSL GEN 3C FAN A DISCHG SHUTOFF	0	OPERABLE	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
3-FS-030-0235	FAN ROOM 3C INLET FAN B SHUTOFF	0	OPERABLE	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 24, 25-I, 25-II
3-FS-030-0236	DSL GEN 3D FAN A DISCHG SHUTOFF	0	OPERABLE	A[1]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II
3-FS-030-0237	FAN ROOM 3D INLET FAN B SHUTOFF	0	OPERABLE	A[2]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 10, 11, 13, 20, 25-I, 25-II

[1] Provided the secondary fan and associated components (dampers, switches) are available, no compensatory measures are required.
[2] Provided the primary fan and associated components (dampers, switches) are available, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION		
0-AHU-031-0081	CNTRL RM AIR HANDLING UNIT 1A	0	START LOCALLY	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	STOP LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 20
0-AHU-031-0082	CNTRL RM AIR HANDLING UNIT 1B	0	START LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 20
		0	STOP LOCALLY	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-AHU-031-0088	EL 593 AIR HANDLING UNIT 1A	0	START LOCALLY	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	STOP LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 20
0-AHU-031-0089	EL 593 AIR HANDLING UNIT 1B	0	START LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 20
		0	STOP LOCALLY	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
0-CHR-031-2100	1&2 CNTRL BAY CHILLER A	0	START AT PANEL 0-LPNL-925-0165	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	STOP AT PANEL 0-LPNL-925-0165	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 20
0-CHR-031-2200	1&2 CNTRL BAY CHILLER B	0	START AT PANEL 0-LPNL-925-0165	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 20
		0	STOP AT PANEL 0-LPNL-925-0165	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-CMP-031-0128	CNTRL BAY EMERG AIR COMPRESSOR	0	OPERABLE	A	1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-FAN-031-0074	BATT & BD RM EXH FAN A	0	START AT PANEL 0-LPNL-925-0165	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-FAN-031-0075	BATT & BD RM EXH FAN B	0	START AT PANEL 0-LPNL-925-0165	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 20

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
0-FCO-031-0074	0-FAN-31-74 INLET DAMPER	0	OPEN	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 20
0-FCO-031-0075	0-FAN-31-75 INLET DAMPER	0	OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 20
		0	CLOSE	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-FCO-031-0081	0-AHU-31-081 DISCHG DAMPER	0	OPEN	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 20
0-FCO-031-0082	0-AHU-31-082 DISCHG DAMPER	0	OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 20
		0	CLOSE	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
0-FCO-031-0088	0-AHU-31-088 DISCHG DAMPER	0	OPEN	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 20
0-FCO-031-0089	0-AHU-31-089 DISCHG DAMPER	0	OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 20
		0	CLOSE	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-FCO-031-0104	3-AHU-31-104 DISCHG DAMPER	0	OPEN	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
0-FCO-031-0105	3-AHU-31-105 DISCHG DAMPER	0	OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
		0	CLOSE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
0-FCO-031-0107	3-AHU-31-107 DISCHG DAMPER	0	OPEN	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
0-FCO-031-0108	3-AHU-31-108 DISCHG DAMPER	0	OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
		0	CLOSE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-FCO-031-0113	BYPASS DAMPER FOR EMERGNCY BBR EXHAUST	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-FCO-031-0124B	EXHAUST ISLN DAMPER	0	CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-FCO-031-0124C	EXHAUST ISLN DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
0-FCO-031-0125A	EXHAUST ISLN DAMPER	0	CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-FCO-031-0125B	EXHAUST ISLN DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-FCO-031-0126A	EXHAUST ISLN DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-FCO-031-0126B	EXHAUST ISLN DAMPER	0	CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-FS-031-0809	WATER CHILLER 3A FLOW SWITCH	0	OPERABLE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-FS-031-0824	WATER CHILLER 3B FLOW SWITCH	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
0-FSV-031-0018	0-TCV-31-18 PILOT VLV	0	OPERABLE	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-FSV-031-0019	0-TCV-31-19 PILOT VLV	0	OPERABLE	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-FSV-031-0021	0-TCV-31-21 PILOT VLV	0	OPERABLE	A	1-2, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 7, 10, 20
0-FSV-031-0022	0-TCV-31-22 PILOT VLV	0	OPERABLE	A	1-2, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 7, 10, 20
0-PMP-031-0141A	HOT WATER CIRCULATING PUMP A	0	STOP AT U1 MECH EQUIP RM	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-PMP-031-0141B	HOT WATER CIRCULATING PUMP B	0	STOP AT U1 MECH EQUIP RM	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-PMP-031-2101	1&2 CNTRL BAY CHW PUMP A	0	START AT PANEL 0-LPNL-925-0165	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	STOP AT PANEL 0-LPNL-925-0165	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 20

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
0-PMP-031-2201	1&2 CNTRL BAY CHW PUMP B	0	START AT PANEL 0-LPNL-925-0165	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 20
		0	STOP AT PANEL 0-LPNL-925-0165	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-TC-031-0018	0-TCV-31-18 TEMP CNTRLR	0	OPERABLE	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-TC-031-0019	0-TCV-31-19 TEMP CNTRLR	0	OPERABLE	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-TC-031-0021	0-TCV-31-21 TEMP CNTRLR	0	OPERABLE	A	1-2. 1-5, 1-6, 2-1, 2-5, 2-6, 4, 7, 10, 20
0-TC-031-0022	0-TCV-31-22 TEMP CNTRLR	0	OPERABLE	A	1-2. 1-5, 1-6, 2-1, 2-5, 2-6, 4, 7, 10, 20
0-TCO-031-0114B	RECIRC FLOW CNTRL DAMPER	0	CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-TCV-031-0018	MCR AIR HANDLER TEMP CNTRL VLV	0	OPERABLE	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
0-TCV-031-0019	MCR AIR HANDLER TEMP CNTRL VLV	0	OPERABLE	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-TCV-031-0021	TEMP CNTRL VLV CB ELEV	0	OPERABLE	A	1-2, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 7, 10, 20
0-TCV-031-0022	TEMP CNTRL VLV CB ELEV	0	OPERABLE	A	1-2, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 7, 10, 20
0-TCV-031-0024	TEMP CNTRL VLV CB ELEV	0	OPERABLE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-TCV-031-0025	TEMP CNTRL VLV CB ELEV	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
0-TCV-031-0027	MCR AIR HANDLER TEMP CNTRL VLV	0	OPERABLE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-TCV-031-0028	MCR AIR HANDLER TEMP CNTRL VLV	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
0-TE-031-0024	0-TCV-31-24 TEMP ELEMENT	0	OPERABLE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
0-TE-031-0025	0-TCV-31-25 TEMP ELEMENT	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
0-TE-031-0027	0-TCV-31-27 TEMP ELEMENT	0	OPERABLE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-TE-031-0028	0-TCV-31-28 TEMP ELEMENT	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
0-TE-031-0811	WATER CHILLER 3A DISCH TEMP ELEMENT	0	OPERABLE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-TE-031-0826	WATER CHILLER 3B DISCH TEMP ELEMENT	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
0-TET-031-0018	0-TCV-31-18 TEMP ELEMENT	0	OPERABLE	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-TET-031-0019	0-TCV-31-19 TEMP ELEMENT	0	OPERABLE	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-TET-031-0021	0-TCV-31-21 TEMP ELEMENT	0	OPERABLE	A	1-2, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 7, 10, 20
0-TET-031-0022	0-TCV-31-22 TEMP ELEMENT	0	OPERABLE	A	1-2, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 7, 10, 20

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
0-TIC-031-0024	0-TCV-31-24 TEMP CNTRLR	0	OPERABLE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-TIC-031-0025	0-TCV-31-25 TEMP CNTRLR	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
0-TIC-031-0027	0-TCV-31-27 TEMP CNTRLR	0	OPERABLE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-TIC-031-0028	0-TCV-31-28 TEMP CNTRLR	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
0-TM-031-0024	0-TCV-31-24 TEMP CNTRLR	0	OPERABLE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-TM-031-0025	0-TCV-31-25 TEMP CNTRLR	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
0-TM-031-0027	0-TCV-31-27 TEMP CNTRLR	0	OPERABLE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-TM-031-0028	0-TCV-31-28 TEMP CNTRLR	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
0-TS-031-0811	WATER CHILLER 3A DISCHG TEMP SWITCH	0	OPERABLE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-TS-031-0826	WATER CHILLER 3B DISCHG TEMP SWITCH	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
0-TI-031-0024	TEMP CNTRL VLV CB ELEV	0	OPERABLE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-TI-031-0025	TEMP CNTRL VLV CB ELEV	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
0-TI-031-0027	MCR AIR HANDLER TEMP CNTRL VLV	0	OPERABLE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-TI-031-0028	MCR AIR HANDLER TEMP CNTRL VLV	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
0-XFA-031-CHRA	CB CHILLER A XFMR	0	OPERABLE	A	2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-XFA-031-CHRB	CB CHILLER B XFMR	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 20

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
1-AHU-031-2300	SHDN BD RM AHU 1A	0	START AT PANEL 0-LPNL-925-0165	A	1-2, 1-6, 2-1, 2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 4, 8, 9, 11, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	STOP AT PANEL 0-LPNL-925-0165	A	1-1, 1-3, 1-5, 2-5, 2-6, 5, 6, 7, 10, 12, 20
1-AHU-031-2310	SHDN BD RM AHU 1B	0	START AT PANEL 0-LPNL-925-0165	A	1-1, 1-5, 2-5, 2-6, 5, 6, 7, 10, 12, 20
		0	STOP AT PANEL 0-LPNL-925-0165	A	1-2, 1-4, 2-1, 2-2, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 4, 8, 9, 11, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
1-DMP-031-2002	BD RM A INCOMING AHU DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-DMP-031-2003	BD RM A INCOMING AHU DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-DMP-031-2540	BD RM B INCOMING AHU DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
1-DMP-031-2541	BD RM B INCOMING AHU DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-DMP-031-2558	SHDN BD RM FIRE DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-DMP-031-2632	SHDN BD RM FIRE DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-DMP-031-2633	SHDN BD RM FIRE DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
1-DMP-031-2634	SHDN BD RM FIRE DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-HCV-031-0526	1-TCV-031-19 BYPASS VLV	0	MANUALLY OPEN	A	1-1, 1-3, 1-4, 5, 6, 9
1-HCV-031-0530	1-TCV-031-22 BYPASS VLV	0	MANUALLY OPEN	A	1-1, 1-3, 1-4, 5, 6, 9
2-AHU-031-2320	ELEC BD RM AHU 2A	0	START AT PANEL 0-LPNL-925-0165	A	2-2, 3-1, 3-2, 3-3, 3-4, 6, 8, 11, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	STOP AT PANEL 0-LPNL-925-0165	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 7, 9, 10, 12, 20
2-AHU-031-2330	ELEC BD RM AHU 2B	0	START AT PANEL 0-LPNL-925-0165	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 7, 9, 10, 12, 20
		0	STOP AT PANEL 0-LPNL-925-0165	A	2-2, 3-1, 3-2, 3-3, 3-4, 6, 8, 11, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
2-DMP-031-2008	BD RM C INCOMING DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
2-DMP-031-2009	BD RM C INCOMING DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-DMP-031-2018	BD RM D INCOMING DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-DMP-031-2019	BD RM D INCOMING DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-DMP-031-2641	SHDN BD RM FIRE DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-DMP-031-2642	SHDN BD RM FIRE DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
2-DMP-031-2643	SHDN BD RM FIRE DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-DMP-031-2644	SHDN BD RM FIRE DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-ACU-031-7205	U3 SHDN BD RM ACU	0	ISOLATE AND START AT PANEL 3-LPNL-925-0539	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25-I, 25-II
3-ACU-031-7206	U3 SHDN BD RM ACU	0	ISOLATE AND START AT PANEL 3-LPNL-925-0541	A	3-1, 3-4, 13, 14, 22
3-AHU-031-0104	U3 MCR AHU A	0	START LOCALLY	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	STOP LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
3-AHU-031-0105	U3 MCR AHU B	0	START LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
		0	STOP LOCALLY	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
3-AHU-031-0107	U3 ELEV 593 AHU 3A	0	START LOCALLY	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	STOP LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
3-AHU-031-0108	U3 ELEV 593 AHU 3B	0	START LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
		0	STOP LOCALLY	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
3-CHR-031-1943	WATER CHILLER 3A AND ASSOC LUBE OIL	0	START LOCALLY	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
3-CHR-031-1951	WATER CHILLER 3B AND ASSOC LUBE OIL	0	START LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
3-DMP-031-2010	BD RM 3A INCOMING AHU DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-DMP-031-2011	BD RM 3A INCOMING AHU DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-DMP-031-2012	BD RM 3B INCOMING AHU DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-DMP-031-2013	BD RM 3B INCOMING AHU DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-DMP-031-2576	SHDN BD RM FIRE DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
3-DMP-031-2577	SHDN BD RM FIRE DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-DMP-031-2639	SHDN BD RM FIRE DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-DMP-031-2649	SHDN BD RM FIRE DAMPER	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-PMP-031-1947	CHILLED WATER PUMP 3A	0	OPERABLE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
3-PMP-031-1955	CHILLED WATER PUMP 3B	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
3-TC-031-0812	WATER CHILLER 3A DISCHG TEMP CNTRL	0	OPERABLE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 031 - CONTROL BAY VENTILATION (CONT.)		
3-TC-031-0827	WATER CHILLER 3B DISCHG TEMP CNTRL	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
3-TT-031-0812	WATER CHILLER 3A DISCHG TEMP CNTRL	0	OPERABLE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
3-TT-031-0827	WATER CHILLER 3B DISCHG TEMP CNTRL	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 067 - EMERGENCY EQUIPMENT COOLING WATER		
0-FCV-067-0001 & STN-067-0925	EECW STRNR A BACKWASH DISCHG VLV AND STRNR	0	AUTO OPERATE	A	1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 6, 7, 8, 10, 11
		0	OPEN MANUALLY / ROTATE MANUALLY	A	1-1, 1-3, 1-4, 5, 9, 20, 25-I
		0	DEENERGIZE "KINNEY" PANEL	A	1-1, 1-3, 1-4, 5, 9, 20
		0	OPEN BKR AT 480V DSL AUX BD B BKR 10F1	A	25-I
0-FCV-067-0005 & STN-067-0926	EECW STRNR B BACKWASH DISCHG VLV AND STRNR	0	AUTO OPERATE	A	3-1, 3-2, 3-3, 3-4, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24
		0	OPEN BKR AT 480V DSL AUX BD B BKR 10F1	A	25-II
		0	OPEN MANUALLY / ROTATE MANUALLY	A	25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 067 - EMERGENCY EQUIPMENT COOLING WATER (CONT.)		
0-FCV-067-0008 & STN-067-0927	EECW STRNR C BACKWASH DISCHG VLV AND STRNR	0	AUTO OPERATE	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 11
		0	OPEN MANUALLY / ROTATE MANUALLY	A	1-1, 1-2, 1-3, 1-4, 2-1, 2-2, 8, 20, 25-I
		0	OPEN BKR AT 480V DSL AUX BD B BKR 10F2	A	25-I
		0	DEENERGIZE "KINNEY" PANEL	A	1-1, 1-2, 1-3, 1-4, 2-1, 2-2, 8, 20
0-FCV-067-0011 & STN-067-0928	EECW STRNR D BACKWASH DISCHG VLV AND STRNR	0	AUTO OPERATE	A	3-1, 3-2, 3-3, 3-4, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24
		0	OPEN BKR AT 480V DSL AUX BD A BKR 10F2	A	25-II
		0	OPEN MANUALLY / ROTATE MANUALLY	A	25-II
0-FCV-067-0013	SECTIONALIZING VLV	0	REMAIN OPEN (WITH PWR REMOVED)	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
0-FCV-067-0014	SECTIONALIZING VLV	0	REMAIN OPEN (WITH PWR REMOVED)	A	3-1, 3-2, 3-3, 3-4, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 067 - EMERGENCY EQUIPMENT COOLING WATER (CONT.)		
0-FCV-067-0017	SECTIONALIZING VLV	0	REMAIN OPEN (WITH PWR REMOVED)	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
0-FCV-067-0018	SECTIONALIZING VLV	0	REMAIN OPEN (WITH PWR REMOVED)	A	3-1, 3-2, 3-3, 3-4, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FCV-067-0021	SECTIONALIZING VLV	0	REMAIN OPEN (WITH PWR REMOVED)	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
0-FCV-067-0022	SECTIONALIZING VLV	0	REMAIN OPEN (WITH PWR REMOVED)	A	3-1, 3-2, 3-3, 3-4, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-FCV-067-0025	SECTIONALIZING VLV	0	REMAIN OPEN (WITH PWR REMOVED)	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
0-FCV-067-0026	SECTIONALIZING VLV	0	REMAIN OPEN (WITH PWR REMOVED)	A	3-1, 3-2, 3-3, 3-4, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 067 - EMERGENCY EQUIPMENT COOLING WATER (CONT.)		
0-FCV-067-0048	EECW / RHRSW SOUTH HDR INTERTIE VLV	0	MANUALLY CLOSE VLV	A	1-1, 1-2, 1-3, 1-4
		0	OPEN BKR AT 480V DSL AUX BD B BKR 12C	A	1-1, 1-2, 1-3, 1-4
		0	ISOLATE AND CLOSE AT 480V DSL AUX BD B BKR 12C	A	16
		2	MANUALLY CLOSE VLV	A	2-1, 20, 25-II
		2	OPEN BKR AT 480V DSL AUX BD B BKR 12C	A	2-1, 20, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 067 - EMERGENCY EQUIPMENT COOLING WATER (CONT.)		
0-FCV-067-0049	EECW / RHRSW NORTH HDR INTERTIE VLV	0	MANUALLY CLOSE VLV	A	1-1, 1-2, 1-3
		0	OPEN BKR AT 480V DSL AUX BD A BKR 12C	A	1-1, 1-2, 1-3
		2	ISOLATE AND CLOSE AT 480V DSL AUX BD A BKR 12C	A	16
		2	MANUALLY CLOSE VLV	A	25-I
		2	OPEN BKR AT 480V DSL AUX BD A BKR 12C	A	25-I
1-FCV-067-0050	RBCCW HEAT EXCH SUPPLY LINE ISO VLV	0	LIMIT FLOW W / TRAVEL LIMITER	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
1-FCV-067-0051	RBCCW HEAT EXCH SUPPLY LINE ISO VLV	0	REMAIN CLOSED	A	3-1, 3-2, 3-3, 3-4, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
1-FSV-067-0050	1-FCV-67-50 PILOT VLV	0	LIMIT FLOW W / TRAVEL LIMITER	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
1-FSV-067-0051	1-FCV-67-51 PILOT VLV	0	REMAIN CLOSED	A	3-1, 3-2, 3-3, 3-4, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 067 – EMERGENCY EQUIPMENT COOLING WATER (CONT.)		
2-FCV-067-0050	RBCCW HEAT EXCH SUPPLY LINE ISO VLV	0	LIMIT FLOW W / TRAVEL LIMITER	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
2-FCV-067-0051	RBCCW HEAT EXCH SUPPLY LINE ISO VLV	0	REMAIN CLOSED	A	3-1, 3-2, 3-3, 3-4, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
2-FSV-067-0050	2-FCV-67-50 PILOT VLV	0	LIMIT FLOW W / TRAVEL LIMITER	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
2-FSV-067-0051	2-FCV-67-51 PILOT VLV	0	REMAIN CLOSED	A	3-1, 3-2, 3-3, 3-4, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
3-FCV-067-0050	RBCCW HEAT EXCH SUPPLY LINE ISO VLV	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
3-FCV-067-0051	RBCCW HEAT EXCH SUPPLY LINE ISO VLV	0	LIMIT FLOW W / TRAVEL LIMITER	A	3-1, 3-2, 3-3, 3-4, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
3-FSV-067-0050	3-FCV-67-50 PILOT VLV	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
3-FSV-067-0051	3-FCV-67-51 PILOT VLV	0	LIMIT FLOW W / TRAVEL LIMITER	A	3-1, 3-2, 3-3, 3-4, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 067 - EMERGENCY EQUIPMENT COOLING WATER (CONT.)		
3-SHV-067-0769		0	MANUALLY CLOSE VLV	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
		0	REMAIN OPEN	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
3-SHV-067-0779		0	MANUALLY CLOSE VLV	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
3-PCV-067-0078	EECW FLOW CNTRL VLV	0	OPERABLE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
3-PCV-067-0079	EECW FLOW CNTRL VLV	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
3-TCV-067-0518	COOLING WATER TEMP CNTRL VLV	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
3-TCV-067-0519	COOLING WATER TEMP CNTRL VLV	0	OPERABLE	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 082 - DIESEL GENERATORS		
			DSL GEN A		
0-GEN-082-000A	DSL GEN A	0	DSL AUTOSTART AND MANUAL CNTRL CAPABILITY FROM MCR	A	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	ISOLATION / LOCAL CNTRL CAPABILITY	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 082 - DIESEL GENERATORS (CONT.)		
			DSL GEN B		
0-GEN-082-000B	DSL GEN B	0	DSL AUTOSTART AND MANUAL CNTRL CAPABILITY FROM MCR	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	ISOLATION / LOCAL CNTRL CAPABILITY	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 082 - DIESEL GENERATORS (CONT.)		
			DSL GEN C		
0-GEN-082-000C	DSL GEN C	0	DSL AUTOSTART AND MANUAL CNTRL CAPABILITY FROM MCR	A	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-II
		0	ISOLATION / LOCAL CNTRL CAPABILITY	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 082 - DIESEL GENERATORS (CONT.)		
			DSL GEN D		
0-GEN-082-000D	DSL GEN D	0	DSL AUTOSTART AND MANUAL CNTRL CAPABILITY FROM MCR	A	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-II
		0	ISOLATION / LOCAL CNTRL CAPABILITY	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 082 - DIESEL GENERATORS (CONT.)		
			DSL GEN 3A		
3-GEN-082-0003A	DSL GEN 3A	0	DSL AUTOSTART AND MANUAL CNTRL CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 17, 18, 19, 20, 23, 24, 25-I, 25-II
		0	ISOLATION / LOCAL CNTRL CAPABILITY	A	3-1, 3-2, 16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 082 - DIESEL GENERATORS (CONT.)		
			DSL GEN 3B		
3-GEN-082-0003B	DSL GEN 3B	0	DSL AUTOSTART AND MANUAL CNTRL CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
		0	ISOLATION / LOCAL CNTRL CAPABILITY	A	3-2, 3-3

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 082 - DIESEL GENERATORS (CONT.)		
			DSL GEN 3C		
3-GEN-082-0003C	DSL GEN 3C	0	DSL AUTOSTART AND MANUAL CNTRL CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
		0	ISOLATION / LOCAL CNTRL CAPABILITY	A	3-3

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 082 - DIESEL GENERATORS (CONT.)		
			DSL GEN 3D		
3-GEN-082-0003D	DSL GEN 3D	0	DSL AUTOSTART AND MANUAL CNTRL CAPABILITY FROM MAIN CNTRL RM	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 084 - CONTAINMENT ATMOSPHERE DILUTION		
0-FCV-084-0005	CAD SYS A N_2 SHUTOFF VLV	0	OPEN FROM MCR	A	1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	OPEN USING LOCAL CNTRL SWITCH AT DIV I CAD PANEL IN YARD	A	1-2, 1-3, 16, 20
0-FCV-084-0016	CAD SYS B N_2 SHUTOFF VLV	0	OPEN FROM MCR	A	1-1, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		0	OPEN USING LOCAL CNTRL SWITCH AT DIV II CAD PANEL IN YARD	A	3-3, 16
0-FSV-084-0005	0-FCV-84-5 PILOT VLV	0	DEENERGIZED	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-FSV-084-0016	0-FCV-84-16 PILOT VLV	0	DEENERGIZED	A	1-1, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 084 - CONTAINMENT ATMOSPHERE DILUTION (CONT.)		
0-PC-084-0004	N_2 STORAGE TANK A PRESSURE CNTRL	0	OPERABLE	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-PC-084-0015	N_2 STORAGE TANK B PRESSURE CNTRL	0	OPERABLE	A	1-1, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-PCV-084-0004	N_2 STORAGE TANK A PRESSURE CNTRL	0	OPERABLE	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-PCV-084-0005	N_2 STORAGE TANK A PRESSURE CNTRL	0	OPERABLE	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-PCV-084-0009	N_2 STORAGE TANK A PRESSURE CNTRL	0	OPERABLE	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 084 - CONTAINMENT ATMOSPHERE DILUTION (CONT.)		
0-PCV-084-0010	N2 STORAGE TANK B PRESSURE CNTRL	0	OPERABLE	A	1-1, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-PCV-084-0015	N_2 STORAGE TANK B PRESSURE CNTRL	0	OPERABLE	A	1-1, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-PCV-084-0016	N_2 STORAGE TANK B PRESSURE CNTRL	0	OPERABLE	A	1-1, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FSV-084-0008A	CAD SUPPLY LINE TO DRYWELL ISLN VLV	0	REMAIN CLOSED	A	1-4, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FSV-084-0008B	CAD SUPPLY LINE TO TORUS ISLN VLV	0	REMAIN CLOSED	A	1-4, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FSV-084-0008C	CAD SUPPLY LINE TO TORUS ISLN VLV	0	REMAIN CLOSED	A	1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18,19, 20,21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 084 - CONTAINMENT ATMOSPHERE DILUTION (CONT.)		
1-FSV-084-0008D	CAD SUPPLY LINE TO DRYWELL ISLN VLV	0	REMAIN CLOSED	A	1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FSV-084-0048	CAD CROSSTIE TO CONTROL AIR DIV I	0	OPEN FROM MCR	A	1-2, 1-4, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FSV-084-0049	CAD CROSSTIE TO CONTROL AIR DIV II	0	OPEN FROM MCR	A	1-1, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PREG-084-0052	PRESSURE REGULATOR FOR CAD CROSSTIE TO CONTROL AIR DIV I	0	OPERABLE	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PREG-084-0054	PRESSURE REGULATOR FOR CAD CROSSTIE TO CONTROL AIR DIV II	0	OPERABLE	A	1-1, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-SHV-084-0683	CAD / DRYWELL CNTRL AIR XTIE	0	MANUALLY OPEN VLV	A	1-3, 1-5, 16
1-SHV-084-0686	CAD / DRYWELL CNTRL AIR XTIE	0	MANUALLY OPEN VLV	A	1-3, 1-4, 1-5, 16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 084 - CONTAINMENT ATMOSPHERE DILUTION (CONT.)		
1-THV-084-0037	CAD SYS A SUPPLY SHUTOFF VLV	0	MANUALLY CLOSE VLV	A	1-2, 1-3, 1-5, 16
1-THV-084-0038	CAD SYS B SUPPLY SHUTOFF VLV	0	MANUALLY CLOSE VLV	A	1-1, 1-3, 1-4, 1-5, 16
2-FSV-084-0008A	CAD SUPPLY LINE TO DRYWELL ISLN VLV	0	REMAIN CLOSED	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FSV-084-0008B	CAD SUPPLY LINE TO TORUS ISLN VLV	0	REMAIN CLOSED	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FSV-084-0008C	CAD SUPPLY LINE TO TORUS ISLN VLV	0	REMAIN CLOSED	A	1-1, 1-3, 1-4, 1-5, 1-6, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FSV-084-0008D	CAD SUPPLY LINE TO DRYWELL ISLN VLV	0	REMAIN CLOSED	A	1-1, 1-3, 1-4, 1-5, 1-6, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FSV-084-0048	CAD CROSSTIE TO CONTROL AIR DIV I	0	OPEN FROM MCR	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 084 - CONTAINMENT ATMOSPHERE DILUTION (CONT.)		
2-FSV-084-0049	CAD CROSSTIE TO CONTROL AIR DIV II	0	OPEN FROM MCR	A	1-1, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
2-HCV-084-0037	CAD SYS A SUPPLY SHUTOFF VLV	0	MANUALLY CLOSE VLV	A	2-2, 2-3, 16
2-HCV-084-0038	CAD SYS B SUPPLY SHUTOFF VLV	0	MANUALLY CLOSE VLV	A	2-1, 2-3, 16
2-BYV-084-0683	CAD / DRYWELL CNTRL AIR XTIE	0	MANUALLY OPEN VLV	A	2-3, 3-2, 16, 18
2-BYV-084-0686	CAD / DRYWELL CNTRL AIR XTIE	0	MANUALLY OPEN VLV	A	2-3, 2-4, 3-1, 8, 16, 25-I
2-PREG-084-0052	PRESSURE REGULATOR FOR CAD CROSSTIE TO CONTROL AIR DIV I	0	OPERABLE	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PREG-084-0054	PRESSURE REGULATOR FOR CAD CROSSTIE TO CONTROL AIR DIV II	0	OPERABLE	A	1-1, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-THV-084-0037	CAD SYS A SUPPLY SHUTOFF VLV	0	MANUALLY CLOSE VLV	A	3-2, 3-3, 16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 084 - CONTAINMENT ATMOSPHERE DILUTION (CONT.)		
3-THV-084-0038	CAD SYS B SUPPLY SHUTOFF VLV	0	MANUALLY CLOSE VLV	A	3-1, 3-3, 16
3-FSV-084-0008A	CAD SUPPLY LINE TO DRYWELL ISLN VLV	0	REMAIN CLOSED	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-FSV-084-0008B	CAD SUPPLY LINE TO TORUS ISLN VLV	0	REMAIN CLOSED	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-FSV-084-0008C	CAD SUPPLY LINE TO TORUS ISLN VLV	0	REMAIN CLOSED	A	1-1, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-FSV-084-0008D	CAD SUPPLY LINE TO DRYWELL ISLN VLV	0	REMAIN CLOSED	A	1-1, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-FSV-084-0048	CAD CROSSTIE TO CONTROL AIR DIV I	0	OPEN FROM MCR	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-FSV-084-0049	CAD CROSSTIE TO CONTROL AIR DIV II	0	OPEN FROM MCR	A	1-1, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 084 - CONTAINMENT ATMOSPHERE DILUTION (CONT.)		
3-PREG-084-0052	PRESSURE REGULATOR FOR CAD CROSSTIE TO CONTROL AIR DIV I	0	OPERABLE	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-PREG-084-0054	PRESSURE REGULATOR FOR CAD CROSSTIE TO CONTROL AIR DIV II	0	OPERABLE	A	1-1, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-SHV-084-0683	CAD / DRYWELL CNTRL AIR XTIE	3	MANUALLY OPEN VLV	A	3-2, 3-3, 16
3-SHV-084-0686	CAD / DRYWELL CNTRL AIR XTIE	3	MANUALLY OPEN VLV	A	3-1, 3-3, 16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS		
			4KV SHDN BD A		
0-BDAA-211-0000A	4KV SHDN BD A	0	ENERGIZED	A	1-1, 1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 3 (1614)	FEED BKR FROM 4KV SHDN BUS 1	0	ISOLATE BKR TO MITIGATE CLOSURE	A	1-1, 1-4, 2-3, 8, 16, 20
		0	OPEN FROM MCR OR LOCALLY	A	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 4 (1824)	FEED BKR FROM / TO 4KV SHDN BD 3EA	0	CLOSE FROM MCR OR LOCALLY	A	9, 21
		0	OPEN FROM MCR OR LOCALLY	A	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 18, 19, 23, 24, 25-I, 25-II
		0	ISOLATE BKR TO MITIGATE CLOSURE	A	3-1, 3-2, 3-3, 16, 22
		0	ISOLATE BKR TO MITIGATE TRIP	A	1-1, 1-4, 2-3, 20

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD A (CONT.)		
COMPT 5	FEED BKR TO XFMR TS1A	0	CLOSE / TRIP CAPABILITY FROM BD	A	1-1, 1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 6	FEED BKR TO CS PUMP 1A	0	TRIP CAPABILITY FROM MCR	A	1-2, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	1-1, 1-4, 16
COMPT 7	FEED BKR TO CS PUMP 2A	0	TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-6, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	1-4, 2-1, 2-3, 16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD A (CONT.)		
COMPT 9 (1716)	FEED BKR FROM 4KV SHDN BUS 2	0	ISOLATE BKR TO MITIGATE CLOSURE	A	1-1, 16, 20
		0	OPEN FROM MCR OR LOCALLY	A	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	TRIP USING MECH LATCH	A	1-4, 2-3, 9
COMPT 10	FEED BKR TO RHRSW PUMP A1	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-2, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 22, 23, 24
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	1-1, 1-4, 2-3, 2-4, 3-3, 16, 21, 25-I, 25-II
COMPT 11	FEED TO FIRE PUMP A	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	1-4, 16, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD A (CONT.)		
COMPT 13	FEED BKR TO CRD HYD PUMP 1B	0	TRIP CAPABILITY FROM MCR	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	1-1, 1-2, 1-4, 16
COMPT 16	FEED BKR TO RWC PUMP 1D	0	TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	1-4, 16, 25-I, 25-II
COMPT 17	FEED BKR TO RHRSW PUMP A2	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-2, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	1-1, 1-4, 16, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD A (CONT.)		
COMPT 18	FEED BKR TO RHR PUMP 1A	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-2, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	1-1, 1-4, 6, 16
COMPT 19	FEED BKR TO RHR PUMP 2A	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-2, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	1-1, 1-4, 2-1, 16
COMPT 21	FEED BKR TO XFMR TDA	0	CLOSE / TRIP CAPABILITY FROM BD	A	1-1, 1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD A (CONT.)		
COMPT 22 (1818)	FEED BKR FROM DSL GEN A	0	ISOLATE BKR TO MITIGATE CLOSURE	A	1-1, 1-4, 2-3, 20
		0	ISOLATE BKR TO MITIGATE TRIP	A	16
		0	CLOSE FROM MCR OR LOCALLY	A	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	OPEN FROM MCR OR LOCALLY	A	9
250V DC PWR SELECTOR	4KV SHDN BD A CNTRL PWR XFER SWITCH	0	REMAIN IN NORM	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		0	ALIGN ALT CNTRL PANEL	A	1-1, 6

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD B		
0-BDAA-211-0000B	4KV SHDN BD B	0	ENERGIZED	A	1-3, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 2 (1616)	FEED BKR FROM 4KV SHDN BUS 1	0	ISOLATE BKR TO MITIGATE CLOSURE	A	1-3, 2-3, 2-4, 8, 16
		0	OPEN FROM MCR OR LOCALLY	A	1-5, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 4 (1822)	FEED BKR FROM DSL GEN B	0	ISOLATE BKR TO MITIGATE CLOSURE	A	1-3
		0	ISOLATE BKR TO MITIGATE TRIP	A	2-3, 2-4, 8, 16
		0	CLOSE FROM MCR OR LOCALLY	A	1-5, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 5	FEED BKR TO XFMR TS2A	0	CLOSE / TRIP CAPABILITY FROM BD	A	1-3, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD B (CONT.)		
COMPT 6	FEED BKR TO CS PUMP 1C	0	TRIP CAPABILITY FROM MCR	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	1-3, 1-5, 16
COMPT 7	FEED BKR TO CS PUMP 2C	0	TRIP CAPABILITY FROM MCR	A	1-5, 1-6, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	1-3, 2-1, 2-3, 16
COMPT 9	FEED BKR TO CNTRL AIR COMP G	0	TRIP CAPABILITY FROM MCR	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	1-3, 16, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD B (CONT.)		
COMPT 10	FEED BKR TO RHRSW PUMP C1	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-5, 2-6, 3-1, 3-2, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 17, 18, 19, 22, 23, 24
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	1-3, 2-4, 3-3, 16, 21, 25-I, 25-II
COMPT 11	FEED BKR TO FIRE PUMP B	0	TRIP CAPABILITY FROM MCR	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	1-3, 16, 25-I, 25-II
COMPT 14	FEED BKR TO XFMR TS1E / TDE	0	CLOSE / TRIP CAPABILITY FROM BD	A	1-3, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 15	FEED BKR TO RHRSW PUMP C2	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	1-3, 16, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD B (CONT.)		
COMPT 16	FEED BKR TO RHR PUMP 1C	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	1-3, 1-5, 16
COMPT 17	FEED BKR TO RHR PUMP 2C	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-5, 1-6, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	1-3, 2-1, 2-3, 16
COMPT 18	FEED BKR TO CNTRL BAY CHILLER SKID A	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	1-3, 16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD B (CONT.)		
COMPT 19 (1828)	FEED BKR FROM / TO 4KV SHDN BD 3EB	0	OPEN FROM MCR OR LOCALLY	A	1-5, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 24, 25-I, 25-II
		0	ISOLATE BKR TO MITIGATE CLOSURE	A	2-3, 2-4, 3-3, 16, 22, 23
		0	ISOLATE BKR TO MITIGATE TRIP	A	1-3
COMPT 20 (1714)	FEED BKR FROM 4KV SHDN BUS 2	0	ISOLATE BKR TO MITIGATE CLOSURE	A	1-3, 2-3, 2-4, 8, 16
		0	OPEN FROM MCR OR LOCALLY	A	1-5, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
250V DC PWR SELECTOR	4KV SHDN BD B CNTRL PWR XFER SWITCH	0	REMAIN IN NORM	A	1-3, 1-6, 2-1, 2-2, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	ALIGN ALT CNTRL PANEL	A	1-5, 2-5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD C		
0-BDAA-211-0000C	4KV SHDN BD C	0	ENERGIZED	A	1-1, 1-3, 1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
COMPT 2 (1624)	FEED BKR FROM 4KV SHDN BUS 1	0	ISOLATE BKR TO MITIGATE CLOSURE	A	1-1, 1-3, 2-4, 16, 20
		0	OPEN FROM MCR OR LOCALLY	A	1-5, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-II
COMPT 4 (1812)	FEED BKR FROM DSL GEN C	0	ISOLATE BKR TO MITIGATE CLOSURE	A	1-1, 1-3, 20
		0	ISOLATE BKR TO MITIGATE TRIP	A	16
		0	CLOSE FROM MCR OR LOCALLY	A	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-II
		0	OPEN FROM MCR OR LOCALLY	A	5
COMPT 5	FEED BKR TO XFMR TS2E	0	CLOSE / TRIP CAPABILITY FROM BD	A	1-1, 1-3, 1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18,19, 20,21, 22, 23,24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD C (CONT.)		
COMPT 6	FEED BKR TO CS PUMP 1B	0	TRIP CAPABILITY FROM MCR	A	1-1, 1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	1-3, 16
COMPT 7	FEED BKR TO CS PUMP 2B	0	TRIP CAPABILITY FROM MCR	A	1-1, 1-3, 1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	16
COMPT 9	FEED BKR TO EECW PUMP B3	0	CLOSE / TRIP CAPABILITY FROM MAIN CNTRL RM	A	1-1, 1-3, 1-5, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	2-4, 16, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD C (CONT.)		
COMPT 10	FEED BKR TO FIRE PUMP C	0	CLOSE / TRIP CAPABILITY FROM MAIN CNTRL RM	A	1-1, 1-5, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	1-3, 2-4, 16, 25-II
COMPT 16	FEED BKR TO RHRSW PUMP B2	0	CLOSE / TRIP CAPABILITY FROM MAIN CNTRL RM	A	1-1, 1-3, 1-5, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	2-4, 16, 25-II
COMPT 17	FEED BKR TO RHR PUMP 1B	0	CLOSE / TRIP CAPABILITY FROM MAIN CNTRL RM	A	1-1, 1-3, 1-5, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	2-4, 16
COMPT 18	FEED BKR TO RHR PUMP 2B	0	CLOSE / TRIP CAPABILITY FROM MAIN CNTRL RM	A	1-1, 1-3, 1-5, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	ISO. / CLOSE / TRIP CAPABILITY FROM BD	A	2-4, 16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD C (CONT.)		
COMPT 20	FEED BKR TO XFMR TS1B	0	CLOSE / TRIP CAPABILITY FROM BD	A	1-1, 1-3, 1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18,19, 20,21, 22, 23,24, 25-II
COMPT 21 (1814)	FEED BKR FROM / TO 4KV SHDN BD 3EC	0	ISOLATE BKR TO MITIGATE CLOSURE	A	2-4, 3-2, 3-3, 16, 23
		0	ISOLATE BKR TO MITIGATE TRIP	A	1-1, 1-3, 20
		0	OPEN FROM MCR OR LOCALLY	A	1-5, 2-5, 2-6, 3-1, 3-4, 6, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 24, 25-II
		0	CLOSE FROM MCR OR LOCALLY	A	5
COMPT 22 (1718)	FEED BKR FROM 4KV SHDN BUS 2	0	ISOLATE BKR TO MITIGATE CLOSURE	A	1-1, 1-3, 2-4, 16, 20
		0	OPEN FROM MCR OR LOCALLY	A	1-5, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-II
250V DC PWR SELECTOR	4KV SHDN BD C CNTRL PWR XFER SWITCH	0	REMAIN IN NORM	A	1-1, 1-3, 2-4, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	ALIGN ALT CNTRL PANEL	A	1-5, 2-5, 2-6

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD D		
0-BDAA-211-0000D	4KV SHDN BD D	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
COMPT 5 (1618)	FEED BKR FROM 4KV SHDN BUS 1	0	ISOLATE BKR TO MITIGATE CLOSURE	A	1-1, 1-2, 1-3, 1-4, 2-1, 2-3, 2-4, 4, 5, 16, 20
		0	OPEN FROM MCR OR LOCALLY	A	1-5, 1-6, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-II
COMPT 6 (1826)	FEED BKR FROM / TO 4KV SHDN BD 3ED	0	ISOLATE BKR TO MITIGATE CLOSURE	A	2-3, 2-4, 3-2, 3-3, 16, 21, 23
		0	ISOLATE BKR TO MITIGATE TRIP	A	1-1, 1-2, 1-3, 1-4, 2-1, 20
		0	OPEN FROM MCR OR LOCALLY	A	1-5, 1-6, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 22, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD D (CONT.)		
COMPT 7	FEED BKR TO CS PUMP 1D	0	TRIP CAPABILITY FROM MCR	A	1-1, 1-5, 1-6, 2-1, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	1-2, 1-3, 1-4, 2-3, 16
COMPT 8	FEED BKR TO CS PUMP 2D	0	TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	2-3, 2-4, 16
COMPT 10	FEED BKR TO EECW PUMP D3	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	2-3, 2-4, 16, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD D (CONT.)		
COMPT 12	FEED BKR TO CB CHILLER SKID B	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	16
COMPT 13	FEED BKR TO XFMR TDB	0	CLOSE / TRIP CAPABILITY FROM BD	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
COMPT 15	FEED BKR TO RHRSW PUMP D2	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	2-3, 2-4, 16, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD D (CONT.)		
COMPT 16	FEED BKR TO RHR PUMP 1D	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-1, 1-4, 1-5, 1-6, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	1-2, 1-3, 2-1, 2-3, 2-4, 16
COMPT 17	FEED BKR TO RHR PUMP 2D	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-1, 1-3, 1-5, 1-6, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	1-2, 1-4, 2-1, 2-3, 2-4, 16
COMPT 19	FEED BKR TO XFMR TS2B	0	CLOSE / TRIP CAPABILITY FROM BD	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD D (CONT.)		
COMPT 20 (1816)	FEED BKR FROM DSL GEN D	0	ISOLATE BKR TO MITIGATE CLOSURE	A	1-1, 1-2, 1-3, 1-4, 2-1, 20
		0	ISOLATE BKR TO MITIGATE TRIP	A	2-3, 2-4, 4, 5, 9, 16
		0	CLOSE FROM MCR OR LOCALLY	A	1-5, 1-6, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-II
COMPT 22 (1724)	FEED BKR FROM 4KV SHDN BUS 2	0	ISOLATE BKR TO MITIGATE CLOSURE	A	1-1, 1-2, 1-3, 1-4, 2-1, 2-3, 2-4, 4, 5, 9, 16, 20
		0	OPEN FROM MCR OR LOCALLY	A	1-5, 1-6, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-II
250V DC PWR SELECTOR	4KV SHDN BD D CNTRL PWR XFER SWITCH	0	REMAIN IN NORM	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	ALIGN ALT CNTRL PANEL	A	2-3, 2-4, 9, 11

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD 3EA		
3-BDAA-211-3EA	4KV SHDN BD 3EA	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25-I, 25-II
COMPT 1 (1844)	FEED BKR FROM / TO 4KV SHDN BD A	0	CLOSE FROM MCR	A	1-1, 1-4, 2-3, 9, 20
		0	ISOLATE BKR TO MITIGATE CLOSURE	A	3-1, 3-2, 16
		0	ISOLATE BKR TO MITIGATE TRIP	A	21
		0	OPEN FROM MCR OR LOCALLY	A	1-2, 1-3, 1-5, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 17, 18, 19, 23, 24, 25-I, 25-II
COMPT 4 (1726)	FEED BKR TO 4KV SHDN BD 3EB	0	ISOLATE BKR TO MITIGATE CLOSURE	A	3-1, 3-2, 16, 21, 23
		0	OPEN FROM MCR OR LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 17, 18, 19, 20, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD 3EA (CONT.)		
COMPT 5	FEED BKR TO EECW PUMP A3	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 17, 18, 19, 20, 21, 23, 24
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	3-1, 3-2, 16, 25-I, 25-II
COMPT 6	FEED BKR TO CS PUMP 3A	0	TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 17, 18, 19, 20, 21, 23, 24, 25-I, 25-II
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	3-1, 3-2, 16
COMPT 7 (1334)	FEED BKR FROM 4KV UNIT BD 3A	0	ISOLATE BKR TO MITIGATE CLOSURE	A	3-1, 3-2, 16, 21, 23, 25-I, 25-II
		0	OPEN FROM MCR OR LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 17, 18, 19, 20, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD 3EA (CONT.)		
COMPT 9 (1838)	FEED BKR FROM DSL GEN 3A	0	ISOLATE BKR TO MITIGATE CLOSURE	A	21
		0	ISOLATE BKR TO MITIGATE TRIP	A	3-1, 3-2, 16, 23
		0	CLOSE FROM MCR OR LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 17, 18, 19, 20, 24, 25-I, 25-II
COMPT 10	FEED BKR TO XFMR TS3A	0	CLOSE / TRIP CAPABILITY FROM BD	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25-I, 25-II
COMPT 11	FEED BKR TO CRD HYD PUMP 3B	0	TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 17, 18, 19, 20, 24, 25-I, 25-II
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	3-2, 16, 21, 23

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD 3EA (CONT.)		
COMPT 12	FEED BKR TO RHR PUMP 3A	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 17, 18, 19, 20, 21, 23, 24, 25-I, 25-II
		0	ISO. / CLOSE / TRIP CAPABILITY FROM BD	A	3-1, 3-2, 16
250V DC PWR SELECTOR	4KV SHDN BD 3EA CNTRL PWR XFER SWITCH	0	REMAIN IN NORM	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 15, 18, 19, 20, 24, 25-I, 25-II
		0	ALIGN ALT CNTRL PWR	A	1-3, 1-4, 12, 16, 17, 21, 23

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD 3EB		
3-BDAA-211-0003EB	4KV SHDN BD 3EB	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
COMPT 4	FEED BKR TO RHR PUMP 3C	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	3-2, 3-3
COMPT 5	FEED BKR TO CS PUMP 3C	0	TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	3-2, 3-3
COMPT 6 (1848)	FEED BKR FROM / TO 4KV SHDN BD B	0	CLOSE FROM MCR	A	1-3
		0	ISOLATE BKR TO MITIGATE CLOSURE	A	3-2, 3-3
		0	OPEN FROM MCR OR LOCALLY	A	1-1, 1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD 3EB (CONT.)		
COMPT 8 (1728)	FROM BKR FROM 4KV SHDN BD 3EA	0	ISOLATE BKR TO MITIGATE CLOSURE	A	3-2, 3-3
		0	OPEN FROM MCR OR LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
COMPT 9	FEED BKR TO XFMR TS3E	0	CLOSE / TRIP CAPABILITY FROM BD	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
COMPT 10	FEED BKR TO EECW PUMP C3	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	3-2, 3-3, 25-I
COMPT 11 (1842)	FEED BKR FROM DSL GEN 3B	0	ISOLATE BKR TO MITIGATE TRIP	A	3-2, 3-3
		0	CLOSE FROM MCR OR LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD 3EB (CONT.)		
COMPT 14 (1336)	FEED BKR FROM 4KV SHDN BD 3EA	0	ISOLATE BKR TO MITIGATE CLOSURE	A	3-2, 3-3, 25-I
		0	OPEN FROM MCR OR LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20
250V DC PWR SELECTOR	4KV SHDN BD 3EB CNTRL PWR XFER SWITCH	0	REMAIN IN NORM	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD 3EC		
3-BDAA-211-0003EC	4KV SHDN BD 3EC	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 2	FEED BKR TO RHR PUMP 3B	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	3-3
COMPT 3 (1626)	FEED BKR TO 4KV SHDN BD 3ED	0	ISOLATE BKR TO MITIGATE CLOSURE	A	3-3, 22
		0	OPEN FROM MCR OR LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD 3EC (CONT.)		
COMPT 6 (1834)	FEED BKR FROM / TO 4KV SHDN BD C	0	CLOSE FROM MCR	A	1-1, 1-3, 5, 20
		0	ISOLATE BRKR TO MITIGATE CLOSURE	A	3-3
		0	OPEN FROM MCR OR LOCALLY	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 22, 24, 25-I, 25-II
COMPT 7	FEED BKR TO XFMR TS3B	0	CLOSE / TRIP CAPABILITY FROM BD	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 8	FEED BKR TO RHRSW PUMP B1	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	3-3, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD 3EC (CONT.)		
COMPT 9	FEED BKR TO RWC PUMP 3D	0	TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	3-3, 25-I, 25-II
COMPT 10 (1832)	FEED BKR FROM DSL GEN 3C	0	ISOLATE BKR TO MITIGATE TRIP	A	3-1, 3-3, 22
		0	CLOSE FROM MCR OR LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 24, 25-I, 25-II
COMPT 12 (1338)	FEED BKR FROM 4KV UNIT BD 3B	0	ISOLATE BKR TO MITIGATE CLOSURE	A	3-3, 22, 25-I, 25-II
		0	OPEN FROM MCR OR LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD 3EC (CONT.)		
COMPT 13	FEED BKR TO CS PUMP 3B	0	TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
		0	ISOLATION / TRIP CAPABILITY FROM BD	A	3-3
250V DC PWR SELECTOR	4KV SHDN BD 3EC CNTRL PWR XFER SWITCH	0	REMAIN IN NORM	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 18, 20, 22, 24, 25-I, 25-II
		0	ALIGN ALT CNTRL PWR	A	12, 19

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD 3ED		
3-BDAA-211-0003ED	4KV SHDN BD 3ED	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II
COMPT 1 (1628)	FEED BKR FROM 4KV SHDN BD 3EC	0	ISOLATE BKR TO MITIGATE CLOSURE	A	3-1
		0	OPEN FROM MCR OR LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II
COMPT 4 (1846)	FEED BKR FROM / TO 4KV SHDN BD D	0	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 2-1, 20
		0	OPEN FROM MCR OR LOCALLY	A	1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8,10, 11, 13, 14, 25-I, 25-II
COMPT 5	FEED BKR TO RHR PUMP 3D	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD 3ED (CONT.)		
COMPT 6	FEED BKR TO RHRSW PUMP D1	0	CLOSE / TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20
		0	ISOLATION / CLOSE / TRIP CAPABILITY FROM BD	A	25-I, 25-II
COMPT 7	FEED BKR TO XFMR TSG1A	0	TRIP CAPABILITY FROM BD	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II
COMPT 8 (1342)	FEED BKR FROM 4KV SHDN BD 3EC	0	ISOLATE BKR TO MITIGATE CLOSURE	A	3-1, 25-I, 25-II
		0	OPEN FROM MCR OR LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20
COMPT 10 (1836)	FEED BKR FROM DSL GEN 3D	0	ISOLATE BKR TO MITIGATE TRIP	A	3-1
		0	CLOSE FROM MCR OR LOCALLY	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 211 - 4KV SHUTDOWN BOARDS (CONT.)		
			4KV SHDN BD 3ED (CONT.)		
COMPT 11	FEED BKR TO CS PUMP 3D	0	TRIP CAPABILITY FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II
COMPT 13	FEED BKR TO XFMR THB	0	CLOSE / TRIP CAPABILITY FROM BD	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II
250V DC PWR SELECTOR	4KV SHDN BD 3ED CNTRL PWR XFER SWITCH	0	REMAIN IN NORM	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-5, 2-6, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II
		0	ALIGN ALT CNTRL PWR	A	2-3, 2-4, 3-1

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 219 - 480V DIESEL AUXILIARY BOARDS		
			480V DSL AUX BD A		
0-BDBB-219-0000A	480V DSL AUX BD A	0	ENERGIZED	A	1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 1D	NORM FEED BKR FROM XFMR TDA	0	REMAIN CLOSED	A	1-2, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	ISOLATE AND OPEN USING LOCAL CNTRL SWITCH	A	1-5
		0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	16
COMPT 3F	FEED BKR TO DSL GEN A BATT CHGR A	0	REMAIN CLOSED	A	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 4F	FEED BKR TO DSL GEN B BATT CHGR A	0	REMAIN CLOSED	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 219 - 480V DIESEL AUXILIARY BOARDS (CONT.)		
			480V DSL AUX BD A (CONT.)		
COMPT 6D	ALT FEED BKR FROM XFMR TDE	0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	1-5
		0	ISOLATE AND OPEN USING LOCAL CNTRL SWITCH	A	16
		0	REMAIN OPEN	A	1-2, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 8F	FEED BKR TO DSL GEN C BATT CHGR A	0	REMAIN CLOSED	A	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
COMPT 9F	FEED BKR TO DSL GEN D BATT CHGR A	0	REMAIN CLOSED	A	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 219 - 480V DIESEL AUXILIARY BOARDS (CONT.)		
			480V DSL AUX BD B		
0-BDBB-219-0000B	480V DSL AUX BD B	0	ENERGIZED	A	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
COMPT 1D	NORM FEED BKR FROM XFMR TDB	0	REMAIN CLOSED	A	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
		0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	16
COMPT 3F	FEED BKR TO DSL GEN D BATT CHGR B	0	REMAIN CLOSED	A	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
COMPT 4F	FEED BKR TO DSL GEN C BATT CHGR B	0	REMAIN CLOSED	A	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
COMPT 6D	ALT FEED BKR FROM XFMR TDE	0	REMAIN OPEN	A	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
		0	ISOLATE AND OPEN LOC. CNTRL SWITCH	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
	SYSTEM 219 - 480V DIESEL AUXILIARY BOARDS (CONT.)				
	480V DSL AUX BD B (CONT.)				
COMPT 9F	FEED BKR TO DSL GEN A BATT CHGR B	0	REMAIN CLOSED	A	1-6, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
COMPT 8F	FEED BKR TO DSL GEN B BATT CHGR B	0	REMAIN CLOSED	A	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 219 - 480V DIESEL AUXILIARY BOARDS (CONT.)		
			480V DSL AUX BD 3EA		
3-BDBB-219-3EA	480V DSL AUX BD 3EA	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II
COMPT 1D	NORM FEED BKR FROM 480V SHDN BD 3A	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II
		0	ISOLATE AND OPEN USING LOCAL CNTRL SWITCH	A	3-3
COMPT 2E1	FEED BKR TO DSL GEN 3A BATT CHGR A	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II
COMPT 2E2	FEED BKR TO DSL GEN 3B BATT CHGR A	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
COMPT 4C1	FEED BKR TO 250V BATT CHGR SB-3EB	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			STEM 219 - 480V DIESEL AUXILIARY BOARDS (CONT.)		
			480V DSL AUX BD 3EA (CONT.)		
COMPT 8D	EMER FEED BKR FROM 480V SHDN BD 3B	0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	3-3
		0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II
COMPT 7E2	FEED BKR TO DSL GEN 3C BATT CHGR A	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 24, 25-I, 25-II
COMPT 7E1	FEED BKR TO DSL GEN 3D BATT CHGR A	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 20, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 219 - 480V DIESEL AUXILIARY BOARDS (CONT.)		
			480V DSL AUX BD 3EB		
3-BDBB-219-3EB	480V DSL AUX BD 3EB	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 1D	NORM FEED BKR FROM 480V SHDN BD 3B	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 17, 18, 19, 20, 22, 25-I, 25-II
		0	ISOLATE AND OPEN LOC. CNTRL SWITCH	A	13, 24
COMPT 7E1	FEED BKR TO DSL GEN 3D BATT CHGR B	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II
COMPT 7E2	FEED BKR TO DSL GEN 3C BATT CHGR B	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 8D	EMERG FEED BKR FROM 480V SHDN BD 3A	0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	13, 24
		0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 17, 18, 19, 20, 22, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
	SYSTEM 219 - 480V DIESEL AUXILIARY BOARDS (CONT.)				
	480V DSL AUX BD 3EB (CONT.)				
COMPT 2E1	FEED BKR TO DSL GEN 3A BATT CHGR B	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 24, 25-I, 25-II
COMPT 2E2	FEED BKR TO DSL GEN 3B BATT CHGR B	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS		
			480V SHDN BD 1A		
1-BDBB-231-0001A	480V SHDN BD 1A	0	ENERGIZED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 1C	NORM FEED BKR FROM XFMR TS1A	0	REMAIN CLOSED	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	16
		0	ISOLATE AND OPEN USING LOCAL CNTRL SWITCH	A	1-5
COMPT 2B	NORM FEED BKR TO 480V CNTRL BAY VENT BD A	0	ISOLATE CNTRL BAY VENT BD TO MITIGATE TRIP	A	1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 2C	FEED BKR TO DRWL BLWR 1A-1	0	MANUALLY OPEN AND RACK TO TEST	A	1-4, 1-5, 2-2, 4, 7, 8, 16, 21, 25-I
COMPT 2D	FEED BKR TO DRWL BLWR 1B-1	0	MANUALLY OPEN AND RACK TO TEST	A	1-4, 1-5, 2-2, 4, 7, 8, 16, 21, 25-I

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 1A (CONT.)		
COMPT 3A	NORM FEED BKR TO 480V RMOV BD 1A	0	REMAIN CLOSED / MANUALLY CLOSE	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 3B	EMERG FEED BKR TO 480V RMOV BD 1B	0	MANUALLY CLOSE	A	1-5, 7
COMPT 3C	EMERG FEED BKR TO 480V RMOV BD 1C	0	REMAIN OPEN	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 3D	NORM FEED BKR TO I&C BUS 1A (1-PNLA-009-0009-2)	1	REMAIN CLOSED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
	FEED BKR TO I&C BUS A XFMR	0	MANUALLY OPEN	A	1-3
	ALT FEED BKR TO I&C BUS 3A (3-PNLA-009-0009-2)	3	REMAIN CLOSED	A	3-3, 3-4, 13, 14, 19, 22
COMPT 5C	FEED BKR TO VFD COOLING PUMP 1A-1	0	MANUALLY OPEN AND RACK TO TEST	A	1-4, 1-5, 2-2, 4, 7, 8, 16, 21, 25-I
COMPT 5D	FEED BKR TO VFD COOLING PUMP 1B-1	0	MANUALLY OPEN AND RACK TO TEST	A	1-4, 1-5, 2-2, 4, 7, 8, 16, 21, 25-I

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 1A (CONT.)		
COMPT 6B	FEED BKR TO CCW PUMP 1A	0	MANUALLY OPEN AND RACK TO TEST	A	1-4, 1-5, 2-2, 4, 7, 8, 16, 21, 25-I
COMPT 6C	FEED BKR TO RWCU CLNUP RECIRC PUMP 1A	0	MANUALLY OPEN AND RACK TO TEST	A	1-4, 1-5, 2-2, 4, 7, 8, 16, 21, 25-I
COMPT 6D	FEED BKR TO 250V BATT CHGR 1	0	REMAIN CLOSED	A	1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 7B	FEED BKR TO SLC PUMP 1A	0	MANUALLY OPEN AND RACK TO TEST	A	1-4, 1-5, 2-2, 4, 7, 8, 16, 21, 25-I
COMPT 7C	FEED BKR TO FPC PUMP 1A	0	MANUALLY OPEN AND RACK TO TEST	A	1-4, 1-5, 2-2, 4, 7, 8, 16, 21, 25-I
COMPT 8C	ALT FEED BKR FROM XFMR TS1E	0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	1-5
		0	REMAIN OPEN	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		0	ISOLATE AND OPEN USING LOCAL CNTRL SWITCH	A	16

SECTION III - REQUIRED SAFE SHUTDOWN EQUIPMENT - UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 1A (CONT.)		
250V DC PWR SELECTOR	480V SHDN BD 1A CNTRL PWR XFER SWITCH	0	REMAIN IN NORM	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		0	ALIGN ALT CNTRL PWR	A	1-5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 1B		
1-BDBB-231-0001B	480V SHDN BD 1B	0	ENERGIZED	A	1-1, 1-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
COMPT 1C	NORM FEED BKR FROM XFMR TS1B	0	REMAIN CLOSED	A	1-1, 1-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	OPEN USING LOCAL CNTRL SWITCH	A	2-5
		0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	1-3, 16
COMPT 2B	EMERG FEED BKR TO COND DEMIN BD 1	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 5, 16, 20
COMPT 2C	FEED BKR TO DRWL BLWR 1A-2	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 5, 16, 20
COMPT 2D	FEED BKR TO DRWL BLWR 1B-2	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 5, 16, 20
COMPT 3A	EMERG FEED BKR TO 480V RMOV BD 1A	0	REMAIN OPEN	A	1-1, 1-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 1B (CONT.)		
COMPT 3B	NORM FEED BKR TO 480V RMOV BD 1B	0	REMAIN CLOSED / LOCALLY CLOSE	A	1-1, 1-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
COMPT 3C	NORM FEED BKR TO 480V RMOV BD 1C	0	MANUALLY OPEN	A	1-3, 20
COMPT 3D	NORM FEED BKR TO I&C BUS 1B (1-PNLA-009-0009-3)	1	REMAIN CLOSED	A	1-1, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II
	ALT FEED BKR TO I&C BUS 2B (2-PNLA-009-0009-3)	2	REMAIN CLOSED	A	2-4, 11, 18
COMPT 5B	FEED BKR TO CNTRL / SERV AIR COMP A	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 5, 16, 20
COMPT 5C	FEED BKR TO VFD COOLING PUMP 1A-2	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 5, 16, 20
COMPT 5D	FEED BKR TO VFD COOLING PUMP 1B-2	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 5, 16, 20
COMPT 6A	FEED BKR TO CCW PUMP 1C	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 5, 16, 20
COMPT 6B	FEED BKR TO CCW PUMP 1B	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 5, 16, 20

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 1B (CONT.)		
COMPT 6C	FEED BKR TO RWCU CLNUP RECIRC PUMP 1B	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 5, 16, 20
COMPT 7A	FEED BKR TO MAIN TURB TRNG GEAR OIL PUMP	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 5, 16, 20
COMPT 7C	FEED BKR TO FPC PUMP 1B	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 5, 16, 20
COMPT 7D	FEED BKR TO SLC PUMP 1B	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 5, 16, 20
COMPT 8C	ALT FEED BKR FROM XFMR TS1E	0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	2-5
		0	REMAIN OPEN	A	1-1, 1-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	ISOLATE AND OPEN USING LOCAL CNTRL SWITCH	A	1-3, 16
250V DC PWR SELECTOR	480V SHDN BD 1B CNTRL PWR XFER SWITCH	0	REMAIN IN NORM	A	1-1, 2-4, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	ALIGN ALT CNTRL PWR	A	1-3, 2-5, 2-6

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 2A		
2-BDBB-231-0002A	480V SHDN BD 2A	0	ENERGIZED	A	1-1, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 1C	NORM FEED BKR FROM XFMR TS2A	0	REMAIN CLOSED	A	1-6, 2-1, 2-2, 2-3, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	2-3, 2-4, 16
		0	OPEN FROM MCR	A	1-1, 5
		0	ISOLATE AND OPEN USING LOCAL CNTRL SWITCH	A	2-5
COMPT 2B	NORM FEED BKR TO I&C BUS 2A (2-PNLA-009-0009-2)	2	REMAIN CLOSED	A	1-1, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
	ALT FEED BKR TO I&C BUS 1A (1-PNLA-009-0009-2)	1	REMAIN CLOSED	A	1-1, 5, 6, 17

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 2A (CONT.)		
COMPT 2C	FEED BKR TO DRWL BLWR 2A-1	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 2D	FEED BKR TO DRWL BLWR 2A-2	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 3A	NORM FEED BKR TO 480V RMOV BD 2A	0	REMAIN CLOSED / MANUALLY CLOSE	A	1-1, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 3B	EMERG FEED BKR TO 480V RMOV BD 2B	0	REMAIN OPEN	A	1-1, 1-6, 2-1, 2-2, 2-3, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	MANUALLY CLOSE	A	2-4
COMPT 3C	EMERG FEED BKR TO 480V RMOV BD 2C	0	REMAIN OPEN	A	1-1, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 2A (CONT.)		
COMPT 5A	FEED BKR TO CNTRL / SERV AIR COMP D	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 5B	FEED BKR TO MG SET 2DN	2	REMAIN CLOSED	A	2-2, 8, 11, 16, 18, 25-I
		0	MANUALLY OPEN AND RACK TO TEST	A	2-4, 2-5
COMPT 5C	FEED BKR TO VFD COOLING PUMP 2A-1	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 5D	FEED BKR TO VFD COOLING PUMP 2B-1	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 6A	FEED BKR TO MG SET 2EA	2	REMAIN CLOSED	A	2-6
		0	MANUALLY OPEN AND RACK TO TEST	A	2-4, 2-5
COMPT 6B	FEED BKR TO CCW PUMP 2A	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 2A (CONT.)		
COMPT 6C	FEED BKR TO RWCU CLNUP RECIRC PUMP 2A	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 6D	FEED BKR TO 250V BATT CHGR 2A	0	REMAIN CLOSED	A	1-1, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 7A	FEED BKR TO CHILLER 1943 (3A)	0	REMAIN CLOSED	A	3-1, 3-2, 3-3, 3-4, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	MANUALLY OPEN AND RACK TO TEST	A	2-4
COMPT 7B	FEED BKR TO SLC PUMP 2A	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 7C	FEED BKR TO FPC PUMP 2A	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 7D	FEED BKR TO MG SET 2	0	REMAIN CLOSED	A	17

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 2A (CONT.)		
COMPT 8C	ALT FEED BKR FROM XFMR TS2E	0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	2-5
		0	CLOSE FROM MCR	A	1-1, 5
		0	ISOLATE AND OPEN USING LOCAL CNTRL SWITCH	A	2-3, 2-4, 16
		0	REMAIN OPEN	A	1-6, 2-1, 2-2, 2-3, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
250V DC PWR SELECTOR	480V SHDN BD 2A CNTRL PWR XFER SWITCH	0	REMAIN IN NORM	A	1-1, 1-6, 2-1, 2-2, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	ALIGN ALT CNTRL PWR	A	2-5, 5, 16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 2B		
2-BDBB-231-0002B	480V SHDN BD 2B	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
COMPT 1C	NORM FEED BKR FROM XFMR TS2B	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	2-3, 16
		0	ISOLATE AND OPEN USING LOCAL CNTRL SWITCH	A	2-4
		0	OPEN FROM MCR	A	2-5
COMPT 2A	FEED BKR TO MG SET 2EN	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
		0	MANUALLY OPEN AND RACK TO TEST	A	2-5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 2B (CONT.)		
COMPT 2B	EMERG FEED BKR TO COND DEMIN BD 2	0	MANUALLY OPEN AND RACK TO TEST	A	1-2, 1-4, 2-3, 2-4, 2-5, 3-1, 3-2, 3-3, 3-4, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-II
COMPT 2C	FEED BKR TO DRWL BLWR 2B-1	0	MANUALLY OPEN AND RACK TO TEST	A	1-2, 1-4, 2-3, 2-4, 2-5, 3-1, 3-2, 3-3, 3-4, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-II
COMPT 2D	FEED BKR TO DRWL BLWR 2B-2	0	MANUALLY OPEN AND RACK TO TEST	A	1-2, 1-4, 2-3, 2-4, 2-5, 3-1, 3-2, 3-3, 3-4, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-II
COMPT 3A	EMERG FEED BKR TO 480V RMOV BD 2A	0	REMAIN OPEN	A	1-1, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
		0	MANUALLY CLOSE	A	1-2, 1-3, 1-4, 10, 20
COMPT 3B	NORM FEED BKR TO 480V RMOV BD 2B	0	REMAIN CLOSED / MANUALLY CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	MANUALLY OPEN	A	2-4

SECTION III - REQUIRED SAFE SHUTDOWN EQUIPMENT - UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 2B (CONT.)		
COMPT 3C	NORM FEED BKR TO 480V RMOV BD 2C	2	REMAIN CLOSED	A	2-5
		0	MANUALLY OPEN	A	2-2, 2-4
COMPT 5B	NORM FEED BKR TO I&C BUS 2B (2-PNLA-009-0009-3)	2	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
	ALT FEED BKR TO I&C BUS 3B (3-PNLA-009-0009-3)	3	REMAIN CLOSED	A	3-2, 3-3, 3-4, 12, 15, 19, 21, 23
COMPT 5C	FEED BKR TO VFD COOLING PUMP 2A-2	0	MANUALLY OPEN AND RACK TO TEST	A	1-2, 1-4, 2-3, 2-4, 2-5, 3-1, 3-2, 3-3, 3-4, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-II
COMPT 5D	FEED BKR TO VFD COOLING PUMP 2B-2	0	MANUALLY OPEN AND RACK TO TEST	A	1-2, 1-4, 2-3, 2-4, 2-5, 3-1, 3-2, 3-3, 3-4, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-II
COMPT 6A	FEED BKR TO RCW BOOSTER PUMP 2A	0	MANUALLY OPEN AND RACK TO TEST	A	1-2, 1-4, 2-3, 2-4, 2-5, 3-1, 3-2, 3-3, 3-4, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-II
COMPT 6B	FEED BKR TO CCW PUMP 2B	0	MANUALLY OPEN AND RACK TO TEST	A	1-2, 1-4, 2-3, 2-4, 2-5, 3-1, 3-2, 3-3, 3-4, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 2B (CONT.)		
COMPT 6C	FEED BKR TO RWCU CLNUP RECIRC PUMP B	0	MANUALLY OPEN AND RACK TO TEST	A	1-2, 1-4, 2-3, 2-4, 2-5, 3-1, 3-2, 3-3, 3-4, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-II
COMPT 6D	FEED BKR TO 250V BATT CHGR 2B	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 3-3, 4, 5, 6, 9, 10, 14, 20, 22
COMPT 7A	FEED BKR TO MAIN TURB TRNG GEAR OIL PUMP	0	MANUALLY OPEN AND RACK TO TEST	A	1-2, 1-4, 2-3, 2-4, 2-5, 3-1, 3-2, 3-3, 3-4, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-II
COMPT 7B	FEED BKR TO SLC PUMP 2B	0	MANUALLY OPEN AND RACK TO TEST	A	1-2, 1-4, 2-3, 2-4, 2-5, 3-1, 3-2, 3-3, 3-4, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-II
COMPT 7C	FEED BKR TO FPC PUMP 2B	0	MANUALLY OPEN AND RACK TO TEST	A	1-2, 1-4, 2-3, 2-4, 2-5, 3-1, 3-2, 3-3, 3-4, 9, 10, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-II
COMPT 7D	FEED BKR TO MG SET 2DA	0	MANUALLY OPEN AND RACK TO TEST	A	2-5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 2B (CONT.)		
COMPT 8C	ALT FEED BKR FROM XFMR TS2E	0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	2-4
		0	CLOSE FROM MCR	A	2-5
		0	ISOLATE AND OPEN USING LOCAL CNTRL SWITCH	A	2-3, 16
		0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
250V DC PWR SELECTOR	480V SHDN BD 2B CNTRL PWR XFER SWITCH	0	REMAIN IN NORM	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	ALIGN ALT CNTRL PWR	A	9

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 3A		
3-BDBB-231-0003A	480V SHDN BD 3A	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25-I, 25-II
COMPT 1C	NORM FEED BKR FROM XFMR TS3A	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 16, 17, 18, 19, 21, 23, 24, 25-I, 25-II
		0	ISOLATE AND OPEN USING LOCAL CNTRL SWITCH	A	3-3, 3-4
		0	OPEN FROM MCR. (XFER DSL AUX BD 3EA FROM TS3A TO TS3E)	A	1-4, 9, 20
		0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 3A (CONT.)		
COMPT 2B	FEED BKR TO I&C BUS A XFMR	0	MANUALLY OPEN AND RACK TO TEST	A	3-4
	NORM FEED BKR TO I&C BUS 3A (3-PNLA-009-0009-2)	3	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 17, 18, 20, 21, 23, 24, 25-I, 25-II
	ALT FEED BKR TO I&C BUS 2A (2-PNLA-009-0009-2)	2	REMAIN CLOSED	A	1-2, 1-3, 1-4, 1-5, 2-3, 4, 9, 10, 20
COMPT 2C	FEED BKR TO DRWL BLWR 3A-1	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-4, 3-3, 3-4, 9, 13, 16, 20, 21, 24
COMPT 2D	FEED BKR TO DRWL BLWR 3A-2	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-4, 3-3, 3-4, 9, 13, 16, 20, 21, 24
COMPT 3A	NORM FEED BKR TO 480V RMOV BD 3A	0	REMAIN CLOSED / MANUALLY CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25-I, 25-II
		0	MANUALLY OPEN	A	13

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 3A (CONT.)		
COMPT 3B	EMERG FEED BKR TO 480V RMOV BD 3B	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 17, 18, 19, 20, 21, 23, 24, 25-I, 25-II
		0	MANUALLY CLOSE	A	13, 16
COMPT 3C	EMERG FEED BKR TO 480V RMOV BD 3C	0	REMAIN OPEN	A	ALL
COMPT 5A	NORM FEED BKR TO 480V DSL AUX BD 3EA AND EMERG FEED BKR TO 480V DSL AUX BD 3EB	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II
		0	ISOLATE AND OPEN USING CNTRL LOCAL SWITCH	A	3-3, 21
COMPT 5B	FEED BKR TO MG SET 3DN	0	MANUALLY OPEN AND RACK TO TEST	A	3-3, 3-4, 24
		3	REMAIN CLOSED	A	1-1, 1-3, 2-2, 2-3, 2-4, 2-6, 3-2, 4, 7, 8, 12, 15, 16, 17, 19, 20, 21, 23, 25-I
COMPT 5C	FEED BKR TO VFD COOLING PUMP 3A-1	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-4, 3-3, 3-4, 9, 13, 16, 20, 21, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 3A (CONT.)		
COMPT 5D	FEED BKR TO VFD COOLING PUMP 3B-1	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-4, 3-3, 3-4, 9, 13, 16, 20, 21, 24
COMPT 6A	FEED BKR TO MAIN TURB TRNG GEAR OIL PUMP	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-4, 3-3, 3-4, 9, 13, 16, 20, 21, 24
COMPT 6B	FEED BKR TO CCW PUMP 3A	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-4, 3-3, 3-4, 9, 13, 16, 20, 21, 24
COMPT 6C	FEED BKR TO RWCU CLNUP RECIRC PUMP 3A	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-4, 3-3, 3-4, 9, 13, 16, 20, 21, 24
COMPT 6D	FEED BKR TO 250V BATT CHGR 3	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 20, 21, 23, 24, 25-I, 25-II
		0	MANUALLY OPEN AND RACK TO TEST	A	3-3
COMPT 7A	FEED BKR TO MG SET 3EA	0	MANUALLY OPEN AND RACK TO TEST	A	1-4, 3-3, 3-4, 9, 20, 24
COMPT 7B	FEED BKR TO SLC PUMP 3A	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-4, 3-3, 3-4, 9, 13, 16, 20, 21, 24
COMPT 7C	FEED BKR TO FPC PUMP 3A	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-4, 3-3, 3-4, 9, 13, 16, 20, 21, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 3A (CONT.)		
COMPT 7D	FEED BKR TO UNIT PREF MG SET 3	0	MANUALLY OPEN AND RACK TO TEST	A	3-4
		0	REMAIN CLOSED	A	1-3
COMPT 8C	ALT FEED BKR FROM XFMR TS3E	0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	3-3, 3-4
		0	CLOSE FROM MCR. (XFER DSL AUX BD 3EA FROM TS3A TO TS3E)	A	1-4, 9, 20
		0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 16, 17, 18, 19, 21, 23, 24, 25-I, 25-II
		0	ISOLATE AND OPEN LOC. CNTRL SWITCH	A	16
250V DC PWR SELECTOR	480V SHDN BD 3A CNTRL PWR XFER SWITCH	0	REMAIN IN NORM	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 18, 19, 20, 21, 23, 24, 25-I, 25-II
		0	ALIGN ALT CNTRL PWR FROM 3-ECAB-231-0003A	A	1-3, 1-4, 13, 16, 17

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 3B		
3-BDBB-231-0003B	480V SHDN BD 3B	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 1C	NORM FEED BKR FROM XFMR TS3B	0	REMAIN CLOSED	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
		0	ISOLATE AND OPEN LOC. CNTRL SWITCH	A	3-3, 3-4
		0	OPEN FROM MCR (XFER DSL AUX BD 3EB FROM TS3B TO TS3E)	A	1-1, 5
COMPT 2A	FEED BKR TO MG SET 3EN	3	REMAIN CLOSED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-5, 3-1, 3-3, 5, 6, 9, 10, 11, 13, 14, 18, 22, 24, 25-II
		0	MANUALLY OPEN AND RACK TO TEST	A	3-4
COMPT 2B	EMERG FEED BKR TO COND DEMIN BD 3	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 2-2, 3-3, 3-4, 5, 9, 14, 20, 22
COMPT 2C	FEED BKR TO DRWL BLWR 3B-1	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 2-2, 3-3, 3-4, 5, 9, 13, 14, 20, 22

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 3B (CONT.)		
COMPT 2D	FEED BKR TO DRWL BLWR 3B-2	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 2-2, 3-3, 3-4, 5, 9, 13, 14, 20, 22
COMPT 3A	EMERG FEED BKR TO 480V RMOV BD 3A	0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 24, 25-I, 25-II
		0	MANUALLY CLOSE	A	14, 22
COMPT 3B	NORM FEED BKR TO 480V RMOV BD 3B	0	REMAIN CLOSED / MANUALLY CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
		0	MANUALLY OPEN	A	12
COMPT 3C	NORM FEED BKR TO 480V RMOV BD 3C	3	REMAIN CLOSED	A	3-4
		3	USE APP R BYPASS SW TO MITIGATE LOAD SHED SIGNAL	A	3-4
		0	MANUALLY OPEN	A	3-3
COMPT 5A	NORM FEED BKR TO 480V DSL AUX BD 3EB AND EMERG FEED BKR TO 480V DSL AUX BD 3EA	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 17, 18, 19, 20, 22, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 3B (CONT.)		
COMPT 5B	ALT FEED BKR TO I&C BUS 1B (1-PNLA-009-0009-3)	1	REMAIN CLOSED	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 4, 7, 8, 9, 17, 25-I
	NORM FEED BKR TO I&C BUS 3B (3-PNLA-009-0009-3)	3	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 18, 20, 22, 24, 25-I, 25-II
	FEED BKR TO I&C BUS B XFMR	0	MANUALLY OPEN AND RACK TO TEST	A	3-3, 3-4
COMPT 5C	FEED BKR TO VFD COOLING PUMP 3A-2	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 2-2, 3-3, 3-4, 5, 9, 14, 20, 22
COMPT 5D	FEED BKR TO VFD COOLING PUMP 3B-2	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 2-2, 3-3, 3-4, 5, 9, 13, 14, 20, 22
COMPT 6A	FEED BKR TO RCW BOOSTER PUMP 3A	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 2-2, 3-3, 3-4, 5, 9, 13, 14, 20, 22
COMPT 6B	FEED BKR TO CCW PUMP 3B	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 2-2, 3-3, 3-4, 5, 9, 14, 20, 22
COMPT 6C	FEED BKR TO RWCU CLNUP RECIRC PUMP 3B	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 2-2, 3-3, 3-4, 5, 9, 13, 14, 20, 22
COMPT 6D	FEED BKR TO BATT CHGR 4	0	MANUALLY OPEN AND RACK TO TEST	A	3-3

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 3B (CONT.)		
COMPT 7A	FEED BKR TO MG SET 3DA	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 3-3, 3-4, 5
COMPT 7B	FEED BKR TO SLC PUMP 3B	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 2-2, 3-3, 3-4, 5, 9, 14, 20, 22
COMPT 7C	FEED BKR TO FPC PUMP 3B	0	MANUALLY OPEN AND RACK TO TEST	A	1-1, 1-3, 2-2, 3-3, 3-4, 5, 9, 13, 14, 20, 22
COMPT 7D	EMERG FEED BKR TO 480V HVAC BD B	0	MANUALLY CLOSE	A	2-2, 9
		0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 8C	ALT FEED BKR FROM XFMR TS3E	0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	3-3, 3-4
		0	CLOSE FROM MCR (XFER DSL AUX BD 3EB FROM TS3B TO TS3E)	A	1-1, 5
		0	REMAIN OPEN	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 231 - 480V SHUTDOWN BOARDS (CONT.)		
			480V SHDN BD 3B (CONT.)		
250V DC PWR SELECTOR	480V SHDN BD 3B CNTRL PWR XFER SWITCH	0	REMAIN IN NORM	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 17, 18, 20, 22, 24, 25-I, 25-II
		0	ALIGN ALT CNTRL PWR FROM 3-ECAB-231-0003B	A	13, 19
			SYSTEM 244 - PLANT RADIO SYSTEM		
0-LPNL-244-0RIU	CELLULAR RADIO REMOTE UNIT	0	OPERATE PORTABLE CELL PHONES USING CELLULAR RADIO SYSTEM	A	1-4, 2-3, 2-4, 3-1, 3-3, 16
0-RPTR-244-0000F4	F4 RADIO REPEATER	0	OPERATE PORTABLE RADIOS USING F4 RADIO REPEATER SYSTEM	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 3-2, 20, 21, 22, 25

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 248 - BATTERIES		
0-BATA-248-0000A	250V BATT SB-A	0	OPERABLE	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-BATA-248-0000B	250V BATT SB-B	0	OPERABLE	A	1-1, 1-3, 1-6, 2-1, 2-2, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-BATA-248-0000C	250V BATT SB-C	0	ALIGN TO THE ALT BATT CHGR FEED FROM 2-BDBB-268-0002A TO 0-CHGA-248-0000C	A	1-3
		0	ENERGIZED	A	1-1, 1-3, 2-4, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
0-BATA-248-0000D	250V BATT SB-D	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 248 - BATTERIES (CONT.)		
0-BATA-248-0001	250V BATT 1	0	ALIGN TO THE ALT BATT CHGR 2B TO BATT BD 1 AT BATT BD 1	A	1-1, 5, 6, 9
		0	ALIGN TO THE ALT BATT CHGR 2B TO BATT BD 1 AT 250V BATT CHGR 2B	A	1-1, 5, 6, 9
		0	ENERGIZED	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 248 - BATTERIES (CONT.)		
0-BATA-248-0002	250V BATT 2	0	ALIGN TO THE ALT BATT CHGR 2B TO BATT BD 2 AT BATT BD 2	A	1-2, 1-3, 1-4, 1-5, 4, 10, 20
		0	ALIGN TO THE ALT BATT CHGR 2B TO BATT BD 2 AT BATT BD 2B	A	1-2, 1-3, 1-4, 1-5, 4, 10, 20
		0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 248 - BATTERIES (CONT.)		
0-BATA-248-0003	250V BATT 3	0	ALIGN TO THE ALT BATT CHGR 2B TO BATT BD 3 AT BATT BD 2B	A	3-3, 14, 22
		0	ALIGN TO THE ALT BATT CHGR 2B TO BATT BD 3 AT BATT BD 3	A	3-3, 14, 22
		0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
0-BATA-248-0004	250V BATT 4	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24
0-BATA-248-0005	250V BATT 5	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-BATA-248-0003EB	250V BATT SB-3EB	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 248 - BATTERY CHARGERS		
0-CHGA-248-0001	250V BATT CHGR 1	0	ENERGIZED / RESET CHGR	A	1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-CHGA-248-0002A	250V BATT CHGR 2A	0	ENERGIZED / RESET CHGR	A	1-1, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 19, 21, 22, 23, 24, 25-I, 25-II
0-CHGA-248-0002B	250V BATT CHGR 2B	0	ENERGIZED / RESET CHGR	A	1-1, 1-2, 1-3, 1-4, 1-5, 3-3, 4, 5, 6, 9, 10, 14, 20, 22
0-CHGA-248-0003	250V BATT CHGR 3	0	ENERGIZED / RESET CHGR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 20, 21, 23, 24, 25-I, 25-II
0-CHGA-248-0000A	250V BATT CHGR SB-A	0	ENERGIZED	A[3]	1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-CHGA-248-0000B	250V BATT CHGR SB-B	0	ENERGIZED	A[3]	1-1, 1-3, 1-6, 2-1, 2-2, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

[3] Provided the spare BATT CHGR is AVAILABLE to perform this function, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 248 - BATTERY CHARGERS (CONT.)		
0-CHGA-248-0000C	250V BATT CHGR SB-C	0	ENERGIZED	A[3]	1-1, 1-3, 2-4, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
0-CHGA-248-0000D	250V BATT CHGR SB-D	0	ENERGIZED	A[3]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
3-CHGA-248-0003EB	250V BATT CHGR SB-3EB	0	ENERGIZED	A[3]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I

[3] Provided the spare BATT CHGR is AVAILABLE to perform this function, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 248 - SHUTDOWN BATTERY DISTRIBUTION PANELS		
			SB-A DIST PANEL		
0-PNLA-248-0000A	SB-A DIST PANEL	0	ENERGIZED	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
SWITCH 1	FROM 250V BATT CHGR SB-A	0	REMAIN CLOSED	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
SWITCH 3	4KV SHDN BD A NORM CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
SWITCH 4	480V SHDN BD 1A NORM CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 248 - SHUTDOWN BATTERY DISTRIBUTION PANELS (CONT.)		
			SB-B DIST PANEL		
0-PNLA-248-0000B	SB-B DIST PANEL	0	ENERGIZED	A	1-1, 1-3, 1-6, 2-1, 2-2, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
SWITCH 1	FROM 250V BATT CHGR SB-B	0	REMAIN CLOSED	A	1-1, 1-3, 1-6, 2-1, 2-2, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
SWITCH 3	4KV SHDN BD B NORM CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-3, 1-6, 2-1, 2-2, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
SWITCH 4	480V SHDN BD 2A NORM CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-1, 1-6, 2-1, 2-2, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 248 - SHUTDOWN BATTERY DISTRIBUTION PANELS (CONT.)		
			SB-C DIST PANEL		
0-PNLA-248-0000C	SB-C DIST PANEL	0	ENERGIZED	A	1-1, 1-3, 2-4, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 1	FROM 250V BATT CHGR SB-C	0	REMAIN CLOSED	A	1-1, 1-3, 2-4, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 3	4KV SHDN BD C NORM CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-1, 1-3, 2-4, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 4	480V SHDN BD 1B NORM CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-1, 2-4, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
SYSTEM 248 - SHUTDOWN BATTERY DISTRIBUTION PANELS (CONT.)					
			SB-D DIST PANEL		
0-PNLA-248-0000D	SB-D DIST PANEL	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 1	FROM 250V BATT CHGR SB-D	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 3	4KV SHDN BD D NORM CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 4	480V SHDN BD 2B NORM CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 248 - SHUTDOWN BATTERY DISTRIBUTION PANELS (CONT.)		
			SB-3EB DIST PANEL		
3-PNLA-248-0003EB	SB-3EB DIST PANEL	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
SWITCH 1	FROM 250V BATT CHGR SB-3EB	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
SWITCH 3	4KV SHDN BD 3EB NORM CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 252 - UNINTERRUPTIBLE POWER SUPPLIES		
1-INV-252-1	PREFERED INVERTER 1	0	ENERGIZED (FEED FROM 0-BATA-248-5)	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
2-MGEN-252-0002	PREFERED MG SET 2	0	ENERGIZED (FEED FROM 2-BDBB-231-2A OPERABLE)	A	17
3-MGEN-252-0003	PREFERED MG SET 3	0	ENERGIZED (FEED FROM 3-BDBB-231-3A IS AVAILABLE)	A	1-3

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 254 - DIESEL GENERATOR BATTERIES		
0-BATB-254-0000A	DSL GEN A BATT	0	OPERABLE	A	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-BATB-254-0000B	DSL GEN B BATT	0	OPERABLE	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-BATB-254-0000C	DSL GEN C BATT	0	OPERABLE	A	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-BATB-254-0000D	DSL GEN D BATT	0	OPERABLE	A	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
3-BATB-254-0000A	DSL GEN 3A BATT	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II
3-BATB-254-0000B	DSL GEN 3B BATT	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 254 - DIESEL GENERATOR BATTERIES (CONT.)		
3-BATB-254-0000C	DSL GEN 3C BATT	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
3-BATB-254-0000D	DSL GEN 3D BATT	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 254 - DIESEL GENERATOR 125V DISTRIBUTION PANELS		
			DSL GEN A 125V DIST PANEL		
0-BDGG-254-0000A	DSL GEN A 125V DIST PANEL	0	ENERGIZED	A	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
CHGR A BKR	FROM DSL GEN A BATT CHGR A	0	REMAIN CLOSED	A[4]	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
CHGR B BKR	FROM DSL GEN A BATT CHGR B	0	REMAIN OPEN (AVAILABLE AS SPARE)	A[5]	1-6, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II

[4] To be opened when NORM CHGR is not available and opposite train CHGR is AVAILABLE to be used.
[5] To be closed when NORM CHGR is not available and opposite train CHGR is AVAILABLE to be used.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 254 - DIESEL GENERATOR 125V DISTRIBUTION PANELS (CONT.)		
			DSL GEN B 125V DIST PANEL		
0-BDGG-254-0000B	DSL GEN 125V DIST PANEL	0	ENERGIZED	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
CHGR A BKR	FROM DSL GEN B BATT CHGR A	0	REMAIN CLOSED	A[4]	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
CHGR B BKR	FROM DSL GEN B BATT CHGR B	0	REMAIN OPEN (AVAILABLE AS SPARE)	A[5]	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II

[4] To be opened when NORM CHGR is not available and opposite train CHGR is AVAILABLE to be used.
[5] To be closed when NORM CHGR is not available and opposite train CHGR is AVAILABLE to be used.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 254 – DIESEL GENERATOR 125V DISTRIBUTION PANELS (CONT.)		
			DSL GEN C 125V DIST PANEL		
0-BDGG-254-0000C	DSL GEN C DIST PANEL	0	ENERGIZED	A	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
CHGR B BKR	FROM DSL GEN C BATT CHGR B	0	REMAIN CLOSED	A[4]	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
CHGR A BKR	FROM DSL GEN C BATT CHGR A	0	REMAIN OPEN (AVAILABLE AS SPARE)	A[5]	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II

[4] To be opened when NORM CHGR is not available and opposite train CHGR is AVAILABLE to be used.
[5] To be closed when NORM CHGR is not available and opposite train CHGR is AVAILABLE to be used.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 254 - DIESEL GENERATOR 125V DISTRIBUTION PANELS (CONT.)		
			DSL GEN D 125V DIST PANEL		
0-BDGG-254-0000D	DSL GEN D DIST PANEL	0	ENERGIZED	A	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
CHGR B BKR	FROM DSL GEN D BATT CHGR B	0	REMAIN CLOSED	A[4]	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
CHGR A BKR	FROM DSL GEN D BATT CHGR A	0	REMAIN OPEN (AVAILABLE AS SPARE)	A[5]	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II

[4] To be opened when NORM CHGR is not available and opposite train CHGR is AVAILABLE to be used.
[5] To be closed when NORM CHGR is not available and opposite train CHGR is AVAILABLE to be used.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 254 - DIESEL GENERATOR 125V DISTRIBUTION PANELS (CONT.)		
			DSL GEN 3A 125V DIST PANEL		
3-BDGG-254-0000A	DSL GEN 3A DIST PANEL	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II
CHGR A BKR	FROM DSL GEN 3A BATT CHGR A	0	REMAIN CLOSED	A[4]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II
CHGR B BKR	FROM DSL GEN 3A BATT CHGR B	0	REMAIN OPEN (AVAILABLE AS SPARE)	A[5]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 24, 25-I, 25-II

[4] To be opened when NORM CHGR is not available and opposite train CHGR is AVAILABLE to be used.
[5] To be closed when NORM CHGR is not available and opposite train CHGR is AVAILABLE to be used.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
SYSTEM 254 – DIESEL GENERATOR 125V DISTRIBUTION PANELS (CONT.)					
		DSL GEN 3B 125V DIST PANEL			
3-BDGG-254-0000B	DSL GEN 3B 125V DIST PANEL	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
CHGR A BKR	FROM DSL GEN 3B BATT CHGR A	0	REMAIN CLOSED	A[4]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
CHGR B BKR	FROM DSL GEN 3B BATT CHGR B	0	REMAIN OPEN (AVAILABLE AS SPARE)	A[5]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I

[4] To be opened when NORM CHGR is not available and opposite train CHGR is AVAILABLE to be used.
[5] To be closed when NORM CHGR is not available and opposite train CHGR is AVAILABLE to be used.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 254 – DIESEL GENERATOR 125V DISTRIBUTION PANELS (CONT.)		
			DSL GEN 3C 125V DIST PANEL		
3-BDGG-254-0000C	DSL GEN 3C 125V DIST PANEL	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
CHGR B BKR	FROM DSL GEN 3C BATT CHGR B	0	REMAIN CLOSED	A[4]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
CHGR A BKR	FROM DSL GEN 3C BATT CHGR A	0	REMAIN OPEN (AVAILABLE AS SPARE)	A[5]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 24, 25-I, 25-II

[4] To be opened when NORM CHGR is not available and opposite train CHGR is AVAILABLE to be used.
[5] To be closed when NORM CHGR is not available and opposite train CHGR is AVAILABLE to be used.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 254 – DIESEL GENERATOR 125V DISTRIBUTION PANELS (CONT.)		
			DSL GEN 3D 125V DIST PANEL		
3-BDGG-254-0000D	DSL GEN 3D 125V DIST PANEL	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II
CHGR B BKR	FROM DSL GEN 3D BATT CHGR B	0	REMAIN CLOSED	A[4]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II
CHGR A BKR	FROM DSL GEN 3D BATT CHGR A	0	REMAIN OPEN (AVAILABLE AS SPARE)	A[5]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 20, 25-I, 25-II

[4] To be opened when NORM CHGR is not available and opposite train CHGR is AVAILABLE to be used.
[5] To be closed when NORM CHGR is not available and opposite train CHGR is AVAILABLE to be used.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 254 - DIESEL GENERATOR BATTERY CHARGERS		
0-CHGB-254-0000AA	DSL GEN A BATT CHGR A	0	ENERGIZED	A6	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-CHGB-254-0000AB	DSL GEN A BATT CHGR B	0	ENERGIZED (AVAILABLE AS SPARE)	A	1-6, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-CHGB-254-0000BA	DSL GEN B BATT CHGR A	0	ENERGIZED	A6	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
0-CHGB-254-0000BB	DSL GEN B BATT CHGR B	0	ENERGIZED (AVAILABLE AS SPARE)	A	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-CHGB-254-0000CB	DSL GEN C BATT CHGR B	0	ENERGIZED	A6	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-CHGB-254-0000CA	DSL GEN C BATT CHGR A	0	ENERGIZED (AVAILABLE AS SPARE)	A	1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II

[6] Provided the opposite train CHGR is AVAILABLE to perform this function, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 254 - DIESEL GENERATOR BATTERY CHARGERS (CONT.)		
0-CHGB-254-0000DB	DSL GEN D BATT CHGR B	0	ENERGIZED	A[6]	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
0-CHGB-254-0000DA	DSL GEN D BATT CHGR A	0	ENERGIZED (AVAILABLE AS SPARE)	A	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
3-CHGB-254-0000AA	DSL GEN 3A BATT CHGR A	0	ENERGIZED	A[6]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 23, 24, 25-I, 25-II
3-CHGB-254-0000AB	DSL GEN 3A BATT CHGR B	0	ENERGIZED (AVAILABLE AS SPARE)	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 24, 25-I, 25-II
3-CHGB-254-0000BA	DSL GEN 3B BATT CHGR A	0	ENERGIZED	A[6]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I
3-CHGB-254-0000BB	DSL GEN 3B BATT CHGR B	0	ENERGIZED (AVAILABLE AS SPARE)	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 20, 25-I

[6] Provided the opposite train CHGR is AVAILABLE to perform this function, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 254 - DIESEL GENERATOR BATTERY CHARGERS (CONT.)		
3-CHGB-254-0000CB	DSL GEN 3C BATT CHGR B	0	ENERGIZED	A[6]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
3-CHGB-254-0000CA	DSL GEN 3C BATT CHGR A	0	ENERGIZED (AVAILABLE AS SPARE)	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 17, 18, 19, 20, 24, 25-I, 25-II
3-CHGB-254-0000DB	DSL GEN 3D BATT CHGR B	0	ENERGIZED	A[6]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II
3-CHGB-254-0000DA	DSL GEN 3D BATT CHGR A	0	ENERGIZED (AVAILABLE AS SPARE)	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 11, 13, 20, 25-I, 25-II

[6] Provided the opposite train CHGR is AVAILABLE to perform this function, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 266 - 480V HVAC BOARDS		
0-BDBB-266-0000A	CNTRL BAY VENT BD A	0	ENERGIZED	A	1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-BDBB-266-0000B	CNTRL BAY VENT BD B	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6,4,5,6,7,8,9,10,20
0-BDBB-266-0HVB	480V HVAC BD B	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 20
0-BDBB-266-0HVB COMPT 2C	NORM FEED BKR TO CNTRL BAY VENT BD B	0	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 20
0-BDBB-266-0HVB COMPT 1B	NORM FEED BKR FROM XFMR THB	0	ISOLATE AND OPEN USING LOCAL CNTRL SWITCH	A	2-2, 9
		0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 20
0-BDBB-266-0HVB COMPT 4B	ALT FEED BKR FROM 480V SHDN BD 3B	0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	2-2, 9
		0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 20

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS		
			480V RMOV BD 1A		
1-BDBB-268-0001A	480V RMOV BD 1A	0	ENERGIZED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 1B2	TURB BLDG EMER LTG XFMR	0	MANUALLY OPEN	A	1-5, 7, 21
COMPT 1D	TURB BRG LIFT PUMPS ASSY A	0	MANUALLY OPEN	A	1-5, 7, 21
COMPT 3D	NORM FEED BKR FROM 480V SHDN BD 1A	0	REMAIN CLOSED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 10A	MAIN TURB TRNG GEAR	0	MANUALLY OPEN	A	1-5, 7, 21
COMPT 13A	RPS MG SET 1A	0	MANUALLY OPEN	A	1-5, 7, 16, 21
COMPT 16B	REACT BLDG EMERG LTG XFMR	0	MANUALLY OPEN	A	1-5, 7, 21
COMPT 16C1	250V BATT CHGR SB-A	0	REMAIN CLOSED	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 1A (CONT.)		
COMPT 17A	DRWL BLWR 1A-3	0	MANUALLY OPEN	A	1-5, 7, 21
COMPT 18A	DRWL BLWR 1B-3	0	MANUALLY OPEN	A	1-5, 7, 21

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 1B		
1-BDBB-268-0001B	480V RMOV BD 1B	0	ENERGIZED	A	1-1, 1-3, 1-5, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
COMPT 2D	NORM FEED BKR FROM 480V SHDN BD 1B	0	REMAIN CLOSED / MANUALLY CLOSE	A	1-1, 1-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	ISOLATE AND OPEN USING LOCAL CNTRL SWITCH	A	1-5, 7
COMPT 4A	DRWL BLWR 1A-4	0	MANUALLY OPEN	A	1-5
COMPT 6C1	BATT CHGR 1A	0	MANUALLY OPEN	A	1-5
COMPT 13C1	REACT BLDG EMER LTG XFMR	0	MANUALLY OPEN	A	1-5
COMPT 14C1	RPS MG SET 1B	0	MANUALLY OPEN	A	1-5, 16
COMPT 15A	DRWL BLWR 1B-4	0	MANUALLY OPEN	A	1-5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 1B (CONT.)		
COMPT 16D	EMERG FEED BKR FROM 480V SHDN BD 1A	0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	1-5, 7
		0	REMAIN OPEN	A	1-1, 1-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
COMPT 17B1	250V BATT CHGR SB-C	0	REMAIN CLOSED	A	1-1, 1-3, 2-4, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
COMPT 18E2	TURB BRG LIFT PUMPS ASSY B	0	MANUALLY OPEN	A	1-5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 2A		
2-BDBB-268-0002A	480V RMOV BD 2A	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 3D	NORM FEED BKR FROM 480V SHDN BD 2A	0	REMAIN CLOSED / MANUALLY CLOSE	A	1-1, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
		0	ISOLATE AND OPEN USING LOCAL CNTRL SWITCH	A	1-2, 1-3, 1-4, 10, 20
COMPT 5A2	250V BATT CHGR SB-B	0	REMAIN CLOSED	A	1-1, 1-3, 1-6, 2-1, 2-2, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 7B	DRWL CNTRL AIR COMP 2A	0	MANUALLY OPEN	A	1-1, 1-2, 1-4, 2-3, 2-4, 2-5, 10, 20
COMPT 8A	CNTRL AIR COMP G AUXILIARIES	0	MANUALLY OPEN	A	1-1, 1-2, 1-4, 2-3, 2-4, 2-5, 10, 20
COMPT 9A	MAIN TURB TRNG GEAR	0	MANUALLY OPEN	A	1-1, 1-2, 1-4, 2-3, 2-4, 2-5, 10, 20
COMPT 13A	RPS MG SET 2A	0	MANUALLY OPEN	A	1-1, 1-2, 1-4, 2-3, 2-4, 2-5, 10, 16, 18, 20

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 – 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 2A (CONT.)		
COMPT 15D	EMERG FEED BKR FROM 480V SHDN BD 2B	0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	1-2, 1-3, 1-4, 10, 20
		0	REMAIN OPEN	A	1-1, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
COMPT 17A	DRWL BLWR 2A-3	0	MANUALLY OPEN	A	1-1, 1-2, 1-4, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 10, 20
COMPT 18A	DRWL BLWR 2A-4	0	MANUALLY OPEN	A	1-1, 1-2, 1-4, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 10, 20
COMPT 19C1	TURB BLDG EMER LTG XFMR	0	MANUALLY OPEN	A	1-1, 1-2, 1-4, 2-3, 2-4, 2-5, 10, 20
COMPT 19C2	REACT BLDG EMER LTG XFMR	0	MANUALLY OPEN	A	1-1, 1-2, 1-4, 2-3, 2-4, 2-5, 10, 20
COMPT 19C4	TURB BRG LIFT PUMPS ASSY A	0	MANUALLY OPEN	A	1-1, 1-2, 1-4, 2-3, 2-4, 2-5, 10, 20
COMPT	ALT FEED TO CHRGR SB-C	0	BKR TO REMAIN CLOSED / CLOSE MANUALLY VIA XFER SWITCH	A	1-3

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 2B		
2-BDBB-268-0002B	480V RMOV BD 2B	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
COMPT 2D	NORM FEED BKR FROM 480V SHDN BD 2B	0	REMAIN CLOSED / MANUALLY CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
		0	ISOLATE AND OPEN USING LOCAL CNTRL SWITCH	A	2-4
COMPT 4A	DRWL BLWR 2B-3	0	MANUALLY OPEN	A	2-1, 2-3, 2-4, 2-5, 2-6
COMPT 4C	250V BATT CHGR SD-D	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
COMPT 6C1	BATT CHGR SPARE	0	MANUALLY OPEN	A	2-5
COMPT 11A	DRWL CNTRL AIR COMP 2B	0	MANUALLY OPEN	A	2-5
COMPT 13C1	REACT BLDG EMERG LTG XFMR	0	MANUALLY OPEN	A	2-5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 2B (CONT.)		
COMPT 14C1	RPS MG SET 2B	0	MANUALLY OPEN	A	2-5, 16, 18
COMPT 15A	DRWL BLWR 2B-4	0	MANUALLY OPEN	A	2-1, 2-3, 2-4, 2-5, 2-6
COMPT 16D	EMERG FEED BKR FROM 480V SHDN BD 2A	0	ISOLATE AND CLOSE FROM LOCAL CNTRL SWITCH	A	2-4
		0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
COMPT 18E	TURB BRG LIFT PUMPS ASSY B	0	MANUALLY OPEN	A	2-5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 3A		
3-BDBB-268-0003A	480V RMOV BD 3A	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 1A	SHDN BD RM EXH FAN 3A	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II
COMPT 3D	NORM FEED BKR FROM 480V SHDN BD 3A	0	REMAIN CLOSED / MANUALLY CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25-I, 25-II
		0	ISOLATE AND OPEN USING LOCAL CNTRL SWITCH	A	14, 22
COMPT 4E	DRWL EQUIP DRAIN SUMP PUMP 3A	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 3A (CONT.)		
COMPT 5E	DRWL FLOOR DRAIN SUMP PUMP 3A	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II
COMPT 6A	CS NW CORNER COOLER FAN	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II
COMPT 6B-1	TURB BRG LIFT PUMPS ASSY A	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II
COMPT 7A	TURB BLDG EMERG LTG XFMR	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II
COMPT 7B	DRWL CNTRL AIR COMP 3A	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 3A (CONT.)		
COMPT 8A	MAIN TURB TRNG GEAR	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II
COMPT 9E1	PRIM CONT PURGE AIR FLTR	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II
COMPT 11A	RWCU DEMIN HLDP PUMP 3A	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II
COMPT 12A	SLC HEAT TRACE / SPACE HTR	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II
COMPT 13A	RPS MG SET 3A	0	MANUALLY OPEN (LONG TERM LOADING ISSUE)	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 3A (CONT.)		
COMPT 13E	RPS MG SET 3A	3	OPEN (TO ENSURE REACTOR TRIP)	A	16
COMPT 15D	EMERG FEED BKR FROM 480V SHDN BD 3B	0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	14, 22
		0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25-I, 25-II
COMPT 16C1	REACT BLDG EMERG LTG XFMR	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II
COMPT 17A	DRWL BLWR 3A-3	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II
COMPT 18A	DRWL BLWR 3A-4	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 3A (CONT.)		
COMPT R9A	WATER CHILLER 3A-1	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II
COMPT R9B-1	WATER CHILLER 3B-1	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II
COMPT R9B-2	DIV I DUCT HEATER	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II
COMPT R9C	CHILLED WATER CIRC PUMP 3A-1	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II
COMPT R9D	CHILLED WATER CIRC PUMP 3B-1	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 3A (CONT.)		
COMPT R9E	AHU 3A-1	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II
COMPT R9F	AHU 3B-1	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 3B		
3-BDBB-268-0003B	480V RMOV BD 3B	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 2D	NORM FEED BKR FROM 480V SHDN BD 3B	0	REMAIN CLOSED / MANUALLY CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
		0	ISOLATE AND OPEN USING LOCAL CNTRL SWITCH	A	13, 16
COMPT 4C	CAD SYS B HEATER	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 5C1	RPS ALT PWR XFMR TRP-3	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 6C1	ANNUNCIATOR BATT CHGR B	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 3B (CONT.)		
COMPT 11A	DRWL CNTRL AIR COMP 3B	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 13C1	REACT BLDG EMERG LTG XFMR	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 14C1	RPS MG SET 3B	0	MANUALLY OPEN (LOAD TERM LOADING ISSUE)	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
		3	OPEN (TO ENSURE REACTOR TRIP)	A	16
COMPT 17D	UNIT PREF XFMR	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 1A	DRWL FLOOR DRAIN SUMP PUMP 3B	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 3B (CONT.)		
COMPT 1B	REAC BLDG FLOOR DRAIN SUMP 3B	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 4A	DRWL BLWR 3B-3	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 8B	CS NE CORNER COOLER FAN	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 9A	SLC HEAT TRACE / SPACE HEATER	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 11C	RWCU DEMIN HLDP PUMP 3B	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 13C2	CREVS FILTRATION UNIT B	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 3B (CONT.)		
COMPT 15A	DRWL BLWR 3B-4	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 16D	EMERG FEED BKR FROM 480V SHDN BD 3A	0	ISOLATE AND CLOSE USING LOCAL CNTRL SWITCH	A	13, 16
		0	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 17A	UNIT 3 CNTRL BAY SUPPLY FAN	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 18A	DRWL EQUIP DRAIN SUMP PUMP 3B	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT 18B	REACT BLDG EQUIP DRAIN SUMP 3B	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 3B (CONT.)		
COMPT 18E	TURB BRG LIST PUMPS ASSY B	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT R9F	AHU 3B-2	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT R9E	AHU 3A-2	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT R9D	CHILLED WATER CIRC PUMP 3B-2	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT R9C	CHILLED WATER CIRC PUMP 3A-2	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT R9B2	DIV II DUCT HEATER	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 3B (CONT.)		
COMPT R9B1	CHILLED WATER 3B-2	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II
COMPT R9A	CHILLED WATER 3A-2	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 280 - BATTERY BOARDS		
			BATT BD 1		
0-BDDD-280-0001	BATT BD 1	0	ENERGIZED	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-BDDD-280-0001-ICB	BATT BD 1, PANEL 8, I&C BUS B	1	ENERGIZED	A	2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II
BKR 832	FEED TO 1-LPNL-925-0032	1	REMAIN CLOSED	A	2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II
BKR 110	BD FEED FROM BATT 1	0	REMAIN CLOSED	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
SWITCH 111	DISCONNECT SWITCH	0	REMAIN CLOSED	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 280 - BATTERY BOARDS (CONT.)		
			BATT BD 1 (CONT.)		
BKR 202	NORM FEED TO 250V RMOV BD 1A	1	REMAIN CLOSED	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	MANUALLY OPEN	A	5
BKR 301	ALT FEED TO 250V RMOV BD 2B	2	MANUALLY OPEN	A	8
		2	REMAIN CLOSED	A	3-2, 3-3, 19
BKR 302	NORM FEED TO 250V RMOV BD 3B	3	REMAIN CLOSED	A	1-1, 1-2, 1-6, 2-1, 2-2, 2-3, 2-4, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 10, 11, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
BKR 303	NORM FEED TO 250V RMOV BD 2C	2	REMAIN CLOSED	A	1-1, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
BKR 607	CHGR 1 TIE TO BATT BD 1	0	REMAIN CLOSED	A	1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
BKR 609	CHGR 2B TIE TO BATT BD 1	0	MANUALLY CLOSE	A	1-1, 5, 6, 9

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 280 - BATTERY BOARDS (CONT.)		
			BATT BD 1 (CONT.)		
BKR 703	4KV SHDN BD 3EA NORM CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 15, 18, 19, 20, 24, 25-I, 25-II
BKR 705	4KV SHDN BD C ALT CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-5, 2-5, 2-6
BKR 706	480V SHDN BD 3A NORM CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 18, 19, 20, 21, 23, 24, 25-I, 25-II
BKR 708	480V SHDN BD 2A ALT CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	2-5, 5, 16
BKR 201	ALT FEED TO 250V RMOV BD 1B	1	REMAIN CLOSED	A	1-1, 1-2, 2-1, 2-2, 3-1, 3-2, 16, 19, 25-I, 25-II
BKR 203	ALT FEED TO 250V RMOV BD 1C	1	REMAIN CLOSED	A	1-2, 2-1, 2-3, 18
BKR 709	480V SHDN BD 3B ALT CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	13, 19
BKR 718	4KV SHDN BD 3EC ALT CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	12, 19

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 280 - BATTERY BOARDS (CONT.)		
			BATT BD 2		
0-BDDD-280-0002	BATT BD 2	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
0-BDDD-280-0002-ICB	BATT BD 2, PANEL 8, I&C BUS B	2	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
BKR 832	FEED TO 2-LPNL-925-0032	2	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
BKR 110	BD FEED FROM BATT 2	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
SWITCH 111	DISCONNECT SWITCH	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
BKR 201	ALT FEED TO 250V RMOV BD 1A	1	REMAIN CLOSED	A	1-4, 17

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 280 - BATTERY BOARDS (CONT.)		
			BATT BD 2 (CONT.)		
BKR 202	NORM FEED TO 250V RMOV BD 1C	1	REMAIN CLOSED	A	1-4, 1-5, 1-6, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	MANUALLY OPEN	A	5
BKR 301	ALT FEED TO 250V RMOV BD 3A	3	REMAIN CLOSED	A	3-2, 19
BKR 302	NORM FEED TO 250V RMOV BD 2A	2	MANUALLY OPEN	A	9
		2	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
BKR 303	NORM FEED TO 250V RMOV BD 3C	3	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
BKR 607	CHGR 2B TIE TO BATT BD 2	0	MANUALLY CLOSE	A	1-2, 1-3, 1-4, 1-5, 4, 10, 20
BKR 608	CHGR 2A TIE TO BATT BD 2	0	REMAIN CLOSED	A	1-1, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 280 - BATTERY BOARDS (CONT.)		
			BATT BD 2 (CONT.)		
BKR 703	4KV SHDN BD 3EA ALT CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-3, 1-4, 12, 16, 17, 21, 23
BKR 704	4KV SHDN BD A ALT CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-1, 6
BKR 705	4KV SHDN BD B ALT CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-5, 2-5
BKR 708	480V SHDN BD 1A ALT CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-5
BKR 709	480V SHDN BD 3A ALT CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-3, 1-4, 13, 16, 17
BKR 717	4KV SHDN BD 3ED NORM CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 4, 5, 6, 7, 8, 10, 11, 13, 14, 20, 25-I, 25-II
BKR 719	ALT FEED TO 1-PCV-1-5, -30, -34	1	MANUALLY OPEN	A	5
BKR 902	FEED TO RPS BUS A	2	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 280 - BATTERY BOARDS (CONT.)		
			BATT BD 2 (CONT.)		
BKR 952	FEED TO RPS BUS B	2	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 280 - BATTERY BOARDS (CONT.)		
			BATT BD 3		
0-BDDD-280-0003	BATT BD 3	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
0-BDDD-280-0003-ICB	BATT BD 3, PANEL 8, I&C BUS B	3	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 17, 18, 20, 22, 24, 25-I, 25-II
BKR 832	FEED TO 3-LPNL-925-0032	3	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 17, 18, 20, 22, 24, 25-I, 25-II
BKR 110	BD FEED FROM BATT 3	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
SWITCH 111	DISCONNECT SWITCH	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III - REQUIRED SAFE SHUTDOWN EQUIPMENT - UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 280 - BATTERY BOARDS (CONT.)		
			BATT BD 3 (CONT.)		
BKR 201	ALT FEED TO 250V RMOV BD 2A	2	REMAIN CLOSED	A	2-4, 18
BKR 202	NORM FEED TO 250V RMOV BD 1B	1	REMAIN CLOSED	A	1-3, 1-4, 1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24
		1	MANUALLY OPEN	A	4
BKR 203	NORM FEED TO 250V RMOV BD 3A	3	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
		3	MANUALLY OPEN	A	13
BKR 301	ALT FEED TO 250V RMOV BD 3B	3	REMAIN CLOSED	A	1-3, 1-4, 1-5, 2-5, 3-3, 3-4, 9, 17
BKR 302	ALT FEED TO 250V RMOV BD 3C	3	REMAIN CLOSED	A	2-2, 2-3, 2-4, 9, 18
BKR 303	NORM FEED TO 250V RMOV BD 2B	2	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
		3	MANUALLY OPEN	A	8

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 280 - BATTERY BOARDS (CONT.)		
			BATT BD 3 (CONT.)		
BKR 608	CHGR 3 TIE TO BATT BD 3	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 15, 16, 17, 18, 20, 21, 23, 24, 25-I, 25-II
BKR 609	CHGR 2B TIE TO BATT BD 3	0	MANUALLY CLOSE	A	3-3, 14, 22
BKR 705	4KV SHDN BD D ALT CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	2-3, 2-4, 9, 11
BKR 706	480V HVAC BD B NORM CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 20
BKR 707	480V SHDN BD 3B NORM CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 17, 18, 20, 22, 24, 25-I, 25-II
BKR 708	480V SHDN BD 2B ALT CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	9
		0	MANUALLY OPEN	A	2-3, 2-4
BKR 709	480V SHDN BD 1B ALT CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-3, 2-5, 2-6

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 280 - BATTERY BOARDS (CONT.)		
			BATT BD 3 (CONT.)		
BKR 710	DPO ENG SHOP	0	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
BKR 716	4KV SHDN BD 3EC NORM CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 18, 20, 22, 24, 25-I, 25-II
BKR 717	4KV SHDN BD 3ED ALT CNTRL PWR SUPPLY	0	REMAIN CLOSED	A	2-3, 2-4, 3-1

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 280 - BATTERY BOARDS (CONT.)		
			BATT BD 4		
0-BDDD-280-0004	BATT BD 4	0	ENERGIZED (FROM 0-BATA-248-0004)	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 280 - BATTERY BOARDS (CONT.)		
			BATT BD 5		
0-BDDD-280-0005	BATT BD 5	0	ENERGIZED (FROM 0-BATA-248-0005)	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM - 4KV / 480V TRANSFORMERS		
XFMR TDA	NORM SUPPLY TO 480V DSL AUX BD A	0	OPERABLE	A	1-2, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
XFMR TDB	NORM SUPPLY TO 480V DSL AUX BD B	0	OPERABLE	A	1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-II
XFMR TDE	ALT SUPPLY TO 480V DSL AUX BDS A & B	0	OPERABLE	A	1-5
XFMR TS1A	NORM SUPPLY TO 480V SHDN BD 1A	0	OPERABLE	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
XFMR TS1B	NORM SUPPLY TO 480V SHDN BD 1B	0	OPERABLE	A	1-1, 1-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
XFMR TS1E	ALT SUPPLY TO 480V SHDN BDS 1A & 1B	0	OPERABLE	A	1-5, 2-5
XFMR TS2A	NORM SUPPLY TO 480V SHDN BD 2A	0	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM - 4KV / 480V TRANSFORMERS (CONT.)		
XFMR TS2B	NORM SUPPLY TO 480V SHDN BD 2B	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
XFMR TS2E	ALT SUPPLY TO 480V SHDN BDS 2A & 2B	0	OPERABLE	A	1-1, 2-4, 2-5, 5
XFMR TS3A	NORM SUPPLY TO 480V SHDN BD 3A	0	OPERABLE	A	1-1, 1-2, 1-3, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 10, 11, 12, 13, 15, 16, 17, 18, 19, 21, 23, 24, 25-I, 25-II
XFMR TS3B	NORM SUPPLY TO 480V SHDN BD 3B	0	OPERABLE	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 17, 18, 19, 20, 22, 24, 25-I, 25-II
XFMR TS3E	ALT SUPPLY TO 480V SHDN BDS 3A & 3B	0	OPERABLE	A	1-1, 1-4, 3-3, 3-4, 5, 9, 20
XFMR THB	NORM SUPPLY TO 480V HVAC BD B	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 10, 20

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 009 - 120V I&C BUSES AND BOARDS		
			120V I&C BUS 1A		
1-PNLA-009-0009-2	U1 I&C BUS A	1	ENERGIZED	A	1-1, 1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PNLA-009-0009-2-N	U1 I&C BUS A NORM SUPPLY	1	ENERGIZED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
SWITCH 1A1	NORM FEED TO 1-PNLA-009-0009-2	0	REMAIN CLOSED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
SWITCH 1A4	NORM FEED TO 1-PNLA-009-0009-2	0	REMAIN CLOSED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
SWITCH 1A5	NORM FEED TO 1-PNLA-009-0009-2	1	REMAIN CLOSED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
SWITCH 1A7	NORM FEED TO 1-PNLA-009-0009-2	0	REMAIN CLOSED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 009 - 120V I&C BUSES AND BOARDS (CONT.)		
			120V I&C BUS 1A (CONT.)		
XFMR TIC 1A[7]	NORM FEED TO 1-PNLA-009-0009-2	0	OPERABLE	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
REG XFMR TIC 1A[8]	NORM FEED TO 1-PNLA-009-0009-2	0	OPERABLE	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PNLA-009-0009-2-A	U1 I&C BUS A ALT SUPPLY	1	ENERGIZED / AVAILABLE AS BACKUP	A[9]	1-1, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
SWITCH 2A1	ALT FEED TO 1-PNLA-009-0009-2	0	REMAIN CLOSED	A	1-1, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
SWITCH 2A4	ALT FEED TO 1-PNLA-009-0009-2	0	REMAIN CLOSED	A	1-1, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3,3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II

[7] ID is shown on 0-45W708-1 as 1-XFA-253-1A1. No ID is shown however on 0-45E701-2. Equipment description provided is consistent with the format presented elsewhere I this document.

[8] ID is shown on 0-45W708-1 as 1-XFA-253-1A2. No ID is shown however on 0-45E701-2. Equipment description provided is consistent with the format presented elsewhere I this document.

[9] ALT supply may be relied upon (where available as a backup) with no compensatory measures, where NORM supply is credited but not available. ALT supply is required for this board in 1-1, 5, 6, and 17 only.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 009 - 120V I&C BUSES AND BOARDS (CONT.)		
			120V I&C BUS 1A (CONT.)		
SWITCH 2A5	ALT FEED TO 1-PNLA-009-0009-2	0	REMAIN CLOSED	A	1-1, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
SWITCH 2A6	ALT FEED TO 1-PNLA-009-0009-2	1	REMAIN CLOSED	A	1-1, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
XFMR TIC 2A	ALT FEED TO 1-PNLA-009-0009-2	0	OPERABLE	A	1-1, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
REG XFMR TIC 2A	ALT FEED TO 1-PNLA-009-0009-2	0	OPERABLE	A	1-1, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 009 - 120V I&C BUSES AND BOARDS (CONT.)		
			120V I&C BUS 1B		
1-PNLA-009-0009-3	U1 I&C BUS B	1	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PNLA-009-0009-3-N	U1 I&C BUS B NORM SUPPLY	1	ENERGIZED	A	1-1, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 1B1	NORM FEED TO 1-PNLA-009-0009-3	0	REMAIN CLOSED	A	1-1, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 1B4	NORM FEED TO 1-PNLA-009-0009-3	0	REMAIN CLOSED	A	1-1, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 1B5	NORM FEED TO 1-PNLA-009-0009-3	0	REMAIN CLOSED	A	1-1, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 1B7	NORM FEED TO 1-PNLA-009-0009-3	1	REMAIN CLOSED	A	1-1, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II
XFMR TIC 1B	NORM FEED TO 1-PNLA-009-0009-3	0	OPERABLE	A	1-1, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 009 - 120V I&C BUSES AND BOARDS (CONT.)		
			120V I&C BUS 1B (CONT.)		
REG XFMR TIC 1B	NORM FEED TO 1-PNLA-009-0009-3	0	OPERABLE	A	1-1, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II
1-PNLA-009-0009-3-A	U1 I&C BUS B ALT SUPPLY	1	ENERGIZED / AVAILABLE AS BACKUP	A[10]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 18, 20, 22, 24, 25-I, 25-II
SWITCH 3B1	ALT FEED TO 1-PNLA-009-0009-3	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 18, 20, 22, 24, 25-I, 25-II
SWITCH 3B4	ALT FEED TO 1-PNLA-009-0009-3	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 18, 20, 22, 24, 25-I, 25-II
SWITCH 3B5	ALT FEED TO 1-PNLA-009-0009-3	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 18, 20, 22, 24, 25-I, 25-II

[10] ALT supply may be relied upon (where available as a backup) with no compensatory measures, where NORM supply is credited but not available. ALT supply is required for this board in 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 4, 7, 8, 9, 17, and 25-I only.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 009 - 120V I&C BUSES AND BOARDS (CONT.)		
			120V I&C BUS 1B (CONT.)		
SWITCH 3B6	ALT FEED TO 1-PNLA-009-0009-3	1	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 18, 20, 22, 24, 25-I, 25-II
XFMR TIC 3B	ALT FEED TO 1-PNLA-009-0009-3	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 18, 20, 22, 24, 25-I, 25-II
REG XFMR TIC 3B	ALT FEED TO 1-PNLA-009-0009-3	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 18, 20, 22, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 009 - 120V I&C BUSES AND BOARDS (CONT.)		
			120V I&C UNIT PREFERRED BUS		
1-PNLA-009-0009-6	U1 PREFERRED BUS	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
1-PNLA-009-0009-6-A	U1 PREFERRED BUS ALT SUPPLY FROM 2-MGEN-252-2	0	ENERGIZED / AVAILABLE AS BACKUP	A[11]	1-1, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24
1-PNLA-009-0009-6-N	U1 PREFERRED BUS NORM SUPPLY FROM 1-INV-252-1	0	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24

[11] ALT supply may be relied upon (where available as a backup) with no compensatory measures, where NORM supply is credited but not available. ALT supply is required for this board in 17 only.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 009 - 120V I&C BUSES AND BOARDS (CONT.)		
			120V I&C BUS 2A		
2-PNLA-009-0009-2	U2 I&C BUS A	2	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PNLA-009-0009-2-N	U2 I&C BUS A NORM SUPPLY	2	ENERGIZED	A	1-1, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
SWITCH 2A1	NORM FEED TO 2-PNLA-009-0009-2	0	REMAIN CLOSED	A	1-1, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
SWITCH 2A4	NORM FEED TO 2-PNLA-009-0009-2	0	REMAIN CLOSED	A	1-1, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
SWITCH 2A5	NORM FEED TO 2-PNLA-009-0009-2	0	REMAIN CLOSED	A	1-1, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
XFMR TIC 2A	NORM FEED TO 2-PNLA-009-0009-2	0	OPERABLE	A	1-1, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 009 - 120V I&C BUSES AND BOARDS (CONT.)		
			120V I&C BUS 2A (CONT.)		
REG XFMR TIC 2A	NORM FEED TO 2-PNLA-009-0009-2	0	OPERABLE	A	1-1, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-PNLA-009-0009-2-A	U2 I&C BUS A ALT SUPPLY	2	ENERGIZED / AVAILABLE AS BACKUP	A[12]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 17, 20, 21, 23, 24, 25-I, 25-II
SWITCH 3A1	ALT FEED TO 2-PNLA-009-0009-2	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 17, 20, 21, 23, 24, 25-I, 25-II
SWITCH 3A4	ALT FEED TO 2-PNLA-009-0009-2	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 17, 20, 21, 23, 24, 25-I, 25-II
SWITCH 3A5	ALT FEED TO 2-PNLA-009-0009-2	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 17, 20, 21, 23, 24, 25-I, 25-II

[12] ALT supply may be relied upon (where available as a backup) with no compensatory measures, where NORM supply is credited but not available. ALT supply is required for this board in 1-2, 1-3, 1-4, 1-5, 2-3, 4, 9, 10, and 20 only.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 009 - 120V I&C BUSES AND BOARDS (CONT.)		
			120V I&C BUS 2A (CONT.)		
SWITCH 3A6	ALT FEED TO 2-PNLA-009-0009-2	2	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 17, 20, 21, 23, 24, 25-I, 25-II
XFMR TIC 3A	ALT FEED TO 2-PNLA-009-0009-2	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 17, 20, 21, 23, 24, 25-I, 25-II
REG XFMR TIC 3A	ALT FEED TO 2-PNLA-009-0009-2	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 17, 20, 21, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 009 - 120V I&C BUSES AND BOARDS (CONT.)		
			120V I&C BUS 2B		
2-PNLA-009-0009-3	U2 I&C BUS B	2	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
2-PNLA-009-0009-3-N	U2 I&C BUS B NORM SUPPLY	2	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 2B1	NORM FEED TO 2-PNLA-009-0009-3	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 2B4	NORM FEED TO 2-PNLA-009-0009-3	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 2B5	NORM FEED TO 2-PNLA-009-0009-3	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
XFMR TIC 2B	NORM FEED TO 2-PNLA-009-0009-3	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 009 - 120V I&C BUSES AND BOARDS (CONT.)		
			120V I&C BUS 2B (CONT.)		
REG XFMR TIC 2B	NORM FEED TO 2-PNLA-009-0009-3	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
2-PNLA-009-0009-3-A	U2 I&C BUS B ALT SUPPLY	2	ENERGIZED / AVAILABLE AS BACKUP	A[13]	1-1, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 1B1	ALT FEED TO 2-PNLA-009-0009-3	0	REMAIN CLOSED	A	1-1, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 1B4	ALT FEED TO 2-PNLA-009-0009-3	0	REMAIN CLOSED	A	1-1, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 1B5	ALT FEED TO 2-PNLA-009-0009-3	0	REMAIN CLOSED	A	1-1, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 1B6	ALT FEED TO 2-PNLA-009-0009-3	2	REMAIN CLOSED	A	1-1, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II

[13] ALT supply may be relied upon (where available as a backup) with no compensatory measures, where NORM supply is credited but not available. ALT supply is required for this board in 2-4, 11, and 18 only.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 009 - 120V I&C BUSES AND BOARDS (CONT.)		
			120V I&C BUS 2B (CONT.)		
XFMR TIC 1B	ALT FEED TO 2-PNLA-009-0009-3	0	OPERABLE	A	1-1, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II
REG XFMR TIC 1B	ALT FEED TO 2-PNLA-009-0009-3	0	OPERABLE	A	1-1, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 009 - 120V I&C BUSES AND BOARDS (CONT.)		
			120V I&C BUS 3A		
3-PNLA-009-0009-2	U3 I&C BUS A	3	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-PNLA-009-0009-2-N	U3 I&C BUS A NORM SUPPLY	3	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 17, 18, 20, 21, 23, 24, 25-I, 25-II
SWITCH 3A1	NORM FEED TO 3-PNLA-009-0009-2	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 17, 18, 20, 21, 23, 24, 25-I, 25-II
SWITCH 3A4	NORM FEED TO 3-PNLA-009-0009-2	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 17, 18, 20, 21, 23, 24, 25-I, 25-II
SWITCH 3A5	NORM FEED TO 3-PNLA-009-0009-2	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 17, 18, 20, 21, 23, 24, 25-I, 25-II
SWITCH 3A7	NORM FEED TO 3-PNLA-009-0009-2	3	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 17, 18, 20, 21,

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
					23, 24, 25-I, 25-II
		SYSTEM 009 - 120V I&C BUSES AND BOARDS (CONT.)			
		120V I&C BUS 3A (CONT.)			
XFMR TIC3A	NORM FEED TO 3-PNLA-009-0009-2	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 17, 18, 20, 21, 23, 24, 25-I, 25-II
REG XFMR TIC3A	NORM FEED TO 3-PNLA-009-0009-2	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 15, 17, 18, 20, 21, 23, 24, 25-I, 25-II
3-PNLA-009-0009-2-A	U3 I&C BUS A ALT SUPPLY	3	ENERGIZED / AVAILABLE AS BACKUP	A[14]	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
SWITCH 1A1	ALT FEED TO 3-PNLA-009-0009-2	0	REMAIN CLOSED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
SWITCH 1A4	ALT FEED TO 3-PNLA-009-0009-2	0	REMAIN CLOSED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

[14] ALT supply may be relied upon (where available as a backup) with no compensatory measures where NORM supply is credited but not available. ALT supply is required for this board in 3-3, 3-4, 13, 14, 19, and 22 only.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 009 - 120V I&C BUSES AND BOARDS (CONT.)		
			120V I&C BUS 3A (CONT.)		
SWITCH 1A5	ALT FEED TO 3-PNLA-009-0009-2	0	REMAIN CLOSED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
SWITCH 1A6	ALT FEED TO 3-PNLA-009-0009-2	3	REMAIN CLOSED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
XFMR TIC1A	ALT FEED TO 3-PNLA-009-0009-2	0	OPERABLE	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
REG XFMR TIC1A	ALT FEED TO 3-PNLA-009-0009-2	0	OPERABLE	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 009 - 120V I&C BUSES AND BOARDS (CONT.)		
			120V I&C BUS 3B		
3-PNLA-009-0009-3	U3 I&C BUS B	3	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-PNLA-009-0009-3-N	U3 I&C BUS B NORM SUPPLY	3	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 18, 20, 22, 24, 25-I, 25-II
SWITCH 3B1	NORM FEED TO 3-PNLA-009-0009-3	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 18, 20, 22, 24, 25-I, 25-II
SWITCH 3B4	NORM FEED TO 3-PNLA-009-0009-3	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 18, 20, 22, 24, 25-I, 25-II
SWITCH 3B5	NORM FEED TO 3-PNLA-009-0009-3	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 18, 20, 22, 24, 25-I, 25-II
SWITCH 3B7	NORM FEED TO 3-PNLA-009-0009-3	3	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 18, 20, 22, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 009 - 120V I&C BUSES AND BOARDS (CONT.)		
			120V I&C BUS 3B (CONT.)		
XFMR TIC3B	NORM FEED TO 3-PNLA-009-0009-3	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 18, 20, 22, 24, 25-I, 25-II
REG XFMR TIC3B	NORM FEED TO 3-PNLA-009-0009-3	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 17, 18, 20, 22, 24, 25-I, 25-II
3-PNLA-009-0009-3-A	U3 I&C BUS B ALT SUPPLY	3	ENERGIZED / AVAILABLE AS BACKUP	A[15]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 2B1	ALT FEED TO 3-PNLA-009-0009-3	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 2B4	ALT FEED TO 3-PNLA-009-0009-3	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II

[15] ALT supply may be relied upon (where available as a backup) with no compensatory measures where NORM supply is credited but not available. ALT supply is required for this board in 3-2, 3-3, 3-4, 12, 15, 19, 21, and 23 only.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 009 - 120V I&C BUSES AND BOARDS (CONT.)		
			120V I&C BUS 3B (CONT.)		
SWITCH 2B5	ALT FEED TO 3-PNLA-009-0009-3	0	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
SWITCH 2B6	ALT FEED TO 3-PNLA-009-0009-3	3	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
XFMR TIC2B	ALT FEED TO 3-PNLA-009-0009-3	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
REG XFMR TIC2B	ALT FEED TO 3-PNLA-009-0009-3	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
SYSTEM - ACTIONS / EQUIPMENT FOR LOSS OF NORM VENTILATION					
BATT BD RM 1 DOOR		0	OPEN DOOR	A	16
BATT BD RM 1 VENTILATION		0	PROVIDE PORTABLE VENTILATION	A	16
BATT BD RM 2 DOOR		0	OPEN DOOR	A	16
BATT BD RM 2 VENTILATION		0	PROVIDE PORTABLE VENTILATION	A	16
BATT BD RM 3 DOOR		0	OPEN DOOR	A	16
BATT BD RM 3 VENTILATION		0	PROVIDE PORTABLE VENTILATION	A	16
BATT RM 1 LIGHTS		0	TURN OFF LIGHTS	A	16
BATT RM 3 LIGHTS		0	TURN OFF LIGHTS	A	16
CNTRL BUILDING VENTILATION		0	PROVIDE PORTABLE VENTILATION	A	16
FIRE AREA 9 – 4KV SHDN BD C ROOM DOOR(S)		0	OPEN DOOR(S)	A	2-3, 2-4

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
SYSTEM - ACTIONS / EQUIPMENT FOR LOSS OF NORM VENTILATION (CONT.)					
FIRE AREA 9 – 4KV SHDN BD C ROOM VENTILATION		0	PROVIDE PORTABLE VENTILATION	A	2-3, 2-4
FIRE AREA 11 – 480V SHDN BD 2B ROOM DOOR		0	OPEN DOOR	A	2-3, 2-4, 9, 10
FIRE AREA 10 – 480V SHDN BD 2A ROOM DOOR		0	OPEN DOOR	A	2-3, 2-4, 9
FIRE AREA 10 – 480V SHDN BD 2A ROOM VENTILATION		0	PROVIDE PORTABLE VENTILATION	A	2-3, 2-4, 9
FIRE AREA 08 – 4KV SHDN BD D ROOM DOOR(S)		0	OPEN DOOR(S)	A	2-3, 2-4
FIRE AREA 08 – 4KV SHDN BD D ROOM VENTILATION		0	PROVIDE PORTABLE VENTILATION	A	2-3, 2-4
FIRE AREA 4 - 4KV SHDN BD B ROOM DOORS		0	OPEN DOOR(S)	A	1-3, 1-4

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
SYSTEM - ACTIONS / EQUIPMENT FOR LOSS OF NORM VENTILATION (CONT.)					
FIRE AREA 5 - 4KV SHDN BD A ROOM DOORS		0	OPEN DOOR(S)	A	1-3, 1-4
FIRE AREA 5 - 4KV SHDN BD A ROOM LIGHTS		0	TURN OFF LIGHTS	A	1-3, 1-4
FIRE AREA 5 - 4KV SHDN BD A ROOM VENTILATION		0	PROVIDE PORTABLE VENTILATION	A	1-3, 1-4
FIRE AREA 6 - 480V SHDN BD 1A ROOM DOORS		0	OPEN DOOR	A	1-3, 1-4, 5
FIRE AREA 6 - 480V SHDN BD 1A ROOM VENTILATION		0	PROVIDE PORTABLE VENTILATION	A	1-3, 1-4, 5
FIRE AREA 7 - 480V SHDN BD 1B DOORS		0	OPEN DOOR	A	1-3, 1-4, 5
FIRE AREA 7 - 480V SHDN BD 1B ROOM VENTILATION		0	PROVIDE PORTABLE VENTILATION	A	1-3, 1-4, 5
FIRE AREA 12 - 480V RMOV BD 3B ROOM DOORS		0	OPEN DOOR	A	3-3

SECTION III - REQUIRED SAFE SHUTDOWN EQUIPMENT - UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
SYSTEM - ACTIONS / EQUIPMENT FOR LOSS OF NORM VENTILATION (CONT.)					
FIRE AREA 12 - 480V RMOV BD 3B ROOM LIGHTS		0	TURN OFF LIGHTS	A	3-3
FIRE AREA 13 - 480V RMOV BD 3A ROOM LIGHTS		0	TURN OFF LIGHTS	A	3-3
FIRE AREA 14 - 480V SHDN BD 3A ROOM DOORS		0	OPEN DOOR	A	3-3, 13
FIRE AREA 14 - 480V SHDN BD 3A ROOM LIGHTS		0	TURN OFF LIGHTS	A	3-3, 13
FIRE AREA 14 - 480V SHDN BD 3A RM VENTILATION		0	PROVIDE PORTABLE VENTILATION	A	3-3, 13
FIRE AREA 15 - 480V SHDN BD 3B ROOM DOORS		0	OPEN DOOR	A	3-3, 13
FIRE AREA 15 - 480V SHDN BD 3B ROOM LIGHTS		0	TURN OFF LIGHTS	A	3-3, 13
FIRE AREA 15 - 480V SHDN BD 3B RM VENTILATION		0	PROVIDE PORTABLE VENTILATION	A	3-3, 13

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 0

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
SYSTEM - ACTIONS / EQUIPMENT FOR LOSS OF NORM VENTILATION (CONT.)					
FIRE AREA 22-SHDN BD RM 3EB LIGHTS		0	TURN OFF LIGHTS	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25-I, 25-II
FIRE AREA 23 - SHDN BD RM 3ED LIGHTS		0	TURN OFF LIGHTS	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 25-I, 25-II

UNIT 1

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM		
1-FCV-001-0014	MAIN STEAM LINE A INBD ISLN	1	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	ISOLATE AND CLOSE AT PANEL 1-LPNL-925-0032	A	16
1-FCV-001-0015	MAIN STEAM LINE A OUTBD ISLN	1	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	ISOLATE AND CLOSE AT PANEL 1-LPNL-925-0032	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM (CONT.)		
1-FCV-001-0026	MAIN STEAM LINE B INBD ISLN	1	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	ISOLATE AND CLOSE AT PANEL 1-LPNL-925-0032	A	16
1-FCV-001-0027	MAIN STEAM LINE B OUTBD ISLN	1	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	ISOLATE AND CLOSE AT PANEL 1-LPNL-925-0032	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM (CONT.)		
1-FCV-001-0037	MAIN STEAM LINE C INBD ISLN	1	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	ISOLATE AND CLOSE AT PANEL 1-LPNL-925-0032	A	16
1-FCV-001-0038	MAIN STEAM LINE C OUTBD ISLN	1	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	ISOLATE AND CLOSE AT PANEL 1-LPNL-925-0032	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM (CONT.)		
1-FCV-001-0051	MAIN STEAM LINE D INBD ISLN	1	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	ISOLATE AND CLOSE AT PANEL 1-LPNL-925-0032	A	16
1-FCV-001-0052	MAIN STEAM LINE D OUTBD ISLN	1	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	ISOLATE AND CLOSE AT PANEL 1-LPNL-925-0032	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM (CONT.)		
1-FCV-001-0055	MAIN STEAM LINES DRAIN ISLN	1	CLOSE FROM MCR	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	ISOLATE AND CLOSE AT 480V RMOV BD 1A BKR 17C	A	16
1-FCV-001-0056	MAIN STEAM LINES DRAIN ISLN	1	CLOSE FROM MCR	A	1-1, 5, 6
		1	ISOLATE AND CLOSE AT 250V RMOV BD 1B BKR 6D	A	1-3

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED

SYSTEM 001 - MAIN STEAM (CONT.)

MSRVs are credited to open for depressurization as follows:
1-PCV-001-0004, **-0005**, **-0030**, -0041 in Fire Areas / Zones 1-2
1-PCV-001-**0005**, **-0030**, **-0034**, -0041 in Fire Areas / Zones 4
1-PCV-001-0018, **-0019**, **-0031**, -0179 in Fire Areas / Zones 1-3, 1-5, 5
1-PCV-001-**0005**, **-0019**, **-0031**, **-0034** in Fire Areas / Zones 17
1-PCV-001-**0019**, **-0022**, **-0030**, **-0031** in Fire Areas / Zones 2-3, 9, 18
1-PCV-001-**0005**, **-0022**, **-0030**, **-0034** in Fire Areas / Zones 1-4, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 19, 20, 21, 22, 23, 24, 25-I, 25-II

No compensatory measures are required provided that three credited MSRVs are available to open from the location as identified in the following table. However, one of the three available MSRVs must always be an ADS VLV (ADS VLVs in bold above).

In Fire Zone 1-1, either one of two groups of MSRVs is credited to survive and open for depressurization as follows:
(1-PCV-001-0004, -0018, **-0030**, -0041, –0042) OR (1-PCV-001-**0022**, **-0031**, –0179)

No compensatory measures are required provided that three credited MSRVs are available in each group to open from the location as identified in the following table. However, one of the three available MSRVs must always be an ADS VLV (ADS VLVs in bold above).

1-PCV-001-0004	MAIN STEAM LINE A RELIEF VLV	1	OPEN FROM MCR	A	1-1, 1-2
		1	ISOLATE AT PANEL 1-LPNL-925-0032	A	1-5, 16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM (CONT.)		
1-PCV-001-0005	MAIN STEAM LINE A RELIEF VLV-ADS	1	OPEN FROM MCR	A	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	ISOLATE AND OPEN AT PANEL 1-LPNL-925-0032	A	1-4, 16
		1	ISOLATE AT PANEL 1-LPNL-925-0032	A	1-5
1-PCV-001-0018	MAIN STEAM LINE B RELIEF VLV	1	OPEN FROM MCR	A	1-1, 5
		1	ISOLATE AND OPEN AT PANEL 1-LPNL-925-0658	A	1-3, 1-5
		1	ISOLATE AT PANEL 1-LPNL-925-0658	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM (CONT.)		
1-PCV-001-0019	MAIN STEAM LINE B RELIEF VLV-ADS	1	OPEN FROM MCR	A	2-3, 5, 9, 17, 18
		1	ISOLATE AT PANEL 1-LPNL-925-0658	A	16
		1	ISOLATE AND OPEN AT PANEL 1-LPNL-925-0658	A	1-3, 1-5
1-PCV-001-0022	MAIN STEAM LINE B RELIEF VLV-ADS	1	OPEN FROM MCR	A	1-1, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	ISOLATE AND OPEN AT PANEL 1-LPNL-925-0032	A	1-4, 16
		1	ISOLATE AT PANEL 1-LPNL-925-0032	A	1-5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM (CONT.)		
1-PCV-001-0023	MAIN STEAM LINE B RELIEF VLV	1	ISOLATE AT PANEL 1-LPNL-925-0032	A	1-5, 16
1-PCV-001-0030	MAIN STEAM LINE C RELIEF VLV-ADS	1	OPEN FROM MCR	A	1-1, 1-2, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	ISOLATE AND OPEN AT PANEL 1-LPNL-925-0032	A	1-4, 16
		1	ISOLATE AT PANEL 1-LPNL-925-0032	A	1-5
1-PCV-001-0031	MAIN STEAM LINE C RELIEF VLV-ADS	1	OPEN FROM MCR	A	1-1, 2-3, 5, 9, 17, 18
		1	ISOLATE AT PANEL 1-LPNL-925-0658	A	16
		1	ISOLATE AND OPEN AT PANEL 1-LPNL-925-0658	A	1-3, 1-5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM (CONT.)		
1-PCV-001-0034	MAIN STEAM LINE C RELIEF VLV-ADS	1	OPEN FROM MCR	A	1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	ISOLATE AND OPEN AT PANEL 1-LPNL-925-0032	A	1-4, 16
		1	ISOLATE AT PANEL 1-LPNL-925-0032	A	1-5
1-PCV-001-0041	MAIN STEAM LINE D RELIEF VLV	1	OPEN FROM MCR	A	1-1, 1-2, 4
		1	ISOLATE AT PANEL 1-LPNL-925-0032	A	1-5, 16
1-PCV-001-0042	MAIN STEAM LINE D RELIEF VLV	1	OPEN FROM MCR	A	1-1
		1	ISOLATE AT PANEL 1-LPNL-925-0032	A	1-5, 16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM (CONT.)		
1-PCV-001-0179	MAIN STEAM LINE A RELIEF VLV	1	OPEN FROM MCR	A	1-1, 5
		1	ISOLATE AND OPEN AT PANEL 1-LPNL-925-0658	A	1-3, 1-5
		1	ISOLATE AT PANEL 1-LPNL-925-0658	A	16
1-PCV-001-0180	MAIN STEAM LINE D RELIEF VLV	1	ISOLATE AT PANEL 1-LPNL-925-0032	A	1-5, 16
1-XS-001-0159A	UNIT 1 ADS SYS INHIBIT SWITCH	1	OPERATE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 4, 5, 6, 16, 17
1-XS-001-0161A	UNIT 1 ADS SYS INHIBIT SWITCH	1	OPERATE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 4, 5, 6, 16, 17
1-XS-001-0202	UNIT 1 MSRV AUTO ACTUATION INHIBIT SW	1	OPERATE FROM MCR	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 002 - CONDENSATE		
1-SHV-002-0705	CONDENSATE SUPPLY TO SAFETY SYSS	1	MANUALLY CLOSE VLV	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 4, 5, 6, 16, 17
1-FCV-002-0170	CONDENSATE STORAGE TANK SUPPLY ISLN VLV	1	REMAIN OPEN	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-LI-002-0169	CONDENSATE STORAGE TANK #1 LEVEL	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-LT-002-0169	CONDENSATE STORAGE TANK #1 LEVEL	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 003 - FEEDWATER		
1-LI-003-0046A	RX WATER ACCIDENT RANGE LEVEL A	1	OPERABLE AT PANEL 1-LPNL-925-0032	A	16
1-LI-003-0058A	RX WATER LEVEL A ACCIDENT RANGE	1	OPERABLE IN MCR	A	1-2, 1-3, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-LI-003-0058B	RX WATER LEVEL B ACCIDENT RANGE	1	OPERABLE	A	1-1, 1-4, 1-5, 4, 17, 19, 25-I, 25-II
1-LIS-003-0058A	RX WATER LEVEL A ACCIDENT RANGE	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-II
1-LIS-003-0058B	RX WATER LEVEL LEVEL INDICATING SWITCH	1	OPERABLE	A	1-2, 1-3, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-LIS-003-0058C	RX WATER LEVEL LEVEL INDICATING SWITCH	1	OPERABLE	A	1-1, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-LIS-003-0058D	RX WATER LEVEL LEVEL INDICATING SWITCH	1	OPERABLE	A	1-1, 1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 003 - FEEDWATER (CONT.)		
1-LIS-003-0208A	RX WATER LEVEL LEVEL INDICATING SWITCH	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-LIS-003-0208B	RX WATER LEVEL LEVEL INDICATING SWITCH	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-LIS-003-0208C	RX WATER LEVEL LEVEL INDICATING SWITCH	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-LIS-003-0208D	RX WATER LEVEL LEVEL INDICATING SWITCH	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-LIT-003-0046A	RX WATER LEVEL LEVEL	1	OPERABLE	A	16
1-LS-003-0058A	RX WATER LEVEL LEVEL SWITCH	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-II
1-LS-003-0058B	RX WATER LEVEL LEVEL SWITCH	1	OPERABLE	A	1-2, 1-3, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 003 - FEEDWATER (CONT.)		
1-LS-003-0058C	RX WATER LEVEL LEVEL SWITCH	1	OPERABLE	A	1-1, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-LS-003-0058D	RX WATER LEVEL LEVEL SWITCH	1	OPERABLE	A	1-2, 1-3, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-LT-003-0058A	RX WATER LEVEL LEVEL TRANSMITTER	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-II
1-LT-003-0058B	RX WATER LEVEL LEVEL TRANSMITTER	1	OPERABLE	A	1-2, 1-3, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-LT-003-0058C	RX WATER LEVEL LEVEL TRANSMITTER	1	OPERABLE	A	1-1, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-LT-003-0058D	RX WATER LEVEL LEVEL TRANSMITTER	1	OPERABLE	A	1-2, 1-3, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 003 - FEEDWATER (CONT.)		
1-LT-003-0208A	RX WATER LEVEL LEVEL TRANSMITTER	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-LT-003-0208B	RX WATER LEVEL LEVEL TRANSMITTER	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-LT-003-0208C	RX WATER LEVEL LEVEL TRANSMITTER	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-LT-003-0208D	RX WATER LEVEL LEVEL TRANSMITTER	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PI-003-0074A	REACTOR PRESSURE A	1	OPERABLE	A	1-2, 1-3, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-PI-003-0074B	REACTOR PRESSURE B	1	OPERABLE	A	1-1, 1-4, 1-5, 4, 17, 19, 25-I, 25-II
1-PI-003-0079	REACTOR PRESSURE B	1	OPERABLE	A	16
1-PIS-003-0074A	REACTOR PRESSURE A	1	OPERABLE	A	1-2, 1-3, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 003 - FEEDWATER (CONT.)		
1-PIS-003-0074B	REACTOR PRESSURE B	1	OPERABLE	A	1-1, 1-4, 1-5, 4, 17, 19, 25-I, 25-II
1-PS-003-0074A	REACTOR PRESSURE A	1	OPERABLE	A	1-2, 1-3, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-PS-003-0074B	REACTOR PRESSURE B	1	OPERABLE	A	1-1, 1-4, 1-5, 4, 17, 19, 25-I, 25-II
1-PT-003-0074A	REACTOR PRESSURE A	1	OPERABLE	A	1-2, 1-3, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-PT-003-0074B	REACTOR PRESSURE B	1	OPERABLE	A	1-1, 1-4, 1-5, 4, 17, 19, 25-I, 25-II
1-PT-003-0079	REACTOR PRESSURE B	1	OPERABLE	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 023 - RHR SERVICE WATER		
0-PMP-023-0001	RHRSW PUMP A1	1	ISOLATE AND STOP FROM 4KV SHDN BD A	A	1-4
		1	ISOLATE AND START FROM 4KV SHDN BD A	A	1-4
		1	START FROM MCR	A	1-2, 1-6, 2-1, 2-2, 2-5, 3-2, 4, 7, 8, 9, 10, 11, 14, 22, 24
0-PMP-023-0005	RHRSW PUMP A2	1	START FROM MCR	A	2-4, 3-3, 25-I
		1	ISOLATE AND STOP FROM 4KV SHDN BD A	A	25-I
0-PMP-023-0008	RHRSW PUMP C1	1	START FROM MCR	A	2-3, 12, 15, 23
0-PMP-023-0012	RHRSW PUMP C2	1	START FROM MCR	A	21
0-PMP-023-0015	RHRSW PUMP B1	1	START FROM MCR	A	5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 023 - RHR SERVICE WATER (CONT.)		
0-PMP-023-0019	RHRSW PUMP B2	1	START FROM MCR	A	1-5, 2-6, 3-1, 3-4, 6, 13, 17, 18, 19, 20
		1	ISOLATE AND STOP FROM 4KV SHDN BD C	A	16, 25-II
		1	ISOLATE AND START FROM 4KV SHDN BD C	A	16, 25-II
0-PMP-023-0027	RHRSW PUMP D2	1	START FROM MCR	A	1-1, 1-3
1-FCV-023-0034	RHR HEAT EXCH A SW OUTLET VLV	1	OPEN FROM MCR	A	1-2, 1-4, 1-6, 2-1, 2-4, 2-5, 3-2, 3-3, 7, 9, 10, 11, 14, 22, 24
1-FCV-023-0040	RHR HEAT EXCH C SW OUTLET VLV	1	OPEN FROM MCR	A	12, 15, 21, 23
1-FCV-023-0046	RHR HX B SW OUTLET VLV	1	OPEN FROM MCR	A	1-5, 2-6, 3-4, 5, 17, 19, 20
		1	OPEN BKR AT 480V RMOV BD 1B BKR 14C2	A	16
		1	MANUALLY OPEN VLV	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 023 - RHR SERVICE WATER (CONT.)		
1-FCV-023-0052	RHR HEAT EXCH D SW OUTLET VLV	1	OPEN FROM MCR	A	1-1
		1	OPEN BKR AT 480V RMOV BD 1B BKR 15C	A	1-3
		1	MANUALLY OPEN VLV	A	1-3
2-FCV-023-0034	RHR HEAT EXCH A SW OUTLET VLV	1	CLOSE FROM MCR	A	1-2, 1-6, 2-5, 3-2, 7, 10, 11, 14, 22, 24
		1	MANUALLY CLOSE VLV	A	1-4, 2-1, 2-4, 3-3, 9
		1	OPEN BKR AT 480V RMOV BD 2A BKR 17C	A	1-4, 2-1, 2-4, 3-3
		1	OPEN BKRS 03A AT 480V SHDN BDS 2-231-2A AND 2-231-2B	A	9
2-FCV-023-0040	RHR HEAT EXCH C SW OUTLET VLV	1	CLOSE FROM MCR	A	12, 15, 21, 23
2-FCV-023-0046	RHR HX B SW OUTLET VLV	1	CLOSE FROM MCR	A	1-5, 2-6, 3-4, 5, 17, 19, 20
		1	OPEN BKR AT 480V RMOV BD 2B BKR 7E	A	16
		1	MANUALLY CLOSE VLV	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 023 - RHR SERVICE WATER (CONT.)		
2-FCV-023-0052	RHR HEAT EXCH D SW OUTLET VLV	1	CLOSE FROM MCR	A	1-1, 1-3
3-FCV-023-0034	RHR HEAT EXCH A SW OUTLET VLV	1	CLOSE FROM MCR	A	1-2, 1-6, 2-1, 2-5, 3-2, 7, 9, 10, 11, 14, 22, 24
		1	MANUALLY CLOSE VLV	A	1-4, 2-4, 3-3
		1	OPEN BKR AT 480V RMOV BD 3A BKR 17C	A	1-4, 2-4, 3-3
3-FCV-023-0040	RHR HEAT EXCH C SW OUTLET VLV	1	CLOSE FROM MCR	A	12, 15, 21, 23
3-FCV-023-0046	RHR HX B SW OUTLET VLV	1	CLOSE FROM MCR	A	1-5, 2-6, 3-4, 5, 17, 19, 20
		1	OPEN BKR AT 480V RMOV BD 3B BKR 7E	A	16
		1	MANUALLY CLOSE VLV	A	16
3-FCV-023-0052	RHR HEAT EXCH D SW OUTLET VLV	1	CLOSE FROM MCR	A	1-1, 1-3

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 032 - CONTROL AIR		
1-VTV-032-5103	1-FCV-69-94 MANUAL INSTRUMENT AIR VENT VLV	1	MANUALLY OPEN VLV	A	1-3, 16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION		
1-ACU-064-0068	RHR PP 1A AIR CLG UNIT	1	OPERABLE	A	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 3-2, 3-3, 4, 7, 8, 9, 10, 11, 14, 22, 24, 25-I
1-ACU-064-0069	RHR PP 1B AIR CLG UNIT	1	OPERABLE	A	2-3, 12, 15, 21, 23
1-ACU-064-0070	RHR PP 1C AIR CLG UNIT	1	OPERABLE	A	1-5, 2-6, 3-1, 3-4, 5, 6, 13, 17, 18, 19, 20, 25-II
1-ACU-064-0071	RHR PP 1D AIR CLG UNIT	1	OPERABLE	A	1-1
1-LI-064-0054A	SUPP CHAMBER WATER LEVEL	1	OPERABLE	A	1-3
1-LI-064-0054B	SUPP CHAMBER WATER LEVEL	1	OPERABLE	A	16
1-LI-064-0066	SUPP CHAMBER WATER LEVEL	1	OPERABLE	A	1-1, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-LI-064-0159A	SUPP CHAMBER WATER LEVEL	1	OPERABLE	A	1-2
1-LT-064-0054	SUPP CHAMBER WATER LEVEL	1	OPERABLE	A	1-3, 16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)		
1-LT-064-0066	SUPP CHAMBER WATER LEVEL	1	OPERABLE	A	1-1, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-LT-064-0159A	SUPP CHAMBER WATER LEVEL	1	OPERABLE	A	1-2
1-PI-064-0160A	DRYWELL PRESSURE HIGH RANGE	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PIS-064-0058A	DRYWELL PRESSURE A	1	OPERABLE	A	1-1, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PIS-064-0058B	DRYWELL PRESSURE B	1	OPERABLE	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24
1-PIS-064-0058C	DRYWELL PRESSURE C	1	OPERABLE	A	1-1, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PIS-064-0058D	DRYWELL PRESSURE D	1	OPERABLE	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)		
1-PT-064-0058A	DRYWELL PRESSURE A	1	OPERABLE	A	1-1, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PT-064-0058B	DRYWELL PRESSURE B	1	OPERABLE	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24
1-PT-064-0058C	DRYWELL PRESSURE C	1	OPERABLE	A	1-1, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PT-064-0058D	DRYWELL PRESSURE D	1	OPERABLE	A	1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24
1-PT-064-0160A	DRYWELL PRESSURE HIGH RANGE	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-TE-064-0052A	DRYWELL AIR TEMP	1	OPERABLE	A	2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II
1-TE-064-0055E	SUPRESSIONP POOL TEMP	1	OPERABLE	A	16
1-TE-064-0055F	SUPP POOL TEMP	1	OPERABLE	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
	SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)				
1-TE-064-0068	RHR PUMP 1A AIR COOLING UNIT TEMP ELEMENT	1	OPERABLE	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-4, 2-5, 3-2, 3-3, 4, 7, 8, 9, 10, 11, 14, 22, 24, 25-I
1-TE-064-0069	RHR PUMP 1B AIR COOLING UNIT TEMP ELEMENT	1	OPERABLE	A	2-3, 12, 15, 21, 23
1-TE-064-0070	RHR PUMP 1C AIR COOLING UNIT TEMP ELEMENT	1	OPERABLE	A	1-5, 2-6, 3-1, 3-4, 5, 6, 13, 16, 17, 18, 19, 20, 25-II
1-TE-064-0071	RHR PUMP 1D AIR COOLING UNIT TEMP ELEMENT	1	OPERABLE	A	1-1, 1-3
1-TE-064-0161A	SUPP POOL TEMP	1	OPERABLE	A	1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-TE-064-0161B	SUPP POOL TEMP	1	OPERABLE	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-TE-064-0161C	SUPP POOL TEMP	1	OPERABLE	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)		
1-TE-064-0161D	SUPP POOL TEMP	1	OPERABLE	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-TE-064-0161E	SUPP POOL TEMP	1	OPERABLE	A	1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-TE-064-0161F	SUPP POOL TEMP	1	OPERABLE	A	1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-TE-064-0161G	SUPP POOL TEMP	1	OPERABLE	A	1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-TE-064-0161H	SUPP POOL TEMP	1	OPERABLE	A	1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-TE-064-0162A	SUPP POOL TEMP	1	OPERABLE	A	4, 17, 19, 25-I, 25-II
1-TE-064-0162B	SUPP POOL TEMP	1	OPERABLE	A	4, 17, 19, 25-I, 25-II
1-TE-064-0162C	SUPP POOL TEMP	1	OPERABLE	A	4, 17, 19, 25-I, 25-II
1-TE-064-0162D	SUPP POOL TEMP	1	OPERABLE	A	4, 17, 19, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
	SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)				
1-TE-064-0162E	SUPP POOL TEMP	1	OPERABLE	A	1-1, 4, 17, 19, 25-I, 25-II
1-TE-064-0162F	SUPP POOL TEMP	1	OPERABLE	A	1-1, 4, 17, 19, 25-I, 25-II
1-TE-064-0162G	SUPP POOL TEMP	1	OPERABLE	A	1-1, 4, 17, 19, 25-I, 25-II
1-TE-064-0162H	SUPP POOL TEMP	1	OPERABLE	A	1-1, 4, 17, 19, 25-I, 25-II
1-TI-064-0052AB	DRYWELL TEMP	1	OPERABLE	A	2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II
1-TI-064-0055B	SUPP POOL TEMP	1	OPERABLE	A	16
1-TI-064-0161	SUPP POOL BULK TEMP DIV-I	1	OPERABLE	A	1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-TI-064-0162	SUPP POOL BULK TEMP DIV-II	1	OPERABLE	A	4, 17, 19, 25-I, 25-II
1-TM-064-0052AA	DRYWELL TEMP	1	OPERABLE	A	2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-II
1-TM-064-0055B	DRYWELL TEMP	1	OPERABLE	A	16
1-TM-064-0161A	SUPP POOL TEMP	1	OPERABLE	A	1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)		
1-TM-064-0161B	SUPP POOL TEMP	1	OPERABLE	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-TM-064-0161C	SUPP POOL TEMP	1	OPERABLE	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-TM-064-0161D	SUPP POOL TEMP	1	OPERABLE	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-TM-064-0161E	SUPP POOL TEMP	1	OPERABLE	A	1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-TM-064-0161F	SUPP POOL TEMP	1	OPERABLE	A	1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-TM-064-0161G	SUPP POOL TEMP	1	OPERABLE	A	1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)		
1-TM-064-0161H	SUPP POOL TEMP	1	OPERABLE	A	1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-TM-064-0161J	SUPP POOL TEMP	1	OPERABLE	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-TM-064-0161K	SUPP POOL TEMP	1	OPERABLE	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-TM-064-0161L	SUPP POOL TEMP	1	OPERABLE	A	1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 20, 21, 22, 23, 24
1-TM-064-0162A	SUPP POOL TEMP	1	OPERABLE	A	4, 17, 19, 25-I, 25-II
1-TM-064-0162B	SUPP POOL TEMP	1	OPERABLE	A	4, 17, 19, 25-I, 25-II
1-TM-064-0162C	SUPP POOL TEMP	1	OPERABLE	A	4, 17, 19, 25-I, 25-II
1-TM-064-0162D	SUPP POOL TEMP	1	OPERABLE	A	4, 17, 19, 25-I, 25-II
1-TM-064-0162E	SUPP POOL TEMP	1	OPERABLE	A	1-1, 4, 17, 19, 25-I, 25-II
1-TM-064-0162F	SUPP POOL TEMP	1	OPERABLE	A	1-1, 4, 17, 19, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
	SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)				
1-TM-064-0162G	SUPP POOL TEMP	1	OPERABLE	A	1-1, 4, 17, 19, 25-I, 25-II
1-TM-064-0162H	SUPP POOL TEMP	1	OPERABLE	A	1-1, 4, 17, 19, 25-I, 25-II
1-TM-064-0162J	SUPP POOL TEMP	1	OPERABLE	A	1-1, 4, 17, 19, 25-I, 25-II
1-TM-064-0162K	SUPP POOL TEMP	1	OPERABLE	A	1-1, 4, 17, 19, 25-I, 25-II
1-TM-064-0162L	SUPP POOL TEMP	1	OPERABLE	A	1-1, 4, 17, 19, 25-I, 25-II
1-TR-064-0161	SUPP POOL BULK TEMP DIV-I	1	OPERABLE	A	1-2
1-TR-064-0162	SUPP POOL BULK TEMP DIV-II	1	OPERABLE	A	1-1
1-TS-064-0068	RHR PUMP 1A AIR COOLING UNIT TEMP SWITCH	1	OPERABLE	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-4, 2-5, 3-2, 3-3, 4, 7, 8, 9, 10, 11, 14, 22, 24, 25-I
1-TS-064-0069	RHR PUMP 1B AIR COOLING UNIT TEMP SWITCH	1	OPERABLE	A	2-3, 12, 15, 21, 23
1-TS-064-0070	RHR PUMP 1C AIR COOLING UNIT TEMP SWITCH	1	OPERABLE	A	1-5, 2-6, 3-1, 3-4, 5, 6, 13, 16, 17, 18, 19, 20, 25-II
1-TS-064-0071	RHR PUMP 1D AIR COOLING UNIT TEMP SWITCH	1	OPERABLE	A	1-1, 1-3

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 068 - REACTOR RECIRCULATION		
1-PIS-068-0095	REACTOR PRESSURE	1	OPERABLE	A	1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24
1-PIS-068-0096	REACTOR PRESSURE	1	OPERABLE	A	1-1, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PMP-068-0060A	RECIRC PUMP A	1	STOP PUMP USING MECH TRIP AT 4KV RPT BD 1-II	A	1-1, 1-2, 1-3, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	MANUALLY TRIP BKRS 1222 AND 1436 AT 1-BDAA-068-0001	A	1-5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 068 - REACTOR RECIRCULATION (CONT.)		
1-PMP-068-0060B	RECIRC PUMP B	1	STOP PUMP USING MECH TRIP AT 4KV RPT BD 1-II	A	1-1, 1-2, 1-3, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	MANUALLY TRIP BKRS 1124 AND 1534 AT 1-BDAA-068-0001	A	1-5
1-PS-068-0095	REACTOR PRESSURE	1	OPERABLE	A	1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24
1-PS-068-0096	REACTOR PRESSURE	1	OPERABLE	A	1-1, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PT-068-0095	REACTOR PRESSURE	1	OPERABLE	A	1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24
1-PT-068-0096	REACTOR PRESSURE	1	OPERABLE	A	1-1, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 069 - REACTOR WATER CLEANUP		
1-FCV-069-0001	RWCU INBD SUCT ISLN VLV	1	CLOSE FROM MCR	A	4
1-FCV-069-0002	RWCU OUTBD SUCT ISLN VLV	1	CLOSE FROM MCR	A	1-1, 1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FCV-069-0094	RWCU LOW-TEMP PIPE ISLN VLV	1	MANUALLY CLOSE WITH 1-VTV-32-5103 LOCATED ON ELEV. 621	A	1-3, 16
		1	AUTO CLOSE VIA FUSIBLE PLUG 1-FUPG-032-5105	A	ALL

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING		
1-FCV-071-0002	RCIC STEAM LINE INBD ISLN VLV	1	REMAIN OPEN	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-FCV-071-0003	RCIC STEAM LINE OUTBD ISLN VLV	1	REMAIN OPEN	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-FCV-071-0008	STEAM ADMISSION VLV TO TURBINE	1	AUTO OPEN FOR RCIC	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-FCV-071-0009	TURBINE TRIP / THROTTLE VLV	1	REMAIN OPEN / OPEN FOR RCIC	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-FCV-071-0010	TURBINE TRIP / THROTTLE VLV	1	REMAIN OPEN FOR RCIC	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-FCV-071-0017	RCIC SUPP POOL INBD SUCT VLV	1	OPERABLE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-FCV-071-0018	RCIC SUPP POOL OUTBD SUCT VLV	1	OPERABLE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-FCV-071-0019	COND STORAGE TANK SUCT VLV	1	REMAIN OPEN	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)		
1-FCV-071-0025	RCIC LUBE OIL COOLER VLV	1	AUTO OPEN	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-FCV-071-0034	RCIC MAIN PUMP MIN FLOW VLV	1	AUTO OPEN / CLOSE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-FCV-071-0037	PUMP DISCHG ISLN VLV	1	REMAIN OPEN	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-FCV-071-0038	RCIC PUMP TEST RETURN VLV	1	REMAIN CLOSED	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-FCV-071-0039	RCIC PUMP TEST INJ VLV	1	AUTO OPEN	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-FCV-071-0059	RCIC TURBINE EXHAUST VACUUM RELIEF ISOL VLV	1	REMAIN OPEN (WITH PWR REMOVED)	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FIC-071-0036A	RCIC PUMP DISCHG LINE FLOW CNTRLLER	1	OPERABLE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-FIC-071-0036B	RCIC PUMP DISCHG LINE FLOW CNTRLLER	1	OPERABLE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)		
1-FIS-071-0036	RCIC PUMP DISCHG LINE FLOW INDICATING SW	1	OPERABLE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-FT-071-0036	RCIC PUMP DISCHG LINE FLOW TRANSMITTER	1	OPERABLE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-PCV-071-0022	LUBE OIL COOLER SUPPLY LINE PRESS CNTRL	1	OPERABLE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-PDIS-071-0001A	STEAM SUPPLY LINE PRES DIFFERENTIAL	1	OPERABLE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-PDIS-071-0001B	STEAM SUPPLY LINE PRES DIFFERENTIAL	1	OPERABLE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-PDT-071-0001A	STEAM SUPPLY LINE PRES DIFFERENTIAL	1	OPERABLE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-PDT-071-0001B	STEAM SUPPLY LINE PRES DIFFERENTIAL	1	OPERABLE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-PMP-071-0019	RCIC PUMP / TURBINE	1	OPERABLE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)		
1-PS-071-0001A	STEAM SUPPLY LINE PRESSURE SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-PS-071-0001B	STEAM SUPPLY LINE PRESSURE SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-PS-071-0001C	STEAM SUPPLY LINE PRESSURE SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-PS-071-0001D	STEAM SUPPLY LINE PRESSURE SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-PS-071-0011A	TURB EXH OVERPRESSURE RELIEF LINE PRESS SW	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-PS-071-0011B	TURB EXH OVERPRESSURE RELIEF LINE PRESS SW	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-PS-071-0011C	TURB EXH OVERPRESSURE RELIEF LINE PRESS SW	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-PS-071-0011D	TURB EXH OVERPRESSURE RELIEF LINE PRESS SW	1	MUST NOT OPERATE	A	2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)		
1-PS-071-0013A	TURB EXH LINE PRESS SW	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-PS-071-0013B	TURB EXH LINE PRESS SW	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-PS-071-0021A	PUMP SUCT LINE PRESS SW	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-RCIC-LOGIC-TRAIN-A	RCIC LOGIC TRAIN A	1	OPERABLE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-SC-071-0010	RCIC TURBINE SPEED CNTRL	1	OPERABLE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-SE-071-0042A	RCIC TURB SPEED ELMNT	1	OPERABLE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-SE-071-0042B	RCIC TURB SPEED ELMNT	1	OPERABLE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-TS-071-0002A	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)		
1-TS-071-0002B	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-TS-071-0002C	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-TS-071-0002D	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-TS-071-0002E	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-TS-071-0002F	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-TS-071-0002G	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-TS-071-0002H	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-TS-071-0002J	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)		
1-TS-071-0002K	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-TS-071-0002L	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-TS-071-0002M	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-TS-071-0002N	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-TS-071-0002P	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-TS-071-0002R	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-TS-071-0002S	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION		
1-FCV-073-0002	HPCI STEAM LINE INBD ISLN VLV	1	REMAIN OPEN	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FCV-073-0003	HPCI STEAM LINE OUTBD ISOL VLV	1	REMAIN OPEN	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	CLOSE FROM MCR	A	1-1
1-FCV-073-0016	HPCI TURBINE STEAM SUPPLY VLV	1	AUTO OPEN	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	ISOLATE AND CLOSE AT 250V RMOV BD 1B BKR 3D	A	16
1-FCV-073-0018	HPCI TURBINE STOP VLV	1	AUTO OPEN / CLOSE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
1-FCV-073-0019	HPCI TURBINE CNTRL VLV	1	AUTO OPEN	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	CLOSE USING HPCI FLOW CNTRLLER	A	1-1, 1-2, 1-3, 1-4, 1-5, 4, 5, 6, 17
1-FCV-073-0026	HPCI SUPPR POOL INBD SUCT VLV	1	REMAIN OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FCV-073-0027	HPCI SUPPR POOL OUTBD SUCT VLV	1	REMAIN OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FCV-073-0034	HPCI PUMP DISCHG VLV	1	REMAIN OPEN	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FCV-073-0035	HPCI FULL FLOW TEST RETURN VLV	1	OPEN / CLOSE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FCV-073-0036	HPCI FULL FLOW TEST RETURN VLV	1	OPEN / CLOSE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
1-FCV-073-0040	HPCI COND STORAGE TANK SUCT VLV	1	REMAIN OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FCV-073-0044	HPCI PUMP INJ VLV	1	AUTO OPEN	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FIC-073-0033	PUMP DISCHG LINE FLOW CNTRL	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FM-073-0033	PUMP DISCHG LINE FLOW	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FT-073-0033	PUMP DISCHG LINE FLOW TRANSMITTER	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-HPCI-LOGIC-TRAIN-B	HPCI LOGIC TRAIN B	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
	SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)				
1-LS-073-0056A	CST SUPPLY LINE TO HPCI LEVEL SWITCH	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-LS-073-0056B	CST SUPPLY LINE TO HPCI LEVEL SWITCH	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-LS-073-0057A	SUPP POOL LEVEL SWITCH	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-LS-073-0057B	SUPP POOL LEVEL SWITCH	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PCV-073-0018A	1-FCV-73-18 PILOT VLV	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PCV-073-0018B	1-FCV-73-18 PILOT DRAIN VLV	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
1-PCV-073-0018C	1-FCV-73-18 CNTRL VLV	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PCV-073-0043	LUBE OIL COOLER SUPPLY LINE CNTRL VLV	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PDIS-073-0001A	STEAM SUPPLY LINE PRESSURE DIFFERENTIAL	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PDIS-073-0001B	STEAM SUPPLY LINE PRESSURE DIFFERENTIAL	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PDT-073-0001A	STEAM SUPPLY LINE PRESSURE DIFFERENTIAL	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PDT-073-0001B	STEAM SUPPLY LINE PRESSURE DIFFERENTIAL	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
1-PMP-073-0047	HPCI AUX OIL PUMP	1	AUTO START	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PMP-073-0054	HPCI MAIN PUMP	1	AUTO START	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PS-073-0001A	STEAM SUPPLY LINE PRESSURE SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PS-073-0001B	STEAM SUPPLY LINE PRESSURE SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PS-073-0001C	STEAM SUPPLY LINE PRESSURE SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PS-073-0001D	STEAM SUPPLY LINE PRESSURE SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
1-PS-073-0020A	TURBINE EXH OVERPRESSURE RELIEF LINE	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PS-073-0020B	TURBINE EXH OVERPRESSURE RELIEF LINE	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PS-073-0020C	TURBINE EXH OVERPRESSURE RELIEF LINE	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PS-073-0020D	TURBINE EXH OVERPRESSURE RELIEF LINE	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PS-073-0022A	TURBINE EXH LINE PRESSURE SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PS-073-0022B	TURBINE EXH LINE PRESSURE SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
1-PS-073-0029-1	HPCI BSTR PUMP SUCT PRESSURE	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-SC-073-0019	HPCI TURBINE SPEED CNTRLLER	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	SET CNTRLR TO ZERO TO CLOSE VLV 1-FCV-73-19	A	1-1, 1-2, 1-3, 1-4, 1-5, 4, 5, 6, 17
1-SE-073-0051	HPCI TURBINE SPEED ELEMENT	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-TS-073-0002A	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-TS-073-0002B	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
	SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)				
1-TS-073-0002C	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-TS-073-0002D	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-TS-073-0002E	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-TS-073-0002F	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-TS-073-0002G	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-TS-073-0002H	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
1-TS-073-0002J	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-TS-073-0002K	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-TS-073-0002L	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-TS-073-0002M	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-TS-073-0002N	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-TS-073-0002P	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
1-TS-073-0002R	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-TS-073-0002S	STEAM LEAKAGE DETECTION TEMP SWITCH	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-XCV-073-0018	1-FCV-73-18 CNTRL VLV	1	MUST NOT OPERATE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
U1 HPCI TURBINE	HPCI TURBINE	1	AUTO START	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 074 - RESIDUAL HEAT REMOVAL		
1-FCV-074-0001	RHR PUMP A SUPP POOL SUCT VLV	1	REMAIN OPEN	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-4, 2-5, 3-2, 3-3, 4, 7, 8, 9, 10, 11, 14, 22, 24, 25-I
1-FCV-074-0002	RHR SHDN COOLING SUCT VLV	1	REMAIN CLOSED	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-4, 2-5, 3-2, 3-3, 4, 7, 8, 9, 10, 11, 14, 22, 24, 25-I
1-FCV-074-0007	RHR PUMPS 1A & 1C MINFLOW BYPASS VLV	1	OPERABLE	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 3-2, 3-3, 4, 7, 8, 9, 10, 11, 12, 14, 15, 21, 22, 23, 24, 25-I
1-FCV-074-0012	RHR PUMP C SUPP POOL SUCT VLV	1	REMAIN OPEN	A	2-3, 12, 15, 21, 23
1-FCV-074-0013	RHR SHDN COOLING SUCT VLV	1	REMAIN CLOSED	A	2-3, 12, 15, 21, 23
1-FCV-074-0024	RHR PUMP B SUPP POOL SUCT VLV	1	REMAIN OPEN	A	1-5, 2-6, 3-1, 3-4, 5, 6, 13, 16, 17, 18, 19, 20, 25-II
1-FCV-074-0025	RHR PUMP 1B SHDN COOLING SUCT VLV	1	REMAIN CLOSED	A	1-5, 2-6, 3-1, 3-4, 5, 6, 13, 16, 17, 18, 19, 20, 25-II
1-FCV-074-0030	RHR PUMPS 1B & 1D MINFLOW BYPASS VLV	1	OPERABLE	A	1-1, 1-3, 1-5, 2-6, 3-1, 3-4, 5, 6, 13, 16, 17, 18, 19, 20, 25-II
1-FCV-074-0035	RHR PUMP D SUPP POOL SUCT VLV	1	REMAIN OPEN	A	1-1, 1-3

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 074 - RESIDUAL HEAT REMOVAL (CONT.)		
1-FCV-074-0036	RHR PUMP 1D SHDN COOLING SUCT VLV	1	REMAIN CLOSED	A	1-1, 1-3
1-FCV-074-0047	RHR SHDN COOLING SUCT OUTBD ISOL VLV	1	REMAIN CLOSED (WITH PWR REMOVED)	A[16]	ALL
1-FCV-074-0052	RHR SYS I OUTBD INJ	1	REMAIN OPEN	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 3-2, 3-3, 4, 7, 8, 9, 10, 11, 12, 14, 15, 21, 22, 23, 24, 25-I
1-FCV-074-0053	RHR SYS I INBD INJ VLV	1	ISOLATE AND OPEN AT 480V RMOV BD 1A BKR 19A	A	1-2, 1-4, 4
		1	OPEN FROM MCR	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 3-2, 3-3, 7, 8, 9, 10, 11, 12, 14, 15, 21, 22, 23, 24, 25-I
1-FCV-074-0054	RHR SYS I TESTABLE CHECK VLV	1	OPEN / CLOSE	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 3-2, 3-3, 4, 7, 8, 9, 10, 11, 12, 14, 15, 21, 22, 23, 24, 25-I
1-FCV-074-0057	RHR SYS I SUPP POOL VLV	1	REMAIN CLOSED	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 3-2, 3-3, 4, 7, 8, 9, 10, 11, 12, 14, 15, 21, 22, 23, 24, 25-I

[16] If reactor pressure is less than 100 psig, no compensatory measure is required. PWR may be restored for maintenance / testing.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 074 - RESIDUAL HEAT REMOVAL (CONT.)		
1-FCV-074-0060	RHR SYS I DRYWELL SPRAY OUTBD VLV	1	OPEN BKR AT 480V RMOV BD 1A BKR 6B	A	1-4
		1	REMAIN CLOSED	A	1-2, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 3-2, 3-3, 4, 7, 8, 9, 10, 11, 12, 14, 15, 21, 22, 23, 24, 25-I
1-FCV-074-0061	RHR SYS I CONT SPRAY INBD VLV	1	OPEN BKR AT 480V RMOV BD 1A BKR 7B	A	1-4
1-FCV-074-0066	RHR SYS II OUTBD INJ VLV	1	REMAIN OPEN	A	1-1, 1-3, 2-6, 3-1, 3-4, 5, 6, 13, 17, 18, 19, 20, 25-II
		1	ISOLATE AND OPEN AT 480V RMOV BD 1B BKR 3A	A	1-5, 16
1-FCV-074-0067	RHR SYS II INBD INJ VLV	1	OPEN FROM MCR	A	2-6, 3-1,3-4, 6,13,17, 18,19, 20,25-II
		1	ISOLATE AND OPEN AT 480V RMOV BD 1B BKR R10A	A	1-1, 1-3, 1-5, 5, 16
1-FCV-074-0068	RHR SYS II TESTABLE CHECK VLV	1	OPEN / CLOSE	A	1-1, 1-3, 1-5, 2-6, 3-1, 3-4, 5, 6, 13, 16, 17, 18, 19, 20, 25-II
1-FCV-074-0071	RHR SYS II SUPP POOL VLV	1	ISOLATE AND CLOSE AT 480V RMOV BD 1B BKR 11C	A	1-3, 1-5, 16
		1	REMAIN CLOSED	A	1-1, 2-6, 3-1, 3-4, 5, 6, 13, 17, 18, 19, 20, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 074 - RESIDUAL HEAT REMOVAL (CONT.)		
1-FCV-074-0074	RHR SYS II CONT. SPRAY INBD VLV	1	ISOLATE AND CLOSE AT 480V RMOV BD 1B BKR 10C	A	1-3, 1-5, 16
	RHR SYS I SUPP POOL VLV	1	REMAIN CLOSED	A	1-1, 2-6, 3-1, 3-4, 5, 6, 13, 17, 18, 19, 20, 25-II
1-FCV-074-0098	RHR PUMP B SUCT CROSSTIE VLV	0	REMAIN CLOSED (WITH PWR REMOVED)	A[17]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FCV-074-0099	RHR PUMP D SUCT CROSSTIE VLV	0	REMAIN CLOSED (WITH PWR REMOVED)	A[17]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FCV-074-0101	RHR HTX B-D DISCH XTIE VLV	0	REMAIN CLOSED (WITH PWR REMOVED)	A[18]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-II
1-FCV-074-0104	RHR SYS I FLUSH MOV	1	REMAIN CLOSED	A	1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 3-2, 3-3, 4, 7, 8, 9, 10, 11, 12, 14, 15, 21, 22, 23, 24, 25-I

[17] PWR may be restored for maintenance / testing. This VLV is required to stay closed when RHR pump 1B, 1D, 2A, 2B, 2C, or 2D is used for inventory make-up.
[18] This VLV is required to stay closed when RHR pumps 1B or 1D is used for inventory make-up or RHRSW-D is used for decay heat removal. Therefore, should the BKR be closed during NORM PWR operation, compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 074 - RESIDUAL HEAT REMOVAL (CONT.)		
1-FCV-074-0106	RHR SYS II FLUSH MOV	1	REMAIN CLOSED	A	1-1, 1-3, 1-5, 2-6, 3-1, 3-4, 5, 6, 13, 16, 17, 18, 19, 20, 25-II
1-PMP-074-0005	RHR PUMP 1A	1	START FROM MCR	A	1-2, 1-6, 2-1, 2-2, 2-4, 2-5, 3-2, 3-3, 4, 7, 8, 9, 10, 11, 14, 22, 24, 25-I
		1	ISOLATE AND START FROM 4KV SHDN BD A	A	1-4
1-PMP-074-0016	RHR PUMP 1C	1	START FROM MCR	A	2-3, 12, 15, 21, 23
1-PMP-074-0028	RHR PUMP 1B	1	START FROM MCR	A	1-5, 2-6, 3-1, 3-4, 5, 6, 13, 17, 18, 19, 20, 25-II
		1	ISOLATE AND START FROM 4KV SHDN BD C	A	16
1-PMP-074-0039	RHR PUMP 1D	1	START FROM MCR	A	1-1
		1	ISOLATE AND START FROM 4KV SHDN BD D	A	1-3
1-RHR-LOGIC-A	RHR LOGIC CIRCUIT TRAIN A	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24
1-RHR-LOGIC-B	RHR LOGIC CIRCUIT TRAIN B	1	OPERABLE	A	1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 075 - CORE SPRAY		
1-CS-LOGIC-A	CORE SPRAY LOGIC CIRCUIT TRAIN A	1	OPERABLE	A	1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24
1-CS-LOGIC-B	CORE SPRAY LOGIC CIRCUIT TRAIN B	1	OPERABLE	A	1-1, 1-5, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
SYSTEM 078 - FUEL POOL COOLING AND DEMINERALIZER					
1-FCV-078-0062	SPENT FUEL POOL COOLING SUPPLY FROM RHR	1	REMAIN CLOSED (WITH PWR REMOVED)	A	ALL

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 281 - 250V REACTOR MOV BOARDS		
			250V RMOV BD 1A		
1-BDDD-281-0001A	250V RMOV BD 1A	1	ENERGIZED	A	1-1, 1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 1B1	4KV RPT BD 1-II NORM SUPPLY	1	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 2D	NORM FEED FROM BATT BD 1	1	REMAIN CLOSED	A	1-1, 1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	MANUALLY OPEN	A	1-4, 17
COMPT 10D	ALT FEED FROM BATT BD 2	1	MANUALLY CLOSE	A	1-4, 17
COMPT 4A	HPCI TURB AUX OIL PUMP	0	MANUALLY OPEN	A	17
COMPT 5A	VLV 1-FCV-073-0034	0	MANUALLY OPEN	A	17
COMPT 6A	VLV 1-FCV-073-0035	0	MANUALLY OPEN	A	17
COMPT 7A	VLV 1-FCV-073-0044	0	MANUALLY OPEN	A	17

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 281 - 250V REACTOR MOV BOARDS (CONT.)		
			250V RMOV BD 1A (CONT.)		
COMPT 8B2	HPCI GLAND SEAL COND BLWR	0	MANUALLY OPEN	A	17
COMPT 8D	VLV 1-FCV-073-0030	0	MANUALLY OPEN	A	17
COMPT 9B2	HPCI GLAND SEAL COND PUMP	0	MANUALLY OPEN	A	17
COMPT 11D2	VLV 1-FCV-073-0003	0	MANUALLY OPEN	A	17

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 281 - 250V REACTOR MOV BOARDS (CONT.)		
			250V RMOV BD 1B		
1-BDDD-281-0001B	250V RMOV BD 1B	1	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 2D	NORM FEED FROM BATT BD 3	1	REMAIN CLOSED	A	1-3, 1-4, 1-5, 1-6, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24
		1	MANUALLY OPEN	A	1-1, 1-2, 2-1, 2-2, 3-1, 3-2, 16, 19, 25-I, 25-II
COMPT 7D	ALT FEED FROM BATT BD 1	1	MANUALLY CLOSE	A	1-1, 1-2, 2-1, 2-2, 3-1, 3-2, 16, 19, 25-I, 25-II
BKR 1C1	FEED TO 1-PCV-001-0022	1	MANUALLY OPEN	A	5
BKR 8B2	FEED TO 1-PCV-001-0042	1	MANUALLY OPEN	A	5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 281 - 250V REACTOR MOV BOARDS (CONT.)		
			250V RMOV BD 1C		
1-BDDD-281-0001C	250V RMOV BD 1C	1	ENERGIZED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 2D	NORM FEED FROM BATT BD 2	1	REMAIN CLOSED	A	1-4, 1-5, 1-6, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		1	MANUALLY OPEN	A	1-2, 2-1, 2-3, 18
COMPT 9D	ALT FEED FROM BATT BD 1	1	MANUALLY CLOSE	A	1-2, 2-1, 2-3, 18

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
SYSTEM 282 - TURBINE BUILDING DC DISTRIBUTION BOARDS					
1-BDBB-282-0001 BKR 202	250V DC TURB DIST BD 1 FEED TO RECIRC BD 1	1	MANUALLY OPEN	A	1-5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 925 - REMOTE SHUTDOWN PANELS		
1-LPNL-925-0031	RCIC BACKUP CNTRL PANEL 1-25-31	1	ENERGIZED FROM DIV I ECCS ATU INVERTER	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24
1-LPNL-925-0032	BACKUP CNTRL PANEL 1-25-32	1	ENERGIZED	A	1-3, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24
		1	ENERGIZED FROM DIV I ECCS ATU INVERTER	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 7, 8, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24
		1	ALIGN TO THE ALT PWR SUPPLY 0-BDDD-280-0003 (3-MGEN-252-0003)	A	1-3

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 1

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM - ECCS ATU INVERTERS		
DIV I ECCS ATU INVERTER	PWR SUPPLY	1	IN SERVICE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
DIV II ECCS ATU INVERTER	PWR SUPPLY	1	IN SERVICE	A	1-1, 1-2, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PX-71-60-1	DIV I PWR SUPPLY PRIMARY 1-9-81	1	IN SERVICE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-PX-71-60-2	DIV II PWR SUPPLY PRIMARY 1-9-82	1	IN SERVICE	A	1-1, 1-2, 1-4, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

UNIT 2

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM		
2-FCV-001-0014	MAIN STEAM LINE A INBD ISLN	2	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	ISOLATE AND CLOSE AT PANEL 2-LPNL-925-0032	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FCV-001-0015	MAIN STEAM LINE A OUTBD ISLN	2	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	ISOLATE AND CLOSE AT PANEL 2-LPNL-925-0032	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM (CONT.)		
2-FCV-001-0026	MAIN STEAM LINE B INBD ISLN	2	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	ISOLATE AND CLOSE AT PANEL 2-LPNL-925-0032	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FCV-001-0027	MAIN STEAM LINE B OUTBD ISLN	2	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	ISOLATE AND CLOSE AT PANEL 2-LPNL-925-0032	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM (CONT.)		
2-FCV-001-0037	MAIN STEAM LINE C INBD ISLN	2	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	ISOLATE AND CLOSE AT PANEL 2-LPNL-925-0032	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FCV-001-0038	MAIN STEAM LINE C OUTBD ISLN	2	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	ISOLATE AND CLOSE AT PANEL 2-LPNL-925-0032	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM (CONT.)		
2-FCV-001-0051	MAIN STEAM LINE D INBD ISLN	2	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	ISOLATE AND CLOSE AT PANEL 2-LPNL-925-0032	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FCV-001-0052	MAIN STEAM LINE D OUTBD ISLN	2	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	ISOLATE AND CLOSE AT PANEL 2-LPNL-925-0032	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM (CONT.)		
2-FCV-001-0055	MAIN STEAM LINES DRAIN ISLN	2	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-5, 2-6, 3-1, 3-2, 3-3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	ISOLATE AND CLOSE AT 480V RMOV BD 2A BKR 16A	A	16
2-FCV-001-0056	MAIN STEAM LINES DRAIN ISLN	2	CLOSE FROM MCR	A	2-1, 2-4, 9
		2	ISOLATE AND CLOSE AT 250V RMOV BD 2B BKR 6D	A	2-3
2-FCV-001-0057	MAIN STEAM LINES DRAIN ISLN	2	MANUALLY CLOSE	A	2-2
2-FCV-001-0058	MAIN STEAM LINES DRAIN ISLN	2	MANUALLY CLOSE	A	2-2

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED

SYSTEM 001 – MAIN STEAM (CONT.)

MSRVs are credited to open for depressurization as follows:

2-PCV-001-0018, **-0019**, **-0031**, -0179 in Fire Areas / Zones 2-5, 2-6, 4, 5, 6, 7, 10
2-PCV-001-**0005**, **-0019**, **-0031**, -0179 in Fire Areas / Zones 18
2-PCV-001-**0019**, **-0031**, -0179 in Fire Areas / Zones 2-3, 2-4, 9
2-PCV-001-**0005**, **-0022**, **-0030**, **-0034** in Fire Areas / Zones 16
2-PCV-001-0004, **-0022**, **-0030**, -0031 in Fire Areas / Zones 1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II

No compensatory measures are required provided that three credited MSRVs are available to open from the location as identified in the following table. However, one of the three available MSRVs must always be an ADS VLV (ADS VLVs in bold above).

In Fire Zone 2-1, either one of two groups of MSRVs is credited to survive and open for depressurization as follows:
(2-PCV-001-0004, -0018, -0030, –0041) OR (2-PCV-001-0019, -0022, -0031, –0179)

In Fire Zone 2-2, either one of two groups of MSRVs is credited to survive and open for depressurization as follows:
(2-PCV-001-0004, **-0005**, -0018, **-0019**, **-0030**, **-0031**, **-0034**, -0041, -0042, –0179) OR (2-PCV-001-**0022**, -0023, -0180)

No compensatory measures are required provided that three credited MSRVs are available in each group to open from the location as identified in the following table. However, one of the three available MSRVs must always be an ADS VLV (ADS VLVs in bold above).

2-PCV-001-0004	MAIN STEAM LINE A RELIEF VLV	2	OPEN FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	ISOLATE AT PANEL 2-LPNL-925-0032	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM (CONT.)		
2-PCV-001-0005	MAIN STEAM LINE A RELIEF VLV-ADS	2	OPEN FROM MCR	A	2-2, 18
		2	ISOLATE AND OPEN AT PANEL 2-LPNL-925-0032	A	16
2-PCV-001-0018	MAIN STEAM LINE B RELIEF VLV	2	OPEN FROM MCR	A	2-1, 2-2, 2-5, 2-6, 4, 5, 6, 7, 10
		2	ISOLATE AT PANEL 2-LPNL-925-0032	A	16
2-PCV-001-0019	MAIN STEAM LINE B RELIEF VLV-ADS	2	OPEN FROM MCR	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18
		2	ISOLATE AT PANEL 2-LPNL-925-0032	A	16
2-PCV-001-0022	MAIN STEAM LINE B RELIEF VLV-ADS	2	OPEN FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	ISOLATE AND OPEN AT PANEL 2-LPNL-925-0032	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM (CONT.)		
2-PCV-001-0023	MAIN STEAM LINE B RELIEF VLV	2	OPEN FROM MCR	A	2-2
		2	ISOLATE AT PANEL 2-LPNL-925-0032	A	16
2-PCV-001-0030	MAIN STEAM LINE C RELIEF VLV-ADS	2	OPEN FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	ISOLATE AND OPEN AT PANEL 2-LPNL-925-0032	A	16
2-PCV-001-0031	MAIN STEAM LINE C RELIEF VLV-ADS	2	OPEN FROM MCR	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18
		2	ISOLATE AT PANEL 2-LPNL-925-0032	A	16
2-PCV-001-0034	MAIN STEAM LINE C RELIEF VLV-ADS	2	OPEN FROM MCR	A	2-2
		2	ISOLATE AND OPEN AT PANEL 2-LPNL-925-0032	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM (CONT.)		
2-PCV-001-0041	MAIN STEAM LINE D RELIEF VLV	2	OPEN FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	ISOLATE AT PANEL 2-LPNL-925-0032	A	16
2-PCV-001-0042	MAIN STEAM LINE D RELIEF VLV	2	OPEN FROM MCR	A	2-2
		2	ISOLATE AT PANEL 2-LPNL-925-0032	A	16
2-PCV-001-0179	MAIN STEAM LINE A RELIEF VLV	2	OPEN FROM MCR	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18
		2	ISOLATE AT PANEL 2-LPNL-925-0032	A	16
2-PCV-001-0180	MAIN STEAM LINE D RELIEF VLV	2	OPEN FROM MCR	A	2-2
		2	ISOLATE AT PANEL 2-LPNL-925-0032	A	16
2-XS-001-0159A	UNIT 2 ADS SYS INHIBIT SWITCH	2	OPERATE FROM MCR	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 9, 16, 18
2-XS-001-0161A	UNIT 2 ADS SYS INHIBIT SWITCH	2	OPERATE FROM MCR	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 9, 16, 18

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 002 - CONDENSATE		
2-FCV-002-0162	CONDENSATE SUPPLY LINE SHUTOFF VLV	2	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24
2-LI-002-0161A	CONDENSATE STORAGE TANK #2 LEVEL	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24
2-LT-002-0161	CONDENSATE STORAGE TANK #2 LEVEL	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24
2-SHV-002-0705	CONDENSATE SUPPLY TO SAFETY SYS	2	MANUALLY CLOSE VLV	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 9, 16, 18

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 003 - FEEDWATER		
2-LI-003-0046A	RX WATER ACCIDENT RANGE LEVEL A	2	OPERABLE	A	16
2-LI-003-0058A	RX WATER LEVEL A ACCIDENT RANGE	2	OPERABLE	A	2-2, 2-3, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 12, 13, 18, 20
2-LI-003-0058B	RX WATER LEVEL B ACCIDENT RANGE	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-4, 2-5, 3-1, 3-2, 3-3, 3-4, 8, 11, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-LIS-003-0058A	REACTOR WATER LEVEL	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-LIS-003-0058B	REACTOR WATER LEVEL	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-LIS-003-0058C	REACTOR WATER LEVEL	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-LIS-003-0058D	REACTOR WATER LEVEL	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 003 - FEEDWATER (CONT.)		
2-LIS-003-0208A	REACTOR WATER LEVEL	2	OPERABLE	A	11
2-LIS-003-0208B	REACTOR WATER LEVEL	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-LIS-003-0208C	REACTOR WATER LEVEL	2	OPERABLE	A	11
2-LIS-003-0208D	REACTOR WATER LEVEL	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-LITS-003-0046A	REACTOR WATER LEVEL	2	OPERABLE	A	16
2-LT-003-0058A	REACTOR WATER LEVEL	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-LT-003-0058B	REACTOR WATER LEVEL	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-LT-003-0058C	REACTOR WATER LEVEL	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 003 - FEEDWATER (CONT.)		
2-LT-003-0058D	REACTOR WATER LEVEL	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-LT-003-0208A	REACTOR WATER LEVEL	2	OPERABLE	A	11
2-LT-003-0208B	REACTOR WATER LEVEL	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-LT-003-0208C	REACTOR WATER LEVEL	2	OPERABLE	A	11
2-LT-003-0208D	REACTOR WATER LEVEL	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PI-003-0074A	REACTOR PRESSURE A	2	OPERABLE	A	2-2, 2-3, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 12, 13, 18, 20
2-PI-003-0074B	REACTOR PRESSURE B	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-4, 2-5, 3-1, 3-2, 3-3, 3-4, 8, 11, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-PIS-003-0074A	REACTOR PRESSURE A	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 003 - FEEDWATER (CONT.)		
2-PIS-003-0074B	REACTOR PRESSURE B	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PI-003-0079	REACTOR PRESSURE B	2	OPERABLE	A	16
2-PT-003-0074A	REACTOR PRESSURE A	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PT-003-0074B	REACTOR PRESSURE B	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PT-003-0079	REACTOR PRESSURE	2	OPERABLE	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 023 - RHR SERVICE WATER		
0-PMP-023-0008	RHRSW PUMP C1	2	START FROM MCR	A	2-2, 2-5, 8, 11, 18
		2	ISOLATE AND START FROM 4KV SHDN BD B	A	25-I
		2	ISOLATE AND STOP FROM 4KV SHDN BD B	A	25-I
0-PMP-023-0012	RHRSW PUMP C2	2	ISOLATE AND START FROM 4KV SHDN BD B	A	16, 25-I
		2	ISOLATE AND STOP FROM 4KV SHDN BD B	A	16, 25-I
		2	START FROM MCR	A	2-2, 2-5, 8, 11, 18
0-PMP-023-0015	RHRSW PUMP B1	2	START FROM MCR	A	1-1
0-PMP-023-0019	RHRSW PUMP B2	2	START FROM MCR	A	1-3
0-PMP-023-0023	RHRSW PUMP D1	2	START FROM MCR	A	2-4

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 023 - RHR SERVICE WATER (CONT.)		
0-PMP-023-0027	RHRSW PUMP D2	2	ISOLATE AND START FROM 4KV SHDN BD D	A	2-3, 25-II
		2	ISOLATE AND STOP FROM 4KV SHDN BD D	A	2-3, 25-II
		2	START FROM MCR	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24
1-FCV-023-0040	RHR HEAT EXCH C SW OUTLET VLV	2	CLOSE FROM MCR	A	2-2, 2-5, 8, 11, 18, 25-I
		2	OPEN BKR AT 480V RMOV BD 1A BKR 5D	A	16
		2	MANUALLY CLOSE VLV	A	16
1-FCV-023-0046	RHR HX B SW OUTLET VLV	2	CLOSE FROM MCR	A	1-1
		2	OPEN BKR AT 480V RMOV BD 1B BKR 14C2	A	1-3
		2	MANUALLY CLOSE VLV	A	1-3

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 023 - RHR SERVICE WATER (CONT.)		
1-FCV-023-0052	RHR HEAT EXCH D SW OUTLET VLV	2	MANUALLY CLOSE VLV	A	1-2, 1-4, 1-6, 2-1, 2-3, 2-4, 2-6, 3-2, 3-3, 4, 9, 23
		2	CLOSE FROM MCR	A[19]	1-5, 3-1, 3-4, 6, 7, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 24, 25-II
		2	OPEN BKR AT 480V RMOV BD 1B BKR 15C	A	1-2, 1-4, 1-6, 2-1, 2-3, 2-4, 2-6, 3-2, 3-3, 4, 9, 23
2-FCV-023-0040	RHR HEAT EXCH C SW OUTLET VLV	2	MANUALLY OPEN VLV	A	2-5
		2	ISOLATE AND OPEN AT 480V RMOV BD 2A BKR 18C	A	16
		2	OPEN FROM MCR	A	2-2, 8, 11, 18, 25-I
		2	OPEN BKR AT 480V RMOV BD 2A BKR 18C	A	2-5

[19] VLV is not adversely impacted as the result of a potential fire. The Appendix R function is only required if the VLV is opened to support decay heat removal. Therefore, provided the VLV remains closed, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 023 - RHR SERVICE WATER (CONT.)		
2-FCV-023-0046	RHR HX B SW OUTLET VLV	2	OPEN FROM MCR	A	1-1, 1-3
2-FCV-023-0052	RHR HEAT EXCH D SW OUTLET VLV	2	MANUALLY OPEN VLV	A	2-3, 2-4, 3-2, 3-3, 23
		2	OPEN FROM MCR	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-6, 3-1, 3-4, 4, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 24, 25-II
		2	OPEN BKR AT 480V RMOV BD 2B BKR 8E		2-3, 2-4, 3-2, 3-3, 23
3-FCV-023-0040	RHR HEAT EXCH C SW OUTLET VLV	2	ISOLATE AND CLOSE AT 480V RMOV BD 3A BKR 18C	A	16
		2	CLOSE FROM MCR	A[19]	2-2, 2-5, 8, 11, 18, 25-I
3-FCV-023-0046	RHR HX B SW OUTLET VLV	2	CLOSE FROM MCR	A	1-1, 1-3

[19] VLV is not adversely impacted as the result of a potential fire. The Appendix R function is only required if the VLV is opened to support decay heat removal. Therefore, provided the VLV remains closed, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 023 - RHR SERVICE WATER (CONT.)		
3-FCV-023-0052	RHR HEAT EXCH D SW OUTLET VLV	2	CLOSE FROM MCR	A[19]	1-2, 1-4, 1-5, 1-6, 2-1, 2-6, 3-1, 3-4, 4, 6, 7, 9, 10, 13, 14, 17, 19, 20, 22, 24, 25-II
		2	OPEN BKR AT 480V RMOV BD 3B BKR 8E	A	2-3, 2-4, 3-2, 3-3, 15, 21, 23
		2	MANUALLY CLOSE VLV	A[19]	2-3, 2-4, 3-2, 3-3, 12, 15, 21, 23
		2	OPEN BKRS 03B AT 480V SHDN BDS 3-231-3A AND 3-231-3B	A	12

[19] VLV is not adversely impacted as the result of a potential fire. The Appendix R function is only required if the VLV is opened to support decay heat removal. Therefore, provided the VLV remains closed, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 032 - CONTROL AIR		
2-VTV-032-5103	2-FCV-69-94 MANUAL INSTRUMENT AIR VENT VLV	2	MANUALLY OPEN VLV	A	2-4, 16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
	SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION				
2-ACU-064-0069	RHR PUMP 2B AIR COOLING UNIT	2	OPERABLE	A	2-2, 2-5, 8, 11, 16, 18, 25-I
2-ACU-064-0070	RHR PUMP 2C AIR COOLING UNIT	2	OPERABLE	A	1-1, 1-3
2-ACU-064-0071	RHR PUMP 2D AIR COOLING UNIT	2	OPERABLE	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
2-LI-064-0054A	SUPP CHAMBER WATER LEVEL	2	OPERABLE	A	2-3, 18
2-LI-064-0054B	SUPP CHAMBER WATER LEVEL	2	OPERABLE	A	16
2-LI-064-0066	SUPP CHAMBER WATER LEVEL	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-4, 2-5, 20
2-LI-064-0159A	SUPP CHAMBER WATER LEVEL	2	OPERABLE	A	2-2, 2-3, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 19 21, 22, 23, 24, 25-I, 25-II
2-LT-064-0054	SUPP CHAMBER WATER LEVEL	2	OPERABLE	A	2-3, 18
2-LT-064-0066	SUPP CHAMBER WATER LEVEL	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-4, 2-5, 20

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)		
2-LT-064-0159A	SUPP CHAMBER WATER LEVEL	2	OPERABLE	A	2-2, 2-3, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 19 21, 22, 23, 24, 25-I, 25-II
2-PI-064-0050	DRYWELL PRESSURE	2	ISOLATE FROM MCR / OPERABLE FROM 2-LPNL-925-0032	A	1-1, 1-3, 1-4
2-PI-064-0067B	DRYWELL PRESSURE	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24
2-PI-064-0160A	DRYWELL PRESSURE HIGH RANGE	2	OPERABLE	A	8, 11, 25-I, 25-II
2-PIS-064-0058A	DRYWELL PRESSURE A	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PIS-064-0058B	DRYWELL PRESSURE B	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-3, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PIS-064-0058C	DRYWELL PRESSURE C	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)		
2-PIS-064-0058D	DRYWELL PRESSURE D	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PT-064-0050	DRYWELL PRESSURE	2	OPERABLE	A	1-1, 1-3, 1-4
2-PT-064-0160A	DRYWELL PRESSURE HIGH	2	OPERABLE	A	8, 11, 25-I, 25-II
2-TE-064-0055E	SUPP POOL TEMP	2	OPERABLE	A	16
2-TE-064-0055F	SUPP POOL TEMP	2	OPERABLE	A	16
2-TE-064-0161A	SUPP POOL TEMP	2	OPERABLE	A	2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20
2-TE-064-0161B	SUPP POOL TEMP	2	OPERABLE	A	2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20
2-TE-064-0161C	SUPP POOL TEMP	2	OPERABLE	A	2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20
2-TE-064-0161D	SUPP POOL TEMP	2	OPERABLE	A	2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20
2-TE-064-0161E	SUPP POOL TEMP	2	OPERABLE	A	2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20
2-TE-064-0161F	SUPP POOL TEMP	2	OPERABLE	A	2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)					
2-TE-064-0161G	SUPP POOL TEMP	2	OPERABLE	A	2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20
2-TE-064-0161H	SUPP POOL TEMP	2	OPERABLE	A	2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20
2-TE-064-0162A	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-TE-064-0162B	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-TE-064-0162C	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-TE-064-0162D	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-TE-064-0162E	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-TE-064-0162F	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)		
2-TE-064-0162G	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-TE-064-0162H	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-TI-064-0052AB	DRYWELL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
2-TI-064-0055B	SUPP CHAMBER WATER TEMP	2	OPERABLE	A	16
2-TI-064-0161	SUPP POOL BULK TEMP DIV-I	2	OPERABLE	A	2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20
2-TI-064-0162	SUPP POOL BULK TEMP DIV-II	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-TM-064-0161A	SUPP POOL TEMP	2	OPERABLE	A	2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20
2-TM-064-0161B	SUPP POOL TEMP	2	OPERABLE	A	2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20
2-TM-064-0161C	SUPP POOL TEMP	2	OPERABLE	A	2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)		
2-TM-064-0161D	SUPP POOL TEMP	2	OPERABLE	A	2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20
2-TM-064-0161E	SUPP POOL TEMP	2	OPERABLE	A	2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20
2-TM-064-0161F	SUPP POOL TEMP	2	OPERABLE	A	2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20
2-TM-064-0161G	SUPP POOL TEMP	2	OPERABLE	A	2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20
2-TM-064-0161H	SUPP POOL TEMP	2	OPERABLE	A	2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20
2-TM-064-0161J	SUPP POOL TEMP	2	OPERABLE	A	2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20
2-TM-064-0161K	SUPP POOL TEMP	2	OPERABLE	A	2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20
2-TM-064-0161L	SUPP POOL TEMP	2	OPERABLE	A	2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 18, 20
2-TM-064-0162A	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-TM-064-0162B	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)		
2-TM-064-0162C	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-TM-064-0162D	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-TM-064-0162E	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-TM-064-0162F	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-TM-064-0162G	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-TM-064-0162H	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-TM-064-0162J	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)		
2-TM-064-0162K	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-TM-064-0162L	SUPP POOL TEMP	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 3-1, 3-2, 3-3, 3-4, 8, 11, 12, 13, 14, 15, 17, 19, 21, 22, 23, 24, 25-I, 25-II
2-TR-064-0161	SUPP POOL BULK TEMP DIV-I	2	OPERABLE	A	2-2
2-TR-064-0162	SUPP POOL BULK TEMP DIV-II	2	OPERABLE	A	2-1
2-TS-064-0069	2-ACU-64-69 TEMP SWITCH	2	OPERABLE	A	2-2, 2-5, 8, 11, 16, 18, 25-I
2-TS-064-0070	2-ACU-64-70 TEMP SWITCH	2	OPERABLE	A	1-1, 1-3
2-TS-064-0071	2-ACU-64-71 TEMP SWITCH	2	OPERABLE	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 068 - REACTOR RECIRCULATION		
2-PIS-068-0095	REACTOR PRESSURE	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PIS-068-0096	REACTOR PRESSURE	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PT-068-0095	REACTOR PRESSURE	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PT-068-0096	REACTOR PRESSURE	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 068 - REACTOR RECIRCULATION (CONT.)		
2-PMP-068-0060A	RECIRC PUMP A	2	STOP PUMP USING MECH TRIP AT 4KV RPT BD 2-II	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	MANUALLY TRIP BKRS 1222 AND 1438 AT 2-BDAA-068-0002	A	2-5
2-PMP-068-0060B	RECIRC PUMP B	2	STOP PUMP USING MECH TRIP AT 4KV RPT BD 2-II	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 21, 22, 23, 24, 25-I, 25-II
		2	MANUALLY TRIP BKRS 1224 AND 1536 AT 2-BDAA-068-0002	A	2-5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 069 - REACTOR WATER CLEANUP		
2-FCV-069-0001	RWCU INBD SUCT ISLN VLV	2	CLOSE FROM MCR	A	2-3, 3-1, 3-2, 3-3, 3-4, 8, 19
2-FCV-069-0002	RWCU OUTBD SUCT ISLN VLV	2	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-5, 2-6, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
2-FCV-069-0094	RWCU LOW-TEMP PIPE ISLN VLV	2	MANUALLY CLOSE WITH 2-VTV-32-5103 LOCATED ON ELEV. 621	A	2-4, 16
		2	AUTO CLOSE VIA FUSIBLE PLUG 2-FUPG-032-5105	A	ALL

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING		
2-FCV-071-0002	RCIC STEAMLINE INBD ISLN VLV	2	REMAIN OPEN	A	11
2-FCV-071-0003	RCIC STEAMLINE OUTBD ISLN VLV	2	REMAIN OPEN	A	11
2-FCV-071-0008	STEAM ADMISSION VLV TO TURBINE	2	AUTO OPEN	A	11
2-FCV-071-0009	TURBINE TRIP / THROTTLE VLV	2	REMAIN OPEN	A	11
2-FCV-071-0010	RCIC TURBINE GOV. VLV	2	OPERABLE	A	11
2-FCV-071-0017	RCIC SUPP POOL INBD SUCT VLV	2	OPERABLE	A[20]	11
2-FCV-071-0018	RCIC SUPP POOL OUTBD SUCT VLV	2	OPERABLE	A[20]	11
2-FCV-071-0019	COND STORAGE TANK SUCT VLV	2	REMAIN OPEN	A	11
2-FCV-071-0025	RCIC LUBE OIL COOLER VLV	2	AUTO OPEN	A	11

[20] Compensatory measures are not required provided VLVs 2-FCV-2-162 and 2-FCV-71-19 are AVAILABLE to perform their required function.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)		
2-FCV-071-0034	RCIC MAIN PUMP MIN FLOW VLV	2	AUTO OPEN / CLOSE	A	11
2-FCV-071-0037	PUMP DISCHG ISLN VLV	2	REMAIN OPEN	A	11
2-FCV-071-0038	RCIC PUMP TEST RETURN VLV	2	REMAIN CLOSED	A	11
2-FCV-071-0039	RCIC PUMP INJ VLV	2	AUTO OPEN	A	11
2-FCV-071-0059	RCIC TURBINE EXH LINE VACUUM BKR	2	REMAIN OPEN (WITH PWR REMOVED)	A	11
2-FIC-071-0036A	RCIC PUMP DISCHG LINE FLOW CNTRLLER	2	OPERABLE	A	11
2-FIC-071-0036B	RCIC PUMP DISCHG LINE FLOW CNTRLLER	2	OPERABLE	A	11
2-FIS-071-0036	RCIC PUMP DISCHG LINE FLOW INDICATING SW	2	OPERABLE	A	11
2-FT-071-0036	RCIC PUMP DISCHG LINE FLOW TRANSMITTER	2	OPERABLE	A	11
2-PCV-071-0022	LUBE OIL COOLER SUPPLY LINE PRESS CNTRL	2	OPERABLE	A	11

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
	SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)				
2-PDIS-071-0001A	STEAM SUPPLY LINE PRESS DIFFERENTIAL	2	MUST NOT OPERATE	A	11
2-PDIS-071-0001B	STEAM SUPPLY LINE PRESS DIFFERENTIAL	2	MUST NOT OPERATE	A	11
2-PMP-071-0019	RCIC PUMP / TURBINE	2	OPERABLE	A	11
2-PS-071-0001A	STM SUPP LINE PRESS SW	2	MUST NOT OPERATE	A	11
2-PS-071-0001B	STM SUPP LINE PRESS SW	2	MUST NOT OPERATE	A	11
2-PS-071-0001C	STM SUPP LINE PRESS SW	2	MUST NOT OPERATE	A	11
2-PS-071-0001D	STM SUPP LINE PRESS SW	2	MUST NOT OPERATE	A	11
2-PS-071-0011A	TURB EXH OVERPRESSURE RELIEF LINE PRESS SW	2	MUST NOT OPERATE	A	11
2-PS-071-0011B	TURB EXH OVERPRESSURE RELIEF LINE PRESS SW	2	MUST NOT OPERATE	A	11
2-PS-071-0011C	TURB EXH OVERPRESSURE RELIEF LINE PRESS SW	2	MUST NOT OPERATE	A	11
2-PS-071-0011D	TURB EXH OVERPRESSURE RELIEF LINE PRESS SW	2	MUST NOT OPERATE	A	11
2-PS-071-0013A	TURB EXH LINE PRESS SW	2	MUST NOT OPERATE	A	11
2-PS-071-0013B	TURB EXH LINE PRESS SW	2	MUST NOT OPERATE	A	11

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)		
2-PS-071-0021A	PUMP SUCT LINE PRESS SW	2	MUST NOT OPERATE	A	11
2-SC-071-0010	RCIC TURBINE SPEED CNTRL	2	OPERABLE	A	11
2-SE-071-0042A	RCIC TURB SPEED ELMNT	2	OPERABLE	A	11
2-TS-071-0002A	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	11
2-TS-071-0002B	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	11
2-TS-071-0002C	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	11
2-TS-071-0002D	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	11
2-TS-071-0002E	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	11
2-TS-071-0002F	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	11
2-TS-071-0002G	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	11
2-TS-071-0002H	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	11
2-TS-071-0002J	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	11

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
	SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)				
2-TS-071-0002K	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	11
2-TS-071-0002L	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	11
2-TS-071-0002M	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	11
2-TS-071-0002N	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	11
2-TS-071-0002P	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	11
2-TS-071-0002R	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	11
2-TS-071-0002S	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	11

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION		
2-FCV-073-0002	HPCI STEAM LINE INBD ISLN VLV	2	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FCV-073-0003	HPCI STEAM LINE OUTBD ISLN VLV	2	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	CLOSE FROM MCR	A	2-2
2-FCV-073-0016	HPCI TURBINE STEAM SUPPLY VLV	2	AUTO OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	ISOLATE AND CLOSE AT 250V RMOV BD 2A BKR 3D	A	16
2-FCV-073-0018	HPCI TURBINE STOP VLV	2	AUTO OPEN / CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
2-FCV-073-0019	HPCI TURBINE CNTRL VLV	2	AUTO OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	CLOSE USING HPCI FLOW CNTRLLER	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 9, 18
2-FCV-073-0026	HPCI SUPP POOL INBD SUCT VLV	2	OPERABLE / AUTO	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FCV-073-0027	HPCI SUPP POOL OUTBD SUCT VLV	2	OPERABLE / AUTO	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FCV-073-0034	HPCI PUMP DISCHG VLV	2	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FCV-073-0035	HPCI FULL FLOW TEST RETURN VLV	2	OPEN / CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FCV-073-0036	HPCI CONDENSATE STORAGE TANK RETURN LINE	2	OPEN / CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
2-FCV-073-0040	HPCI COND STORAGE TANK SUCT VLV	2	OPERABLE / AUTO	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FCV-073-0044	HPCI PUMP INJ VLV	2	AUTO OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FCV-073-0064	TURBINE EXHAUST VAC RELIEF ISOL VLV	2	REMAIN OPEN (WITH PWR REMOVED)	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FIC-073-0033	PUMP DISCHG LINE FLOW CNTRL	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FIS-073-0033	PUMP DISCHG LINE FLOW SWITCH	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FT-073-0033	PUMP DISCHG LINE FLOW TRANSMITTER	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
2-PCV-073-0018A	PILOT VLV FOR 2-PCV-73-18	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PCV-073-0018B	CNTRL VLV FOR 2-PCV-73-18	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PCV-073-0018C	CNTRL VLV FOR 2-PCV-73-18	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PCV-073-0043	LUBE OIL COOLER SUPPLY LINE CNTRL VLV	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PDIS-073-0001A	STEAM SUPPLY LINE PRESSURE DIFFERENTIAL	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PDIS-073-0001B	STEAM SUPPLY LINE PRESSURE DIFFERENTIAL	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
2-PIS-073-0029-1	PRESSURE SW	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
HPCI TURBINE	HPCI TURBINE	2	AUTO START	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PMP-073-0047	HPCI AUX OIL PUMP	2	AUTO START	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PMP-073-0054	HPCI MAIN PUMP	2	AUTO START	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PS-073-0001A	STEAM SUPPLY LINE PRESSURE SW	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PS-073-0001B	STEAM SUPPLY LINE PRESSURE SW	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
2-PS-073-0001C	STEAM SUPPLY LINE PRESSURE SW	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PS-073-0001D	STEAM SUPPLY LINE PRESSURE SW	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PS-073-0020A	TURBINE EXH OVERPRESSURE RELIEF LINE	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PS-073-0020B	TURBINE EXH OVERPRESSURE RELIEF LINE	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PS-073-0020C	TURBINE EXH OVERPRESSURE RELIEF LINE	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PS-073-0020D	TURBINE EXH OVERPRESSURE RELIEF LINE	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
2-PS-073-0022A	TURBINE EXH LINE PRESSURE SWITCH	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PS-073-0022B	TURBINE EXH LINE PRESSURE SWITCH	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-SC-073-0019	HPCI TURBINE SPEED CNTRLLER	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	SET CNTRLR TO ZERO TO CLOSE VLV 2-FCV-73-19	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 9, 18
2-SE-073-0051	HPCI TURBINE SPEED ELEMENT	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-TS-073-0002A	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-TS-073-0002B	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15,17,19, 20,21, 22,23, 24,25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
2-TS-073-0002C	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-TS-073-0002D	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-TS-073-0002E	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-TS-073-0002F	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-TS-073-0002G	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-TS-073-0002H	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
2-TS-073-0002J	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-TS-073-0002K	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-TS-073-0002L	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-TS-073-0002M	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-TS-073-0002N	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-TS-073-0002P	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
2-TS-073-0002R	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-TS-073-0002S	STEAM LEAKAGE DETECTION TEMP SWITCH	2	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-XCV-073-0018	2-FCV-73-18 CNTRL VLV	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 074 - RESIDUAL HEAT REMOVAL		
1-FCV-074-0098	RHR PUMP B SUCT CROSSTIE VLV	0	REMAIN CLOSED (WITH PWR REMOVED)	A[21]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
1-FCV-074-0099	RHR PUMP D SUCT CROSSTIE VLV	0	REMAIN CLOSED (WITH PWR REMOVED)	A[21]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FCV-074-0007	RHR PUMPS 2A & 2C MIN FLOW VLV	2	OPERABLE	A	2-2, 2-5, 8, 11, 16, 18, 25-I
2-FCV-074-0012	RHR PUMP C SUPP POOL SUCT VLV	2	REMAIN OPEN	A	2-2, 2-5, 8, 11, 16, 18, 25-I
2-FCV-074-0013	RHR PUMP C SHDN COOLING SUCT VLV	2	REMAIN CLOSED	A	2-2, 2-5, 8, 11, 16, 18, 25-I
2-FCV-074-0024	RHR PUMP B SUPP POOL SUCT VLV	2	REMAIN OPEN	A	1-1, 1-3
2-FCV-074-0025	RHR PUMP B SHDN COOLING SUCT VLV	2	REMAIN CLOSED	A	1-1, 1-3

[21] PWR may be restored for maintenance / testing. This VLV is required to stay closed when RHR pump 2A, 2B, 2C, or 2D is used for inventory make-up.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 074 - RESIDUAL HEAT REMOVAL (CONT.)		
2-FCV-074-0030	RHR SYS II (2B & 2D) MIN FLOW VLV	2	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
2-FCV-074-0035	RHR PUMP D SUPP POOL SUCT VLV	2	REMAIN OPEN	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
2-FCV-074-0036	RHR PUMP D SHDN COOLING SUCT VLV	2	REMAIN CLOSED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
2-FCV-074-0046	RHR SYS I / II CROSSTIE VLV	2	REMAIN CLOSED (WITH PWR REMOVED)	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FCV-074-0047	RHR SHDN COOLING SUCT OUTBD ISOL VLV	2	REMAIN CLOSED (WITH PWR REMOVED)	A[16]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

[16] If reactor pressure is less than 100 psig, no compensatory measure is required. PWR may be restored for maintenance / testing.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 074 - RESIDUAL HEAT REMOVAL (CONT.)		
2-FCV-074-0052	RHR SYS I OUTBD INJ VLV	2	REMAIN OPEN	A	2-2, 2-5, 8, 11, 18, 25-I
		2	ISOLATE AND OPEN AT 480V RMOV BD 2A BKR 2B	A	16
2-FCV-074-0053	RHR SYS I INBD INJ VLV	2	ISOLATE AND OPEN AT 480V RMOV BD 2D BKR 2C	A	2-2, 2-5, 8, 11, 16, 18
		2	OPEN FROM MCR	A	25-I
2-FCV-074-0054	LPCI INJ LINE INBD CONTAINMENT	2	OPEN / CLOSED	A	2-2, 2-5, 8, 11, 16, 18, 25-I
2-FCV-074-0057	RHR SYS I SUPP POOL SPRAY / TEST ISOL VLV	2	ISOLATE AND CLOSE AT 480V RMOV BD 2A BKR 11C	A	16
		2	REMAIN CLOSED	A	2-5, 8, 11, 18, 25-I
2-FCV-074-0058	WET WELL SPRAY LINE CONTAINMENT ISLN	2	REMAIN CLOSED	A	2-2
2-FCV-074-0059	SUPP POOL COOLING LINE CONTAINMENT ISLN	2	REMAIN CLOSED	A	2-2

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 074 - RESIDUAL HEAT REMOVAL (CONT.)		
2-FCV-074-0060	RHR SYS I DRYWELL SPRAY OUTBD VLV	2	ISOLATE AND CLOSE AT 480V RMOV BD 2A BKR 13C	A	16
		2	OPEN BKR ON 480V RMOV BD 2A BKR 13C	A	2-1, 2-3, 2-4
		2	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FCV-074-0061	RHR SYS I CONT SPRAY INBD VLV	2	OPEN BKR AT 480V RMOV BD 2A BKR 11E	A	2-1, 2-3, 2-4
2-FCV-074-0066	RHR SYS II OUTBD INJ VLV	2	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25 -II
2-FCV-074-0067	RHR SYS II INBD INJ VLV	2	ISOLATE AND OPEN AT 480V RMOV BD 2E BKR 2C	A	1-3, 1-4, 2-1, 2-3, 2-4, 5, 9
		2	OPEN FROM MCR	A	1-1, 1-2, 1-5, 1-6, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 6, 7, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 074 – RESIDUAL HEAT REMOVAL (CONT.)		
2-FCV-074-0068	RHR SYS II TESTABLE CHECK VLV	2	OPEN / CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25 -II
2-FCV-074-0071	RHR SYS II SUPP POOL VLV	2	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
2-FCV-074-0074	RHR SYS II CONT SPRAY INBD VLV	2	OPEN BKR AT 480V RMOV BD 2B BKR 14E	A	2-4
		2	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
2-FCV-074-0075	DRYWELL SPRAY LINE INBD CONT	2	OPEN BKR AT 480V RMOV BD 2B BKR 10E	A	2-4
2-FCV-074-0097	RHR PUMP SUCT CROSSTIE VLV	2	ISOLATE AND CLOSE AT 480V RMOV BD 2B BKR 19C	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 074 - RESIDUAL HEAT REMOVAL (CONT.)		
2-FCV-074-0098	RHR PUMP B SUCT CROSSTIE VLV	2	REMAIN CLOSED (WITH PWR REMOVED)	A[21]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FCV-074-0099	RHR PUMP D SUCT CROSSTIE VLV	2	REMAIN CLOSED (WITH PWR REMOVED)	A[21]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FCV-074-0100	RHR HTX A-C DISCH XTIE VLV (TO U-1)	0	REMAIN CLOSED (WITH PWR REMOVED)	A[22]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-FCV-074-0101	RHR HTX B-D DISCH XTIE VLV (TO U-3)	0	REMAIN CLOSED (WITH PWR REMOVED)	A[23]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

[21] PWR may be restored for maintenance / testing. This VLV is required to stay closed when RHR pump 2A, 2B, 2C, or 2D is used for inventory make-up.
[22] This VLV is required to stay closed when RHR pump 2A, 2B, 2C, or 2D is used for inventory make-up or if RHRSW-D is used for decay heat removal. Therefore, should the BKR be closed during NORM PWR operation, compensatory measures are required.
[23] This VLV is required to stay closed when RHR pump 2A, 2B, 2C, or 2D is used for inventory make-up or if RHRSW-B is used for decay heat removal. Therefore, should the BKR be closed during NORM PWR operation, compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 074 - RESIDUAL HEAT REMOVAL (CONT.)		
2-FCV-074-0104	RHR DIV I DRAIN VLV	2	REMAIN CLOSED		2-2, 2-5, 8, 11, 16, 18, 25-I
2-FCV-074-0106	RHR DIV II DRAIN VLV	2	REMAIN CLOSED		1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
2-PMP-074-0016	RHR PUMP 2C	2	START FROM MCR	A	2-2, 2-5, 8, 11, 18, 25-I
		2	ISOLATE AND START FROM 4KV SHDN BD C	A	16
2-PMP-074-0028	RHR PUMP 2B	2	START FROM MCR	A	1-1, 1-3
2-PMP-074-0039	RHR PUMP 2D	2	START FROM MCR	A	1-2, 1-4, 1-5, 1-6, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
		2	ISOLATE AND MANUALLY CLOSE FROM 4KV SHDN BD D	A	2-1, 2-3, 2-4

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
SYSTEM 078 - FUEL POOL COOLING AND DEMINERALIZER					
2-FCV-078-0062	FUEL POOL MAKE-UP	2	REMAIN CLOSED (WITH PWR REMOVED)	A	ALL

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS		
			480V RMOV BD 2C		
2-BDBB-268-0002C	480V RMOV BD 2C	2	ENERGIZED	A	2-5
COMPT 10D	NORM FEED BKR FROM 480V SHDN BD 2B	2	REMAIN CLOSED	A	2-5
COMPT R7B	TEMPORARY MAINT FEED BKR TO 480V RMOV BD 2D	2	MANUALLY CLOSE	A	2-5
COMPT 1A	DRWL BLWR 2A-5	0	MANUALLY OPEN	A	2-5
COMPT 1D	VFD AUX PWR	0	MANUALLY OPEN	A	2-5
COMPT 2D	EMERG FEED BKR FROM 480V SHDN BD 2A	2	REMAIN OPEN	A	2-5
COMPT 11A	DRWL BLWR 2B-5	0	MANUALLY OPEN	A	2-5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 2D		
2-BDBB-268-0002D	480V RMOV BD 2D	2	ENERGIZED		2-2, 2-5, 8, 11, 16, 18, 25-I
COMPT 1D	NORM FEED BKR FROM 480V SHDN BD 2A (VIA MG SET 2DN)	2	REMAIN CLOSED	A	2-2, 8, 11, 16, 18, 25-I
COMPT 5A	TEMPORARY MAINT FEED BKR FROM 480V RMOV BD 2C	2	MANUALLY CLOSE	A	2-5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 2E		
2-BDBB-268-0002E	480V RMOV BD 2E	2	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
COMPT 1D	NORM FEED BKR FROM 480V SHDN BD 2B (VIA MG SET 2EN)	2	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II
		2	AUTO TRANSFER / OPEN	A	2-6
COMPT 5D	ALT FEED BKR FROM 480V SHDN BD 2A (VIA MG SET 2EA)	2	AUTO TRANSFER / CLOSE	A	2-6
		2	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-3, 2-4, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 281 - 250V REACTOR MOV BOARDS		
			250V RMOV BD 2A		
2-BDDD-281-0002A	250V RMOV BD 2A	2	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 1B1	4KV RPT BD 2-II	2	MANUALLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1 2-2, 2-3, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 2D	NORM FEED	2	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		2	MANUALLY OPEN	A	2-4, 18
COMPT 10D	ALT FEED	2	MANUALLY CLOSE	A	2-4, 18
COMPT 11B1	RELIEF VLV PCV-1-41 PILOT VLV PSV-1-4 SUPPLY	2	MANUALLY OPEN	A	18
COMPT 11C1	RELIEF VLV PCV-1-41 PILOT VLV PSV-1-41 SUPPLY	2	MANUALLY OPEN	A	18
COMPT 11D1	HPCI SYS LOGIC, DIV II SUPPLY	2	MANUALLY OPEN	A	2-3, 18

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 281 - 250V REACTOR MOV BOARDS (CONT.)		
			250V RMOV BD 2A (CONT.)		
COMPT 4A	HPCI TURB AUX OIL PUMP	0	MANUALLY OPEN	A	2-4, 18
COMPT 5A	VLV 2-FCV-073-0034	0	MANUALLY OPEN	A	2-4, 18
COMPT 6A	VLV 2-FCV-073-0035	0	MANUALLY OPEN	A	2-4, 18
COMPT 7A	VLV 2-FCV-073-0044	0	MANUALLY OPEN	A	2-4, 18
COMPT 8B2	HPCI GLAND SEAL COND BLWR	0	MANUALLY OPEN	A	2-4, 18
COMPT 8D	VLV 2-FCV-073-0030	0	MANUALLY OPEN	A	2-4, 18
COMPT 9B2	HPCI GLAND SEAL COND PUMP	0	MANUALLY OPEN	A	2-4, 18
COMPT 11D2	VLV 2-FCV-073-0003	0	MANUALLY OPEN	A	2-4, 18

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 281 - 250V REACTOR MOV BOARDS (CONT.)		
			250V RMOV BD 2B		
2-BDDD-281-0002B	250V RMOV BD 2B	2	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 2D	NORM SUPPLY FROM 250V BATT BD 3	2	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
		2	MANUALLY OPEN	A	3-2, 3-3, 19
COMPT 7D	ALT SUPPLY FROM 250V BATT BD 1	2	MANUALLY CLOSE	A	3-2, 3-3, 19
COMPT 1B1	HPCI SYS LOGIC, DIV I SUPPLY	2	MANUALLY OPEN	A	2-3, 18
COMPT 1C2	RELIEF VLV PCV-1-42 SOL PILOT VLV PSV-1-42 SUPPLY	2	MANUALLY OPEN	A	18
COMPT 8C1	RELIEF VLV PCV-1-18 SOL PILOT VLV PSV-1-18 SUPPLY	2	MANUALLY OPEN	A	18

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 281 - 250V REACTOR MOV BOARDS (CONT.)		
			250V RMOV BD 2C		
2-BDDD-281-0002C	250V RMOV BD 2C	2	ENERGIZED	A	1-1, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 1B1	RELIEF VLV PCV-1-23 SOL PILOT VLV PSV-1-23 SUPPLY	2	MANUALLY OPEN	A	18
COMPT 2D	NORM FEED	2	REMAIN CLOSED	A	1-1, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
SYSTEM 282 - TURBINE BUILDING DC DISTRIBUTION BOARDS					
1-BDBB-282-0002 BKR 202	250V DC TURB DIST BD 2 FEED TO RECIRC BD	2	MANUALLY OPEN	A	2-5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 925 - REMOTE SHUTDOWN PANELS		
2-LPNL-925-0032	BACKUP CNTRL PANEL 2-LPNL-925-0032	2	ENERGIZED FROM DIV I ECCS ATU INVERTER	A	1-1, 1-3, 1-4, 2-3, 11, 16, 18

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 2

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM - ECCS ATU INVERTERS		
DIV I ECCS ATU INVERTER	PWR SUPPLY	2	IN SERVICE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PX-71-60-1	DIV I PWR SUPPLY PRIMARY 2-9-81	2	IN SERVICE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
DIV II ECCS ATU INVERTER	PWR SUPPLY	2	IN SERVICE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PX-71-60-2	DIV II PWR SUPPLY PRIMARY 2-9-82	2	IN SERVICE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-4, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
2-PX-71-60-2A	DIV II PWR SUPPLY SECONDARY 2-9-82	2	IN SERVICE	A	2-5, 18

UNIT 3

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001 - MAIN STEAM		
3-FCV-001-0014	MAIN STEAM LINE A INBD ISLN	3	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		3	ISOLATE AND CLOSE AT PANEL 3-LPNL-925-0032	A	16
3-FCV-001-0015	MAIN STEAM LINE A OUTBD ISLN	3	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		3	ISOLATE AND CLOSE AT PANEL 3-LPNL-925-0032	A	16
3-FCV-001-0026	MAIN STEAM LINE B INBD ISLN	3	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		3	ISOLATE AND CLOSE AT PANEL 3-LPNL-925-0032	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001- MAIN STEAM (CONT.)		
3-FCV-001-0027	MAIN STEAM LINE B OUTBD ISLN	3	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		3	ISOLATE AND CLOSE AT PANEL 3-LPNL-925-0032	A	16
3-FCV-001-0037	MAIN STEAM LINE C INBD ISLN	3	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		3	ISOLATE AND CLOSE AT PANEL 3-LPNL-925-0032	A	16
3-FCV-001-0038	MAIN STEAM LINE C OUTBD ISLN	3	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		3	ISOLATE AND CLOSE AT PANEL 3-LPNL-925-0032	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001- MAIN STEAM (CONT.)		
3-FCV-001-0051	MAIN STEAM LINE D INBD ISLN	3	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		3	ISOLATE AND CLOSE AT PANEL 3-LPNL-925-0032	A	16
3-FCV-001-0052	MAIN STEAM LINE D OUTBD ISLN	3	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		3	ISOLATE AND CLOSE AT PANEL 3-LPNL-925-0032	A	16
3-FCV-001-0055	MAIN STEAM LINES DRAIN ISLN	3	ISOLATE AND CLOSE AT 480V RMOV BD 3A BKR 16A	A	16
		3	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-FCV-001-0056	MAIN STEAM LINES DRAIN ISLN	3	VERIFY CLOSED / CLOSE FROM MCR	A	3-1, 13

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001- MAIN STEAM (CONT.)		
3-FCV-001-0057	MAIN STEAM LINES DRAIN ISLN	3	MANUALLY CLOSE VLV	A	3-3
		3	OPEN BKR AT 480V RMOV BD 3C BKR 9B	A	3-3
3-FCV-001-0058	MAIN STEAM LINES DRAIN ISLN	3	MANUALLY CLOSE VLV	A	3-3
		3	OPEN BKR AT 480V RMOV BD 3C BKR 6E	A	3-3

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED

SYSTEM 001- MAIN STEAM (CONT.)

MSRVs are credited to open for depressurization as follows:
3-PCV-001-0004, **-0005**, -0030, **-0034** in Fire Areas / Zones 1-1, 1-2, 1-3, 1-4, 1-5, 1-6
3-PCV-001-**0019**, -0031, -0179, -0180 in Fire Areas / Zones 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-PCV-001-0004, **-0005**, -0030, -0042 in Fire Areas / Zones 3-2
3-PCV-001-**0018**, **-0019**, -0031, -0179 in Fire Areas / Zones 3-3, 13
3-PCV-001-0004, -0023, -0030, **-0041** in Fire Areas / Zones 12
3-PCV-001-**0005**, **-0022**, **-0034**, **-0041** in Fire Areas / Zones 16
No compensatory measures are required provided that three credited MSRVs are available to open from the location as identified in the following table. However, one of the three available MSRVs must always be an ADS VLV (ADS VLVs in bold above).

In Fire Zone 3-1, either one of two groups of MSRVs is credited to survive and open for depressurization as follows:
(3-PCV-001-0004, -0030, **-0041**, –0042) OR (3-PCV-001-**0019**, **-0022**, -0031, –0179)

No compensatory measures are required provided that three credited MSRVs are available in each group to open from the location as identified in the following table. However, one of the three available MSRVs must always be an ADS VLV (ADS VLVs in bold above).

3-PCV-001-0004	MAIN STEAM LINE A RELIEF VLV	3	ISOLATE AT PANEL 3-LPNL-925-0032	A	16, 19
		3	OPEN FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 12
3-PCV-001-0005	MAIN STEAM LINE A RELIEF VLV-ADS	3	ISOLATE AND OPEN AT PANEL 3-LPNL-925-0032	A	16
		3	OPEN FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-2

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001- MAIN STEAM (CONT.)		
3-PCV-001-0018	MAIN STEAM LINE B RELIEF VLV	3	ISOLATE AT PANEL 3-LPNL-925-0658	A	16
		3	OPEN FROM MCR	A	3-3, 13
3-PCV-001-0019	MAIN STEAM LINE B RELIEF VLV-ADS	3	ISOLATE AT PANEL 3-LPNL-925-0658	A	16
		3	OPEN FROM MCR	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-PCV-001-0022	MAIN STEAM LINE B RELIEF VLV-ADS	3	ISOLATE AND OPEN AT PANEL 3-LPNL-925-0032	A	16
		3	OPEN FROM MCR	A	3-1
3-PCV-001-0023	MAIN STEAM LINE B RELIEF VLV	3	ISOLATE AT PANEL 3-LPNL-925-0032	A	16, 19
		3	OPEN FROM MCR	A	12

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001- MAIN STEAM (CONT.)		
3-PCV-001-0030	MAIN STEAM LINE C RELIEF VLV-ADS	3	ISOLATE AT PANEL 3-LPNL-925-0032	A	16, 19
		3	OPEN FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 3-1, 3-2, 12
3-PCV-001-0031	MAIN STEAM LINE C RELIEF VLV-ADS	3	ISOLATE AT PANEL 3-LPNL-925-0658	A	16
		3	OPEN FROM MCR	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-PCV-001-0034	MAIN STEAM LINE C RELIEF VLV-ADS	3	ISOLATE AND OPEN AT PANEL 3-LPNL-925-0032	A	16
		3	OPEN FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6
3-PCV-001-0041	MAIN STEAM LINE D RELIEF VLV	3	ISOLATE AND OPEN AT PANEL 3-LPNL-925-0032	A	16
		3	OPEN FROM MCR	A	3-1, 12

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 001- MAIN STEAM (CONT.)		
3-PCV-001-0042	MAIN STEAM LINE D RELIEF VLV	3	ISOLATE AT PANEL 3-LPNL-925-0032	A	16, 19
		3	OPEN FROM MCR	A	3-1, 3-2
3-PCV-001-0179	MAIN STEAM LINE A RELIEF VLV	3	ISOLATE AT PANEL 3-LPNL-925-0658	A	16
		3	OPEN FROM MCR	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-PCV-001-0180	MAIN STEAM LINE D RELIEF VLV	3	ISOLATE AT PANEL 3-LPNL-925-0032	A	16
		3	OPEN FROM MCR	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-XS-001-0159A	UNIT 3 ADS SYS INHIBIT SWITCH	3	OPERATE FROM MCR	A	3-1, 3-2, 3-3, 12, 13, 16, 19
3-XS-001-0161A	UNIT 3 ADS SYS INHIBIT SWITCH	3	OPERATE FROM MCR	A	3-1, 3-2, 3-3, 12, 13, 16, 19

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 002 - CONDENSATE		
3-FCV-002-0166	CONDENSATE SUPPLY LINE SHUTOFF VLV	3	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
3-LI-002-0165A	CONDENSATE STORAGE TANK #3 LEVEL INDICATOR	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
3-LT-002-0165	CONDENSATE STORAGE TANK 3 LEVEL	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
3-SHV-002-0705	CONDENSATE SUPPLY TO SAFETY SYSS	3	MANUALLY CLOSE VLV	A	3-1, 3-2, 3-3, 12, 13, 16, 19

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 003 - FEEDWATER		
3-LI-003-0046A	RX WATER ACCIDENT RANGE LEVEL A	3	OPERABLE	A	16
3-LI-003-0058A	RX WATER LEVEL A ACCIDENT RANGE	3	OPERABLE	A[24]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-LI-003-0058B	RX WATER LEVEL B ACCIDENT RANGE	3	OPERABLE	A[24]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-LIS-003-0058A	REACTOR WATER LEVEL	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-LIS-003-0058B	REACTOR WATER LEVEL	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

[24] Provided the redundant level indicator is AVAILABLE, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 003 - FEEDWATER (CONT.)		
3-LIS-003-0058C	REACTOR WATER LEVEL	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-LIS-003-0058D	REACTOR WATER LEVEL	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-LIS-003-0208A	REACTOR WATER LEVEL	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
3-LIS-003-0208B	REACTOR WATER LEVEL	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-LIS-003-0208C	REACTOR WATER LEVEL	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
3-LIS-003-0208D	REACTOR WATER LEVEL	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-LITS-003-0046A	REACTOR WATER LEVEL	0	OPERABLE	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 003 - FEEDWATER (CONT.)		
3-LT-003-0058A	REACTOR WATER LEVEL	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-LT-003-0058B	REACTOR WATER LEVEL	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-LT-003-0058C	REACTOR WATER LEVEL	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-LT-003-0058D	REACTOR WATER LEVEL	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-LT-003-0208A	REACTOR WATER LEVEL	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
3-LT-003-0208B	REACTOR WATER LEVEL	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 003 - FEEDWATER (CONT.)		
3-LT-003-0208C	REACTOR WATER LEVEL	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
3-LT-003-0208D	REACTOR WATER LEVEL	0	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PI-003-0074A	REACTOR PRESSURE A	3	OPERABLE	A[24]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-PI-003-0074B	REACTOR PRESSURE B	3	OPERABLE	A[24]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PI-003-0079	REACTOR PRESSURE B	3	OPERABLE	A	16
3-PIS-003-0074A	REACTOR PRESSURE A	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

[24] Provided the redundant level indicator is OPERABLE, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 003 - FEEDWATER (CONT.)		
3-PIS-003-0074B	REACTOR PRESSURE B	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PT-003-0074A	REACTOR PRESSURE A	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-PT-003-0074B	REACTOR PRESSURE B	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PT-003-0079	REACTOR PRESSURE	3	OPERABLE	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 023 - RHR SERVICE WATER		
0-PMP-023-0001	RHRSW PUMP A1	3	START FROM MCR	A	25-I
		3	ISOLATE AND STOP FROM 4KV SHDN BD A	A	16, 25-I
		3	START FROM 4KV SDBD A	A	16
0-PMP-023-0005	RHRSW PUMP A2	3	START FROM MCR	A	1-1, 2-2, 2-6, 3-4, 4, 8, 12, 15, 17, 19, 20, 21, 23
		3	ISOLATE AND STOP FROM 4KV SHDN BD A	A	1-1
0-PMP-023-0008	RHRSW PUMP C1	3	ISOLATE AND STOP FROM 4KV SHDN BD B	A	1-3
		3	START FROM 4KV SHDN BD B	A	1-3
		3	START FROM MCR	A	7
0-PMP-023-0012	RHRSW PUMP C2	3	START FROM MCR	A	2-3, 2-4, 3-2

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 023 - RHR SERVICE WATER (CONT.)		
0-PMP-023-0015	RHRSW PUMP B1	3	START FROM MCR	A	1-2, 1-4, 1-5, 1-6, 2-1, 3-1, 6, 9, 10, 11, 13, 14, 18, 24
		3	ISOLATE AND STOP FROM 4KV SHDN BD 3EC	A	25-II
		3	START FROM 4KV SHDN BD 3EC	A	25-II
0-PMP-023-0019	RHRSW PUMP B2	3	START FROM MCR	A	2-5, 3-3, 22
0-PMP-023-0023	RHRSW PUMP D1	3	START FROM MCR	A	5
1-FCV-023-0034	RHR HEAT EXCH A SW OUTLET VLV	3	CLOSE FROM MCR	A	2-6, 3-4, 12, 15, 17, 19, 20, 21, 23
		3	MANUALLY CLOSE VLV	A	1-1, 16
		3	OPEN BKR AT 480V RMOV BD 1A BKR 4D	A	1-1, 16
1-FCV-023-0040	RHR HEAT EXCH C SW OUTLET VLV	3	CLOSE FROM MCR	A	2-4, 3-2, 7
		3	MANUALLY CLOSE VLV	A	1-3
		3	OPEN BKR AT 480V RMOV BD 1A BKR 5D	A	1-3

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 023 - RHR SERVICE WATER (CONT.)		
1-FCV-023-0046	RHR HEAT EXCH B SW OUTLET VLV	3	MANUALLY CLOSE VLV	A[25]	1-2, 1-4, 1-6, 2-1, 3-3, 9
		3	CLOSE FROM MCR	A[19]	1-5, 2-5, 10, 11, 14, 22, 24
		3	OPEN BKR AT 480V RMOV BD 1B BKR 14C2	A[25]	1-2, 1-4, 1-6, 2-1, 3-3, 9
2-FCV-023-0034	RHR HEAT EXCH A SW OUTLET VLV	3	CLOSE FROM MCR	A[19]	1-1, 2-6, 3-4, 12, 15, 17, 19, 21, 23
		3	OPEN BKR AT 480V RMOV BD 2A BKR 17C	A[26]	16, 20
		3	MANUALLY CLOSE VLV	A[26]	16, 20

[19] VLV is not adversely impacted as the result of a potential fire. The Appendix R function is only required if the VLV is opened to support decay heat removal. Therefore, provided the VLV remains closed, no compensatory measures are required.

[25] For zones 1-6 and 2-1, VLV is not adversely impacted as the result of a potential fire. The Appendix R function is only required if the VLV is opened to support decay heat removal. Therefore, provided the VLV remains closed, no compensatory measures are required.

[26] For fire area 20, VLV is not adversely impacted as the result of a potential fire. The Appendix R function is only required if the VLV is opened to support decay heat removal. Therefore, provided the VLV remains closed, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 023 - RHR SERVICE WATER (CONT.)		
2-FCV-023-0040	RHR HEAT EXCH C SW OUTLET VLV	3	CLOSE FROM MCR	A[19]	3-2, 7
		3	OPEN BKR AT 480V RMOV BD 2A BKR 18C	A[27]	1-3, 2-4
		3	MANUALLY CLOSE VLV	A[27]	1-3, 2-4
2-FCV-023-0046	RHR HEAT EXCH B SW OUTLET VLV	3	CLOSE FROM MCR	A[28]	1-2, 1-4, 1-5, 1-6, 2-1, 2-5, 10, 14, 22, 24
		3	OPEN BKR AT 480V RMOV BD 2B BKR 7E	A[28]	3-3, 9, 11
		3	MANUALLY CLOSE VLV	A[19]	3-3, 9, 11

[19] VLV is not adversely impacted as the result of a potential fire. The Appendix R function is only required if the VLV is opened to support decay heat removal. Therefore, provided the VLV remains closed, no compensatory measures are required.

[27] For fire zone 1-3, VLV is not adversely impacted as the result of a potential fire. The Appendix R function is only required if the VLV is opened to support decay heat removal. Therefore, provided the VLV remains closed, no compensatory measures are required.

[28] For fire area 11, VLV is not adversely impacted as the result of a potential fire. The Appendix R function is only required if the VLV is opened to support decay hear removal. Therefore, provided the VLV remains closed, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 023 - RHR SERVICE WATER (CONT.)		
3-FCV-023-0034	RHR HEAT EXCH A SW OUTLET VLV	3	OPEN FROM MCR	A	1-1, 2-6, 3-4, 12, 15, 17, 19, 20, 21, 23
		3	OPEN BKR AT 480V RMOV BD 3A BKR 17C	A	16
		3	MANUALLY OPEN VLV	A	16
3-FCV-023-0040	RHR HEAT EXCH C SW OUTLET VLV	3	OPEN FROM MCR	A	2-4, 3-2, 7
		3	OPEN BKR AT 480V RMOV BD 3A BKR 18C	A	1-3
		3	MANUALLY OPEN VLV	A	1-3
3-FCV-023-0046	RHR HEAT EXCH B SW OUTLET VLV	3	OPEN FROM MCR	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-5, 9, 10, 11, 14, 22, 24
		3	OPEN BKR AT 480V RMOV BD 3B BKR 7E	A	3-3
		3	MANUALLY OPEN VLV	A	3-3

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 032 - CONTROL AIR		
3-VTV-032-5103	3-FCV-69-94 MANUAL INSTRUMENT AIR VENT VLV	3	MANUALLY OPEN VLV	A	3-3, 16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION		
3-ACU-064-0068	RHR ROOM COOLER 3A	3	OPERABLE	A	1-1, 2-2, 2-6, 3-4, 4, 8, 12, 15, 16, 17, 19, 20, 21, 23, 25-I
3-ACU-064-0069	RHR ROOM COOLER 3B	3	OPERABLE	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-5, 3-1, 3-3, 6, 9, 10, 11, 13, 14, 18, 22, 24, 25-II
3-ACU-064-0070	RHR ROOM COOLER 3C	3	OPERABLE	A	1-3, 2-3, 2-4, 3-2, 7
3-ACU-064-0071	RHR ROOM COOLER 3D	3	OPERABLE	A	5
3-LI-064-0054A	SUPP CHAMBER WATER LEVEL	3	OPERABLE	A[29]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-LI-064-0054B	SUPP CHAMBER WATER LEVEL	3	OPERABLE	A	16
3-LI-064-0066	SUPP CHAMBER WATER LEVEL	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-LI-064-0159A	SUPP CHAMBER WATER LEVEL	3	OPERABLE	A[29]	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II

[29] Provided one level indicator is AVAILABLE, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)		
3-LT-064-0054	SUPP CHAMBER WATER LEVEL	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-LT-064-0066	SUPP CHAMBER WATER LEVEL	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-LT-064-0159A	SUPP CHAMBER WATER LEVEL	3	OPERABLE	A	2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
3-PI-064-0050	DRYWELL PRESSURE	3	ISOLATE FROM MCR / AVAILABLE FROM 3-LPNL-925-0032	A	1-1, 1-3, 1-4, 3-4, 16, 20
3-PI-064-0160A	DRYWELL PRESSURE HIGH RANGE	3	OPERABLE	A[30]	1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
3-PIS-064-0058A	SYS 2 HIGH DRYWELL PRESS ANALOG TRIP	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II

[30] Provided one drywell pressure indicator is AVAILABLE, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
	SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)				
3-PIS-064-0058B	SYS 1 HIGH DRYWELL PRESS ANALOG TRIP	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-PIS-064-0058C	SYS 2 HIGH DRYWELL PRESS ANALOG TRIP	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PIS-064-0058D	SYS 1 HIGH DRYWELL PRESS ANALOG TRIP	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-PT-064-0050	DRYWELL PRESSURE	3	OPERABLE	A	1-1, 1-3, 1-4, 3-4, 16, 20
3-PT-064-0160A	DRYWELL PRESSURE HIGH RANGE	3	OPERABLE	A	1-2, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 21, 22, 23, 24, 25-I, 25-II
3-TE-064-0055E	SUPP POOL TEMP	3	OPERABLE	A	16
3-TE-064-0055F	SUPP POOL TEMP	3	OPERABLE	A	16
3-TE-064-0068	RHR PUMP MTR 3A COOLER TEMP	3	OPERABLE	A	1-1, 2-2, 2-6, 3-4, 4, 8, 12, 15, 16, 17, 19, 20, 21, 23, 25-I

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
	SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)				
3-TE-064-0069	RHR PUMP MTR 3B COOLER TEMP	3	OPERABLE	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-5, 3-1, 3-3, 6, 9, 10, 11, 13, 14, 18, 22, 24, 25-II
3-TE-064-0070	RHR PUMP MTR 3C COOLER TEMP	3	OPERABLE	A	1-3, 2-3, 2-4, 3-2, 7
3-TE-064-0071	RHR PUMP MTR 3D COOLER TEMP	3	OPERABLE	A	5
3-TE-064-0161A	SUPP POOL WATER TEMP ELEMENT	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-TE-064-0161B	SUPP POOL WATER TEMP ELEMENT	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-TE-064-0161C	SUPP POOL WATER TEMP ELEMENT	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-TE-064-0161D	SUPP POOL WATER TEMP ELEMENT	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
	SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)				
3-TE-064-0161E	SUPP POOL WATER TEMP ELEMENT	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-TE-064-0161F	SUPP POOL WATER TEMP ELEMENT	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-TE-064-0161G	SUPP POOL WATER TEMP ELEMENT	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-TE-064-0161H	SUPP POOL WATER TEMP ELEMENT	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-TE-064-0162A	SUPP POOL WATER TEMP ELEMENT	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TE-064-0162B	SUPP POOL WATER TEMP ELEMENT	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
	SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)				
3-TE-064-0162C	SUPP POOL WATER TEMP ELEMENT	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TE-064-0162D	SUPP POOL WATER TEMP ELEMENT	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TE-064-0162E	SUPP POOL WATER TEMP ELEMENT	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TE-064-0162F	SUPP POOL WATER TEMP ELEMENT	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TE-064-0162G	SUPP POOL WATER TEMP ELEMENT	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TE-064-0162H	SUPP POOL WATER TEMP ELEMENT	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)		
3-TI-064-0052AB	DRYWELL TEMP	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 17, 18, 20, 22, 24, 25-I, 25-II
3-TI-064-0055B	SUPP POOL TEMP	3	OPERABLE	A	16
3-TI-064-0161	SUPP POOL BULK TEMP DIV-I	3	OPERABLE	A[31]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-TI-064-0162	SUPP POOL BULK TEMP DIV-I	3	OPERABLE	A[31]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TM-064-0161A	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-TM-064-0161B	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

[31] Provided one SUPP pool TEMP indicator is AVAILABLE, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)		
3-TM-064-0161C	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-TM-064-0161D	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-TM-064-0161E	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-TM-064-0161F	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-TM-064-0161G	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-TM-064-0161H	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)		
3-TM-064-0161J	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-TM-064-0161K	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-TM-064-0161L	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-TM-064-0162A	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TM-064-0162B	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TM-064-0162C	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)		
3-TM-064-0162D	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TM-064-0162E	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TM-064-0162F	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TM-064-0162G	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TM-064-0162H	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TM-064-0162J	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
	SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)				
3-TM-064-0162K	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TM-064-0162L	SUPP POOL WATER TEMP MODIFIER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TR-064-0161	SUPP POOL BULK TEMP DIV-I	3	OPERABLE	A	3-2
3-TR-064-0162	SUPP POOL BULK TEMP DIV-II	3	OPERABLE	A	3-1
3-TS-064-0068	RHR PUMP MTR 3A COOLER TEMP SWITCH	3	OPERABLE	A	1-1, 2-2, 2-6, 3-4, 4, 8, 12, 15, 16, 17, 19, 20, 21, 23, 25-I
3-TS-064-0069	RHR PUMP MTR 3B COOLER TEMP SWITCH	3	OPERABLE	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-5, 3-1, 3-3, 6, 9, 10, 11, 13, 14, 18, 22, 24, 25-II
3-TS-064-0070	RHR PUMP MTR 3C COOLER TEMP SWITCH	3	OPERABLE	A	1-3, 2-3, 2-4, 3-2, 7
3-TS-064-0071	RHR PUMP MTR 3D COOLER TEMP SWITCH	3	OPERABLE	A	5

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
	SYSTEM 064 - PRIMARY CONTAINMENT INSTRUMENTATION (CONT.)				
3-XR-064-0159	SUPP CHAMBER WATER LEVEL AND DRYWELL PRESSURE	3	OPERABLE	A[30]	2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 21, 22, 23, 24, 25-I, 25-II

[30] Provided one SUPP pool TEMP indicator is AVAILABLE, no compensatory measures are required.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 068 - REACTOR RECIRCULATION		
3-PMP-068-0060A	RECIRC PUMP A	3	STOP PUMP AT 4KV RPT BD 3-II USING MECH TRIP	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-PMP-068-0060B	RECIRC PUMP B	3	STOP PUMP AT 4KV RPT BD 3-II USING MECH TRIP	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 069 - REACTOR WATER CLEANUP		
3-FCV-069-0001	RWCU INBD SUCT ISLN VLV	3	CLOSE FROM MCR	A	12
3-FCV-069-0002	RWCU OUTBD SUCT ISLN VLV	3	CLOSE FROM MCR	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-FCV-069-0094	RWCU LOW-TEMP PIPE ISLN VLV	3	MANUALLY CLOSE WITH 3-VTV-32-5103 LOCATED ON ELEV. 621	A	3-3, 16
		3	AUTO CLOSE VIA FUSIBLE PLUG 3-FUPG-032-5105	A	ALL

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING		
3-FCV-071-0002	RCIC STEAM LINE INBD ISLN VLV	3	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		3	ISOLATE AND OPEN AT 480V RMOV BD 3B BKR 1C	A	16
3-FCV-071-0003	RCIC STEAM LINE OUTBD ISLN VLV	3	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		3	ISOLATE AND OPEN AT 250V RMOV BD 3B BKR 5B	A	16
3-FCV-071-0008	STEAM ADMISSION VLV TO TURBINE	3	AUTO OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		3	ISOLATE AND OPEN AT 250V RMOV BD 3C BKR 4B	A	16
3-FCV-071-0010	TURBINE GOV VLV	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)		
3-FCV-071-0009	TURBINE TRIP / THROTTLE VLV	3	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		3	ISOLATE AND OPEN AT PANEL 3-LPNL-925-0032	A	16
3-FCV-071-0017	RCIC SUPP POOL INBD SUCT VLV	3	OPERABLE	A[32]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		3	ISOLATE AND OPEN AT 250V RMOV BD 3C BKR 8B	A[32]	16
3-FCV-071-0018	RCIC SUPP POOL OUTBD SUCT VLV	3	OPERABLE	A[32]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		3	ISOLATE AND OPEN AT 250V RMOV BD 3C BKR 7D	A	16

[32] Compensatory measures are not required provided VLVs 3-FCV-2-166 and 3-FCV-71-19 are AVAILABLE to perform their required function.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)		
3-FCV-071-0019	COND STORAGE TANK SUCT VLV	3	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
3-FCV-071-0025	RCIC LUBE OIL COOLER VLV	3	AUTO OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		3	ISOLATE AND OPEN AT 250V RMOV BD 3C BKR 8D	A	16
3-FCV-071-0034	RCIC MAIN PUMP MIN FLOW VLV	3	AUTO OPEN AND CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		3	ISOLATE AND OPEN AT 250V RMOV BD 3B BKR 5D	A	16
3-FCV-071-0037	PUMP DISCHG ISLN VLV	3	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		3	ISOLATE AND OPEN AT 250V RMOV BD 3C BKR 3B	A	16

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)		
3-FCV-071-0038	RCIC PUMP TEST RETURN VLV	3	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		3	ISOLATE AND OPEN AT 250V RMOV BD 3C BKR 7B	A	16
3-FCV-071-0039	RCIC PUMP TEST INJ VLV	3	AUTO OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
		3	ISOLATE AND OPEN AT 250V RMOV BD 3C BKR 3D	A	16
3-FCV-071-0059	RCIC TURBINE EXHAUST VAC RELIEF ISOL VLV	3	REMAIN OPEN (WITH PWR REMOVED)	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24
3-FIC-071-0036A	RCIC PUMP DISCHG LINE FLOW CNTRLLER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-FIC-071-0036B	RCIC PUMP DISCHG LINE FLOW CNTRLLER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)		
3-FIS-071-0036	RCIC PUMP DISCHG FLOW INDICATING SWITCH	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-FT-071-0036	RCIC PUMP DISCHG LINE FLOW TRANSMITTER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-PCV-071-0022	LUBE OIL COOLER SUPPLY LINE PRESS CNTRL	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-PDIS-071-0001A	STEAM LINE SUPPLY PRESSURE DIFFERENTIAL	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-PDIS-071-0001B	STEAM LINE SUPPLY PRESSURE DIFFERENTIAL	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-PMP-071-0019	RCIC PUMP / TURBINE	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)		
3-PS-071-0001A	STEAM SUPPLY LINE PRESSURE SW	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-PS-071-0001B	STEAM SUPPLY LINE PRESSURE SW	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-PS-071-0001C	STEAM SUPPLY LINE PRESSURE SW	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-PS-071-0001D	STEAM SUPPLY LINE PRESSURE SW	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-PS-071-0011A	TURB EXH OVERPRESSURE RELIEF LINE PRESS SW	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-PS-071-0011B	TURB EXH OVERPRESSURE RELIEF LINE PRESS SW	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)		
3-PS-071-0011C	TURB EXH OVERPRESSURE RELIEF LINE PRESS SW	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-PS-071-0011D	TURB EXH OVERPRESSURE RELIEF LINE PRESS SW	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-PS-071-0013A	TURB EXH LINE PRESS SW	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-PS-071-0013B	TURB EXH LINE PRESS SW	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-PS-071-0021A	RCIC PP SUCT PRESS LOW PNL 25-58	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-SC-071-0010	TURBINE SPEED CNTRLLER	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)		
3-SE-071-0042A	RCIC TURBINE SPEED ELEMENT	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-TS-071-0002A	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-TS-071-0002B	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-TS-071-0002C	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-TS-071-0002D	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-TS-071-0002E	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)		
3-TS-071-0002F	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-TS-071-0002G	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-TS-071-0002H	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-TS-071-0002J	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-TS-071-0002K	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-TS-071-0002L	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 071 - REACTOR CORE ISOLATION COOLING (CONT.)		
3-TS-071-0002M	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-TS-071-0002N	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-TS-071-0002P	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-TS-071-0002R	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24
3-TS-071-0002S	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION		
3-FCV-073-0002	HPCI STEAM LINE INBD ISLN VLV	3	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-FCV-073-0003	HPCI STEAM LINE OUTBD ISOL VLV	3	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
		3	CLOSE FROM MCR	A	3-2
3-FCV-073-0016	HPCI TURBINE STEAM SUPPLY VLV	3	AUTO OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
		3	ISOLATE AND CLOSE AT 250V RMOV BD 3A BKR 3D	A	16
3-FCV-073-0018	HPCI TURBINE STOP VLV	3	AUTO OPEN AND CLOSE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
3-FCV-073-0019	HPCI TURBINE CNTRL VLV	3	AUTO OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
		3	CLOSE USING HPCI FLOW CNTRLR	A	3-1, 3-2, 3-3, 12, 13, 19
3-FCV-073-0026	HPCI SUPPR POOL INBD SUCT VLV	3	OPERABLE / AUTO	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-FCV-073-0027	HPCI SUPPR POOL OUTBD SUCT VLV	3	OPERABLE / AUTO	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-FCV-073-0034	HPCI PUMP DISCHG VLV	3	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-FCV-073-0035	HPCI PUMP TEST RETURN VLV	3	REMAIN OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-FCV-073-0036	HPCI CONDENSATE STORAGE TANK RETURN LINE	3	CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
3-FCV-073-0040	HPCI COND STORAGE TANK SUCT VLV	3	OPERABLE / AUTO	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-FCV-073-0044	HPCI PUMP INJ VLV	3	AUTO OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-FCV-073-0064	TURBINE EXHAUST VAC RELIEF VLV	3	REMAIN OPEN (WITH PWR REMOVED)	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-FIC-073-0033	PUMP DISCHG FLOW CNTRL	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-FIS-073-0033	PUMP DISCHG FLOW INDICATING SWITCH	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-FT-073-0033	PUMP DISCHG FLOW XMTR	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
3-PCV-073-0018A	3-FCV-73-18 PILOT VLV	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PCV-073-0018B	3-FCV-73-18 PILOT DRAIN VLV	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PCV-073-0018C	3-FCV-73-18 CNTRL VLV	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PCV-073-0043	LUBE OIL COOLER SUPPLY LINE VLV	3	OPERABLE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PDIS-073-0001A	STEAM SUPPLY LINE PRESSURE DIFFERENTIAL	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PDIS-073-0001B	STEAM SUPPLY LINE PRESSURE DIFFERENTIAL	3	MUST NOT OPERATE		1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
3-PMP-073-0047	HPCI AUX OIL PUMP	3	AUTO START	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PMP-073-0054	HPCI MAIN PUMP	3	AUTO START	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PS-073-0001A	STEAM SUPPLY LINE PRESSURE SW	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PS-073-0001B	STEAM SUPPLY LINE PRESSURE SW	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PS-073-0001C	STEAM SUPPLY LINE PRESSURE SW	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PS-073-0001D	STEAM SUPPLY LINE PRESSURE SW	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
3-PS-073-0020A	TURBINE EXH OVERPRESSURE RELIEF LINE	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PS-073-0020B	TURBINE EXH OVERPRESSURE RELIEF LINE	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PS-073-0020C	TURBINE EXH OVERPRESSURE RELIEF LINE	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PS-073-0020D	TURBINE EXH OVERPRESSURE RELIEF LINE	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PS-073-0022A	TURB EXH LINE PRESSURE SWITCH PNL 25-63	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-PS-073-0022B	TURB EXH LINE PRESSURE SWITCH PNL 25-63	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
3-PS-073-0029-1	HPCI BSTR PUMP SUCT PRESSURE	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-SC-073-0019	HPCI TURBINE SPEED CNTRLLER	3	OPERABLE		1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
		3	SET CNTRLR TO ZERO TO CLOSE VLV 3-FCV-73-19	A	3-1, 3-2, 3-3, 12, 13, 19
3-SE-073-0051	HPCI TURBINE SPEED ELEMENT	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TS-073-0002A	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TS-073-0002B	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
	SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)				
3-TS-073-0002C	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TS-073-0002D	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TS-073-0002E	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TS-073-0002F	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TS-073-0002G	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TS-073-0002H	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
3-TS-073-0002J	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TS-073-0002K	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TS-073-0002L	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TS-073-0002M	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TS-073-0002N	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TS-073-0002P	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 073 - HIGH PRESSURE COOLANT INJECTION (CONT.)		
3-TS-073-0002R	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-TS-073-0002S	STEAM LEAKAGE DETECTION TEMP SWITCH	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
3-XCV-073-0018	3-FCV-73-18 CNTRL VLV	3	MUST NOT OPERATE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
HPCI TURBINE	HPCI TURBINE	3	AUTO START	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-2, 2-3, 2-4, 2-5, 2-6, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 074 - RESIDUAL HEAT REMOVAL		
3-FCV-074-0001	RHR PUMP A SUPP POOL SUCT VLV	3	REMAIN OPEN	A	1-1, 2-2, 2-6, 3-4, 4, 8, 12, 15, 17, 19, 20, 21, 23, 25-I
		3	ISOLATE AND OPEN AT 480V RMOV BD 3A BKR 4C	A	16
3-FCV-074-0002	RHR PUMP A SHDN COOLING SUCT VLV	3	REMAIN CLOSED	A	1-1, 2-2, 2-6, 3-4, 4, 8, 12, 15, 17, 19, 20, 21, 23, 25-I
		3	ISOLATE AND CLOSE AT 480V RMOV BD 3A BKR 6C	A	16
3-FCV-074-0007	RHR PUMP 3A & 3C MIN FLOW VLV	3	OPERABLE	A	1-1, 1-3, 2-2, 2-3, 2-4, 2-6, 3-2, 3-4, 4, 7, 8, 12, 15, 16, 17, 19, 20, 21, 23, 25-I
3-FCV-074-0012	RHR PUMP C SUPP POOL SUCT VLV	3	REMAIN OPEN	A	1-3, 2-3, 2-4, 3-2, 7
3-FCV-074-0013	RHR PUMP C SHDN COOLING SUCT VLV	3	REMAIN CLOSED	A	1-3, 2-3, 2-4, 3-2, 7
3-FCV-074-0024	RHR PUMP B SUPP POOL SUCT VLV	3	REMAIN OPEN	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-5, 3-1, 3-3, 6, 9, 10, 11, 13, 14, 18, 22, 24, 25-II
3-FCV-074-0025	RHR PUMP B SHDN COOLING SUCT VLV	3	REMAIN CLOSED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-5, 3-1, 3-3, 6, 9, 10, 11, 13, 14, 18, 22, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 074 - RESIDUAL HEAT REMOVAL (CONT.)		
3-FCV-074-0030	RHR PUMP 3B & 3D MIN FLOW VLV	3	OPERABLE	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-5, 3-1, 3-3, 5, 6, 9, 10, 11, 13, 14, 18, 22, 24, 25-II
3-FCV-074-0035	RHR PUMP D SUPP POOL SUCT VLV	3	REMAIN OPEN	A	5
3-FCV-074-0036	RHR PUMP D SHDN COOLING SUCT VLV	3	REMAIN CLOSED	A	5
3-FCV-074-0046	RHR SYS I / II CROSSTIE VLV	3	REMAIN CLOSED	A[33]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-FCV-074-0047	RHR SHDN COOLING SUCT OUTBD ISOL VLV	3	REMAIN CLOSED (WITH PWR REMOVED)	A[16]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-FCV-074-0052	RHR SYS I OUTBD INJ	3	REMAIN OPEN	A	1-1, 1-3, 2-2, 2-3, 2-4, 2-6, 3-2, 3-4, 4, 7, 8, 12, 15, 17, 19, 20, 21, 23, 25-I
		3	ISOLATE AND OPEN AT 480V RMOV BD 3A BKR 2B	A	16

[16] If reactor pressure is less than 100 psig, no compensatory measure is required. PWR may be restored for maintenance / testing.

[33] Either 3-FCV-074-0046 or 3-SHV-074-0150 shall remain closed. Motive power is disconnected.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 074 - RESIDUAL HEAT REMOVAL (CONT.)		
3-FCV-074-0053	RHR SYS I INBD INJ VLV	3	ISOLATE AND OPEN AT 480V RMOV BD 3D BKR 2C	A	3-2, 12, 16, 21, 23
		3	OPEN FROM MCR	A	1-1, 1-3, 2-2, 2-3, 2-4, 2-6, 3-4, 4, 7, 8, 15, 17, 19, 20, 25-I
3-FCV-074-0054	RHR SYS I TESTABLE CHECK VLV	3	OPEN / CLOSED	A	1-1, 1-3, 2-2, 2-3, 2-4, 2-6, 3-2, 3-4, 4, 7, 8, 12, 15, 16, 17, 19, 20, 21, 23, 25-I
3-FCV-074-0057	RHR SYS I SUPP POOL SPRAY / TEST ISLN VLV	3	ISOLATE AND CLOSE AT 480V RMOV BD 3A BKR 11C	A	16
		3	REMAIN CLOSED	A	1-1, 1-3, 2-2, 2-3, 2-4, 2-6, 3-2, 3-4, 4, 7, 8, 12, 15, 17, 19, 20, 21, 23, 25-I
3-FCV-074-0060	RHR SYS I DRYWELL SPRAY OUTBD VLV	3	ISOLATE AND CLOSE AT 480V RMOV BD 3A BKR 13C	A	16
		3	REMAIN CLOSED	A	1-1, 1-3, 2-2, 2-3, 2-4, 2-6, 3-2, 3-4, 4, 7, 8, 12, 15, 17, 19, 20, 21, 23, 25-I
3-FCV-074-0066	RHR SYS II OUTBD INJ VLV	3	REMAIN OPEN	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-5, 3-1, 3-3, 5, 6, 9, 10, 11, 13, 14, 18, 22, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 074 - RESIDUAL HEAT REMOVAL (CONT.)		
3-FCV-074-0067	RHR SYS II INBD INJ VLV	3	ISOLATE AND OPEN AT 480V RMOV BD 3E BKR 2C	A	3-1, 3-3, 13
		3	OPEN FROM MCR	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-5, 5, 6, 9, 10, 11, 14, 18, 22, 24, 25-II
3-FCV-074-0068	RHR SYS II TESTABLE CHECK VLV	3	OPEN / CLOSED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-5, 3-1, 3-3, 5, 6, 9, 10, 11, 13, 14, 18, 22, 24, 25-II
3-FCV-074-0071	RHR SYS II SUPP POOL VLV	3	REMAIN CLOSED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-5, 3-3, 5, 6, 9, 10, 11, 13, 14, 18, 22, 24, 25-II
3-FCV-074-0072	RHR SYS II SUPP POOL SPRAY VLV	3	REMAIN CLOSED	A	3-1
3-FCV-074-0073	RHR SYS II TEST VLV	3	REMAIN CLOSED	A	3-1
3-FCV-074-0074	RHR SYS II CONTAINMENT SPRAY OUTBD VLV	3	REMAIN CLOSED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-5, 3-1, 3-3, 5, 6, 9, 10, 11, 13, 14, 18, 22, 24, 25-II
3-FCV-074-0096	RHR PUMP A SUCT CROSSTIE VLV	3	REMAIN CLOSED (WITH PWR REMOVED)	A[34]	1-1, 1-3, 2-2, 2-3, 2-4, 2-6, 3-2, 3-4, 4, 7, 8, 12, 15, 16, 17, 19, 20, 21, 23, 25-I

[34] PWR may be restored for maintenance / testing. This VLV is required to stay closed when RHR pump 3A or 3C is used for inventory make-up.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 074 - RESIDUAL HEAT REMOVAL (CONT.)		
3-FCV-074-0097	RHR PUMP C SUCT CROSSTIE VLV	3	REMAIN CLOSED (WITH PWR REMOVED)	A[34]	1-1, 1-3, 2-2, 2-3, 2-4, 2-6, 3-2, 3-4, 4, 7, 8, 12, 15, 16, 17, 19, 20, 21, 23, 25-I
3-FCV-074-0100	RHR HTX A-C DISCH CROSSTIE VLV	0	REMAIN CLOSED (WITH PWR REMOVED)	A[35]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 23, 24, 25-I, 25-II
3-FCV-074-0104	RHR DIV I DRAIN VLV (3A & 3C)	3	REMAIN CLOSED	A	1-1, 1-3, 2-2, 2-3, 2-4, 2-6, 3-2, 3-4, 4, 7, 8, 12, 15, 16, 17, 19, 20, 21, 23, 25-I
3-FCV-074-0106	RHR DIV II DRAIN VLV (3B & 3D)	3	REMAIN CLOSED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-5, 3-1, 3-3, 5, 6, 9, 10, 11, 13, 14, 18, 22, 24, 25-II
3-PMP-074-0005	RHR PUMP 3A	3	START FROM MCR	A	1-1, 2-2, 2-6, 3-4, 4, 8, 12, 15, 17, 19, 20, 21, 23, 25-I
		3	ISOLATE AND START FROM 4KV SHDN BD 3EA	A	16

[34] PWR may be restored for maintenance / testing. This VLV is required to stay closed when RHR pump 3A or 3C is used for inventory make-up.

[35] PWR may be restored for maintenance / testing. This VLV is required to stay closed when RHR pump 3A or 3C is used for inventory make-up or if RHRSW-B is used for decay heat removal.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 074 - RESIDUAL HEAT REMOVAL (CONT.)		
3-PMP-074-0016	RHR PUMP 3C	3	START FROM MCR	A	1-3, 2-3, 2-4, 7
		3	ISOLATE AND START FROM 4KV SHDN BD 3EB	A	3-2
3-PMP-074-0028	RHR PUMP 3B	3	START FROM MCR	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-5, 3-1, 6, 9, 10, 11, 13, 14, 18, 22, 24, 25-II
		3	ISOLATE AND START FROM 4KV SHDN BD 3EC	A	3-3
3-PMP-074-0039	RHR PUMP 3D	3	START FROM MCR	A	5
3-SHV-074-0150	RHR SYS I & II DISCH CROSSTIE SOV	3	REMAIN CLOSED	A[36]	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

[36] Either 3-FCV-074-0046 or 3-SHV-074-0150 shall remain closed.

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
SYSTEM 078 - FUEL POOL COOLING AND DEMINERALIZER					
3-FCV-078-0062	FUEL POOL MAKEUP FROM RHR OUTBD VLV	3	REMAIN CLOSED (WITH PWR REMOVED)	A	ALL

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS		
			480V RMOV BD 3C		
3-BDBB-268-0003C	480V RMOV BD 3C	3	ENERGIZED	A	3-4
COMPT 10D	NORM FEED BKR FROM 480V SHDN BD 3B	3	REMAIN CLOSED	A	3-4
COMPT R7B	TEMPORARY MAINT FEED BKR TO 480V RMOV BD 3D	3	MANUALLY CLOSE	A	3-4
COMPT 1A	DRWL BLWR 3A-5	0	MANUALLY OPEN	A	3-3, 3-4
COMPT 1D	VFD AUX PWR	0	MANUALLY OPEN	A	3-3, 3-4
COMPT 2D	EMERG FEED BKR FROM 480V SHDN BD 3A	3	REMAIN OPEN	A	3-4
COMPT 11A	DRWL BLWR 3B-5	0	MANUALLY OPEN	A	3-3, 3-4

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 3D		
3-BDBB-268-0003D	480V RMOV BD 3D	3	ENERGIZED	A	1-1, 1-3, 2-2, 2-3, 2-4, 2-6, 3-2, 3-4, 4, 7, 8, 12, 15, 16, 17, 19, 20, 21, 23, 25-I
COMPT 1D	NORM FEED BKR FROM 480V SHDN BD 3A (VIA MG SET 3DN)	3	REMAIN CLOSED	A	1-1, 1-3, 2-2, 2-3, 2-4, 2-6, 3-2, 4, 7, 8, 12, 15, 16, 17, 19, 20, 21, 23, 25-I
		3	MANUALLY OPEN	A	3-4
COMPT 3C	TEMPORARY MAINT FEED BKR FROM 480V RMOV BD 3C	3	MANUALLY CLOSE	A	3-4

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 268 - 480V REACTOR MOV BOARDS (CONT.)		
			480V RMOV BD 3E		
3-BDBB-268-0003E	480V RMOV BD 3E	3	ENERGIZED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-5, 3-1, 3-3, 5, 6, 9, 10, 11, 13, 14, 18, 22, 24, 25-II
COMPT 1D	NORM FEED BKR FROM 480V SHDN BD 3B (VIA MG SET 3EN)	3	REMAIN CLOSED	A	1-2, 1-4, 1-5, 1-6, 2-1, 2-5, 3-1, 3-3, 5, 6, 9, 10, 11, 13, 14, 18, 22, 24, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 281 - 250V REACTOR MOV BOARDS		
			250V RMOV BD 3A		
3-BDDD-281-0003A	250V RMOV BD 3A	3	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 2D	NORM SUPPLY FROM 250V BATT BD 3	3	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 25-I, 25-II
		3	MANULLY OPEN	A	3-2, 19
COMPT 10D	ALT SUPPLY FROM 250V BATT BD 2	3	MANULLY CLOSE	A	3-2, 19
COMPT 1B1	4KV RPT BD 3-II	3	MANULLY OPEN	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 4A	HPCI TURB AUX OIL PUMP	0	MANUALLY OPEN	A	3-2, 19
COMPT 5A	VLV 3-FCV-073-0034	0	MANUALLY OPEN	A	3-2, 19
COMPT 6A	VLV 3-FCV-073-0035	0	MANUALLY OPEN	A	3-2, 19
COMPT 7A	VLV 3-FCV-073-0044	0	MANUALLY OPEN	A	3-2, 19

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 281 - 250V REACTOR MOV BOARDS (CONT.)		
			250V RMOV BD 3A (CONT.)		
COMPT 8B2	HPCI GLAND SEAL COND BLWR	0	MANUALLY OPEN	A	3-2, 19
COMPT 8D	VLV 3-FCV-073-0030	0	MANUALLY OPEN	A	3-2, 19
COMPT 9B2	HPCI GLAND SEAL COND PUMP	0	MANUALLY OPEN	A	3-2, 19
COMPT 11D2	VLV 3-FCV-073-0003	0	MANUALLY OPEN	A	3-2, 19

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 281 - 250V REACTOR MOV BOARDS (CONT.)		
			250V RMOV BD 3B		
3-BDDD-281-0003B	250V RMOV BD 3B	3	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 2D	NORM SUPPLY FROM 250V BATT BD 1	3	REMAIN CLOSED	A	1-1, 1-2, 1-6, 2-1, 2-2, 2-3, 2-4, 2-6, 3-1, 3-2, 4, 5, 6, 7, 8, 10, 11, 13, 14, 15, 16, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		3	MANULLY OPEN	A	1-3, 1-4, 1-5, 2-5, 3-3, 3-4, 9, 17
COMPT 7D	ALT SUPPLY FROM 250V BATT BD 3	3	MANULLY CLOSE	A	1-3, 1-4, 1-5, 2-5, 3-3, 3-4, 9, 17

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 281 - 250V REACTOR MOV BOARDS (CONT.)		
			250V RMOV BD 3C		
3-BDDD-281-0003C	250V RMOV BD 3C	3	ENERGIZED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
COMPT 2D	NORM SUPPLY FROM 250V BATT BD 2	3	REMAIN CLOSED	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-5, 2-6, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24, 25-I, 25-II
		3	MANULLY OPEN	A	2-2, 2-3, 2-4, 9, 18
COMPT 9D	ALT SUPPLY FROM 250V BATT BD 3	3	MANULLY CLOSE	A	2-2, 2-3, 2-4, 9, 18

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM 925 - REMOTE SHUTDOWN PANELS		
3-LPNL-925-0031	RCIC BACKUP CNTRL PANEL	3	ISOLATE RCIC SYS TO MITIGATE FAILURE	A	16
3-LPNL-925-0032	BACKUP CNTRL PANEL	3	ENERGIZED FROM DIV I ECCS ATU INV	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION III – REQUIRED SAFE SHUTDOWN EQUIPMENT – UNIT 3

EQUIPMENT	DESCRIPTION	UNIT(S)	APPENDIX R FUNCTION	COMPENSATORY MEASURES	AREA / ZONES AFFECTED
			SYSTEM - ECCS ATU INVERTERS		
DIV I ECCS ATU INVERTER	PWR SUPPLY	3	IN SERVICE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-PX-71-60-1	DIV I PWR SUPPLY PRIMARY 3-9-81	3	IN SERVICE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-PX-71-60-1A	DIV I PWR SUPPLY SECONDARY 3-9-81	3	IN SERVICE	A	3-1, 3-2
DIV II ECCS ATU INVERTER	PWR SUPPLY	3	IN SERVICE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-3, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II
3-PX-71-60-2	DIV II PWR SUPPLY PRIMARY 3-9-82	3	IN SERVICE	A	1-1, 1-2, 1-3, 1-4, 1-5, 1-6, 2-1, 2-2, 2-3, 2-4, 2-5, 2-6, 3-1, 3-2, 3-4, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 17, 18, 19, 20, 21, 22, 23, 24, 25-I, 25-II

SECTION IV - FIRE AREAS/ZONES COMPARTMENTATION DRAWINGS

The Appendix R compartmentation drawings (47W216 series) identifying specific plant fire areas/zones are included in the Fire Protection Report Volume 1 - Fire Hazard Analysis, Attachment 1. These drawings are for all fire areas/zones and include all three units.

FIRE AREA/ZONE DESIGNATIONS FOR BFN

Fire Area/Zone No.	Designation	Location
1	UNIT 1, REACTOR BUILDING	EL519 THRU 639
1-1	UNIT 1, REACTOR BUILDING	EL519 THRU 565 West of Column Line R4
1-2	UNIT 1, REACTOR BUILDING	EL519 THRU 565 East of Column Line R4 and SE Stairwell/Elevator shaft up to EL639
1-3	UNIT 1, REACTOR BUILDING	EL593 North of Column Line R
1-4	UNIT 1, REACTOR BUILDING	EL593 South of Column Line R and RHR Heat Exchanger Rooms from EL565 and 593
1-5	UNIT 1, REACTOR BUILDING	EL621 and 639 North of Column Line R
1-6	UNIT 1, REACTOR BUILDING	EL639 South of Column Line R
2	UNIT 2, REACTOR BUILDING	EL519 THRU 639
2-1	UNIT 2, REACTOR BUILDING	EL519 THRU 565 West of Column Line R11
2-2	UNIT 2, REACTOR BUILDING	EL519 THRU 565 East of Column Line R11
2-3	UNIT 2, REACTOR BUILDING	EL593 North of Column Line R
2-4	UNIT 2, REACTOR BUILDING	EL593 South of Column Line R and RHR Heat Exchanger Rooms from EL565 and 593
2-5	UNIT 2, REACTOR BUILDING	EL621 and EL639 North of Column Line R
2-6	UNIT 2, REACTOR BUILDING	EL639 South of Column Line R

FIRE AREA/ZONE DESIGNATIONS FOR BFN (Cont.)

Fire Area/Zone No.	Designation	Location
3	UNIT 3, REACTOR BUILDING	EL519 THRU 639
3-1	UNIT 3, REACTOR BUILDING	EL519 THRU 565 West of Column Line R18, SW Stairway /Elevator Shaft on EL565 and 621 and EL 639 South of Column Line R
3-2	UNIT 3, REACTOR BUILDING	EL519 THRU 565 East of Column Line R18
3-3	UNIT 3, REACTOR BUILDING	EL593 and RHR Heat Exchanger Rooms on EL565 and 593
3-4	UNIT 3, REACTOR BUILDING	EL621 and 639 North of Column Line R
4	UNIT 1, 4KV SHUTDOWN BOARD RM-B	EL593 RB
5	UNIT 1, 4KV SHUTDOWN BOARD RM-A AND 250V BATTERY ROOM	EL621 RB
6	UNIT 1, 480V SHUTDOWN BOARD RM-1A	EL621 RB
7	UNIT 1, 480V SHUTDOWN BOARD RM-1B	EL621 RB
8	UNIT 2, 4KV SHUTDOWN BOARD RM-D	EL593 RB
9	UNIT 2, 4KV SHUTDOWN BOARD RM-C AND 250V BATTERY ROOM	EL621 RB
10	UNIT 2, 480V SHUTDOWN BOARD RM-2A	EL621 RB
11	UNIT 2, 480V SHUTDOWN BOARD RM-2B	EL621 RB
12	UNIT 3, 480V RMOV BOARD RM-3B	EL593 RB
13	UNIT 3, 480V RMOV BOARD RM-3A	EL621 RB
14	UNIT 3, 480V SHUTDOWN BOARD RM-3A	EL621 RB
15	UNIT 3, 480V SHUTDOWN BOARD RM-3B	EL621 RB
16	CONTROL BUILDING	EL593, 606 & 617 CB
17	UNIT 1, BATTERY AND BATTERY BD RM	EL593 CB

FIRE AREA/ZONE DESIGNATIONS FOR BFN (Cont.)

Fire Area/Zone No.	Designation	Location
18	UNIT 2, BATTERY AND BATTERY BD RM	EL593 CB
19	UNIT 3, BATTERY AND BATTERY BD RM	EL593 CB
20	UNIT 1&2 DIESEL GENERATOR BUILDING	ALL ELEVATIONS DGB
21	UNIT 3 DIESEL GENERATOR BUILDING	ALL ELEVATIONS DGB
22	UNIT 3, 4KV SHUTDOWN BD RM'S 3EA&3EB	EL565 & 583, DGB
23	UNIT 3, 4KV SHUTDOWN BD RM'S 3EC&3ED	EL565 & 583, DGB
24	UNIT 3, 4KV BUS TIE BOARD ROOM	EL565 DGB
25	TURBINE BUILDING, CABLE TUNNEL, INTAKE PUMPING STATION, AND RADWASTE BUILDING	ALL ELEVATIONS

SECTION V - TESTING AND MONITORING

This section provides a table which identifies the specific equipment, system, unit(s), function(s), testing requirements and implementing procedures for Appendix R Safe Shutdown equipment. The format is such that pieces of equipment that have the same test requirements and implementing procedures are listed together. Equipment that does not require testing is not listed. However, available safe shutdown components may be listed even though not required for minimum SSD.

The intent of this section is to document that the listed components are adequately tested to perform their intended function. However, it is not the purpose of this section to impose any specific requirements on the system or component being tested. Section III lists all of the required Appendix R Safe Shutdown components. Each component listed in Section III is required to perform its listed SSD function. Otherwise the compensatory measures listed in Section III for the unavailable function must be implemented.

All documentation that is generated by the procedures listed in this section shall be controlled and retained in accordance with these procedures.

EQUIPMENT	UNIT(S)	APPENDIX R FUNCTION	TESTING REQUIREMENTS	PROCEDURES
		Main Steam System (1)		
FCV-1-14 FCV-1-15 FCV-1-26 FCV-1-27	1,2&3	Auto close	Verify automatic closure of valve	1-SR-3.3.6.1.6(GRP 1) 2-SR-3.3.6.1.6(GRP 1) 3-SR-3.3.6.1.6(GRP 1)
FCV-1-37 FCV-1-38 FCV-1-51 FCV-1-52		Close from Main Control Room	Verify manual closure ability from Main Control Room	1-SR-3.6.1.3.6 2-SR-3.6.1.3.6 3-SR-3.6.1.3.6
		Close from backup control panel	Verify valve can be closed from the backup control panel, PNL 25-32 and control is transferred from the Main Control Room	1-SR-3.3.3.2.1(1MSIV) 2-SR-3.3.3.2.1(1MSIV) 3-SR-3.3.3.2.1(1MSIV)
FCV-1-55 FCV-1-56	1,2&3	Close using the handswitch on RMOV BD	Verify valve can be closed using the handswitch on RMOV BD	1,2,3-SR-3.3.3.2.1(1)
PCV-1-4 PCV-1-5 PCV-1-18 PCV-1-19 PCV-1-22 PCV-1-23 PCV-1-30 PCV-1-31 PCV-1-34 PCV-1-41 PCV-1-42 PCV-1-179 PCV-1-180	1,2&3	Operable from Main Control Room	Verify valve can be opened from Main Control Room	1-SR-3.4.3.2 2-SR-3.4.3.2 3-SR-3.4.3.2
PCV-1-4 PCV-1-5 PCV-1-22 PCV-1-23 PCV-1-30 PCV-1-34 PCV-1-41 PCV-1-42 PCV-1-180	1,2&3	De-energize from the backup control panel	Verify valve can be de-energized from the backup control panel	1-SR-3.3.3.2.1(1MSRV) 2-SR-3.3.3.2.1(1MSRV) 3-SR-3.3.3.2.1(1MSRV)

EQUIPMENT	UNIT(S)	APPENDIX R FUNCTION	TESTING REQUIREMENTS	PROCEDURES
PCV-1-5 PCV-1-22 PCV-1-30 PCV-1-34	1&2	Operable from the backup control panel	Verify valve solenoid energizes when operated from the backup control panel	1-SR-3.3.3.2.1(1MSRV) 2-SR-3.3.3.2.1(1MSRV)
PCV-1-5 PCV-1-22 PCV-1-34 PCV-1-41	3	Operable from the backup control panel	Verify valve solenoid energizes when operated from the backup control panel	3-SR-3.3.3.2.1(1MSRV)
PCV-1-18 PCV-1-19 PCV-1-31 PCV-1-179	1	Operable and de-energize from the backup control panel	Verify valve solenoid energizes when operated from the backup control panel / Verify valve can be de-energized from the backup control panel	1-SR-3.3.3.2.1(1MSRV)
PCV-1-18 PCV-1-19 PCV-1-31 PCV-1-179	3	De-energize from the backup control panel	Verify valve can be de-energized from the backup control panel	3-SR-3.3.3.2.1(1MSRV)
ADS INHIBIT SWITCHES	1,2&3	Defeat the automatic operation of ADS	Verify the automatic system operation is defeated	1-SR-3.3.5.1.6(ADS A,B) 2-SR-3.3.5.1.6(ADS A,B) 3-SR-3.3.5.1.6(ADS A,B)
		Condensate System (2)		
SHV-2-705	1,2&3	Manually close	Verify valve can be manually closed using the hand wheel	TBD-*later*
LI-2-169A	1	Operable	Calibration	CCI-0-XI-00-019
LI-2-161A	2	Operable	Calibration	CCI-0-XI-00-019
LI-2-165A	3	Operable	Calibration	CCI-0-XI-00-019
		Feedwater System (3)		
LI-3-46A	1,2&3	Operable	Loop Calibration	1,2,3-SR-3.3.3.2.3(1A)
LI-3-58A	1,2&3	Operable	Loop Calibration	1,2,3-SR-3.3.5.1.5 (RWL A)
LI-3-58B	1,2&3	Operable	Loop Calibration	1,2,3-SR-3.3.5.1.5 (RWL B)

EQUIPMENT	UNIT(S)	APPENDIX R FUNCTION	TESTING REQUIREMENTS	PROCEDURES
PI-3-74A	1,2&3	Operable	Loop Calibration	1,2,3-SR-3.3.5.1.4(A)
PI-3-74B	1,2&3	Operable	Loop Calibration	1,2,3-SR-3.3.5.1.4(B)
PI-3-79	1,2&3	Operable	Loop Calibration	1,2,3-SR-3.3.3.2.3(2)
		RHR Service Water System (23)		
RHRSW Pp A3 RHRSW Pp B3 RHRSW Pp C3 RHRSW Pp D3	0	Auto start	Verify pump automatically starts on a diesel generator running signal	0-SR-3.8.1.6 3-SR-3.8.1.6
RHRSW Pp A3 RHRSW Pp B3 RHRSW Pp C3 RHRSW Pp D3	0	Start using backup control switch	Verify that breaker can be closed using backup control switch	1/2-ETU-SMI-1-B.4 1/2-ETU-SMI-1-D.4 3-ETU-SMI-1-3EA.4 3-ETU-SMI-1-3EC.4
RHRSW Pp A1 RHRSW Pp A2 RHRSW Pp B1 RHRSW Pp B2 RHRSW Pp C1 RHRSW Pp C2 RHRSW Pp D2	0	Start and stop using backup control switch	Verify breaker can be closed and opened using backup control switch	1/2-ETU-SMI-1-A.4 1/2-ETU-SMI-1-B.4 1/2-ETU-SMI-1-C.4 1/2-ETU-SMI-1-D.4 3-ETU-SMI-1-3EC.4 3-ETU-SMI-1-3ED.4
FCV-23-34 FCV-23-40 FCV-23-46 FCV-23-52	1,2&3	Open and close using backup control switch	Verify valve can be opened and closed using backup control switch	0-SR-3.3.3.2.1(23)
FCV-23-34 FCV-23-40 FCV-23-46 FCV-23-52	1,2&3	Open and close manually	Verify valve can be opened and closed manually	0-SR-3.3.3.2.1(23)
		High Pressure Fire Protection (26)		
FIRE PUMP C	0	Start and stop using backup control switch	Verify pump can be started and stopped using backup control switch at breaker on shutdown board	0-SI-4.11.B.1.f
FIRE PUMP A FIRE PUMP C	0	Start from Main Control Room	Verify pumps can be started from the Main	0-SI-4.11.B.1.f

EQUIPMENT	UNIT(S)	APPENDIX R FUNCTION	TESTING REQUIREMENTS	PROCEDURES
			Control Room	
DIESEL FIRE PUMP	0	Start from Main Control Room	Verify pump can be started from the Main Control Room	0-SI-4.11.B.1.f
		Primary Containment Instrumentation (64)		
LI-64-54A	1,2&3	Operable	Loop calibration	1,2,3-SR-3.6.2.2(A)
LI-64-54B	1,2&3	Operable	Loop calibration	1,2,3-SR-3.6.2.2(A)
LI-64-66	1,2&3	Operable	Loop calibration	1,2,3-SR-3.6.2.2(B)
LI-64-159A	1,2&3	Operable	Loop calibration	1,2,3-SR-3.3.3.1.4(3A)
PI-64-50	2&3	Operable	Loop calibration	2,3-SR-3.3.3.1.4(4 NRA)
PI-64-67B	2	Operable	Loop calibration	2-SR-3.3.3.1.4(4 NRB)
PI-64-160A	1,2&3	Operable	Loop calibration	1,2,3-SR-3.3.3.1.4 (4 WRA)
TI-64-52AB	1,2&3	Operable	Loop calibration	1,2,3-SR-3.3.3.1.4(9B)
TI-64-55B	1,2&3	Operable	Loop calibration	CCI-0-TI-00-277
TI-64-161 TR-64-161(G)	1,2&3	Operable	Loop calibration	1,2,3-SR-3.3.3.1.4(8A)
TI-64-162 TR-64-162(G)	1,2&3	Operable	Loop calibration	1,2,3-SR-3.3.3.1.4(8B)
XR-64-50(R)	2	Operable	Loop calibration	2-SR-3.3.3.1.4(9A)
XR-64-159	3	Operable	Loop calibration	3-SR-3.3.3.1.4(3A) 3-SR-3.3.3.1.4(3B) 3-SR-3.3.3.1.4(4 WRA) 3-SR-3.3.3.1.4(4 WRB)

Emergency Equipment Cooling Water (67)

EQUIPMENT	UNIT(S)	APPENDIX R FUNCTION	TESTING REQUIREMENTS	PROCEDURES
FCV-67-1 FCV-67-5 FCV-67-8 FCV-67-11	0	Manually open and close to flush ECCW strainer	Verify valves can be opened and closed manually	0-SR-3.3.3.2.1(67)
FCV-67-48	0	Close using backup control switch	Verify valve can be closed using backup control switch	0-SR-3.3.3.2.1(67)
		Close manually	Verify valve can be closed manually	0-SR-3.3.3.2.1(67)
FCV-67-49	0	Close using backup control switch	Verify valve can be closed using backup control switch	0-SR-3.3.3.2.1(67)
		Close manually	Verify valve can be closed manually	0-SR-3.3.3.2.1(67)
		Reactor Water Cleanup (69)		
FCV-69-1 FCV-69-2	1,2&3	Close from the Main Control Room	Verify valve can be closed from the Main Control Room.	1,2,3-SR-3.6.1.3.5
FCV-69-94	1,2&3	Manually close with vent valve located on EL 621' 2-VTV-32-5103	Verify valve can be closed by use of vent valve	1,2,3-SR-3.3.3.1.4(E)
		Automatically close via the fusible plug FUPG-32-5105	Replace the fusible plug FUPG-32-5105	1,2,3-SR-3.3.3.1.4(E)
		Reactor Core Isolation Cooling (71)		
FCV-71-2	3	Open using backup control switch at RMOV BD	Verify valve can be opened locally	3-SR-3.3.3.2.1(71)
FCV-71-3	3	Open using backup control switch at RMOV BD	Verify valve can be opened locally	3-SR-3.3.3.2.1(71)
FCV-71-8	1,2&3	Auto open	Verify valve opens upon system initiation	1,2,3-SR-3.3.5.2.4(FT)

EQUIPMENT	UNIT(S)	APPENDIX R FUNCTION	TESTING REQUIREMENTS	PROCEDURES
	3	Open locally from RMOV BD	Verify valve can be opened locally	3-SR-3.3.3.2.1(71)
FCV-71-9	3	Open using backup control switch	Verify valve can be opened using backup control switch	3-SR-3.3.3.2.1(71)
FCV-71-17	3	Open locally from RMOV BD	Verify valve can be opened locally	3-SR-3.3.3.2.1(71)
FCV-71-18	3	Open locally from RMOV BD	Verify valve can be opened locally	3-SR-3.3.3.2.1(71)
FCV-71-25	1,2&3	Auto open	Verify valve opens upon system initiation	1,2,3-SR-3.3.5.2.4(FT)
	3	Open locally from RMOV BD	Verify valve can be opened locally	3-SR-3.3.3.2.1(71)
FCV-71-34	1,2&3	Auto open and close	Verify valve opens and closes as required	1,2,3-SR-3.3.5.2.4(FT)
	3	Close locally from RMOV BD	Verify valve can be closed locally	3-SR-3.3.3.2.1(71)
FCV-71-37	3	Open locally from RMOV BD	Verify valve can be opened locally	3-SR-3.3.3.2.1(71)
FCV-71-38	3	Close locally from RMOV BD	Verify valve can be closed locally	3-SR-3.3.3.2.1(71)
FCV-71-39	1,2&3	Auto open	Verify valve opens upon system initiation	1,2,3-SR-3.3.5.2.4(FT)
	3	Open locally from RMOV BD	Verify valve can be opened locally	3-SR-3.3.3.2.1(71)
PMP-71-19	1,2&3	Operable	Verify pump operation	1,2,3-SR-3.5.3.3

EQUIPMENT	UNIT(S)	APPENDIX R FUNCTION	TESTING REQUIREMENTS	PROCEDURES
FCV-73-16	1,2&3	Auto open	Verify valve automatically opens on HPCI initiation signal	1,2,3_SR-3.3.5.1.6(FT)
	1,2&3	Close using backup control switch	Verify valve can be closed using backup control switch (to be tested during cold shutdown)	1,2,3--SR-3.3.3.2.1(73)
FCV-73-18	1,2&3	Auto open & close	Verify valve automatically opens and closes	1,2,3--SR-3.3.5.1.7 1,2,3--SR-3.3.5.1.6(FT)
FCV-73-19	1,2&3	Auto open	Verify valve automatically opens on HPCI initiation signal	1,2,3--SR-3.3.5.1.6(FT)
FCV-73-26 FCV-73-27	1,2&3	Auto open	Verify valve automatically opens on low CST or high Torus level	1,2,3--SR-3.3.5.1.6(FT)
FCV-73-40	1,2&3	Auto close	Verify valve automatically closes whenever FCV-73-26 and FCV-73-27 are in the full open position	1,2,3--SR-3.3.5.1.6(FT)
FCV-73-44	1,2&3	Auto open	Verify valve automatically opens on HPCI initiation signal	1,2,3--SR-3.3.5.1.6(FT)
LCV-73-8	1,2&3	Auto open & close	Verify valve controls level in drain pot	EPI-1--073-SWZ001 EPI-2--073-SWZ001 EPI-3--073-SWZ001
HPCI Turbine and Pump Set (PMP-73-54)	1,2&3	Auto start	Verify turbine and pump set start on HPCI initiation signal	1,2,3--SR-3.5.1.7 1,2,3--SR-3.5.1.8 1,2,3--SR-3.3.5.1.6(FT)
HPCI Aux Oil Pump	1,2&3	Auto start	Verify pump start on HPCI initiation	1,2,3--SR-3.3.5.1.6(FT)

EQUIPMENT (PMP-73-54)	UNIT(S)	APPENDIX R FUNCTION	TESTING REQUIREMENTS signal	PROCEDURES
		Residual Heat Removal (74)		
FCV-74-1	3	Open using the backup control switch at RMOV BD	Verify valve will open using the backup control switch	3-SR-3.3.3.2.1(74)
FCV-74-52	2&3	Open using the backup control switch at RMOV BD	Verify valve will open using the backup control switch	2,3-SR-3.3.3.2.1(74)
FCV-74-53	1,2&3	Open using App. R emergency switch	Verify valve can be opened using the Appendix R emergency switch	1,2,3-SR-3.3.3.2.1(74)
		Open from Main Control Room	Verify valve can be opened using Main Control Room handswitch	1,2,3-SR-3.6.1.3.5 (RHRI)
FCV-74-57	2&3	Close using the backup control switch	Verify valve can be closed using the backup control switch	2-SR-3.3.3.2.1(74) 3-SR-3.3.3.2.1(74)
FCV-74-60	2&3	Close using the backup control switch	Verify valve can be closed using the backup control switch	2-SR-3.3.3.2.1(74) 3-SR-3.3.3.2.1(74)
FCV-74-67	1,2&3	Open using App. R emergency switch	Verify valve can be opened using the Appendix R emergency switch	1,2,3-TI-165C
		Open from Main Control Room	Verify valve can be opened using Main Control Room switch	1,2,3-SR-3.6.1.3.5 (RHRII)
FCV-74-71	1	Close using the backup control switch	Verify valve can be closed using the backup control switch	1-SR-3.3.3.2.1(74)
FCV-74-74	1	Close using the backup control	Verify valve can be closed using the	1-SR-3.3.3.2.1(74)

EQUIPMENT	UNIT(S)	APPENDIX R FUNCTION	TESTING REQUIREMENTS	PROCEDURES
		switch	backup control switch	
FCV-74-97	2	Close using the backup control switch	Verify valve can be closed using the backup control switch	2-TI-165C
RHR PUMP A & C	1,2&3	Manual start from Main Control Room	Verify pump can be started manually from Main Control Room	1,2,3-SR-3.5.1.6(RHRI)
		Manual start using backup control switch	Verify breaker can be closed using backup control switch	1/2-ETU-SMI 1-A.4 1/2-ETU-SMI 1-B.4 3-ETU-SMI 1-3EA.4 3-ETU-SMI 1-3EB.4
RHR PUMP B & D	1,2&3	Manual start from Main Control Room	Verify pump can be started manually from Main Control Room	1,2,3-SR-3.5.1.6(RHRII)
		Manual start using backup control switch	Verify breaker can be closed using backup control switch	1/2-ETU-SMI 1-C.4 1/2-ETU-SMI 1-D.4 3-ETU-SMI 1-3EC.4 3-ETU-SMI 1-3ED.4
		Diesel Generators (82)		
DIESEL GENERATOR A	0	Start and load from 4kV Board	Verify diesel can be started and loaded from 4KV Shutdown Board A	0-SR-3.8.1.1(AR)
		Start and load from Main Control Room	Verify diesel can be started and loaded from Main Control Room	0-SR-3.8.1.1(A) 0-SR-3.8.1.7(A)
		Trip from Main Control Room	Verify diesel can be tripped from Main Control Room	0-SR-3.8.1.1(A) 0-SR-3.8.1.7(A)
DIESEL GENERATOR B	0	Start and load from 4kV Board	Verify diesel can be started and loaded	0-SR-3.8.1.1(BR)

EQUIPMENT	UNIT(S)	APPENDIX R FUNCTION	TESTING REQUIREMENTS	PROCEDURES
			from 4KV Shutdown Board B	
		Start and load from Main Control Room	Verify diesel can be started and loaded from Main Control Room	0-SR-3.8.1.1(B) 0-SR-3.8.1.7(B)
		Trip from Main Control Room	Verify diesel can be tripped from Main Control Room	0-SR-3.8.1.1(B) 0-SR-3.8.1.7(B)
DIESEL GENERATOR C	0	Start and load from 4KV Board	Verify diesel can be started and loaded from 4KV Shutdown Board C	0-SR-3.8.1.1(CR)
		Start and load from Main Control Room	Verify diesel can be started and loaded from Main Control Room	0-SR-3.8.1.1(C) 0-SR-3.8.1.7(C)
		Trip from Main Control Room	Verify diesel can be tripped from Main Control Room	0-SR-3.8.1.1(C) 0-SR-3.8.1.7(C)
DIESEL GENERATOR D	0	Start and load from 4KV Board	Verify diesel can be started and loaded from 4KV Shutdown Board D	0-SR-3.8.1.1(DR)
		Start and load from Main Control Room	Verify diesel can be started and loaded from Main Control Room	0-SR-3.8.1.1(D) 0-SR-3.8.1.7(D)
		Trip from Main Control Room	Verify diesel can be tripped from Main Control Room	0-SR-3.8.1.1(D) 0-SR-3.8.1.7(D)
Diesel Generator 3A	0	Start and load from Main Control	Verify diesel can be started and loaded	3-SR-3.8.1.1(3A) 3-SR-3.8.1.7(3A)

EQUIPMENT	UNIT(S)	APPENDIX R FUNCTION	TESTING REQUIREMENTS	PROCEDURES
		Room	from Main Control Room	
		Start and load from 4kV Board	Verify diesel can be started and loaded from 4KV Shutdown Board	3-SR-3.8.1.1(3AR)
Diesel Generator 3B	0	Start and load from Main Control Room	Verify diesel can be started and loaded from Main Control Room	3-SR-3.8.1.1(3B) 3-SR-3.8.1.7(3B)
		Start and load from 4kV Board	Verify diesel can be started and loaded from 4KV Shutdown Board	3-SR-3.8.1.1(3BR)
Diesel Generator 3C	0	Start and load from Main Control Room	Verify diesel can be started and loaded from Main Control Room	3-SR-3.8.1.1(3C) 3-SR-3.8.1.7(3C)
		Start and load from 4kV Board	Verify diesel can be started and loaded from 4KV Shutdown Board	3-SR-3.8.1.1(3CR)
Diesel Generator 3D	0	Start and load from Main Control Room	Verify diesel can be started and loaded from Main Control Room	3-SR-3.8.1.1(3D) 3-SR-3.8.1.7(3D)
		Start and load from 4kV Board	Verify diesel can be started and loaded from 4KV Shutdown Board	3-SR-3.8.1.1(3DR)

Battery Chargers (248)

EQUIPMENT	UNIT(S)	APPENDIX R FUNCTION	TESTING REQUIREMENTS	PROCEDURES
Diesel Battery Chargers	0	Energized	Verify battery chargers is capable of aligning and supporting load test	0-SR-3.8.4.4(DG A) 0-SR-3.8.4.4(DG B) 0-SR-3.8.4.4(DG C) 0-SR-3.8.4.4(DG D) 3-SR-3.8.4.4(3A) 3-SR-3.8.4.4(3B) 3-SR-3.8.4.4(3C) 3-SR-3.8.4.4(3D)
Main Bank Battery Chargers 1,2A,2B & 3	0	Available	Verify battery charger is capable of being energized and a supporting load on respective battery board	1-SR-3.8.4.4(1) 2-SR-3.8.4.4(2) 3-SR-3.8.4.4(3) 0-SR-3.8.4.5(2B)
Battery Chargers SB-A SB-B SB-C SB-D SB-3EB	0	Available	Verify battery charger is capable of being energized and a supporting load on respective distribution panel	0-SR-3.8.4.4(A) 0-SR-3.8.4.4(B) 0-SR-3.8.4.4(C) 0-SR-3.8.4.5(D) 3-SR-3.8.4.4(3EB) 0-SR-3.8.4.5(SD SPR)
Main Bank Batteries 1,2,3 and Diesel Batteries and SB Batteries	0	Operable	Perform rated discharge test	1-SR-3.8.4.4(1) 2-SR-3.8.4.4(2) 3-SR-3.8.4.4(3) 0-SR-3.8.4.4(DG A) 0-SR-3.8.4.4(DG B) 0-SR-3.8.4.4(DG C) 0-SR-3.8.4.4(DG D) 0-SR-3.8.4.4(A) 0-SR-3.8.4.4(B) 0-SR-3.8.4.4(C) 0-SR-3.8.4.5(D) 3-SR-3.8.4.4(3A) 3-SR-3.8.4.4(3B) 3-SR-3.8.4.4(3C) 3-SR-3.8.4.4(3D) 3-SR-3.8.4.4(3EB)

Containment Atmosphere Dilution (84)

EQUIPMENT	UNIT(S)	APPENDIX R FUNCTION	TESTING REQUIREMENTS	PROCEDURES
FCV-84-5 FCV-84-16	0	Open using local control switch	Verify valve can be opened from the local control switch	1,2,3-SR-3.6.1.3.5(CAD)
HCV-84-37 HCV-84-38 THV-84-37 THV-84-38	2 1&3	Close with handwheel	Verify valve can be closed using the local handwheel	1,2,3-SR-3.6.3.1.2
BYV-84-683 BYV-84-686 SHV-84-683 SHV-84-686	2 1&3	Open with handwheel	Verify valve can be opened using the local handwheel	1,2,3-SR-3.6.1.3.5(CAD)
FSV-84-48 FSV-84-49	1,2&3	Open from Main Control Room	Verify valve can be opened using Main Control Room handswitch	TBD
FSV-84-8A FSV-84-8B FSV-84-8C FSV-84-8D	1,2&3	Close from Main Control Room	Verify valve can be closed using Main Control Room handswitch	TBD
		Plant Radio System (244)		
0-LPNL-244-0RIU	1,2&3	Operable	Verify two-way communications between control room and manual action field locations using cellular phones via Cellular Radio System. Verify two-way communications between Alternate Shutdown Control Panels (1/2/3-LPNL-925-032) and manual action field locations using cellular phones via Cellular Radio System.	0-SR-*later* (PMT-145B, BTRD-244)
0-RPTR-244-0000F4	1,2&3	Operable	Verify two-way communications	0-SR-*later* (PMT-145B, BTRD-244)

EQUIPMENT	UNIT(S)	APPENDIX R FUNCTION	TESTING REQUIREMENTS	PROCEDURES
			between control room and manual action field locations using portable radios via F4 Radio Repeater System. Verify two-way communications between Alternate Shutdown Control Panels (1/2/3-LPNL-925-032) and manual action field locations using portable radios via F4 Radio Repeater System.	

SECTION VI - TECHNICAL BASIS

This section describes the bases for the compensatory measures listed in Section III and the monitoring and testing requirements listed in Section V. Each system is addressed separately. However, certain bases for compensatory measures are generic to most all the systems. These are discussed below and will not be repeated for each system.

For equipment where spatial separation or area / zone separation does not meet applicable Appendix R requirements, compensatory measures will be established that ensure the safe shutdown function of the equipment is available until the separation requirements can be provided. Through the use of a firewatch, a postulated fire is discovered in a time frame that will assure that an Appendix R fire event is avoided. For areas in which detection is operable, an hourly firewatch in these areas would provide sufficient assurance that a fire would be detected and mitigated before progressing into an Appendix R event. For areas where the detection is inoperable, the fire watch will be continuous.

For equipment that is unable to perform its intended function due to degradation, the compensatory actions listed below are applicable.

Compensatory Measure A

This compensatory measure is intended to assure safe shutdown capability is restored within 7 days by either restoring the failed equipment function or by taking temporary measures to assure equivalent shutdown capability exists. Equivalent shutdown capability is defined as 1) providing temporary equipment or procedures which will ensure the out of service equipment function does not affect safe shutdown capability or 2) providing adequate fire watch capability to ensure fires are prevented and / or discovered in a time frame which will assure the out of service equipment is not needed to support reactor safe shutdown in case of fire. Dependence on temporary measures is acceptable for only a limited period of time. In order to prevent the indefinite use of temporary measures a PORC review and Plant Manager approval of the adequacy of the temporary measures is required every 60 days until an alternative shutdown path is developed.

An hourly fire watch in these areas would provide sufficient assurance that a fire would not occur or would be detected and mitigated before it progresses to an Appendix R fire event. As a result, spurious operations of critical equipment and serious plant degradation will be prevented.

An alternative shutdown path is defined as a change to this program and the safe shutdown instructions such that a different method is specified to perform a post fire shutdown. This new method will be supported by engineering analysis.

SYSTEM 1 - MAIN STEAM

a. Main Steam Relief Valves (MSRVs)

Technical Specification Sections 3.5.1 and 3.4.3 address the Automatic Depressurization System (ADS) and the purely mechanical pressure relief function of the MSRVs respectively. These two sections do not adequately cover the Main Control Room manual operation of the MSRVs.

In several fire areas, the non-required operable MSRVs must be de-energized to prevent or mitigate spurious operation. Thus, the MSRVs are tested for (1) MCR operability, (2) backup control panel operability, and (3) backup control panel de-energizing. Under the current TS 3.4.3, the MSRVs are demonstrated operable once per operating cycle from MCR by verifying steam flow downstream of the valve. The backup control operability and de-energizing shall be tested by verifying the valve solenoid energizes or is de-energized. This is adequate since the valve operability is tested during the TS surveillance. Also, TS 3.4.3 requires all MSRVs to be bench-checked or replaced every 2 cycles. Based on this, Appendix R MSRV functions are adequately tested to provide assurance they will operate properly if required.

b. Main Steam Isolation Valves (MSIVs)

The MSIVs are required to close to prevent loss of inventory. The MSIVs will automatically close on loss of off-site power. If a MSIV is not closed, it will be closed from the MCR. To prevent a MSIV from spuriously re-opening in a Fire Area 16 fire, the MSIV will be closed and the transfer switch placed in "emergency" at the backup control panel. Therefore, the automatic closure, the MCR closure, and the backup control panel closure and transfer switch functions must be tested to show operability for the Appendix R analysis. The MSIVs are highly reliable and tested at least once per operating cycle in accordance with TS 3.6.1 to provide assurance they are operable when needed. Should one of these MSIVs become inoperable, TS 3.6.1 will provide adequate measures for Appendix R requirements, and no additional compensatory measures need to be implemented.

c. Main Steam Drain Lines

The Main Steam Drain Valves (FCV-1-55, 56, 57 and 58) must be closed (55 or 56; or 57 and 58) to prevent inventory loss. Valves 57 and 58 are to be closed manually where valve 55 or 56 cannot be closed electrically. Routine maintenance of these valves under the plant's PM program ensures that they can be operated as required for safe shutdown. Therefore, no additional testing is required. If the valves cannot be operated, a compensatory measure will be implemented.

SYSTEM 2 - CONDENSATE STORAGE AND SUPPLY

The Appendix R functional requirements for the Condensate Storage and Supply System are to supply CST inventory to the following:

- Unit 1 HPCI / RCIC Systems (through FCV-2-170)
- Unit 2 HPCI / RCIC Systems (through FCV-2-162)
- Unit 3 HPCI / RCIC Systems (through FCV-2-166)

The Condensate Storage and Supply System is also required to isolate the Unit 1, 2 and / or 3 CST when necessary. When HPCI or RCIC is used, FCV-2-162, 166 and / or 170 are required to remain open and has been analyzed to show it will remain open for most fire areas/zones except for all fire areas / zones except for Fire Area 25. A fire in Fire Area 25 may spuriously close FCV-2-162, 166 and / or 170, but for this area the transfer to the torus suction line for the HPCI system has been shown available. Thus, FCV-2-162, 166 and / or 170 are not required for Fire Area 25; therefore, no special Appendix R testing requirements are specified for these valves since they will remain open where required.

If the position of FCV-2-162, 166 or 170 is changed from normally open, then a compensatory measure will be implemented.

SYSTEM 3 - FEEDWATER

Other than the passive flow paths used for HPCI and RCIC injection, the only portion of the Feedwater System that is needed for safe shutdown is the portion involving Reactor Vessel Instrumentation (both level and pressure). Redundant instruments powered from Division I and Division II are listed for use with Train A and Train B, respectively. In addition, instruments that provide readouts on the backup control panel are identified for use in the event of a fire in Fire Area 16.

SYSTEM 18 - FUEL OIL

The portion of the Fuel Oil System that is needed to achieve safe shutdown in the event of a fire is the portion involved in supplying fuel oil to the diesel generators. The immediate source of fuel for each diesel generator is a 550-gallon day tank located within the same room as the diesel generator. Fuel is supplied from the day tank to the diesel engine by two fuel pumps (one engine-driven and one motor-driven). These fuel pumps are part of the diesel engine package and are treated, for analysis purposes, as part of the overall diesel engine.

Because the 550-gallon capacity of each day tank is not sufficient to permit continuous 72-hour operation of the associated diesel generator, the capability to replenish the day tank must be ensured. The two fuel oil transfer pumps that serve each day tank provide this function. These transfer pumps take suction from the diesel fuel storage tanks (three per diesel) that are embedded in the substructure of each Diesel Generator Building. These transfer pumps are required to operate automatically (in response to low level in the day tanks) to eliminate the need for operator actions to monitor the day tank level and operate the transfer pumps manually.

SYSTEM 23 - RESIDUAL HEAT REMOVAL SERVICE WATER

The plant Appendix R evaluation requires that one RHRSW pump (A1, A2, B1, B2, C1, C2, D1 or D2) for each operating unit be operable to supply water to the RHR heat exchanger during an Appendix R event. Should any of these pumps be found to be inoperable, the compensatory measures as identified in Section III -REQUIRED SAFE SHUTDOWN EQUIPMENT - TABLE, will be implemented.

These RHRSW pumps are required to be started from the Main Control Room or their backup control stations. The RHRSW pumps are routinely tested for operability and flow rate. The flow rate of 4,500 gpm for each pump, as required by TRM 3.7.5, is adequate to remove decay heat for one unit during an Appendix R fire (i.e. support the Appendix R analysis). Since the flow capability of the pumps and the connection between pump start and breaker closing is demonstrated by routine surveillance testing, the backup control function can be verified by additional testing to demonstrate that the backup control switch will close the breaker. This additional testing is provided.

The plant Appendix R evaluation requires RHRSW pumps A3, B3, C3, and D3 to be operable during Unit 1, Unit 2 and / or Unit 3 reactor power operation to supply cooling water to the diesel generators. Compensatory measures will be taken when any of these pumps are out of service.

For an Appendix R fire, these pumps (assigned to EECW) are required (1) to start automatically when their associated DG starts verified with manual start capability in the Main Control Room, or (2) to start using the backup control switch. The auto start, Main Control Room start, and backup control start are demonstrated by routine surveillance and the additional testing discussed above.

The unit specific RHRSW discharge valve to be used for decay heat removal is required to be open (e.g., 2-FCV-23-52), while the corresponding valves in the other two units (e.g., 1-FCV-23-52 and 3-FCV-23-52) are required to be closed to assure adequate RHRSW flow to the required unit specific RHR heat exchanger. However, two valves on the same RHRSW header may be open (i.e., 1-FCV-23-52 and 2-FCV-23-52) provided that two RHRSW pumps are supplying the header. Routine operation of these valves from the Main Control Room assures their operation during an Appendix R event. Routine maintenance of these valves under the plant's PM program assures that they can be operated manually. Therefore, no additional testing is required.

SYSTEM 26 - FIRE PROTECTION

A minimum of one High Pressure Fire Pump is analyzed available for an Appendix R event. The required fire pump available for each fire area / zone is documented in Reference A11. The requirements for operability established by the Fire Protection Plan 9.4.11.B.1, 9.4.11.B.2 and 9.4.11.B.3 are adequate to ensure the functions of the pump can be met. If fire pump A, C or the diesel fire pump is inoperable during reactor operation or hot shutdown, a compensatory measure will be implemented.

SYSTEM 30 - VENTILATION

The portions of System 30 that are needed to support safe shutdown in the event of a fire are the portions of the Diesel Generator Building Ventilation Systems that serve the Diesel Generator Rooms and the 480V Diesel Auxiliary Board Rooms. The exhaust fans that normally serve the 480V Diesel Auxiliary Board Rooms are designated as essential for safe shutdown. If these exhaust fans are not available, manual actions can be taken to establish a flow path from each board room to an operating diesel generator room exhaust fan. This can be accomplished by opening doors between the board rooms and the Diesel Generator Rooms and, if necessary between Board Rooms A and B and Board Rooms 3A and 3B.

The Heating, Ventilation, And Air Conditioning Systems are not addressed by the Appendix R safe shutdown program. However, they are addressed in the Appendix R Safe Shutdown Analysis and the Post-Fire Shutdown Instructions (SSIs).

SYSTEM 31 - HEATING AND AIR CONDITIONING

The selection of HVAC components to serve the Control Bay and the Shutdown Board Rooms in the Reactor Building is based on analysis. There are also provisions to set up portable ventilation for certain rooms, to turn off certain lights, and to open certain doors, as necessary.

Spurious initiation of hot water flow to any of the required control bay air handling units is undesirable because it would adversely affect the ability of the HVAC System to adequately cool the affected rooms. The hot water circulation pumps are listed because of the need to ensure that the pumps can be manually de-energized if necessary to prevent the unintended flow of hot water.

The Heating, Ventilation, And Air Conditioning Systems are not addressed by the Appendix R, the Safe Shutdown Program. However, they are addressed in the Appendix R Safe Shutdown Analysis and the Post-Fire Shutdown Instructions (SSIs).

SYSTEM 64A - PRIMARY CONTAINMENT

The primary containment environmental parameters that are specified to be monitored in the event of a fire are drywell pressure, drywell temperature, suppression pool level, and suppression pool temperature. For each of these parameters, redundant instruments powered from Division I and Division II are listed for use with Train A and Train B, respectively. In addition, instruments that provide readouts on the backup control panel are identified for use in the event of a fire in Fire Area 16.

Suppression pool temperature indication is used by the plant operators to assess the need for suppression pool cooling, to determine when reactor depressurization is needed in order to stay below the suppression pool heat capacity temperature limit, and to verify that heat removal via the RHR heat exchangers is being accomplished.

Suppression pool level indication is used to verify that adequate inventory for RHR pump NPSH requirements is available, as well as to verify that abnormally high levels do not occur due to spurious component operations.

Drywell pressure and temperature indication is included as an additional aid to the plant operators for monitoring of drywell conditions when either the HPCI System or the RCIC System is used to maintain the reactor coolant inventory.

SYSTEM 64B - REACTOR BUILDING VENTILATION

Each of the RHR room coolers will start automatically when its respective RHR pump starts or its associated room temperature switch reaches its high temperature set point, provided that power to its 480V RMOV board is available.

SYSTEM 67 - EMERGENCY EQUIPMENT COOLING WATER

The EECW strainers and backwash drain valves are required to operate automatically or be manually operated for Appendix R. The automatic operation of the strainers and drain valves are tested with the EECW pump operability test. If the strainer and drain valves cannot be operated by their motors, then manual operation is possible for an Appendix R fire when power is removed (i.e. the strainers or valves are not locked or frozen). Therefore, no testing of the manual operation is required. Should the automatic function of the strainers or valves become inoperable (and, hence, make the EECW pump TS inoperable) the compensatory measures for the strainer, drain valve, or pump would not be required if manually turning the strainer and opening the drain valve can be verified.

EECW / RHRSW pump crosstie valves (FCV-67-48 and 49) must be closed manually or from the backup control station to prevent diversion of EECW flow to the RHRSW system (and vice versa). Routine maintenance of the valves ensures that they can be operated manually. Additional testing is provided to demonstrate the backup control mode of operation.

The EECW System provides a backup cooling water supply to each unit's RBCCW System via valves FCV-67-50 and FCV-67-51. These valves are either hydraulically or pneumatically operated and are required to close automatically on low EECW header pressure. For those pneumatically operated valves where automatic closure can not be assured for all fire areas, a travel limiter has been added to the valve's actuator to restrict valve opening (and subsequent EECW System flow) to an acceptable limit during an Appendix R event. For those hydraulically operated valves, automatic closure is assured for all fire areas. The EECW System also provides a backup cooling water supply to the Control Air Compressors via valve FCV-67-53. This valve is also required to close automatically on low EECW header pressure. However, due to its size, even if the valve should spuriously open or fail to close during an Appendix R event, the amount of EECW System flow which would be diverted would not prevent the EECW System from performing its required safe shutdown functions. Based on the operation of these valves, no testing is required.

SYSTEM 68 - REACTOR RECIRCULATION

The recirculation pumps are required to be stopped to ensure that the RHR pumps will inject into the reactor and that no core instabilities will occur. Several methods are used to stop the pumps, a manual trip from the VFD E-Stop pushbuttons or the RPT board, or manual remote trip of the Recirc Board breakers. Routine maintenance of the RPT breakers under the plant's PM program ensures that they can be operated locally. Therefore, no additional testing is required.

SYSTEM 69 - REACTOR WATER CLEANUP

The RWCU System must be isolated to preclude loss of reactor coolant inventory and possible damage to low temperature piping downstream of the non-regenerative heat exchangers (References A12 and A13).

RWCU System isolation is to be accomplished automatically by closure of valve FCV-69-94 upon sensing a high temperature condition in the low temperature piping or manually by closure of valve FCV-69-1, FCV-69-2, or FCV-69-94 within 30 minutes for each fire area / zone.

Isolation valves FCV-69-01 and FCV-69-2 are routinely tested once per operating cycle in accordance with TS 3.6.1. Isolation valve FCV-69-94 is routinely tested once per operating cycle to assure closure of the valve by use of the manual vent valve and the fusible plug is replaced. If an isolation valve is inoperable, compensatory measures will be implemented.

SYSTEM 71 - REACTOR CORE ISOLATION COOLING

The RCIC System can be used as a means to provide high-pressure makeup to the reactor vessel. Use of the RCIC System would eliminate the immediate need to rapidly depressurize the reactor vessel to enable the LPCI mode of RHR System operation to restore reactor water level after the initial coolant boil-off.

The RCIC System is designed so that it can be controlled from either the Main Control Room or the backup control panel. Transfer switches located on Panels 3-25-31 and 3-25-32 are used to select the active control location. When the transfer switches have been actuated to allow operation from the backup control panel, many of the signals for automatic initiation and isolation are bypassed.

Certain valves in the RCIC System (or that are associated with the RCIC System) may not need additional protection from the effects of fire-caused damage, for the purpose of ensuring that the required valve position specified can be attained. For these valves, it may be possible to show that actuation of one or more valves to a position other than that listed as "required" will not have an adverse effect on the short-term operability (or perhaps even the long-term operability) of the RCIC System, and will not have an adverse effect on other required systems or parameters.

The following valves are included in this category:

FCV-71-6A	FCV-71-40
FCV-71-6B	PCV-71-22
FCV-71-7A	PCV-71-30
FCV-71-7B	

The condensate pump and vacuum pump associated with the RCIC barometric condenser do not need to be operable in order to support the short-term operability of the RCIC System.

SYSTEM 73 - HIGH PRESSURE COOLANT INJECTION

The HPCI System is used to maintain the reactor inventory for those areas for which it has been analyzed to be available. Its Appendix R mode of operation is essentially the same as that required by Technical Specifications. Therefore, in most cases the TS action provides adequate and necessary compensatory measures. The HPCI System is demonstrated operable by TS 3.5.1.

For the fire areas / zones in which the HPCI System is not used, the HPCI System is required to be isolated to prevent overfilling the RPV. This is accomplished by closing FCV-73-16 using the backup control switch or closing FCV-73-19 from the MCR. TS 3.5.1 will demonstrate the operability of FCV-73-16 and 19 (including the use of the flow controller to reposition FCV-73-19 to control system flow). Additional testing is provided for FCV-73-16 because the backup control operation is not tested in the current TS and is required for Appendix R.

Torus suction valves FCV-73-26 and 27 are required open if the CST is lost. In Fire Area 25 the CST cannot be guaranteed, and hence, transfer to the torus is required. Therefore, the logic of FCV-73-26 and 27 must be tested. Again, TS 3.5.1 provides adequate testing requirements for these components to provide assurance of availability if necessary.

SYSTEM 74 - RESIDUAL HEAT REMOVAL

The RHR System and MSRVs are required to operate in the "Alternate Shutdown Cooling" mode for an Appendix R fire. The RHR System will operate in the LPCI mode spilling over to the torus through the MSRVs to provide decay heat removal. Therefore, the Appendix R requirement for the RHR System is to operate in the LPCI mode. The operability requirement of the LPCI mode of RHR is currently in TS 3.5.1. These TS requirements exceed the requirement of the Appendix R Safe Shutdown Analysis. For example, TS require a minimum of 9,000 gpm for a LPCI pump and the Appendix R requirement (in the Alternate Shutdown Cooling mode) is 6,000 gpm. Thus, the TS surveillance of the RHR-LPCI mode adequately provides assurance the system is available if needed.

Additional testing is provided for valves FCV-74-1, 2, 52, 53, 57, 60, 66, 67, 71, 74 and 97 and the RHR pumps, because the backup control operation is not tested under the current TS and is required for Appendix R. Routine maintenance of the pump breakers under the plant's PM program ensure that they will operate manually.

SYSTEM 75 - CORE SPRAY

The Core Spray System is not required to operate in order to support the achievement of safe shutdown in the event of a fire.

However, for Unit 3, the RCIC Pump takes suction from the suppression pool via the pump suction line that serves Core Spray Pumps 3A and 3C. As a result, the operability of the RCIC system is dependent on the availability of this Core Spray Pump suction line as a flow path. The only valve in the portion of the Core Spray Pump suction line between the suppression pool ring header and the connection point of the RCIC Pump suction line is a locked-open manual valve (3-HCV-75-1). Since spurious electrical signals cannot cause this valve to close inadvertently, the availability of the RCIC Pump suction flow path is assured.

The Pressure Suppression Chamber (PSC) Head Tank Pumps take suction from the torus and fill the PSC Head Tank automatically in the event of a low PSC Head Tank water level signal. Spurious operation of these pumps will not drain the torus since the discharge flow from the pumps either fills the ECCS piping systems or fills the PSC Head Tank. The overflow line on the PSC Head Tank is routed back to the suction side of the pumps. There are no other lines off the PSC Head Tank other than those to the ECCS systems. Therefore, the PSC Head Tank Pumps cannot reduce the inventory of water contained in the suppression chamber.

SYSTEM 82 - STANDBY DIESEL GENERATOR

10CFR50 Appendix R requires that the shutdown capability must be able to accommodate post-fire conditions involving a loss of offsite power for 72 hours. Because of this requirement, an adequate number of diesel generators must be available to provide standby AC power to essential safe shutdown components in the event of a fire within the plant.

The number of diesel generators required for this event is dependent on the specific combination of systems and components that is available to perform the minimum necessary safe shutdown functions, which in turn is dependent on the location in which the fire occurs.

Each diesel generator package includes four ancillary systems, all or part of which must be operable in order to support operation of the diesel engine. These systems are as follows:

(a) Diesel Generator Starting Air System
(b) Diesel Generator Fuel Supply System
(c) Diesel Generator Cooling System
(d) Diesel Generator Lubricating Oil System

The listing for each of the individual diesel generators is intended to include all essential components of these four systems. Therefore, components of these four systems are not listed separately. Examples of components that are not listed separately but are nevertheless considered to be essential for diesel generator operation include the Air Starting Valves, Fuel Pumps, Cooling Water Pumps, Scavenging Oil Pump, Main Bearing Oil Pump, And Piston Cooling Oil Pump.

The diesel generator package also includes a blower to provide for air-cooling of the generator. This blower needs to be operational in order to prevent overheating of the generator. The listing for each of the individual diesel generators is intended to include the associated generator blower.

SYSTEM 84 - CONTAINMENT ATMOSPHERE DILUTION

One train of the CAD System is required to provide a long term air supply (nitrogen gas) to the MSRVs for an Appendix R event.

Compressed nitrogen supplied from each of the CAD Storage Tanks is controlled by a pressure regulating valve, FCV-84-5 (Tank A) and FCV-84-16 (Tank B). The supply of nitrogen to the MSRVs from the CAD system via the normal Control Air System is by way of intertie lines (two per unit). Each intertie line from the CAD System to the normal Control Air System contains a normally closed solenoid valve and a manual bypass valve. For Appendix R, operation of either the solenoid valve or the manual bypass valve is credited for assuring nitrogen to the MSRVs.

The CAD System is demonstrated operable by (1) cycling each solenoid operated air / nitrogen valve and verifying operability of each manual valve in the flow path to the drywell, and (2) verifying the CAD supply to the drywell. The TS CAD supply requirement (2,500 gallons of liquid nitrogen) has been analyzed and is adequate for the system to meet its Appendix R function. Provided one CAD System flow path to the Drywell Control Air Header and the required CAD supply are available, no compensatory measures will be required.

SYSTEM 99 - REACTOR PROTECTION

The safe shutdown function of the Reactor Protection System (RPS) is to initiate reactor scram through actuation of the control rod drives. The RPS includes the RPS motor-generator power supplies and associated control and indicating devices, sensors, relays, bypass circuitry, and switches that initiate rapid insertion of control rods (scram) to shutdown the reactor. The RPS utilizes a fail-safe design so that device failures or a loss of power will result in control rod insertion. The scram function will remain available despite any fire-induced spurious signals that may be generated due to the effects of a postulated fire in any fire area. This system is expected to perform its function automatically; however, credit is taken only for manual scram. No additional analysis is needed to ensure the availability of reactor scram in the event of a fire.

AUXILIARY POWER SYSTEM

The Auxiliary Power System (APS) is designed to provide a self contained, highly reliable source of power to support the safe shutdown. For a fire, the Unit 1 / 2 and the Unit 3 diesel generators and associated electrical distribution systems are required to be available in various combinations to ensure adequate power to safe shutdown systems. The plant Appendix R evaluation establishes the need for certain Units 1, 2, and 3 and common auxiliary power systems to achieve and maintain cold shutdown on Units 1, 2 and 3. Most of these Units 1, 2, and 3 and common Auxiliary Power Systems are included in the Unit technical specifications by virtue of the definition of operability. Also, for meeting Appendix R requirements certain auxiliary power system distribution boards in Units 2 and 3 as well as Unit 1 are required to have their alternate power supplies and / or alternate control power available in various combinations.

The Auxiliary Power Systems and distribution boards required by the Appendix R evaluation are included in this program. Should a required APS board or component be out of service, a compensatory measure will be implemented.

The compensatory measures for the Electrical Boards (4KV, 480V Shutdown Boards, etc.) are for the electrical feeder breakers to remain in the required position. If a breaker cannot stay in the position as described in the function column, a compensatory measure will be implemented. If an alternate feeder breaker that is identified to "Remain Open" must be closed during a pre-Appendix R event condition, then fire watches must be posted as required. These breakers can, however, be closed after the event if so identified in the SSIs.

Breakers for required mechanical equipment are not listed in Table III. If any of these breakers cannot perform their intended functions then neither can the dependent equipment and the compensatory measures for that equipment shall be taken as specified in Table III.

The Appendix R analysis relies upon the proper breaker coordination to prevent a load fault from damaging an entire board; and thus render the required equipment inoperable. This requires the trip functions of the boards and breakers in this program to be available. The analysis also requires that some breakers to loads not essential for Appendix R be opened to prevent overloading the diesel generators. These particular functions discussed above are ensured by the routine maintenance of the breakers under the plant's PM program.

INSTRUMENTATION

Reactor pressure and reactor water level are required to provide the operator the necessary information to depressurize and initiate LPCI. Torus temperature and torus water level are required to provide the operator the necessary information regarding conditions in the torus. Drywell pressure and temperature instrumentation allows the operator to monitor the drywell when using HPCI or RCIC.

The operability of these instruments is demonstrated by Units 1, 2 and 3 TS 3.3.5 with the exception of the instrumentation located on the backup control panel (PI-3-79, LI-3-46A, TI-64-55B, and LI-64-54B). The testing requirements of the instrumentation on the backup control panel are the same for those performing the same function in the MCR. These testing requirements will provide adequate assurance the required instrumentation will be available for Appendix R. Should any of these instruments become inoperable during Reactor Operation or Hot Standby, a compensatory measure will be established.

SYSTEM 244 - PLANT RADIO SYSTEM

The safe shutdown function of the Plant Radio System is to provide two-way voice communications capability to support operations in the successful execution of required manual actions for Appendix R. The Plant Radio System includes the Nextel Cellular Radio System and F4 Radio Repeater System, dedicated cellular phones and portable radio units and radiax antennas. These systems have been analyzed for Appendix R to ensure one of these systems is free of fire damage when required to support safe shutdown (Reference 17). The Plant Radio System provides two-way voice communications between Control Room and the cell phones/portable radios operated at manual action field locations for Control Room shutdowns and between Alternate Shutdown Control Panel and cell phones/portable radios operated at manual action field locations for Alternate Shutdown fire scenarios. The system supports operator implementation of the Safe Shutdown Instructions (SSI's) for all postulated fire scenarios.

SECTION VII - REVISION / CONTROL OF THE PROGRAM

Changes to this program shall be controlled by FPDP-3.

Attachment A Appendix R Program Compensatory Measures Tracking

Compensatory measures will be documented and tracked on Appendix R inoperable equipment in accordance with OPDP-8. The tracking log will contain information similar in nature to the information listed below. Operations sole responsibility is to ensure compensatory measure tracking, maintenance, and Quality Assurance record handling/retention requirements. The narrative log generated to track these compensatory actions has a lifetime retention period. The following information may be utilized in support of Appendix R inoperable equipment tracking, in the event that an additional log is utilized. Attachment B is an example of a log sheet that would satisfy this requirement.

1) TRACKING NUMBER: Unit-Seq. No.-Year. The unit being either 1, 2, or 3 dependent upon the component affected. Sequential number is 1, 2, 3, etc. and the year is the calendar year (1991, 1992, etc.).

2) COMPONENT/APPENDIX R FUNCTION: This entry shall identify the component and Appendix R function as detailed in Section III of 2-SSP-1. The Appendix R function entered shall be that function which is inoperable. For example: FCV-1-37, Outboard MSIV/Closure from Panel 25-32.

3) COMPENSATORY MEASURES: This entry shall identify the required compensatory measures taken from Section III of 2-SSP-1.

4) FIRE AREA/ZONES: This entry shall identify the Appendix R area/zones affected by the inoperable equipment as listed in Section III of 2-SSP-1.

5) DATE/TIME INOPERABLE: Enter the date (mo/day/yr) and time (military) the component was declared inoperable.

6) COMPENSATORY MEASURE EXPIRES: This entry shall specify the date (mo/day/yr) and time (military) the specific compensatory measure will expire.

7) COMPENSATORY MEASURE EXIT: This entry shall specify the date (mo/day/yr) and time (military) the component was declared operable allowing exit of the specific compensatory measure.

8) EXIT APPROVED BY SM/US: This entry shall be initialed by the SM/US approving exit of the required compensatory measure.

Attachment B Appendix R Program Inoperable Equipment Tracking Log

TRACKING NUMBER (Unit-SEQ. No.-Year	COMPONENT/APPENDIX R FUNCTION	COMPENSATORY MEASURE	FIRE AREA/ZONES	DATE/TIME INOPERABLE	COMPENSATORY MEASURE EXPIRES	COMPENSATORY MEASURE EXIT	EXIT APPROVED BY SM/US

Retention Period: LIFETIME Responsibility: OPERATIONS