

## **9A Fire Hazard Analysis**

### **9A.1 Introduction**

This appendix supplements Subsection 9.5.1.3 (Safety Evaluation).

This appendix identifies distinct fire areas for all buildings through the use of plan and elevation views of the plant. Except for the Service Building, it defines equipment, both safety-related and non-safety-related, contained within each fire area. Further, it identifies and quantifies all materials capable of supporting combustion in each of the designated fire areas in the Reactor, Control and Turbine buildings.

Primary requirements for a nuclear facility are that the design provides a means for the safe shutdown of the facility, that it maintains the condition of safe shutdown, while not posing a hazard to personnel, and that it mitigates the consequences of accidents which may occur.

The analysis addresses the hazard of fire relative to maintaining the safe shutdown capability of the plant.

**9A.2 Analysis Criteria****9A.2.1 References****9A.2.1.1 Codes and Standards**

The following applicable codes and standards are incorporated in the design of the ABWR Standard Plant, including the fire detection and suppression systems designs:

29CFR1910	Occupational Safety and Health Standards
29CFR1926	Safety and Health Regulations for Construction
10CFR50	Licensing of Production/Utilization Facilities
UL	Underwriters Laboratories Approved Equipment Lists
FM	Factory Mutual Approved Materials and Equipment Lists
ANI	“Basic Fire Protection for Nuclear Power Plants”
ANSI B31.1	Power Piping
ASTM D992-56	“Classification of Flammability Standards”
ASTM-E84	“Method of Test of Surface Burning Characteristics of Building Materials
NFPA 10	“Portable Fire Extinguishers—Installation”
NFPA 10A	“Portable Fire Extinguishers—Maintenance and Use”
NFPA 11	“Foam Extinguishing Systems”
NFPA 13	“Sprinkler Systems”
NFPA 14	“Standpipe and Hose Systems”
NFPA 15	“Standard for Water Spray Fixed Systems”
NFPA 16	Deluge Foam-Water Sprinkler Systems
NFPA 16A	Closed Head Foam-Water Sprinkler Systems
NFPA 20	“Centrifugal Fire Pump-Installation”
NFPA 24	“Outside Protection”

NFPA 26	“Recommended Practice for the Supervision of Valves Controlling Water Supplies for Fire Protection”
NFPA 37	“Stationary Combustion Engines and Gas Turbines”
NFPA 70	“National Electric Code”
NFPA 72	“Protective Signaling Systems”
NFPA 78	“Lightning Protection Code”
NFPA 80	“Fire Doors and Windows”
NFPA 80A	“Protection from Exposure Fires”
NFPA 90A	“Air Conditioning and Ventilating Systems”
NFPA 91	“Blower and Exhaust Systems”
NFPA 92A	“Smoke Control System”
NFPA 101	“Life Safety Code”
NFPA 1963	“Screw Threads and Gaskets for Fire Hose Connections”
NFPA 1961	“Fire Hose”
NFPA 251	“Fire Test, Building Construction and Materials”
NFPA 252	“Fire Tests of Door Assemblies”
NFPA 255	“Surface Burning Characteristics of Building Materials”
NFPA 321	“Classification of Flammable Liquids”
NFPA 801	“Facilities Handling Radioactive Materials”
NFPA 802	“Nuclear Reactors”
NFPA 803	“Fire Protection for Light Water Nuclear Power Plants”
Regulatory Guide 1.39	“Housekeeping Requirements for Water-Cooled Nuclear Power Plants”
Regulatory Guide 1.75	“Physical Independence of Electrical Systems”

BTP-CMEB 9.5-1 “Guidelines for Fire Protection for Nuclear Power Plants”  
Appendix A

IEEE-384 “Criteria for Independence of Class 1E Equipment and Circuits”

## **9A.2.2 Drawings**

### **9A.2.2.1 Fire Area Separation and Fire Equipment Drawings**

Drawings showing the fire area separation and fire equipment for the Reactor Building, Control Building, Turbine Building, Service Building and the Radwaste Building are included in Section 9A.4.

The fire protection yard main piping arrangement and fire protection water supply system drawings are in Section 9.5.

## **9A.2.3 Terminology**

- (1) **Fire Area**—portion of a building or plant that is separated from other areas by fire barriers.
- (2) **Fire Barrier**—components of construction (i.e., 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 potential fire.
- (3) **Fire Suppression**—control and extinguishing of fires (Manual fire suppression includes the use of hoses, portable extinguishers or fixed systems by plant personnel. Automatic fire suppression is the use of automatically actuated, fixed systems such as water or foam systems.).
- (4) **Noncombustible Material**—materials having the characteristics listed below:
  - (a) Material which, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors when subjected to fire or heat.
  - (b) Materials having a structural base of noncombustible material, as defined in (a) with a surfacing not over 3.2 mm thick which has a flame spread rating not higher than 50 when measured in accordance with ASTM E-84.

There is an exception to this definition that allows the use of combustible interior finishes when listed by a nationally recognized testing laboratory, such as Factory Mutual or Underwriters Laboratories Incorporated, for a flame spread, smoke and fuel contribution of 25 or less in its use configuration.

- (5) **Nuclear Safety-Related Structures, Systems and Components**—plant features necessary to assure the integrity of the reactor coolant pressure boundary and the capability either to shut down the reactor and maintain it in a cold safe shutdown condition or to prevent or mitigate the consequences of accidents.
- (6) **Water Spray System**—a special fixed pipe system connected to a reliable source of fire protection water supply and equipped with water spray nozzles for specific water discharge and distribution over surface or area to be protected (The piping system is connected to the water supply through an automatic or manually actuated valve which initiates the flow of water.).
- (7) **Wet Standpipe System**—The ABWR design utilizes a ANSI B31.1 standpipe system in all Seismic Category I buildings.

#### **9A.2.4 Acceptance Criteria**

The following basic guidelines have been used as criteria for the fire hazard analysis:

- (1) The analysis is based on the design as it now exists and on the equipment as currently specified, but not yet purchased. The analysis provides a basis for evaluating the fire protection characteristics and features of equipment as it is purchased.
- (2) Automatic wet pipe sprinkler systems are provided in the ABWR design for areas in which a transient fire loading is most likely to occur as a result of combustibles introduced by normal maintenance operations.

The fire hazard analysis is based on the introduction of combustibles to any area of the plant, subject to the owners' administrative control.

- (3) The buildings are generally of reinforced concrete construction. The walls, floors, and ceilings have 3-hour fire resistive rating where required by a high combustible loading (lubrication oil tank, for example) in the room or where adjacent room contains equipment or systems from a different safety division. Stair towers which do not communicate between areas of different divisions may have walls and doors with a 1-hour fire rating for personnel protection during egress from the areas. Non-concrete interior walls are constructed of metal studs and gypsum wallboard to the required fire resistive rating.

- (4) Doors, in general, are 3-hour rated, complying with NFPA ratings. There are also doors, not labeled, which provide building separation. Typical of these are the doors for the personnel air lock into the reactor containment and the missile/tornado doors at the equipment access entrance to the reactor building. The term “doors,” where used in the analysis, shall mean doors, frames and hardware.
- (5) The fireproofing of structural steel members is accomplished by application of a UL-listed or FM-approved cementitious or ablative material, or by a UL- or FM-approved boxing design. The required fire rating, utilizing gypsum board, determines the fireproofing material thickness.
- (6) Surface finishes are specified to have a flame spread, fuel-contributed and smoke-evolved index of 25 or less (Class A), as determined by ASTM-E84 (NFPA 255).
- (7) The use of plastic materials, including electrical cable insulation, has been minimized in the ABWR design.
- (8) Suspended ceilings are used in some areas of the plant. The ceilings, including the lighting fixtures, are of noncombustible construction.
- (9) The electrical cable fire-stops are tested to demonstrate a fire rating equal to the rating of the barrier they penetrate. As a minimum, the penetrations meet the requirements of ANI. The tests are performed or witnessed by a representative of a qualified, independent testing laboratory. The documented test results for the acceptable fire-stops are made a part of the plant design records.
- (10) Not Used
- (11) Control, power or instrument cables of redundant systems that are used for bringing the reactor to safe, cold shutdown, or of any other divisional system, are separated by 3-hour fire barriers.
- (12) Certain areas of the plant have trays in stacked array. Where stacking of trays occurs, power cable, which is the most susceptible to internally generated fires, is routed in the uppermost tray to the greatest extent possible to provide maximum isolation from other trays in the stack.

The fire loadings of electrical cable in trays is based on flame-retardant, cross-linked polyethylene insulation (XLPE-FR) having a calorific value of  $32.56 \times 10^3$  J/g.

The cable trays have been estimated at the maximum design fill to contain between 11.91 and 15.63 kg of insulation per running meter of tray.

The analysis uses 13.77 kg of insulation per meter of tray. The combustible loading is based on maximum loading. The loading reduces as cables drop out of (exits) trays

and the fire loading decreases. No attempt has been made to translate the fire loading to a kilojoule value per square meter for any of the fire areas as a result of cable insulation.

- (13) Certain compartments contain instruments in safety-related systems with only local indicating capability. They do not initiate any signal for remote indicators, recorders or alarms, nor actuate any devices for the safe, cold shutdown of the reactor. Therefore, local indicating instruments have not been considered in the fire hazard analysis.
- (14) Total reliance is not placed on a single fire suppression system. A minimum of two fire suppression means is available to each fire area. The plant design provides the following types of suppression and utilizes them in suitable combination for the fire hazard considered:
  - (a) Automatic wet pipe sprinkler
  - (b) Standpipe and hose reels
  - (c) Class ABC hand extinguishers
- (15) The design includes requirements for delivering water to the standpipe and hose reel systems through any single failure mode, including the SSE. The standpipe system is ANSI B31.1 in all Seismic Category I buildings. The standpipes are contained within the buildings and thus are also protected from other phenomena of less severity and greater frequency.

The effects of pipe breaks in fire suppression systems and protection methods for the effects of pipe breaks meet the criteria specified in Section 3.6.
- (16) Piping penetrations are provided with fire-stops when penetrating fire-resistive walls.
- (17) HVAC penetrations are provided with fire dampers equal in rating to the fire barrier penetrated.
- (18) The ABWR design provides ventilating systems which minimize the release of radioactive materials through the use of HEPA, high efficiency and charcoal filtration systems.

#### **9A.2.5 Core Cooling System**

The core cooling systems are required when the NSSS is isolated from the main condenser during shutdown or accident conditions.

The main steamlines and feedwater lines provide the core cooling path to and from the main condenser during normal operation at power and during startup and shutdown transients when the reactor is not isolated.

The core cooling function is accomplished through interaction of various systems. The core cooling systems provide one or more of the following functions:

- (1) Maintenance of reactor vessel water level
- (2) Depressurization of the reactor pressure vessel
- (3) Heat removal
- (4) Heat sink
- (5) Electrical power
- (6) Control

In addition, electrical power is required for pump motors and valve operation. Instrumentation automatically activates the core cooling system or provides signals to the control room operators to activate the appropriate system manually.

Table 9A.2-1 shows the core cooling systems that provide one or more of the core cooling functions.

The table includes the operating mode for multimode systems, the functions performed, reactor conditions that require system operation, the divisional assignment, the backup system and Tier 2 reference for system description.



Table 9A.2-1 Core Cooling

System/Mode	Function <sup>1</sup>	Reactor Condition	Division <sup>2</sup>	Backup <sup>3</sup> System	Tier 2 Ref	Remarks
RHR A/Decay Heat Removal	3	Normal shutdown	1	RHR B RHR C	5.4.7	4,5,6
RHR B/Decay Heat Removal	3	Normal shutdown	2	RHR A RHR C	5.4.7	4,5,6
RHR C/Decay Heat Removal	3	Normal shutdown	3	RHR A RHR B	5.4.7	4,5,6
RHR A/Suppression Pool Cooling	3	Hot standby, LOCA	1	RHR B RHR C	6.2.2	4,6
RHR B/Suppression Pool Cooling	3	Hot standby, LOCA	1	RHR A RHR C	6.2.2	4,6
RHR C/Suppression Pool Cooling	3	Hot standby, LOCA	1	RHR A RHR B	6.2.2	4,6
RHR C/Wetwell Drywell Spray	3/1	LOCA, SBE <sup>7</sup>	1	RHR B	6.2.2 6.3.2	4,6,8
RHR B/Wetwell Drywell Spray	3/1	LOCA, SBE <sup>7</sup>	1	RHR C	6.2.2 6.3.2	4,6,8
RCIC	1	Isolation, LOCA	1	HPCF B HPCF C	5.4.6	4,9
HPCF B	1	Isolation, LOCA	2	ADS/RHR A	6.3.2	4
HPCF C	1	Isolation, LOCA	3	ADS/RHR B	6.3.2	4
ADS	2	LOCA	2	HPCF	6.3.2	10,11
RCW A	4	All	1	RCW B RCW C	9.2.11	
RCW B	4	All	2	RCW A RCW C	9.2.11	
RCW C	4	All	3	RCW A RCW B	9.2.11	
CUW	4	Shutdown	—	—	5.4.8	12,13
CRD	1	Shutdown	—	—	4.6	
Div 1 electrical power	5	All	2	8.3 Div 3		
Div 2 electrical power	5	All	2	Div 1 Div 3	8.3	
Div 3 electrical power	5	All	3	Div 1 Div 2	8.3	

**Table 9A.2-1 Core Cooling (Continued)**

<b>System/Mode</b>	<b>Function<sup>1</sup></b>	<b>Reactor Condition</b>	<b>Division<sup>2</sup></b>	<b>Backup<sup>3</sup> System</b>	<b>Tier 2 Ref</b>	<b>Remarks</b>
Control Room	6	All	All	Remote shutdown panel and system	7.4.1.4	
Div 1 instrument power & signals	6	All	1	2, 3 and/or 4	7.2, 7.3	
Div 2 instrument power & signals	6	All	2	1, 3 and/or 4	7.2, 7.3	
Div 3 instrument power & signals	6	All	3	1, 2 and/or 4	7.2, 7.3	
Div 4 instrument power & signals	6	All	4	1, 2 and/or 3	7.2, 7.3	

- 1 Functions: 1 – maintain reactor water level  
2 – depressurize the reactor vessel  
3 – heat removal  
4 – heat sink  
5 – electrical power  
6 – control (includes logic systems power for initiation of RPS and core cooling systems)
- 2 Division—electrical power divisional assignment
- 3 Backup System—see Subsection 6.3.2 for required number of ECCS systems.
- 4 Room coolers needed for pump operation
- 5 Closed loop to and from reactor vessel
- 6 RCW provides coolant to heat exchangers.
- 7 SBE—small break event
- 8 Not a core cooling mode
- 9 Water supply for RCIC is condensate storage pool primary or suppression pool (secondary).
- 10 Pneumatic valves
- 11 Depressurizes the reactor to allow LP systems to function
- 12 Not a safety system
- 13 Tier 2 does not describe this mode but system could be used to cool core.

## **9A.3 Analysis Approach**

### **9A.3.1 Review Data**

The analysis is based on a review of every room or area, on a floor-by-floor basis, for each building of design. The following data have been gathered for each room or area being reviewed:

- (1) Identification of the safety-related and non-safety-related systems, and associated cabling within each fire area, which could provide cooling to the core to safely shut down the reactor, and removal of decay heat.
- (2) Identification of fire areas containing radioactive material which could be released to the exclusion area or beyond should a fire occur in that area.
- (3) Identification of safety and non-safety-related equipment contained within the boundaries of each fire area, which do not provide cooling to the core to safely shut down the reactor.
- (4) Definition of the fire barriers surrounding a specific room or area which qualify rating the room or area as a separate fire area.
- (5) A specific listing of types, quantities and characteristics of all combustibles within a fire area which could constitute a fire load.
- (6) Quantitative listing of fire loadings which represent the combustibles identified for each fire area.
- (7) Listing of all the fire detection and suppression capabilities provided and their accessibility for each fire area.
- (8) An analysis of each fire area identifies the design criteria employed in providing fire protection for the equipment within the fire area. Divisional safety-related equipment is separated by 3-hour rated fire barriers, except equipment mounted in the Control Building, and primary containment, and the special cases which are discussed in Subsection 9A.5 (for more information on safety-related equipment fire separation and safe shutdown see Subsection 9.5.1.2.11). Fire detection, fire suppression, and fire stops capabilities are also discussed in the analysis.
- (9) An analysis defining the consequences of the fire for each fire area [This is stated as loss of function and identifies the divisional backup capability available for safety-related systems. The loss of function that would not impair the capability of safe, cold shutdown is identified where non-safety-related systems are involved.].

- (10) An analysis of each fire area addressing the consequences of fire, if the fire protection system functions as designed. The fire protection system is defined as having the capability to detect, contain and extinguish the fire. The ability to restrict the fire to a discrete area, the result of the introduction of water to the fire area and the capability of extinguishing the fire by various means of suppression are stated. See Section 3.6 for a discussion of pipe break consequences.
- (11) Design provisions for protecting the functional capability or safety-related systems and associated cabling from the results of inadvertent operation, careless operation or rupture of the extinguishing systems for each fire area are stated.
- (12) The means of containing the inhibiting the progress of a fire in each fire area [This is defined as the use of a fire-resisting enclosure or barrier, fire-stops at wall penetrations, dust dampers, curbs or fire doors into the area.].
- (13) Room numbers are shown on the analysis pages which conform to those shown on the fire area separation drawings.

### **9A.3.2 Not Used**

### **9A.3.3 Separation**

A specific analysis has been prepared for each fire area where redundant systems of safety-related equipment or electrical cables are contained in a common fire area to confirm that adequate protection has been provided by means of separation by distance, physical barriers, electrical isolation, electrical circuit characteristics or adequate backup systems. The analyses appear in Section 9A.5 (Special Cases).

### **9A.3.4 Insulation Fire Hazard**

Electrical cable insulation which is contained in either solid-bottom, solid-cover metal trays or in conduits is not considered to represent an exposed, combustible fire hazard.

### **9A.3.5 Exceptions to Penetrations Requirements**

- (1) Four 550 mm Atmospheric Control System supply and exhaust lines for the wetwell and the drywell, do not have fire dampers. There are 2 containment isolation valves for each supply and exhaust. The valves are normally closed except during plant outage periods, at which time smoke removal should be accomplished without interruption, if a fire occurs. The drywell or wetwell sprays would be initiated to save the containment at a temperature well below the threshold of damage for the duct, assuming the fire was not suppressed quickly.

### **9A.3.6 Wall Deviations**

The wall descriptions below represent a tested and approved 3-hour fire-resistive assembly and an anticipated possible deviation. Though specific applications for these walls have not been identified at this time, it is anticipated that applications will develop as the detail design of the plant is completed.

The Type 1 wall design is the UL tested and approved design U463. The type 2 assembly will require a UL test.

- (1) Type 1 wall is UL tested and approved 3-hour fire barrier wall with three layers of fire code Gypsum wallboard on each side of the studs.
- (2) Type 2 wall is a variation of type 1 wall with three layers of gypsum wall board on one side and a 1.25 cm thick steel plate for bullet resistance and two layers of fire code gypsum wall board on the other side.

### **9A.3.7 Door Deviations**

Certain doors throughout the facility have a multipurpose function such as fire, tornado, pressure, missile, seismic, watertight and airlocks. Where possible, these doors are specified to rated and labeled criteria and are then identified as rated doors.

When other criteria require the manufacturer to delete the label, the door is identified as equivalent. These doors, except for the Reactor Building equipment access door are required to have a UL or FM label.

Where the door is not constructed as a fire door, such as a containment personnel airlock, it is identified by its main function.

**9A.4 Analysis****9A.4.1 Reactor Building****9A.4.1.1 Reactor Bldg EI –8200 mm****9A.4.1.1.1 Lower Drywell (Rm No. 191)**

- (1) Fire Area—F1901
- (2) Equipment: See Table 9A.6-2 for this elevation. Devices within the lower drywell are also listed at floor elevations –1700 and 4800, as appropriate.

**Safety-Related****Provides Core Cooling**

Yes, D1,D2, D3, &amp; D4

Yes

- (3) Radioactive Material Present—Normally, none that can be released as a result of fire. Depending on operating history, low levels of contamination could be present. Also, any radiation release from the drywell sumps is contained within the containment.
- (4) Qualifications of Fire Barriers—The walls, floor and ceiling are concrete, which is approximately 1-meter thick as a minimum. Risers lead from the lower drywell up through diaphragm floor to the upper drywell. The primary purpose of the risers is to equalize the pressure between the upper and lower drywell. The risers are also used for the routing of cables and piping between the upper and lower drywells. A personnel lock provides access to the drywell at zero degrees and an elevation of –180 mm. Access and egress to the drywell is through this personnel lock. An equipment removal lock is provided at the 180 degree location. The drywell atmosphere is inerted with nitrogen during plant operation.
- (5) Combustibles Present:

**Fire Loading****Total Heat of Combustion (MJ)**

Divisional cable trays  
containing 14 kg/m of XLPE-FR  
cable insulation.

727 MJ/m<sup>2</sup>, NCLL (727 MJ/m<sup>2</sup>  
maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the containment purge system and manual pull alarms when the containment is purged.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Inerted during plant operation. Drywell spray is ultimate line of defense during plant outage.	General Manual
Standpipe and hose reel.	Personnel lock entrance/Manual
ABC hand extinguishers during significant outage work.	Temporary as conditions warrant/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) Credit is taken for the fact that the drywell is inerted during plant operation.
- (b) Quantities of combustibles are minimized.
- (c) The spacing between redundant equipment and cabling is kept to a maximum.
- (d) Smoke removal is provided by the drywell purge and exhaust system.

## (9) Consequences of Fire—A fire during plant operation is not possible due to the drywell being inerted. A fire in the lower drywell would not prevent the continuation of core cooling.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the drywell
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe, external to the drywell (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) Inerted atmosphere.
- (b) Quantities of combustibles minimized.

## (13) Remarks:

- (a) There are no containment electrical penetrations in the lower drywell.
- (b) The reactor internal pump (RIP) motors are water lubricated so that there is no lubricating oil in the lower drywell.

**9A.4.1.1.2 Wet Well (Rm No. 190)**

- (1) Fire Area—F1900
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1, 2, D3, & D4	Yes

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wetwell is a concrete annular tank partially filled with water. It has a nitrogen blanket during plant operation. There is nothing to burn. The concrete walls are not fire rated but their construction provides an equivalent fire rating of more than 3 hours.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	

- (6) Detection Provided—None.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	External to personnel access lock/Manual
ABC hand extinguishers	Carry in if maintenance operation warrants additional fire suppression/Manual



- (8) Fire Protection Design Criteria Employed:
  - (a) Normally inaccessible
  - (b) Normally inerted
  - (c) No exposed combustible materials
  - (d) Manual suppression available during outages when maintenance activities may be undertaken
  - (e) Wetwell spray is ultimate suppression system
- (9) Consequences of Fire—It is possible for a fire to occur only during plant outages. Fire would be extinguished without core cooling being disturbed.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
 

Location of the manual suppression system external to the wetwell
- (12) Fire Containment or Inhibiting Methods Employed:
 

No exposed combustibles
- (13) Remarks—None.

#### **9A.4.1.1.3 RHR Pump Room A (Rm No. 110)**

- (1) Fire Area—F1101
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1,D2, D3 & D4	Yes

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—With the exception of the walls common with the elevator and stair torchwood sump area, the Instrument Rack Room, Division 1 (Rm118), Corridor C (Rm No. 115), and Room 119, the walls are within fire area F1101 and are not fire-rated. The primary containment acts as one wall of the room. With the exception of the ceiling that is the floor of Room 212, the remainder of the

ceiling serves as a 3-hour fire barrier to fire area F1100. The wall common with Corridor 115 serves as a fire barrier between divisions 1 and 3 fire areas. RHR and the RCIC are of the same electrical division and in a common fire area so the common wall is not required to have a fire rating. There is a 5 psid, water-tight, 3-hour rated fire door to the corridor. All personnel entry and egress is by this single path. Two equipment removal hatches are provided in the ceiling at the –1700 mm elevation.

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
17 m of divisional cable trays containing 14kg/m of XLPE-FR Cable Insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.
106 liters of Class III B lube oil	4.6 x 10 <sup>3</sup>

(6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 6.9-D.0 in the corridor.

(7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.8-D.0./Manual
ABC hand extinguishers	Col. 6.9-D.0./Manual

(8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

(9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5. Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
  - (e) The safety-related function has a remote backup system
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks:
  - (a) The room contains electrical cables in trays. Cable insulation in trays is discussed in Subsection 9A.3.4.
  - (b) It is assumed that the pump lube oil is contained in an integral reservoir and that there is no exposed piping.
  - (c) There are no HVAC duct penetrations through the fire barriers for this room.
  - (d) Temperature elements E31-TE008A, B, C, D of the leak detection system are mounted in this room. See Section 9A.5, Special Cases, for an explanation of why this is required and why it is deemed to be acceptable.

**9A.4.1.1.4 RCIC Room A (Rm No. 112)**

- (1) Fire Area—F1101
- (2) Equipment: See Table 9A.6-2

**Safety-Related****Provides Core Cooling**

Yes, D1, D2, D3, D4

Yes

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The primary containment acts as one wall of the room. A portion of the ceiling serves as a fire barrier between the RCIC room and the division 3 maintenance area (F1300) and portions of fire area F1100 on the floor above. The walls common with Corridor 115 and the adjacent HPCF Pump C room serve as fire barriers between divisions 1 and 3 fire areas. RHR A and the RCIC are of the same electrical division and in a common fire area so the common wall is not required to have a fire rating. There is a 5 psid, water-tight, 3-hour rated fire door to the corridor via a vestibule. All personnel entry and egress is by this single path. An equipment removal hatch is provided in the ceiling at the -1700 mm elevation.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
17 m of divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 6.9-D.0 in the corridor.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.9-D.0, 5.8-A.5/Manual
ABC hand extinguishers	Col. 6.9-D.0/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
  - (e) The safety-related function has a remote backup system
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks:
- (a) The room contains electrical cables in trays. Cable insulation in trays is discussed in Subsection 9A.3.4.
  - (b) Not Used.
  - (c) Temperature elements E31-TE005A, B,C,D of the leak detection system are mounted in this room. See Section 9A.5, Special Cases, for an explanation of why this is required and why it is deemed to be acceptable.

#### **9A.4.1.1.5 Corridor A (Rm No. 115/131)**

- (1) Fire Area—F1300

- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The building exterior wall, the wall shared with RHR A and RCIC rooms and portion of the ceiling over Room 115 are 3 hour fire-resistive concrete. The concrete base mat of the building forms the floor. There are four pressure resistant, water-tight doors providing access to the RHR A pump room (Rm 110), RCIC room (Rm 112), HPCF C pump room (Rm 130), and RHR C pump room (Rm 132). Two 3 hour fire resistive doors provide accesses to this Division 3 corridor. One fire rated door provides accesses from Division 1 (Rm 116) to Room 115 at Row A.0-A.3, Column 5.3, and the other fire rated door provides accesses from Division 2 (Rm 134) to Room 131 at Row F.7-G.0, Column 6.0.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the corridor and manual alarm pull stations at Col. 5.8-A.5, 6.9-D.0, and 6.9-F.9.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.9-D.0, 6.9-F.9 & 5.8-A.5/ Manual
ABC hand extinguishers	Col. 6.9-D.0, 6.9-F.9 & 5.8-A.5/ Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.

- (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system in the corridor where there is a minimum of safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks:
- (a) The corridor contains piping and cable trays in its upper elevation.
  - (b) The room is cooled by the Reactor Building HVAC System, which is not redundant or safety grade.

#### **9A.4.1.1.6 Quadrant 1 Corridor (Rm No. 116)**

- (1) Fire Area—F1100

- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The building exterior wall and the walls shared with the stairwell and the elevator tower and the backwash transfer pump area (Rm 149) are 3 h fire-resistive concrete. The concrete base mat of the building forms the floor. The walls common with the HCU room (Rm 117) and the sump room (Rm 119) and the ceiling are of concrete construction but are not fire rated as the adjacent rooms are within the same fire area. There is a 3 h fire-resistive door providing access to the stairwell (Rm 195). This division 1 corridor opens into the division 3 corridor, (Rm 115) through a 3 h fire--resistive door at row A.0-A.3 and column 5.3. A 3 h fire-resistive door opens to the quadrant 4 corridor (Rm 142) at row A.0-A.3 and column 2.6. The quadrant 4 corridor contains division 2 RCWS piping.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the corridor and manual alarm pull stations at Col. 5.8-A.5.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.8-A.5/Manual
ABC hand extinguishers	Col. 5.8-A.5/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.



- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.  
  
Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system in the corridor where there is a minimum of safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—The corridor contains piping and cable trays in its upper elevation.

#### **9A.4.1.1.7 CRD HCU Quadrant I/IV (Rm No. 117)**

- (1) Fire Area—F1100
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1, D2, D3 & D4	Yes, D1, D2, D3 & D4

- (3) Radioactive Material Present—None that can be released as a result of fire.

- (4) **Qualifications of Fire Barriers**—The wall common with the reactor water cleanup (CUW) demineralizer rooms (Rms 144 and 149) forms a portion of the fire barrier between division 2 fire area F1200 and division 1 fire area F1100 and is of 3 h fire-resistive concrete construction. The walls common with rooms 111 and 118 are of 3 h fire-resistive concrete construction. The wall common with RHR Pump Room A (Rm 110) forms a barrier between fire areas F1100 and F1101 and is of 3-hour fire-resistive concrete construction. All other walls and the ceiling are constructed of concrete but are not fire rated as they are within fire area F1100. The concrete base mat serves as the floor. There are 2 nonlabeled doors to the corridor (Rm 116). Curbed, 3-hour fire rated doors provide entry to rooms 111 and 118.

- (5) **Combustibles Present:**

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
15.25 m of divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) **Detection Provided**—Class A supervised POC in the room and manual alarm pull stations at Col. 5.8-A.5 in the corridor.

- (7) **Suppression Available:**

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.8-A.5/Manual
ABC hand extinguishers	Col. 5.8-A.5/Manual

- (8) **Fire Protection Design Criteria Employed:**

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) **Consequences of Fire**—The postulated fire assumes the loss of the function for the equipment in the fire area. The scram function is fail safe and would therefore scram as a result of a fire.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
  - (e) The safety-related function has a remote backup system and is fail safe
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—The hydraulic control lines for divisions 2 and 3 from the scram bank are routed up to elevation 4000 mm where they enter containment through the top of the personnel lock. Section 9A.5, Special Cases provides a discussion as to how the division I and IV pressure transmitters which monitor charging header pressure are mounted in this room, and why it is acceptable to mount this equipment in the same room.

#### **9A.4.1.1.8 Not Used**

#### **9A.4.1.1.9 Quadrant A Sump Room (Rm No. 119)**

- (1) Fire Area—F1100
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	No

- (3) Radioactive Material Present—None that can be released as a result of fire. Normally the sumps would not be contaminated. If they did become slightly contaminated prior to a fire, any contamination released as a result of boiling initiated by the heat of the fire would be contained within secondary containment.
- (4) Qualifications of Fire Barriers—The wall common with the elevator tower (Rm 192) and the RHR Pump Room A (Rm 110) serves as a barrier and is of 3 h fire-resistive material. All other walls and the ceiling are constructed of concrete but are not fire rated as they are within fire area F1100. The concrete base mat serves as the floor. There is a nonlabeled door to the corridor (Rm 116).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
15.25 m of divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 5.8-A.5 in the corridor.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.8-A.5/Manual
ABC hand extinguishers	Col. 5.8-A.5/ Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a room, separate from the rooms which contain safety-related systems.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function for the equipment in the fire area.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—The sumps in this room serve only areas external to the safety-related pump rooms.

#### **9A.4.1.1.10 Stair # 1 (Rm No. 195)**

- (1) Fire Area—F1510
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—Walls, floor and ceiling are concrete and rated 3 hours for personnel protection. The stair tower services the controlled access areas of all floors of the reactor building. There is a 3 hour rated fire resistive door at each floor elevation. Alternate access is provided by stair No.3, diagonally across the building.
- (5) Combustibles Present—No significant quantities of exposed combustibles.

- (6) Detection Provided—Class A supervised POC at each building floor elevation and alarm pull stations external to the stair tower and adjacent to the access door at each building floor elevation.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Adjacent to the stair tower at each building floor/Manual
ABC hand extinguishers	Adjacent to the hose reels/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The tower is located in a separate fire-resistive enclosure.
- (b) Alternate access and egress are provided by a separate stair tower located at a remote location.
- (c) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes loss of function of the stair tower. Access to the other stair tower is maintained.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke-removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)
- (d) Alternate access route provided

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—None

#### **9A.4.1.1.11 Elevator # 1 (Rm No. 192)**

- (1) Fire Area—F1520
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—Walls, floor and ceiling are concrete and rated 3 h for personnel protection. The elevator shaft services all floors of the reactor building. The elevator doors are not fire rated. A separate 3 h rated fire-resistive door is provided at each elevator landing doorway.
- (5) Combustibles Present—No significant quantities of exposed combustibles.
- (6) Detection Provided—Class A supervised POC at each building floor elevation and alarm pull stations adjacent to the access door at each building floor elevation.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Adjacent to the stair entry at each building floor stair door/ Manual
ABC hand extinguishers	Adjacent to the hose reels/ Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The elevator shaft is located in a separate fire-resistive enclosure.
- (b) Alternate access and egress are provided by separate stairs located at a remote location.
- (c) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire—The postulated fire assumes loss of function of the elevator. Access to the adjacent stair tower and other stair/elevator towers is maintained.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the tower;
  - (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system;
  - (c) ANSI B31.1 standpipe (rupture unlikely); and
  - (d) Alternate access route provided.
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

#### **9A.4.1.1.12 HPCF Room C (Rm No. 130)**

- (1) Fire Area—F1300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
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Yes, D3	Yes
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- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wall common with the RCIC room forms a barrier between the adjacent division 1 fire area, F1101 and the division 3 fire area F1300 and is of 3 h fire rated concrete construction. The concrete base mat of the building forms the floor for the room. The primary containment acts as one wall of the room. The RHR C room (Rm 132) and Corridor C (Rm 131) are all in fire area F1300, which is a division 3 area and therefore the common walls are not required to be fire barriers. There is a, pressure resistant, water-tight, door to the corridor. All personnel entry and egress is by this single path. Two equipment removal hatches are provided in the ceiling at the –1700 mm elevation.



- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
17 m of divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.
51.1 liters of Class III B lube oil.	1.84x10 <sup>3</sup>

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 6.9-F.9 in the corridor.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col 6.9-F.9/ Manual
ABC hand extinguishers	Col. 6.9-F.9/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room

- (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
  - (e) The safety-related function has a remote backup system
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks:
- (a) The room contains electrical cables in trays. Cable insulation in trays is discussed in Subsection 9A.3.4.
  - (b) It is assumed that the pump lube oil is contained in an integral reservoir and that there is no exposed piping.

#### **9A.4.1.1.13 RHR Pump Room C (Rm No. 132)**

- (1) Fire Area—F1300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
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Yes, D1, D2, D3 & D4	Yes
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- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The primary containment acts as one wall of the room. The concrete base mat serves as the floor of the room. With exception of the walls common to rooms 134 and 126 the remainder of the walls and ceiling are room partitions within fire area F1300 and, therefore, are not fire rated. They are all of concrete construction. There is a pressure resistant, water-tight door to the corridor. All personnel entry and egress is by this single path. Two equipment removal hatches are provided in the ceiling at the –1700 elevation.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
17 m of divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.
106 liters of Class III B lube oil.	4.6 x 10 <sup>3</sup>

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 6.9-F.9 in the corridor.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.9-F.9/Manual
ABC hand extinguishers	Col. 6.9-F.9/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room

- (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
  - (e) The safety-related function has a remote backup system
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detections, suppression and alarming are provided and accessible.
- (13) Remarks:
- (a) The room contains electrical cables in trays. Cable insulation in trays is discussed in Subsection 9A.3.4.
  - (b) It is assumed that the pump lube oil is contained in an integral reservoir and that there is no exposed piping.
  - (c) Temperature elements E31-TE008J, K, L, M, E31-TE031J, and E31-TE032J of the leak detection system are mounted in this room. See Section 9A.5, Special Cases, for an explanation of why this is required and why it is deemed to be acceptable.

**9A.4.1.1.14 Not Used****9A.4.1.1.15 CRD Pump Room (Rm No.133)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	Yes <sup>1</sup>

<sup>1</sup> As a secondary effect of the control rod drive water and the reactor internal pump flushing water supplied to the reactor vessel.

- (3) Radioactive Material Present—None that can be released as a result of fire.

- (4) **Qualifications of Fire Barriers**—The room is a bay opening off of corridor B (Rm 134). The wall common with RHR pump room C serves as a fire barrier between division 2 and 3, and is of 3 h fire resistive concrete construction. The remainder of the walls and ceiling are room partitions within fire area F1200 and, therefore, are not fire rated. They are all of concrete construction. The concrete base mat serves as the floor. All personnel entry and egress is through the open front of the bay.

- (5) **Combustibles Present:**

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
11.3 m of divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.
151.4 liters of Class III B lube oil.	6.57 x 10 <sup>3</sup>

- (6) **Detection Provided**—Class A supervised POC in the room and manual alarm pull stations at Col. 6.9-F.9 in the corridor.

- (7) **Suppression Available:**

<b>Type</b>	<b>Location/Actuation</b>
Ordinary hazard, dry pipe, closed head sprinklers, having a water density of 6.1 L/min/m <sup>2</sup> per head.	All/Automatic
Standpipe and hose reel	Col. 6.9-F.9/ Manual
ABC hand extinguishers	Col. 6.9-F.9/Manual

- (8) **Fire Protection Design Criteria Employed:**
- (a) The function is located in a room, separate from the rooms which contain safety-related systems.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function which results in a plant scram and continuance of core cooling by the appropriate systems located in other fire areas.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The function is located remotely from other equipment of other systems within the same fire area.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks:
- (a) The room contains electrical cables in trays. Cable insulation in trays is discussed in Subsection 9A.3.4.
  - (b) The pump lube oil is contained in an integral reservoir but there is externally exposed piping, therefore, sprinklers are provided.
  - (c) The pumps are powered from the divisions 1 and 2 emergency buses and are sitting in a division 3 area. Justification for this exception is given in Section 9A.3.

#### **9A.4.1.1.16 CRD HCU Quadrant II/III Room (Rm No. 126)**

- (1) Fire Area—F1200

- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2 & D3	Yes

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The room is completely within fire area F1200, consequently, the floor, and walls are not required to have a fire rating. They are all of concrete construction, however. The concrete base mat serves as the floor. There are two nonlabeled doors to the corridors (Rooms 123 and 134). A nonlabeled door provides entry to rooms 125 and 126. The ceiling is a 3 h fire barrier.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
15.25 m of divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 2.5-F.8 in the corridor.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.5-F.8/Manual
ABC hand extinguishers	Col. 2.5-F.8/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function for the equipment in the fire area. The scram function is fail safe and would therefore scram as a result of a fire.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
  - (e) The safety-related function has a remote backup system and is fail safe
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—The hydraulic control lines from the scram bank are routed up to elevation 4000 where they enter containment through the top of the personnel lock.

#### **9A.4.1.1.17 Not Used**

#### **9A.4.1.1.18 Corridor B (Rm No. 123/134)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes



- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls common with the stairwell (Rm 193), the elevator (Rm 194), and the exterior wall are all fire barriers of 3 h fire-resistive concrete construction. The primary containment acts as one wall of the room in the area between the HPCF pump room (Rm 122) and CUW heat exchanger room (Rm 141). The remainder of the walls are within fire area F1200 and, therefore, are not fire rated. The concrete base mat of the building forms the floor. There are pressure resistant, water-tight doors providing access to the HPCF pump room B (Rm 122), RHR pump room B (Rm 121), and CRD HCU II/III room (Rm 126). Accesses to this division 2 corridor is provided via a 3 h fire resistive door from division 3 (Rm 131) at row F.7-G.0, Col. 6.0. Also, this division 2 corridor continues as room 142 at row D. Portion of the ceiling area F.7-G.0 and 2.0-6.0 is a 3 h fire barrier, but the remaining portion is within fire area F1200, and therefore is not fire rated.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
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Divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.
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- (6) Detection Provided—Class A supervised POC in the corridor and manual alarm pull stations at Col. 2.5-F.8 and 1.1-D.0.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.5-F.8 & 1.1-D.0/Manual
ABC hand extinguishers	Col. 2.5-F.8 & 1.1-D.0/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Section 9A.2.5. Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system in the corridor where there is a minimum of safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—The corridor contains piping and cable trays in its upper elevation.

#### **9A.4.1.1.19 Quadrant B Sump Room (Rm No. 124)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	No

- (3) Radioactive Material Present—None that can be released as a result of fire. Normally the sumps would not be contaminated. If they did become slightly contaminated prior to a fire, any contamination release as a result of boiling initiated by the heat of the fire would be contained within secondary containment.

- (4) **Qualifications of Fire Barriers**—The wall common with elevator No.2 and the ceiling are a 3 h fire barrier. All other walls are constructed of concrete but are not fire rated as they are within fire area F1200. The concrete base mat serves as the floor. There is a nonlabeled door to the corridor (Rm 123).

- (5) **Combustibles Present:**

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
15.25 m of divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) **Detection Provided**—Class A supervised POC in the room and manual alarm pull stations at Col. 2.5 and F.8 in the corridor.

- (7) **Suppression Available:**

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.5-F.8/Manual
ABC hand extinguishers	Col. 2.5-F.8/Manual

- (8) **Fire Protection Design Criteria Employed:**

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) **Consequences of Fire**—The postulated fire assumes the loss of the function for the equipment in the fire area.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) **Consequences of Fire Suppression**—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Refer to Section 3.4, "Water Level (Flood) Design", for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—The sumps in this room serve only areas external to the safety-related pump rooms.

#### **9A.4.1.1.20 Stair # 3 (Rm No. 193)**

- (1) Fire Area—F1530
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—Walls, floor and ceiling are concrete and rated 3 hours for personnel protection. The stair tower services the controlled access areas of all floors of the reactor building. There is a 3 hour rated fire resistive door at each floor elevation. Alternate access is provided by stair #1, diagonally across the building.
- (5) Combustibles Present—No significant quantities of exposed combustibles.
- (6) Detection Provided—Class A supervised POC at each building floor elevation and alarm pull stations external to the stair tower and adjacent to the access door at each building floor elevation.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Adjacent to the stair tower at each building floor/Manual
ABC hand extinguishers	Adjacent to the hose reels/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a room, separate from the rooms which contain safety-related systems.
- (b) Alternate access and egress are provided by a separate stair tower located at a remote location.
- (c) Fire detection and suppression capability is provided and accessible.

## (9) Consequences of Fire—The postulated fire assumes loss of function of the stair tower. Access to the other stair tower is maintained.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)
- (d) Alternate access route provided

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None

**9A.4.1.1.21 Elevator # 2 (Rm No. 194)**

- (1) Fire Area—F1540
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—Walls, floor and ceiling are concrete and rated 3 hours for personnel protection. The elevator shaft services all floors of the reactor building. The elevator doorways are provided with 3 h rated fire doors at each elevator landing.
- (5) Combustibles Present—No significant quantities of exposed combustibles.
- (6) Detection Provided—Class A supervised POC at each building floor elevation and alarm pull stations adjacent to the access door at each building floor elevation.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Adjacent to the stair tower at each building floor/Manual
ABC hand extinguishers	Adjacent to the hose reels/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a room, separate from the rooms which contain safety-related systems.
  - (b) Alternate access and egress are provided by separate stairs located at a remote location.
  - (c) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire—The postulated fire assumes loss of function of the elevator. Access to the adjacent stair tower and other stair/elevator towers is maintained.  
  
Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the tower
  - (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)
  - (d) Alternate access route provided
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

#### **9A.4.1.1.22 RHR Pump Room B (Rm No. 121)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1, D2, D3, D4	Yes

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wall common with the stair tower is of 3 h fire resistive concrete construction. The primary containment acts as one wall of the room. The floor is the concrete base mat. The remainder of the walls and ceiling are room partitions within fire area F1200 and, therefore, are not fire rated. They are all of concrete construction. There is a pressure resistant, water-tight door to the corridor. All personnel entry and egress is by this single path. Two equipment removal hatches are provided in the ceiling at the –1700 mm elevation.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
17 m of divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.
106 liters of Class III B lube oil.	4.6 x 10 <sup>3</sup>

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 1.1-D.0 in the corridor.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.1-D.0/Manual
ABC hand extinguishers	Col. 1.1-D.0/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room



- (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
  - (e) The safety-related function has a remote backup system
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks:
- (a) The room contains electrical cables in trays. Cable insulation in trays is discussed in Subsection 9A.3.4.
  - (b) It is assumed that the pump lube oil is contained in an integral reservoir and that there is no exposed piping.
  - (c) Temperature elements E31-TE008E, F, G, H of the leak detection system are mounted in this room.
- The G51-F001 (MO division 2 isolation valve) of the SPCS is mounted in this room. See Subsection 9A.5, Special Cases, for an explanation of why this is required and why it is deemed to be acceptable.

#### **9A.4.1.1.23 HPCF Pump Room B (Rm No. 122)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The room is entirely within fire area F1200, therefore none of the walls, ceiling or floor are required to function as rated fire barriers. They are all of concrete construction, however. The concrete base mat of the building forms the floor for the room. The primary containment acts as one wall of

the room. There is a pressure resistant, water-tight, door to the corridor. All personnel entry and egress is by this single path. Two equipment removal hatches are provided in the ceiling at the –1700 mm elevation.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
17 m of divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.
51.1 liters of Class III B lube oil.	4.6 x 10 <sup>3</sup>

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 1.1-D.0 in the corridor.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.1-D.0/Manual
ABC hand extinguishers	Col. 1.1-D.0/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
  - (e) The safety-related function has a remote backup system
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks:
- (a) The room contains electrical cables in trays. Cable insulation in trays is discussed in Subsection 9A.3.4.
  - (b) It is assumed that the pump lube oil is contained in an integral reservoir and that there is no exposed piping.

**9A.4.1.1.24 Not Used****9A.4.1.1.25 CUW Nonregen Hx (Rm No. 141)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	Yes

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—Walls and ceiling are concrete and are not fire rated. The concrete base mat serves as the floor. There is a nonrated door to the corridor (Rm 123) All personnel entry and egress is by this single path. Equipment removal is through removable plugs in the wall at row D.0.

- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 1.1-D.0 in the corridor.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.1-D.0/Manual
ABC hand extinguishers	Col. 1.1-D.0/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a room separate from the rooms which contain safety-related equipment.
  - (b) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related, therefore the loss of the function is acceptable.  
  
Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks:

- (a) The CUW System is capable of removing a small amount of decay heat from the reactor vessel during certain conditions.
- (b) Leak Detection system temperature elements E31-TE009E, F, G and H are located in this room.
- (c) See Section 9A.5, Special Cases, for an explanation of why this is required and why it is deemed to be acceptable.

**9A.4.1.1.26 SPCU Pump Room (Rm No. 140)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety--Related</b>	<b>Provides Core Cooling</b>
Yes, D1,D2	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—Walls and ceiling are concrete and are not fire rated. One wall is formed by the containment. The concrete base mat serves as the floor. There is one nonrated door to the corridor (Rm 142). All personnel entry and egress is by this single path.
- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 1.1-D.0 in the corridor.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.1-D.0/Manual
ABC hand extinguishers	Col. 1.1-D.0/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a room separate from the rooms which contain safety-related systems.

(b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related and its loss is acceptable.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—The G51-F001 (MO division 2 isolation valve) of the SPCS is mounted in this room. See Section 9A.5, Special Cases, for an explanation of why this is required and why it is deemed to be acceptable.

#### **9A.4.1.1.27 Not Used**

#### **9A.4.1.1.28 Not Used**

#### **9A.4.1.1.29 CUW Pump B Room (Rm No. 146)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

#### **Safety-Related**

#### **Provides Core Cooling**

Yes, D1, D3

Yes

- (3) Radioactive Material Present—None that can be released as a result of fire.

- (4) **Qualifications of Fire Barriers**—The walls are concrete and are not fire rated. The concrete base mat serves as the floor. The room does not have a ceiling so that it is really a pit which is open at elevation –5100 mm. There is a monorail above the pit for removing the pump for maintenance. There is a shielding door to the adjacent maintenance area (Rm 148).
- (5) **Combustibles Present**—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) **Detection Provided**—Class A supervised POC in the room and manual alarm pull stations at Col. 1.1-A.1 in the corridor.
- (7) **Suppression Available:**

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.1-A.1/Manual
ABC hand extinguishers	Col. 1.1-A.1/Manual

- (8) **Fire Protection Design Criteria Employed:**
  - (a) The function is located in a room separate from the rooms which contain safety-related equipment.
  - (b) Fire detection and suppression capability is provided and accessible.
- (9) **Consequences of Fire**—The postulated fire assumes the loss of the function. The function is not safety-related, therefore the loss of the function is acceptable.  
  
Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) **Consequences of Fire Suppression**—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) **Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:**
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks:

- (a) The CUW System is capable of removing a small amount of decay heat from the reactor vessel during certain conditions.
- (b) Temperature elements E31-TE010A and C E31-TE011A and C, and E31-TE012A and C of the Leak Detection System are mounted in this room.
- (c) See Section 9A.5, Special Cases, for an explanation of why this is required and why it is deemed to be acceptable.

**9A.4.1.1.30 CUW Pump A Room (Rm No. 147)**

- (1) Fire Area—1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1, D2, D3, & D4	Yes

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls are concrete and are not fire rated. The concrete base mat serves as the floor. The room does not have a ceiling so that it is really a pit which is open at elevation –5300 mm. There is a monorail above the pit for removing the pump for maintenance. There is a shielding door to the adjacent maintenance area (Rm 148).
- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 1.1-A.1 in the corridor.



## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.1-A.1/Manual
ABC hand extinguishers	Col. 1.1-A.1/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a room separate from the rooms which contain safety-related equipment.
- (b) Fire detection and suppression capability is provided and accessible.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related, therefore the loss of the function is acceptable.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks:

- (a) The CUW System is capable of removing a small amount of decay heat from the reactor vessel during certain conditions.

- (b) Leak detection system temperature elements E31-TE009J, K, L, and M are located in this room.
- (c) See Section 9A.5, Special Cases, for an explanation of why this is required and why it is deemed to be acceptable.

#### **9A.4.1.1.31 CUW Pump Maintenance Area (Rm No. 148)**

- (1) Fire Area—F1200
- (2) Equipment: None, other than when maintenance of a CUW pump is being performed.

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls are concrete and are not fire rated. The concrete base mat serves as the floor. One each shield door provides access to the A and B pump rooms. The top of the room is open to provide access by the mono rail crane above the room. A nonrated door opens to the corridor (Rm 142). All personnel entry and egress is by this single path from the corridor.
- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 1.1-A.1 in the corridor.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.1-A.1/Manual
ABC hand extinguishers	Col. 1.1-A.1/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a room, separate from the rooms which contain safety-related systems.
  - (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Temporary loss of this system which is not safety-related is acceptable.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system external to the room
  - (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

The functions are located in a separate fire-resistive enclosure.

- (13) Remarks:

- (a) The room contains no exposed electrical cables.
- (b) The room is cooled by the Reactor Building HVAC System, which is not redundant or safety grade. A safety-grade system is not required.

#### **9A.4.1.1.32 Corridor D (Rm No. 142)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—With the exception of the exterior walls, the ceiling, floor and all walls are concrete but do not serve as fire barriers as they are within division 2 fire area F1200. There is a stair case located between the CUW pump rooms (Rm 146 and 147) and the CUW Nonregen Hx room (Rm 141) leading to the CUW valve/pipe space room (Rm 143) at elevation -5100 mm. The ceiling over this portion of the corridor is at elevation -5150 mm. The concrete base mat of the

building forms the floor. Non fire rated doors are provided for access from the corridor to the adjacent rooms and stair case. The corridor opens into corridor B at D.0 and terminates at a 3 h fire-resistive B label door leading to corridor A at column 2.6. Division 2 reactor building closed cooling water piping is routed in the top of the corridor.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the corridor and manual alarm pull stations at Col. 1.1-A.1.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.1-A.1/Manual
ABC hand extinguishers	Col. 1.1-A.1/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a room, separate from the rooms which contain safety-related systems.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.
- Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in the corridor where there is a minimum of safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks:
- (a) The corridor contains piping and cable trays for division 2 safety systems in its upper elevation.
  - (b) The CUW System is capable of removing a small amount of decay heat from the reactor vessel during certain conditions.

#### **9A.4.1.1.33 Backwash Transfer Pump Room (Rm No. 149)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of a fire.
- (4) Qualifications of Fire Barriers—Walls and ceiling are concrete. The concrete base mat serves as the floor. The walls common with the HCU unit room (Rm 117) and corridor A (Rm 116) are of 3 h fire-resistive concrete construction as they serve as part of the fire barrier between division 2 fire area F1200 and division 1 fire area F1100. There is one nonrated door to corridor D (Rm No. 142). All personnel entry and egress is by this single path. The room interior is divided into three sections by an internal “T” wall. Two of the sections contain a pump per section. The third section provides a shielded personnel entry way. The vertical height of the room is terminated short of the next main floor by a roof at elevation –4400 mm to form a

pipe space. A ladder from the shielded personnel entry way area provides access to the CUW pipe space above. A portion of the CUW pipe space floor over the corridor D (Rm 142) steps down to –3500 mm and the pipe space ceiling is at elevation –1750 mm.

- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 1.1-A.1 in the corridor.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.1-A.1/Manual
ABC hand extinguishers	Col. 1.1-A.1/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a room separate from the rooms which contain safety-related equipment.
  - (b) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related, and does not have a core cooling function. Therefore, the loss of the function is acceptable.

Smoke from a fire would be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None.

**9A.4.1.1.34 CUW Backwash Tank Room (Rm No. 144)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wall common with the division 4 instrument rack room (Rm 111) is of 3 h fire-resistive concrete construction as the backwash receiving tank room is in division 2 fire area F1200 and the division 4 instrument rack room (Rm 111) is in division 1 fire area F1102. The primary containment serves as a portion of one wall of the room. The remainder of the walls and the ceiling are concrete but are not fire rated. The concrete base mat serves as the floor. Personnel entry and egress and equipment removal are via a non-fire-rated door at elevation –4400 mm. There is a ladder up to the door from the inside of the room. Exterior access to the door is up from quadrant 1 corridor (Rm 116) by ladder to a landing at elevation –4400 mm, thence, across the landing to a shielding door to the backwash valve room (Rm 161). The door to the backwash receiving tank room is within the backwash valve room.
- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 1.1-A.1 in the corridor.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.1-A.1/Manual
ABC hand extinguishers	Col. 1.1-A.1/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a room separate from the rooms which contain safety-related equipment.
- (b) Fire detection and suppression capability is provided and accessible.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related, therefore the loss of the function is acceptable.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—The room is cooled by the Reactor Building HVAC System, which is not redundant or safety grade. A safety-grade system is not required.



**9A.4.1.1.35 Not Used****9A.4.1.1.36 Not Used****9A.4.1.1.37 Instrument Rack Room, Division 4 (Rm No. 111)**

- (1) Fire Area—F1102
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D4	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls common with the CUW back wash tank room (Rm144) and the CRD HCU room (Rm 117) along with the ceiling are of three hour fire-resistive concrete construction. The primary containment acts as another wall of the room. All other walls are constructed of concrete, but are not fire rated as they are within fire area F1102. The concrete base mat serves as the floor. There is a 3-hour fire rated door to CRD HCU room (Rm 117). All personnel entry and egress is by this single path. The vertical height of the room is terminated short of the next main floor by a roof at elevation –5200 mm as a pipe space area. Access to this area is provided via a nonrated fire door from the piping space area over room 118.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
17 m of divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 5.8-A.5 in the corridor.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.8-A5/Manual
ABC hand extinguishers	Col. 5.8-A5/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a fire area which is separated from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function for the equipment in the fire area.  
  
Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—Core Flow Instrument Rack H22-P001D (Div. 4), HCU Scram Solenoids (Div. 2,3) are mounted in this room. Section 9A.5, Special Cases, provides justification for locating equipment from multiple safety divisions in this room.

#### **9A.4.1.1.38 Instrument Rack Room, Division 1 (Rm No. 118)**

- (1) Fire Area—F1102

**I**

- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The primary containment acts as one wall of the room. The walls adjacent to the CRD HCU room (Rm 117) and the RHR A Pump room (Rm 110) as well as the ceiling are constructed of 3-hour fire resistive concrete. All other walls are constructed of concrete but are not fire rated as they are within fire area F1102. The concrete base mat serves as the floor. There is a 3-hour fire rated door to CRD HCU room (Rm 117). All personnel entry and egress is by this single path. The vertical height of the room is terminated short of the next main floor by a roof at elevation –5200 mm for a pipe space area. Access to this area is provided via a ladder through an open hatch within the room. A nonrated door provides access from the pipe space area to the adjacent pipe space area (Rm 111).
- (5) Combustibles Present: Combustion (Btu)

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 5.8-A.5 in the corridor.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.8-A.5/Manual
ABC hand extinguishers	Col. 5.8-A.5/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separated from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.

- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function for equipment in the fire area.  
  
Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—Core Flow Instrument Rack H22-P001D (Div. 4), HCU Scram Solenoids (Div. 2,3) are mounted in this room. Subsection 9A.5, Special Cases, provides justification for locating equipment from multiple safety divisions in this room.

#### **9A.4.1.1.39 Division II Instrument Rack Room (Rm No. 125)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes

- (3) Radioactive Material Present—None that can be released as a result of fire.

- (4) **Qualifications of Fire Barriers**—The Primary containment acts as one wall. The room is completely within fire area F1200, consequently, the floor, and walls are not required to have a fire rating. They are all of concrete construction, however. The concrete base mat serves as the floor. There is a nonlabeled door to the CRD HCU II/III Room (Rm 126). One fourth of the CRD HCU hydraulic lines pass through the upper part of the room. The ceiling is a 3 h barrier.

- (5) **Combustibles Present:**

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) **Detection Provided**—Class A supervised POC in the room and manual alarm pull stations at Col. 2.5-F.8 in the corridor.

- (7) **Suppression Available:**

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.5-F.8/Manual
ABC hand extinguishers	Col. 2.5-F.8/Manual

- (8) **Fire Protection Design Criteria Employed:**

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) **Consequences of Fire**—The postulated fire assumes the loss of the function for the equipment in the fire area. The scram function is fail safe and would therefore scram as a result of a fire.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) **Consequences of Fire Suppression**—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
  - (e) The safety-related function has a remote backup system and is fail safe
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks:
- (a) The hydraulic control lines from the scram bank are routed up to elevation 4000 where they enter containment through the top of the personnel lock.
  - (b) Pressure transmitters C12-PT011C are mounted in this room. Section 9A.5, Special Cases, provides justification for locating equipment from multiple safety divisions in this room.

#### **9A.4.1.1.40 Division III Instrument Rack Room (Rm No. 129)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1, D2, D3	Yes

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—A portion of one wall is common with the RHR C pump room (Rm 132) and the ceiling are of 3 h fire resistive concrete construction. The remainder of the room is completely within fire area F1200, consequently, the floor, and walls are not required to have a fire rating. They are all of concrete construction, however. The concrete base mat serves as the floor. There is a nonlabeled door to the CRD HCU (II/III HCU) room (Rm 126). One fourth of the CRD hydraulic lines pass through the upper area of the room.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 5.9-F.8 in the corridor.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.9-F.8/Manual
ABC hand extinguishers	Col. 5.9-F.8/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function for the equipment in the fire area. The scram function is fail safe and would therefore scram as a result of a fire.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (e) The safety-related function has a remote backup system and is fail safe
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks:
  - (a) The hydraulic control lines from the scram bank are routed up to elevation 4000 where they enter containment through the top of the personnel lock.
  - (b) Pressure transmitter C12-PT011C is mounted in this room. Section 9A.5, Special Cases, provides justification for locating equipment from multiple safety divisions in this room.

#### **9A.4.1.1.41 CUW Valve and Pipe Space (Rm No. 143)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	Yes

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls and ceiling are concrete and are not fire rated. The concrete floor serves as the ceiling to portions of corridor D (Rm 142) and the SPCU pump room (Rm 140) below. Access to the valve room is provided by an open door way from a landing at elevation –5300 mm. A corridor from the landing provides access to the backwash receiving tank room (Rm 144).
- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 1.1-A.1 in the corridor.



## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.1-A.1/Manual
ABC hand extinguishers	Col. 1.1-A.1/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a room separate from the rooms which contain safety-related equipment.
- (b) Fire detection and suppression capability is provided and accessible.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related, therefore the loss of the function is acceptable.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—The room is cooled by the Reactor Building HVAC System, which is not redundant or safety grade. A safety-grade system is not required.

**9A.4.1.2 Building—Reactor Bldg EI –1700 mm****9A.4.1.2.1 Lower Drywell (Rm No. 291)**

- (1) Fire Area—F1901
- (2) Equipment: See Table 9A.6-2 for this elevation. Devices within the lower drywell are also listed at floor elevations –8200 mm and 4800 mm, as appropriate.

Note: Section 9A.4.1.01 applies for the remainder of the information for the drywell. See that section for additional information.

**9A.4.1.2.2 Wetwell (Rm No. 290)**

- (1) Fire Area—F9001
- (2) Equipment: See Table 9A.6-2

Note: Section 9A.4.1.02 applies for the remainder of the information for the wetwell. See that section for additional information.

**9A.4.1.2.3 Corridor A (Rm No. 210)**

- (1) Fire Area—F1100
- (2) Equipment: See Table 9A.6-2

**Safety-related****Provides Core Cooling**

Yes, D1,D2 &amp; D4

Yes, D1, D2,&amp; D4

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The corridor is a large room which extends from the firewall at column 3.0, row A.0-A.3, to corridor C (Rm 231) at row D.0, column 6.0-7.0. It is within fire area F1100. The purpose of this room is to provide an unobstructed maintenance area for the equipment from the pump rooms below.

The walls of the stair and elevator towers (Rms 191 and 292), the common walls with corridor D (Rm 244) maintenance area C (Rm 231), and the building exterior walls serve as fire barriers. All fire barriers have a fire resistive rating of three hours. A portion of the ceiling of corridor A (col. 3.0-4.6) is at elevation 1500 mm. The remainder of the ceiling of corridors A, the RCW pipe space area next to stairwell No.1, and the RHR maintenance A are at elevation 4750 mm. The ceiling over the RCW P.S., the corridor A, and a portion of the RHR maintenance A area are fire barriers. These fire barriers are of 3 h fire-resistive concrete construction as these

rooms are in fire area F1100 and the Emergency Electrical Room A (Rm310), the RIP panel room (Rm 315), stairwell (Rm 316), and elevator (Rm 317) are in fire area F3100, F3300, F3311, and F3310, respectively. Portion of the floor of corridor C is fire barrier and is of 3 h fire-resistive concrete construction as the corridor C is fire area F1100 and the area below the RCW pipe space is fire area F1300. The remaining walls, ceiling, and floor are concrete construction but are not fire rated as they are internal to fire area F1100. Three hour fire-resistive doors provide access to stairwell No.1, and to D corridor. A 3 h fire-resistive rollup door provides entry, to the lower drywell entry, to the pipe chase rooms, and to corridor C. The containment serves as one wall for the room.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.1-B.1
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.1-B.1. & 6.9-D.3/Manual
ABC hand extinguishers	Col. 6.1-B.1/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system internal to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—The corridor contains piping and cable trays in its upper elevation.

#### **9A.4.1.2.4 RHR (A)/RCIC Pipe Space (Rm No. 212)**

- (1) Fire Area—F1101
- (2) Equipment: See Table 9A.6-2

<b>Safety--Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The room is within division 1 fire area F1101. The walls common with pipe space C (Rm 230) and division 1 corridor (Rm 210) serve as a fire barrier and are of 3 h fire-resistive concrete construction. The ceiling and floor are concrete but are not fire rated as they are internal to fire area F1101. The containment serves as one wall of the room. Access and egress from the room is provided through a 3-hour fire rated shield door to the division 1 corridor (Rm 210).

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.1-B.1 and 6.9-D.3.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.1-B.1 & 6.9-D.3/Manual
ABC hand extinguishers	Col. 6.1-B.1 & 6.9-D.3/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.

- (b) The means of fire detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

(13) Remarks—None

#### **9A.4.1.2.5 Lower Drywell Personnel Access (Rm No. 211)**

- (1) Fire Area—F1100
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls of the room are of non rated concrete construction as the room is completely within fire area F1100. A non rated door provides access from Corridor A. The floor is concrete and is not fire-rated as it is internal to fire area F1100. The personnel hatch for the lower cavity is contained in the room. A portion of the floor drops down to elevation –2580 mm to form a pit for the lower portion of the cylindrical drywell hatch. The space between the hatch and the floor of the room is closed with checker plate. Open pipe chases for the control rod hydraulic lines enter the room from the floor below. The group 1 and 4 hydraulic control unit lines pass through this room to enter containment via the upper area of the personnel lock. The containment serves as one wall for the room. A portion of the ceiling is comprised of the steel plate portion of the floor for the TIP penetration room (Rm 216), above.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 4.2-A.9.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 4.2-A.9 & 6.1-B.1/Manual
ABC hand extinguishers	Col. 4.2-A.9 & 6.1-B.1/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. Alternate entry to the lower cavity is provided by the material access lock located directly across the containment.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
- (c) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—The room contains cable in conduit only.

**9A.4.1.2.6 HCU Pipe Space A (Rm No. 213)**

- (1) Fire Area—F1100
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, N/A <sup>1</sup>	No

<sup>1</sup> See paragraph (13)

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The containment serves as one wall of the room. The remainder of the walls, ceiling, and floor of the room are of non rated concrete construction as the room is completely within fire area F1100. Access to this room is from room 218. Open pipe chases for the control rod hydraulic lines enter the room from the floor and pass through this room to enter containment via the upper area of the personnel lock. A metal grating installed at elevation 1500 mm provides access to the upper portion of the room, and is accessed by a ladder within the room.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 3.6-A.6.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 3.6-A.6/Manual
ABC hand extinguishers	Col. 3.6-A.6/Manual



- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—A fire could initiate a scram but could not prevent one.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—The HCU piping is routed through this room to the primary containment via the upper portion of the personnel lock.

#### **9A.4.1.2.7 HCU Pipe Space D (Rm No. 214)**

- (1) Fire Area—F1100

- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2 <sup>1</sup>	No

<sup>1</sup> See paragraph (13)

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The containment serves as one wall of the room. The wall common with CUW valve room (RM 243) is of 3 h fire-resistive concrete construction as it serves as part of the fire barrier between division 2 fire area F1200 and division 1 fire area 1100. The remaining walls, ceiling, and floor of the room are concrete but are not fire rated as they are internal to fire area F1100. Access to this room is from room 251. Open pipe chases for the control rod hydraulic lines enter the room from the floor and pass through this room to enter containment via the upper area of the personnel lock. A metal grating installed at elevation 1500 mm provides access to the upper portion of the room, and is accessed by a ladder within the room.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 3.6-A.6.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 3.6-A.6/Manual
ABC hand extinguishers	Col. 3.6-A.6/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.

- (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—A fire could initiate a scram but could not prevent one.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—The HCU piping is routed through this room to the primary containment via the upper portion of the personnel lock.

MO valve of SPCU system G51-F006 is mounted in this room. Section 9A.5 Special Cases provides justification for locating equipment from a different safety division in this room.

#### **9A.4.1.2.8 TIP Room (Rm No. 215)**

- (1) Fire Area—F1100
- (2) Equipment: See Table 9A.6-2

#### **Safety-Related**

#### **Provides Core Cooling**

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No

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No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—With the exception of the exterior wall, the walls and the floor are concrete and are not fire-rated as the room is internal to fire area F1100. The ceiling is a fire barrier and is of 3 h fire resistive concrete construction as the TIP room is in fire area F1100 and the MCC division 1 above is in fire area F3100. A non rated door provides access from the TIP area landing (Rm 218).

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.5-A.9.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.5-A.9 & 6.1-B.1 at –1700 mm/Manual
ABC hand extinguishers	Col. 5.8-A.9 & 6.1-B.1 at –1700 mm/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is not safety-related and its loss as result of a fire is acceptable.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system external to the room

- (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—The room contains cable in conduit only.

#### **9A.4.1.2.9 TIP Shield Room (Rm No. 216)**

- (1) Fire Area—F1100
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls and the floor are concrete and are not fire-rated as they are internal to fire area F1100. The room is divided into two sections by a shielding wall with an open doorway between the two sections of the room. The floor of the section adjacent to containment is comprised of steel plate. The containment serves as one wall of the room. The portion of the ceiling common with the electrical equipment room (Rm 310) above is a fire barrier and is of 3 h fire resistive concrete construction as the TIP shield room is in fire area F1100 and the electrical equipment room is in fire area F3100. Access to the room is through an open doorway from room 211 via a non rated door to the tip area landing (Rm 218) at elevation 1500 mm.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.5-A.9.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.5-A.9 & 6.1-B.1 at –1700 mm/Manual
ABC hand extinguishers	Col. 5.8-A.9 & 6.1-B.1 at –1700 mm/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is not safety-related and its loss as a result of fire is acceptable.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
- (c) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—The room contains cable in conduit only.

**9A.4.1.2.10 SPCU Pipe Space (Rm No. 217)**

- (1) Fire Area—F1100
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The room is within division 1 fire area F1100. The wall common with the adjacent FPC F/D valve room (Rm 248), CUW rooms (Rms 242, 244 and 249) and the building exterior wall, and portion of the ceiling common with the Emergency Electrical Room A (Rm 310) serve as fire barriers and are of 3 h fire-resistive concrete construction. The remainder of the walls, the remainder of ceiling and the floor are concrete but are not fire rated as they are internal to fire area F1100. Access to the room is through a non rated door from the TIP drive room (Rm 215). Access to the room is through a nonrated door from the TIP drive room (Rm 215).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.5-A.9 and 6.1-B.1 at –1700.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.5-A.9 & 6.1-B.1 at –1700 mm/Manual
ABC hand extinguishers	Col. 5.5-A.9 & 6.1-B.1 at –1700 mm/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (13) Remarks—None



**9A.4.1.2.11 TIP Area Landing (Rm No. 218)**

- (1) Fire Area—F1100
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The room is within division 1 fire area F1100. The walls common with the elevator and stair tower and the portion of ceiling common with the division 1 electrical equipment room (Rm 310) are fire barriers and are of 3 h fire-resistive concrete construction. The remainder of the walls, and ceiling and the floor are concrete but are not fire rated as they are internal to fire area F1100. The room provides access from the stairs and elevator to the TIP rooms via a non rated door.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.5-A.9 and 6.1-B.1 at –1700 mm.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.5-A.9 & 6.1-B.1 at –1700 mm/Manual
ABC hand extinguishers	Col. 5.5-A.9 & 6.1-B.1 at –1700 mm/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.

- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related and its temporary loss is acceptable.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system internal to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—None

#### **9A.4.1.2.12 HPCF (C)/RHR (C) Pipe Space (Rm No. 230)**

- (1) Fire Area—F1300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wall common with the HPCF (A)/ RHR (A) pipe space (Rm 212) and the portion of the floor common with the RCIC room (Rm 112) below are of 3 h fire-resistive concrete construction. The containment serves as one wall of the room. The remainder of the walls and floor, and the ceiling are

concrete but are not fire rated as they are internal to fire area F1300. A non rated shield door provides access to the room from the adjacent maintenance area C (Rm No. 231).

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.9-D.3.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.9-D.3 & 6.1-E8/Manual
ABC hand extinguishers	Col. 6.9-D.3 & 6.1-E8/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—The room contains cable in conduit only.

**9A.4.1.2.13 Maintenance Area C (Rm No. 231)**

- (1) Fire Area—F1300
- (2) Equipment: See Table 9A.6-2

**Safety-Related****Provides Core Cooling**

Yes, D2 &amp; D3

Yes

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wall common with corridor A (Rm 210) the FMCRD/RIP maintenance room (Rm 225), the exterior wall and a portion of the floor common with the RCIC room (Rm 112) below are of 3 h fire-resistive concrete construction. The remainder of the walls and floor and the ceiling are of non rated concrete construction. The purpose of this room is to provide an un-obstructed maintenance area for the equipment from the pump rooms below. Three hour fire rated doors provide access to the FMCRD/RIP maintenance room (Rm 225). Portions of the walls are formed by the primary containment. Three hour fire rated rollup doors provide equipment removal access between maintenance areas A and B. There are three floor hatches for removal of equipment from the rooms on the floor below.
- (5) Combustibles Present:

**Fire Loading****Total Heat of Combustion (MJ)**

Divisional cable trays containing 14 727 MJ/m<sup>2</sup>, NCLL (727 MJ/m<sup>2</sup>  
kg/m of XLPE-FR cable insulation maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.9-D.3. and 6.1-E.8.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.9-D.3 & 6.1-E8/Manual
ABC hand extinguishers	Col. 6.9-D.3/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system internal to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
- (c) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks:

- (a) The corridor contains piping and cable trays in its upper elevation.
- (b) The Reactor Protection System scram solenoid fuse panels H22-P055C,F,G,H are all mounted in this room. Section 9A.5, Special Cases provides justification for locating equipment from multiple safety divisions in the room.

**9A.4.1.2.14 FMCRD Panel Room (Rm No. 220)**

- (1) Fire Area—F1200
- (2) Equipment: Control panels for the FMCRD handling machine.

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The room is in division 2 fire area F1200. The exterior walls, and the ceiling are fire barriers of 3 h fire-resistive concrete construction. The floor and remaining walls are concrete but are not rated as they are internal to fire area F1200. A non rated door provides entry to the room from maintenance area B (Rm 221).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 2.4-E.9 and 1.1-D.01.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.4-E.9 and 1.1-D.01/Manual
ABC hand extinguishers	Col. 2.4-E.9 and 1.1-D.01/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is not safety-related and its loss due to a fire is acceptable.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

#### **9A.4.1.2.15 FMCRD Maintenance Room (Rm No. 225/233)**

- (1) Fire Area—F1300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—Minor amounts of contamination on the FMCRD drives during maintenance periods. Any radiation release is contained within the secondary containment.
- (4) Qualifications of Fire Barriers—The room is in division 3 fire area F1300. The walls common with Division 2 fire area F1200 and the elevator tower and stairwell are fire barriers. Also, portion of the ceiling in room 225 serves as the floor for the division 2 emergency electrical room (Rm 326) above and is a fire barrier. The fire barriers are 3 h fire-resistive concrete construction. The remaining portions of the ceiling, and walls are concrete but are not rated as they are internal to fire area F1300. There is a partitioned off area for FMCRD motor maintenance within the room. A non rated door provides access from room 231. A 3 h fire rated door provides access from maintenance room B (Rm 221). The lower drywell equipment hatch (Rm 223) is accessed from this room via a non rated sliding shield door. v With the exception of floor area F.0-G.0 and 6-0-7.0, the entire floor is a 3 h barrier. The division 3 electrical equipment room is located on the floor above, directly over this room. There are no division 3 cables or HVAC ducts entering the division 3 electrical equipment room through the floor/ceiling which is common with the FMCRD maintenance room.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Variable	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.1-E.8.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col.6.1-E.8 & 2.4-F.0/Manual
ABC hand extinguishers	Col.6.0-E.9/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.



- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

**9A.4.1.2.16 Not Used****9A.4.1.2.17 Lower Drywell Equipment Access (Rm No. 223)**

- (1) Fire Area—F1300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.

- (4) **Qualifications of Fire Barriers**—The room is within division 3 fire area F1300. The wall common with the RHR “B”, HPCF “B” pump room (Rm 221), a small portion of the ceiling common with the floor of the emergency electrical room B (Rm 326) and Corridor B (Rm 321) are of 3 h fire-resistive concrete construction. The remainder of the ceiling, the walls and the entire floor are concrete and are not rated as they are internal to fire area F1300. Access to the room is at elevation –2580 from the FMCRD maintenance room (Rm 225). The equipment hatch for the lower cavity is contained in the room. Hydraulic control unit lines pass through the room to enter containment via the upper area of the equipment lock. The containment serves as one wall for the room.

- (5) **Combustibles Present:**

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) **Detection Provided**—Class A supervised POC in the room and manual alarm pull station at Col. 3.8-F.0 and 6.1-E.8.

- (7) **Suppression Available:**

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 3.8-F.0 & 6.1-E8/Manual
ABC hand extinguishers	Col. 3.8-F.0 & 6.1-E9/Manual

- (8) **Fire Protection Design Criteria Employed:**

- (a) The function is located in a room which is separate from rooms containing other equipment.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) **Consequences of Fire**—The postulated fire assumes the loss of the function. Alternate entry to the lower cavity is provided by the personnel access lock located directly across the containment.

- (10) **Consequences of Fire Suppression**—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks:
  - (a) The room contains cable in conduit only.
  - (b) A hose reel and portable extinguisher has been provided in the room for possible use in the lower drywell if needed during a maintenance outage.

**9A.4.1.2.18 Not Used****9A.4.1.2.19 Not Used****9A.4.1.2.20 Corridor B/C (Rm No. 224/234)**

- (1) Fire Area—F1300
- (2) Equipment: See Table 9A.6-2

**Safety-Related****Provides Core Cooling**

Yes, D3

Yes, D3

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The corridor provides access between (C) and (B) maintenance areas. There is a 3 h fire-resistive door at the “B” end of the corridor. The corridor is within division 3 fire area F1300. The portion of the floor located over rooms 123 and 134 area, F.7-G.0 and 1.8-6.0 and the exterior walls are of concrete

construction with a fire resistance rating of 3 hours. The remainder of the ceiling, the side walls and the remainder of the floor is of concrete construction but are not fire rated. Portion of the ceiling area F.7-G.0 and 2.0-5.0 is a 3 h fire barrier.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.1-E.8.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.1-E.8 & 2.4-F.0/Manual
ABC hand extinguishers	Col. 6.1-E.8 & 2.4-F.0/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) Alternate routes are provided for access to areas served by the corridor.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related and its temporary loss is acceptable.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system internal to the room
- (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
- (c) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—The room contains cable in conduit only.

**9A.4.1.2.21 Not Used****9A.4.1.2.22 Corridor and Maintenance Area B (Rm No. 221)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—This corridor includes a maintenance area with floor hatches for removal of division 2 ECCS equipment. The wall common with rooms 223, 224, 225 the elevator (Rm 194), stair tower (Rm 293), and the exterior walls are fire barriers. Portion of the ceiling where division 4 RPS instrument Rack room (Rm 345) RIP Panels (320), room 321, room 326 emergency electrical “B”, the elevator (Rm 328), and the stairwell (Rm 329) are located above the fire barriers. All fire barriers have a 3 h fire-resistive rating. All fire barriers have a 3 h fire-resistive rating. The remaining portions of the walls and ceiling and the entire floor are concrete but are not rated as they are internal to fire area F1200. Three hour fire-resistive doors provide access to stairwell and elevator No.2. 3 h rated door open to the corridor C (Rm 224). A portion of one wall is formed by the primary containment. There are four floor hatches for removal of equipment from the rooms on the floor below. Corridor D (Rm 244) connects to this room without an intervening fire door as both rooms are in fire area F1200.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 2.4-E.9.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.4-E.9 & 1.1-D.0/Manual
ABC hand extinguishers	Col. 2.4-E.9 & 1.1-D.0/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system internal to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) Fire stops are provided for cable tray and piping penetrations through fire rated barriers.
- (c) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—The corridor contains piping and cable trays in its upper elevation.

**9A.4.1.2.23 HPCF (B) /RHR (B) Pipe Space (Rm No. 222)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls, ceiling and floor are concrete but are not fire rated as they are internal to fire area F1200. The containment serves as one wall of the room. Access and egress from the room is provided through a non rated door through a vestibule from the division B corridor (Rm 221).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 2.4-E.9 and 1.1-D.0.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.4-E.9 & 1.1-D.0/Manual
ABC hand extinguishers	Col. 2.4-E.9 & 1.1-D.0/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate concrete enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (13) Remarks—None



**9A.4.1.2.24 (Rm No. 242)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls and the floor are concrete and are not fire rated. One wall is formed by the containment. The ceiling forms part of the fire barrier for the division 4 RPV instrument rack room located above this room. There is an opening to corridor B (Rm 221). All personnel entry and egress is by this single path. Access to the CUW regenerative heat exchanger and CUW valve room is provided (Rm 241) from this room.
- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 1.1-D.0 in the corridor.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.1-D.0/Manual
ABC hand extinguishers	Col. 1.1-D.0/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a room separate from the rooms which contain safety-related systems.
  - (b) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related and its loss is acceptable.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

**9A.4.1.2.25 Not Used****9A.4.1.2.26 Not Used****9A.4.1.2.27 Not Used****9A.4.1.2.28 Not Used****9A.4.1.2.29 CUW Regen Hx, Valve and Pipe Room (Rm No. 241)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1, D2, D3 & D4	Yes, D1, D2, D3 & D4

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The CUW Regen Hx room and the CUW valve room are separated by a common wall. The walls, floor and ceiling are concrete and are not fire rated. The primary containment acts as one wall of the room. A non-rated door provides access to the CUW valve room. An opening through this room provides access to the CUW Regen Hx room. A ladder in the CUW valve room provides access to the CUW pipe space area at elevation 1600 mm. A metal grating joins the two sections of the pipe space grading at elevation 1500 mm. Equipment removal is through removable plugs in the wall at row C.7.

- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 1.1-D.0 and 1.1-A.1 in the corridor.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.1-D.0 & 1.1-A.1/Manual
ABC hand extinguishers	Col. 1.1-D.0 & 1.1-A.1/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a room separate from the rooms which contain safety-related equipment.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—Temperature Elements E31-009A, B, D, T, U, V, W of Leak Detection System, solenoid valves T31-F739D, T31-F741, and Level Transmitter T31-LT058D of the Atmospheric Control System are all mounted in this room. Section 9A.5, Special Cases provides justification for locating equipment from multiple safety divisions in this room.

**9A.4.1.2.30 Not Used****9A.4.1.2.31 Radioactive Drain Valve Room (Rm No. 251)**

- (1) Fire Area—F1100
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The room is within division 1 fire area F1100. The wall common with FPC Holding pump and F/P valve room (Rm 248) is a fire barrier of 3 h fire-resistive concrete construction. The remainder walls, ceiling and floor are concrete but are not fire rated as they are internal to fire area F1100. Access and egress from the room is provided through a nonrated door to the division 1 corridor (Rm 210).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 4.2-A.9 and 6.1-B.1.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 4.2-A.9 & 6.1-B.1/Manual
ABC hand extinguishers	Col. 4.2-A.9 & 6.1-B.1/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related, therefore the loss of function is acceptable.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—None

**9A.4.1.2.32 Corridor D (Rm No. 244)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None that can be released as a result of fire.

- (4) **Qualifications of Fire Barriers**—The ceiling, the exterior walls and the floor common with the –8200 mm level between columns 2.6 and 3.1 are of 3 h fire-resistive concrete construction. The remainder of the floor, walls are concrete and are not fire rated. A pair of 3 h fire-resistive doors open to corridor A (Rm 210) for access from one corridor to the other. The other end of the corridor opens directly to corridor B (Rm 221). Non rated doors provide access from the corridor to the valve room for CUW Holding pump rooms A and B (Rm 243), and FPC Holding Pump rooms A and B (Rm 248) rooms.
- (5) **Combustibles Present**—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) **Detection Provided**—Class A supervised POC in the room and manual alarm pull stations at Col. 1.1-A.1 in the corridor.
- (7) **Suppression Available:**

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.1-A.1/Manual
ABC hand extinguishers	Col. 1.1-A.1/Manual

- (8) **Fire Protection Design Criteria Employed:**
  - (a) The function is located in a room separate from the rooms which contain safety-related equipment.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) **Consequences of Fire**—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Section 9A.2.5.
- (10) **Consequences of Fire Suppression**—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) **Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:**
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

(d) ANSI B31.1 standpipe (rupture unlikely)

(12) Fire Containment or Inhibiting Methods Employed:

(a) The functions are located in a separate fire-resistive enclosure.

(b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—None

#### **9A.4.1.2.33 Vacuum Cleaning Room (Rm No. 219)**

(1) Fire Area—F1100

(2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
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Yes, D2	Yes, D2
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(3) Radioactive Material Present—None that can be released as a result of fire.

(4) Qualifications of Fire Barriers—The room is within division 1 fire area F1100. The walls, ceiling and floor are concrete but are not fire rated as they are internal to fire area F1100. Access and egress from the room is provided through a nonrated door via a ramp to the division 1 corridor (Rm 210).

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
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None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.
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(6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.1-B.1

(7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
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Standpipe and hose reel	Col. 6.1-B.1/Manual
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ABC hand extinguishers	Col. 6.1-B.1/Manual
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- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related, therefore the loss of function is acceptable.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

#### **9A.4.1.2.34 FPC Holding Pump and F/D Valve Room (Rm No. 248)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—Portion of the ceiling where room 342 is located is fire barrier, and is of 3 h fire-resistive concrete construction. The remaining portion of the ceiling, the floors, and the walls are concrete and are not fire rated. Access to the room is through a non rated door from corridor D (Rm 244) via a personnel shield.



All personnel entry and egress is by this single path. The entry doorway is common for rooms A and B. Access to each of the FPC F/D valve rooms A and B is provided via a ladder from its associated pump room to the grading at elevation 1500 mm. There is a metal grating at elevation 1900 mm in each room.

- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 1.1-A.1 in the corridor.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.1-A.1/Manual
ABC hand extinguishers	Col. 1.1-A.1/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a room separate from the rooms which contain safety-related equipment.
  - (b) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related, therefore the loss of the function is acceptable.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.

- (b) The means of fire detection, suppression and alarming are provided and acceptable.

(13) Remarks—None

#### **9A.4.1.2.35 CUW Holding Pump Rooms A and B (Rm No. 243)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The CUW pump rooms A and B are separated by a common wall. The wall common with HCU pipe room (Rm No. 214) is a fire barrier of 3 h fire-resistive concrete construction. The primary containment acts as one wall of the room. The floors, the remainder of the walls and ceiling are concrete and are not fire rated. Access to the room is through a labyrinth passage from the common entry door for both pump rooms. There is a stair case in each pump room which leads to a metal grating at elevation 1000 mm. The upper elevation space is used as a CUW F/D valve room for the each of the corresponding pumps A and B below. The CUW pipe space (Rm 241) occupies a portion of the upper volume of this room.
- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 1.1-A.1 in the corridor.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.1-A.1/Manual
ABC hand extinguishers	Col. 1.1-A.1/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a room separate from the rooms which contain safety-related equipment.

- (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related, therefore the loss of the function is acceptable.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

### **9A.4.1.3 Building—Reactor Bldg EI 4800 mm**

#### **9A.4.1.3.1 Lower Drywell (Rm No. 391)**

- (1) Fire Area—F1901
- (2) Equipment: See Table 9A.6-2 for this elevation. Devices within the lower drywell are also listed at floor elevations –8200 mm and –1700 mm as appropriate.

Note: Section 9A.4.1.01 applies for the remainder of the information for the drywell. See that section for additional information.

#### **9A.4.1.3.2 Wet Well (Rm No. 390)**

- (1) Fire Area—F1900
- (2) Equipment: See Table 9A.6-2

Note: Section 9A.4.1.02 applies for the remainder of the information for the wetwell. See that section for additional information.

### **9A.4.1.3.3 Emergency Electric Room A (Rm No. 310)**

- (1) Fire Area—F3100
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—Floor, the exterior wall common with corridor (clean area for personnel access) leading to the control building, the wall common with RIP panel room (Rm 315), the wall common with the elevator and the stairwell, the wall common with corridor A (Rm 311), the wall common with corridor D (Rm 344), the wall common with room 342, the wall common with division 4 Remote Digital Logic Controller room (Rm 381), and the ceiling which is in common with fire area F4900, F4100, F4101, F4102 on the 12300 mm level, and Fire area F1200 on the 8500 mm level are of 3 h fire-resistive concrete construction. The remainder of the walls are concrete and are not rated as they are internal to fire area F3100. There is one 3 h fire-resistive double door which provides access from the control building, and one 3 h fire-resistive door which provides access to division 4 Remote Digital Logic Controller room.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station outside the room in the reactor building clean area leading to the control building corridor.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel with an electrically safe nozzle	Outside the room in the reactor building clean area leading to the control building corridor/ Manual
ABC hand extinguishers	Outside the room in the reactor building clean area leading to the control building corridor/ Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the EHVAC(A) system operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.

- (b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—None

#### **9A.4.1.3.4 Corridor A (Rm No. 311)**

- (1) Fire Area—F1100
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wall common with the CUW filter demineralizer area (Rm 347), the wall common with Emergency Electrical Room A (Rm 310), the wall common with the RIP Panel (Rm 315), the wall common with the Elevator (Rm 192), stair-well (Rm 292), and the walls common to rooms 313 and 314 serve as fire barriers to adjacent areas and are of 3 h fire-resistive concrete construction. The remainder of the walls, the ceiling and the floor are concrete and are not rated as they are internal to fire area F1100. The containment serves as a portion of one wall of the corridor. Access to the corridor is provided from stair and elevator No.1, corridor C (Rm 335) and corridor D (Rm 344) via 3 h fire-resistive doors. The corridor provides direct access to the suppression pool personnel entry room (Rm 312), through a non-rated door and to Pipe Space A (Rm 313) and RPV instrument rack room (I) (Rm 314) through 3-hour fire rated doors.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.5-B.2 and 6.2-C.8.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.5-B.2 & 6.2-C.8/Manual
ABC hand extinguishers	Col. 5.5-B.2 & 6.2-C.8/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in the corridor, external to the rooms containing the majority of the safety-related equipment
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None

**9A.4.1.3.5 Suppression Pool Personnel Entry Hatch (Rm No. 312)**

- (1) Fire Area—F1100
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wall common with the Pipe Space A Room(Rm 313) serves as a fire barrier to fire area F1101 and is of 3-hour fire-resistive concrete construction. The containment serves as one wall of the room. Access to the room is provided from corridor A (Rm 311) via a nonrated door. The room provides access to the suppression pool area of containment through a personnel lock.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.5-B.2 and 6.2-C.8.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.5-B.1 & 6.2-C.8/Manual
ABC hand extinguishers	Col.5.5-B.1 & 6.2-C.8/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate fire resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Loss of function, which is not safety-related, is acceptable.



Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)
  - (d) Provision of raised supports for equipment
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

#### **9A.4.1.3.6 Pipe Space A (Rm No. 313)**

- (1) Fire Area—F1101
- (2) Equipment: See Table 9A.6-2

##### **Safety-Related**

Yes, D1,D2

##### **Provides Core Cooling**

Yes, D1, D2

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualification of Fire Barriers—The floor and the wall that borders the RPV instrument rack room (Rm 314) is common to fire area F1101 and is not rated. The remaining walls that border rooms 311 and 312 are of 3-hour fire-resistive concrete construction. Portions of the ceiling are common to fire area F4101 and are of 3-hour fire-resistive concrete construction. The containment serves as one wall of the room. Access to the room is provided from Corridor A (Rm 311) via a 3-hour fire-rated door. The room provides access to the metal grating pipe space area, and the Rm 318 at elevation 8500 mm via the stairs.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.5-B.2 and 6.2-C.8.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.5-B.2 & 6.2-C.8/Manual
ABC hand extinguishers	Col.5.5-B.2 & 6.2-C.8/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provides alternate means of performing the safety or shutdown function.
- (b) Fire detection on suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—MO valve E51-F039 of the RCIC, and solenoid valves T31-720A,B of the Atmospheric Control System are all mounted in this room. Section 9A.5, Special Cases provides justification for locating equipment from multiple safety divisions in this room.

#### **9A.4.1.3.7 Instrument Rack (I) (Rm No. 314)**

- (1) Fire Area—F1101
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls common with the RPV instrument rack (III) room (Rm 332) in fire area F1300 and corridor room A (Rm 311) in fire area F1100 are of 3 h fire-resistive concrete construction. The remainder of the walls, the ceiling and the floor are concrete and are not rated as they are internal to fire area F1101. The containment serves as one wall of the room. Access to the room is provided from corridor A (Rm 311) through a 3-hour fire-rated door.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.2-C.8 and 5.5-B.2.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.2-C.8 & 5.5-B.2/Manual
ABC hand extinguishers	Col. 6.2-C.8 & 5.5-B.2/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—Pressure Transmitter E22-PT007B (Div. 2) of the High Pressure Core Flooder System is mounted in this room (Div. 1). Section 9A.5, Special Cases provides justification for locating equipment from multiple safety divisions in this room.

#### **9A.4.1.3.8 RIP Panel Room (Rm No. 315)**

- (1) Fire Area—F3300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—Floor, the exterior wall common with corridor (R/B clean area for personnel access) leading to the control building, the building exterior wall, the wall common with the Emergency Electrical Room A (Rm 310), the wall common with the stair tower (Rm 316), and the elevator (Rm 317), the wall common with corridor A (Rm 311), and portion of the ceiling which is in common with fire area F4100 on the 12300 mm level serve as fire barriers and are of 3 h fire-resistive concrete construction. The remainder of the ceiling is not rated as it is internal to fire area F3300. 3 h fire rated doors provide access to this room from stair tower, elevator No. 2. There is also a 3 h fire rated double door which provides access from the corridor (R/B clean area for personnel access) leading to the control building to this room. Room 331 is open to this room.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	1454 MJ/m <sup>2</sup> ECLL (1454 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.6-C.4.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.6-C.4/Manual
ABC hand extinguishers	Col. 6.6-C.4/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. Loss of function, which is not safety-related, is acceptable.

Smoke from a fire will be removed by the EHVAC(C) system operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in the corridor, external to the rooms containing the majority of the safety-related equipment
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None

**9A.4.1.3.9 Stair #2 (Rm No. 316)**

- (1) Fire Area—F3310
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—Walls, floor and ceiling are 3 h fire-resistive concrete construction for personnel protection. The stair tower services the controlled access areas of all floors of the reactor building with the exception of elevation –8200 mm and –1700 mm. There is a 3 hour rated fire-resistive door at each floor elevation. Alternate access is provided by stair No.4, directly across the building.
- (5) Combustibles Present—No significant quantities of exposed combustibles.
- (6) Detection Provided—Class A supervised POC at each building floor elevation and alarm pull stations external to the stair tower and adjacent to the access door at each building floor elevation.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Adjacent to the stair tower at each building floor/Manual
ABC hand extinguishers	Adjacent to the hose reels/ Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The tower is located in a separate fire-resistive enclosure.
  - (b) Alternate access and egress are provided by a separate stair tower/elevator located at a remote location.
  - (c) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire—The postulated fire assumes loss of function of the stair tower. Access to the adjacent elevator and other stair tower/elevator is maintained.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)
  - (d) Alternate access route provided
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

#### **9A.4.1.3.10 Elevator #2 (Rm No. 317)**

- (1) Fire Area—F3311
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—Walls, floor and ceiling are 3 h fire-resistive concrete construction for personnel protection. The elevator shaft services all clean area floors of the reactor building. The elevator doors are not fire rated. A separate 3 h rated fire-resistive door is provided at each elevator landing doorway.
- (5) Combustibles Present—No significant quantities of exposed combustibles.



- (6) Detection Provided—Class A supervised POC at each building floor elevation and alarm pull stations adjacent to the access door of stair tower at each building floor elevation.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Adjacent to the stair entry at each building floor stair door/Manual
ABC hand extinguishers	Adjacent to the hose reels/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The elevator shaft is located in a separate fire-resistive enclosure.
- (b) Alternate access and egress are provided by separate stairs/elevator located at a remote location.
- (c) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes loss of function of the elevator. Access to the adjacent stair tower and other stair/elevator towers is maintained.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the tower
- (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)
- (d) Alternate access route provided

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—None.

#### **9A.4.1.3.11 Instrument Rack (III) Room (Rm No. 332)**

- (1) Fire Area—F1300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1, D3	Yes, D1, D3

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wall common with the RPV instrument rack (I) room (Rm 314) serves as a fire barrier between fire areas F1101 and F1300 and is of 3 h fire-resistive concrete construction. The remainder of the walls, the ceiling and the floor are concrete and are not rated as they are internal to fire area F1300. The containment serves as one wall of the room. Access to the room is provided from Corridor C (Rm 335) via a nonrated door.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.2-C.8 and 5.4-E.9.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.2-C.8 & 5.4-E.9/Manual
ABC hand extinguishers	Col. 6.2-C.8 & 5.4-E.9/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternative means of performing the safety or shutdown function.

- (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—Solenoid valve T31-F805A (Div. 1) of the Atmospheric Control System is mounted in this room (Div. 3). Section 9A.5, Special Cases provides justification for locating equipment from multiple safety divisions in this room.

#### **9A.4.1.3.12 Pipe Space C (Rm No. 333)**

- (1) Fire Area—F1300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None that can be released as a result of fire.

- (4) **Qualifications of Fire Barriers**—The walls, and the ceiling are concrete, and are not rated as they are internal to fire area F1300. The containment serves as one wall of the room. There is a large open ceiling grate leading to the floor above (Rm 330). Access to the room is provided from the valve room below in elevation –1700 mm (Rm 230). There is no concrete floor in this room and is open to the room below (Rm 230).

- (5) **Combustibles Present:**

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) **Detection Provided**—Class A supervised POC in the room and manual alarm pull station at Col. 6.9-C4 at elevation –1700.

- (7) **Suppression Available:**

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.9-C4 at elevation –1700 mm/Manual
ABC hand extinguishers	Col. 6.9-C4 at elevation –1700 mm/Manual

- (8) **Fire Protection Design Criteria Employed:**

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provides alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) **Consequences of Fire**—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) **Consequences of Fire Suppression**—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

#### **9A.4.1.3.13 Corridor C (Rm No. 335)**

- (1) Fire Area—F1300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1, D3	Yes, D1, D3

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wall common with the emergency electrical room B (Rm 326), the wall common with emergency electrical room C (Rm 337), the wall common with RIP Panel room (Rm 331), and the wall common with corridor B (Rm 321) serve as fire barriers between adjacent fire areas and are of 3 h fire-resistive concrete construction. The remainder of the walls and floor are concrete, and are not rated as they are internal to fire area F1300. The ceiling is in common with fire area F4301 on Level 12300 and is of 3 h fire-resistive concrete construction. The containment serves as one wall of the room. Access to the room is provided directly from the corridor B (Rm No. 321), and corridor A (Rm 311) via 3 h fire-resistive doors. This room provides access to room 330 at elevation 8500 mm via the stairs in this room. A nonrated door separates the stairs from the remainder of the room.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.4-E.9.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.4-E.9/Manual
ABC hand extinguishers	Col. 5.4-E.9/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provides alternate means of performing the safety as shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in the corridor, external to the rooms containing the majority of the safety-related equipment
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—MO valves D23-F006A, D23-F007A, and D23-F008A (Div. 1) of the Containment Atmospheric Monitoring System are mounted in this room (Div. 3). Section 9A.5, Special Cases provides justification for locating equipment from multiple safety divisions in this room.

#### **9A.4.1.3.14 Quadrant A Storm Drain Sump Room (Rm No. 336)**

- (1) Fire Area—F3300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The wall common with corridor C (Rm335), the wall common with Emergency Electrical Room (Rm337), and the floor are fire barriers and are of 3 h fire resistive concrete construction. The wall common with the RIP Panel room (Rm 331) is concrete and is not rated as it is internal to fire area F3300. The ceiling is in common with fire area F1300 on Level 8800 mm and is of 3 h fire-resistive construction. Access is provided from Room 335 via a nonrated door.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None.	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 6.9-E.8 in the corridor C.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.9-E.8/Manual
ABC hand extinguishers	Col. 6.9-E.8/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a room, separate from the rooms which contain safety-related systems.
- (b) Fire detection and suppression capability is provided and accessible.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function for the equipment in the fire area. Loss of Function, which is not safety-related, is acceptable.

Smoke from a fire will be removed by the EHVAC(C) system operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None.



**9A.4.1.3.15 RIP Panel Room (Rm No. 331)**

- (1) Fire Area—F3300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
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No	No
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- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—Floor, the building exterior walls, the wall common with the Emergency Electrical Room C (Rm 337), the wall common with corridor C (Rm 335), and portion of the ceiling which is in common with fire area F4300 on the 12300 mm level serve as fire barriers and are of 3 h fire- resistive concrete construction. The remainder of the ceiling is not rated as it is internal to fire area F3300. The wall common with room 316 is not rated as it is internal to fire area F3300. A 3 h fire rated double door provides access to this room from the Emergency Electrical Room C (Rm 337). Access to the room is provided from room 315 via an open direct connection. Also, a non-rated door provides access to room 336 from this room.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
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Cable Tray	1454 MJ/m <sup>2</sup> ECLL (1454 MJ/m <sup>2</sup> maximum average) applies.
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- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.6-C.4 and 6.9-E.8.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
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Standpipe and hose reel	Col. 6.6-C.4 & 6.9-E8/Manual
ABC hand extinguishers	Col. 6.6-C.4 & 6.9-E8/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate fire resistive enclosure.

- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Loss of function, which is not safety-related, is acceptable.

Smoke from a fire will be removed by the EHVAC(C) system operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system in the corridor, external to the rooms containing the majority of the safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

#### **9A.4.1.3.16 Emergency Electrical Room C (Rm No. 337)**

- (1) Fire Area—F3301
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None.

- (4) Qualifications of Fire Barriers—Floor, the building exterior wall, the wall common with the Emergency Electrical Room B (Rm 326), the wall common with corridor C (Rm 335), the wall common with room 316, the wall common with the RIP Panel Room (Rm 331), and the ceiling which is in common with fire areas F4300, F4301, and F4320 on the 12300 level serve as fire barriers and are of 3 h fire-resistive concrete construction. Two 3 h fire rated double doors provide access to this room from the Emergency Electrical Room B (Rm 326), and the RIP Panel Room (Rm 331).

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	1454 MJ/m <sup>2</sup> ECLL (1454 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.9-E.8 and 1.9-F.5.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel with an electrically safe nozzle.	Col. 6.9-E.8 & 1.9-F.5/Manual
ABC hand extinguishers	Col. 6.9-E.8 & 1.9-F.5/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the EHVAC(C) system operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

#### **9A.4.1.3.17 Corridor B (Rm No. 321)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wall common with the RIP Panel room (Rm 320), the wall common with corridor C (Rm 335), the walls common with stair and elevator towers 3, the wall common with emergency electrical room B (Rm. No. 326) and the ceiling which is in common with fire area F4201 on the 12300 mm level are of 3 h fire-resistive concrete construction. The containment serves as one wall of the room. The remaining walls and the floor are concrete and are not rated as they are internal to fire area F1200. Access to the corridor is provided from corridor D (Rm 344) via an open direct connection, and from stair and elevator tower 3 and corridor C (Rm 335) through a 3 hour fire-resistive double door.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 2.4-F.1 and 1.8-B.5.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel with an electrically safe nozzle.	Col. 2.4-F-1 & 1.8-B.5/Manual
ABC hand extinguishers	Col. 2.4-F-1 & 1.8-B.5/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provides alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in the corridor, external to the rooms containing the majority of the safety-related equipment
- (b) Provision of raised supports for the equipment

(c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

(d) ANSI B31.1 standpipe (rupture unlikely)

(12) Fire Containment or Inhibiting Methods Employed:

(a) The functions are located in a separate fire-resistive enclosure.

(b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—None

#### **9A.4.1.3.18 Sump Room (Rm No. 322)**

(1) Fire Area—F3200

(2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

(3) Radioactive Material Present—None that can be released as a result of fire.

(4) Qualifications of Fire Barriers—The wall common with corridor B (Rm321), the ceiling, and the floor are fire barriers and are of 3 h fire-resistive concrete construction. The wall common with the RIP Panel room (Rm 320) is concrete and is not rated as it is internal to fire area F3200. The ceiling is common to fire area F1200 on the 8800 mm level and is of 3 h fire-resistive concrete construction. Access is provided from room 322 via a non rated door.

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

(6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 1.9-F.5 in the Room 320.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel with an electrically safe nozzle.	Col. 1.9-F.5 & 1.6-C.9/Manual
ABC hand extinguishers	Col. 1.9-F.5 & 1.6-C.9/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a room, separate from the rooms which contain safety-related systems.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function for the equipment in the fire area. Loss of function, which is not safety-related, is acceptable.

Smoke from a fire will be removed by the EHVAC(B) system operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—None

#### **9A.4.1.3.19 Pipe Space B (Rm No. 324)**

- (1) Fire Area—F1200

- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls, and the ceiling are concrete, and are not rated as they are internal to fire area F1200. The containment serves as one wall of the room. There is a large open ceiling grate leading to the floor above (Rm 327). Access to the room is provided from the valve room below in elevation –1700 mm (Rm 222). There is no concrete floor in this room and is open to the room below (Rm 230).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 2.4-E.9 and 1.1-D.0 at elevation –1700 mm.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.4-E.9 & 1.1-D.0 at elevation –1700 mm/Manual
ABC hand extinguishers	Col. 2.4-E.9 & 1.1-D.0 at elevation –1700 mm/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provides alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.



- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

#### **9A.4.1.3.20 RPV Instrument Rack (II) Room (Rm No. 323)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1, D2	Yes, D1, D2

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wall common with the RPV instrument rack room (IV) (Rm 340) is of 3 h fire-resistive concrete construction. The containment serves as one wall of the room. The remaining walls, the ceiling, and the floor are concrete and are not rated as they are internal to fire area F1200. Access to the room is provided from corridor B (Rm 321) through a nonrated door.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.8-B.4 and 2.4-F.2.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.8-B.4 & 2.4-F.2/Manual
ABC hand extinguishers	Col. 1.8-B.4 & 2.4-F.2/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provides alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

(d) ANSI B31.1 standpipe (rupture unlikely)

(12) Fire Containment or Inhibiting Methods Employed:

(a) The functions are located in a separate fire-resistive enclosure.

(b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—None.

#### **9A.4.1.3.21 Emergency Electrical Room B (Rm No. 326)**

(1) Fire Area—F3201

(2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

(3) Radioactive Material Present—None.

(4) Qualifications of Fire Barriers—The wall common with the emergency electrical room C (Rm 337), the wall common with corridor C (Rm. 335), the wall common with corridor B (Rm 321), the portion of the wall common with elevator and stair tower 3, the wall common with the RIP Panel Room (320), the exterior wall, the floor and the ceiling are of 3 h fire-resistive concrete construction. Two 3 h fire-resistive double doors provide access and egress from emergency electrical room C (Rm 337) and the RIP Panel room (Rm 320). Two piping spaces enter this room at elevation 10300 mm. The walls of these piping spaces are fire barrier of 3 h fire resistive concrete construction.

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	1454 MJ/m <sup>2</sup> ECLL (1454 MJ/m <sup>2</sup> maximum average) applies.

(6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.9-E.2 and 1.9-F.5.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel with an electrically safe nozzle.	Col. 6.9-E.2 & 1.9-F.5/Manual
ABC hand extinguishers	Col. 6.9-E.2 & 1.9-F.5/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5

Smoke from a fire will be removed by the EHVAC(B) system operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None

**9A.4.1.3.22 RIP Panel Room (Rm No. 320)**

- (1) Fire Area—F3200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—Floor, the wall common with stair and elevator towers 4 and stair tower 3, the portion of the wall common with the emergency electrical room B (Rm. No. 326), the wall common with corridor B (Rm 321), the exterior walls and a portion of the ceiling in common with fire areas F4200 on elevation 12300 mm serve as fire barriers and are of 3 h fire-resistive concrete construction. The remainder of the ceiling is concrete and is not rated as it is internal to fire area F3200. Access to the room is provided from stair and elevator No.4, the control building via RIP panel room A (Rm. 340) and the emergency electrical equipment room (B) (Rm 326) via 3 h fire-resistive double doors. The room serves as a personnel access and egress route from the south side of the reactor building clean area.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	1454 MJ/m <sup>2</sup> ECLL (1454 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.9-F.5 and 1.6-C.9.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.9-F.5 & 1.6-C.9/Manual
ABC hand extinguishers	Col. 1.9-F.5 & 1.6-C.9/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate fire resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Loss of function, which is not safety-related, is acceptable.

Smoke from a fire will be removed by the EHVAC(B) system operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system in the corridor, external to the rooms containing the majority of the safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—The division 2 cabling from the emergency electrical room (Rm 321) is routed through floor of this room.

**9A.4.1.3.23 Stair #4 (Rm No. 329)**

- (1) Fire Area—F3210

- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—Walls, floor and ceiling are of 3 h fire-resistive concrete construction for personnel protection. The stair tower services the clean areas of all floors of the reactor building. There is a 3 hour rated fire resistive door at each floor elevation. Alternate access is provided by stair No.2, directly across the building.
- (5) Combustibles Present—No significant quantities of exposed combustibles.
- (6) Detection Provided—Class A supervised POC at each building floor elevation and alarm pull stations external to the stair tower and adjacent to the access door at each building floor elevation.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Adjacent to the stair tower at each building floor/Manual
ABC hand extinguishers	Adjacent to the hose reels/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The tower is located in a separate fire-resistive enclosure.
  - (b) Alternate access and egress are provided by a separate stair tower located at a remote location.
  - (c) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire—The postulated fire assumes loss of function of the stair tower. Access to the other stair tower is maintained.
- Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)
  - (d) Alternate access route provided
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

**9A.4.1.3.24 Elevator #4 (Rm No. 328)**

- (1) Fire Area—F3211
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—Walls, floor and ceiling are of 3 h fire-resistive concrete construction for personnel protection. The elevator shaft services all clean area floors of the reactor building. The elevator doors are not fire rated. A separate 3 h fire-resistive door is provided at each elevator landing doorway.
- (5) Combustibles Present—No significant quantities of exposed combustibles.
- (6) Detection Provided—Class A supervised POC at each building floor elevation and alarm pull stations adjacent to the access door at each building floor elevation.



## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Adjacent to the stair entry at each building floor stair door/Manual
ABC hand extinguishers	Adjacent to the hose reels/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The elevator shaft is located in a separate fire-resistive enclosure.
- (b) Alternate access and egress are provided by separate stairs located at a remote location.
- (c) Fire detection and suppression capability is provided and accessible.

## (9) Consequences of Fire—The postulated fire assumes loss of function of the elevator. Access to the adjacent stair tower and other stair/elevator towers is maintained.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the tower
- (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)
- (d) Alternate access route provided

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None

**9A.4.1.3.25 RPV Instrument Rack (IV) Room (Rm No. 345)**

- (1) Fire Area—F3400
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D4	Yes, D4

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The containment serves as one wall of the room. The remainder of the walls, a portion of the ceiling and the floor are fire barriers and are of 3 h fire-resistive concrete construction. The remainder of the ceiling is not fire rated as it is internal to fire area F3400. Access to the room is provided from corridor D (Rm. 344) via a 3 hour fire-resistive door. This is a division 4 room sitting within a division 2 fire area (F1200). Electrical cables for equipment in the room are routed to the room through conduit embedded in the floor and walls of the reactor building. This provides the equivalent of 3 hours of separation of the division 4 cables from areas containing cables from other divisions.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.8-B.5 and 2.4-F.2.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.8-B.5 & 2.4-F.2/Manual
ABC hand extinguishers	Col. 1.8-B.5 & 2.4-F.2/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a fire area which is separate from the fire areas containing equipment which provides alternate means of performing the safety or shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

**9A.4.1.3.26 Not Used****9A.4.1.3.27 Corridor D (Rm No. 344)**

- (1) Fire Area—F1200

- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wall common with RPV instrument rack IV room (Rm345), The wall common with RIP Panel room (Rm 340), The wall common with Remote Shutdown Panel Rooms (RM 341 and Rm 383), The wall common with division 4 Remote Digital Logic Controller room (Rm 381) and portion of the wall common with Emergency Electrical Room A (Rm 310), the wall common with room 342, and portion of the ceiling which is in common with fire area F3400 on the 8500 mm level are fire barriers and are of 3 h fire-resistive concrete construction. Primary containment acts as one wall of the room. The remainder of the walls, the remainder of the ceiling, and the floor are concrete and are not rated as they are internal to fire area F1200. Access to the corridor is provided from corridor B (Rm. No. 321) via an open direct connection, and from room 342 via a 3 hour fire-resistive door.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.8-B.5.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.8-B.5/Manual
ABC hand extinguishers	Col. 1.8-B.5/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provides alternate means of performing the safety or shutdown function.

- (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Alternate access routes are provided.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system in the corridor, external to the rooms containing the majority of the safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

#### **9A.4.1.3.28 RIP Panel A Room (Rm No. 340)**

- (1) Fire Area—F3200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.

- (4) Qualifications of Fire Barriers—Floor, the building exterior wall, the wall common with Remote Shutdown Panel Room A (Rm 341), the wall common with division 4 Remote Digital Logic Controller room (Rm 381), the wall common with corridor D (Rm 344), The wall common with elevator No.4, and portion of the ceiling which is common to fire area F4201 are of 3 h fire-resistive concrete construction. The remaining walls, and the remainder of ceiling are concrete and are not rated as they are internal to fire area F3200. Access to the room is provided via a 3 h fire-resistive double door from the corridor (R/B clean area) leading to control building, and via a direct opening from room 320.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	1454 MJ/m <sup>2</sup> ECLL (1454 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.6-C.9.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.6-C.9/Manual
ABC hand extinguishers	Col. 1.6-C.9/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Loss of function, which is not safety-related, is acceptable.

Smoke from a fire will be removed by the EHVAC(B) system operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system in the corridor, external to the rooms containing the majority of the safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

#### **9A.4.1.3.29 Remote Shutdown Panel Room B. (Rm No. 383)**

- (1) Fire Area—F3200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The building exterior wall, the wall common with the remote shutdown panel room A (Rm 341), the floor, and the ceiling are 3 h fire-resistive concrete construction. A 3 h fire-resistive sliding door provides access to this room from the remote shutdown panel room A (Rm 341). The normally closed sliding door will be open when operating from the remote shutdown panel. Access to the room is also provided via a nonrated door.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station outside the room in the corridor (R/B clean area) leading to control building, and Col. 1.6-D.0.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Outside the room in the corridor (R/B clean area) leading to the control building, and col. 1.6-D.0/Manual
ABC hand extinguishers	Outside the room in the corridor (R/B clean area) leading to the control building, and col. 1.6-D.0/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the EHVAC(B) system operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.



(d) ANSI B31.1 standpipe (rupture unlikely)

(12) Fire Containment or Inhibiting Methods Employed:

(a) The functions are located in a separate fire-resistive enclosure.

(b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—None

#### **9A.4.1.3.30 Remote Shutdown Panel Room A. (Rm No. 341)**

(1) Fire Area—F3101

(2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

(3) Radioactive Material Present—None.

(4) Qualifications of Fire Barriers—The building exterior walls, the wall common with remote shutdown panel room B (Rm 383), the wall common with the RIP Panel room A (Rm 340), the ceiling, and the floor are 3 h fire-resistive concrete construction. A 3 h fire-resistive curbed door provides access to this room from the RIP Panel room A (Rm 340). There is a 3 h fire-resistive sliding door which provides direct access to the remote shutdown panel room B (Rm 383). The normally closed sliding door would be open during operation from the remote shutdown panel.

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

(6) Detection Provided—Class A supervised POC in the room and manual alarm pull station outside the room in the corridor (R/B clean area) leading to control building, and col. 1.6-D.0.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel with an electrically safe nozzle.	Outside the room in the corridor (R/B clean area) leading to the control building, col. 1.6-D.0/Manual
ABC hand extinguishers	Outside the room in the corridor (R/B clean area) leading to the control building, col. 1.6-D.0/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the EHVAC(A) system operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None

**9A.4.1.3.31 Corridor A Extension (Rm No. 342)**

- (1) Fire Area—F1100
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The wall common with Emergency Electrical Room A (Rm 310), The wall common with corridor D (Rm 344), the wall common with CUW filter demineralizer area (Rm 347), a portion of the floor and the ceiling are of 3 h fire-resistive concrete construction. Access is provided via direct opening through corridor A (Rm. 311) and via a 3 h rated door from Corridor D (Rm 344). The remainder of floor is not rated as it is internal to fire area F1100.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.5-B.2 and 1.8-B.5.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel with an electrically safe nozzle	Col. 5.5-B.2 & 1.8-B.5/Manual
ABC hand extinguishers	Col. 5.5-B.2 & 1.8-B.5/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision for drainage of water into the sumps
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None

**9A.4.1.3.32 Pipe Space (Rm No. 318)**

- (1) Fire Area—F1101
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1, D2	Yes, D1, D2

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wall common with the CUW filter demineralizer area (Rm 347), the wall common with Emergency Electrical Room A (Rm 310), the wall common with elevator and stair tower #1 (Rm 192 and 292) the wall common with RIP Panel Room (Rm 315), the wall common with Pipe Space area (Rm 330), and the ceiling which is common to fire areas F4900, and F4101 of 12300 mm level are of 3 h fire-resistive concrete construction. The remainder of the walls and the floor are concrete and are not rated as they are internal to fire area F1101. The containment serves as a portion of one wall of the room. Access to the room is provided from pipe space (A) (Rm 313) at elevation 4800 mm via a stairway to a grating floor at elevation 8500 mm.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 5.5-B.2.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.5-B.2 & 6.2-C.8 at El 4800 mm/Manual
ABC hand extinguishers	Col. 5.5-B.2 & 6.2-C.8 at El 4800 mm/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provides alternate means of performing the safety or shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.
- Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system in the corridor, external to the rooms containing the majority of the safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—AO valves T31-F003, E31-F004 (Div. 2) of the Atmospheric Control System, and Leak Detection System respectively are mounted in this room (Div. 1). Section 9A.5, Special Cases provides justification for locating equipment from multiple safety divisions in this room.

**9A.4.1.3.33 Pipe Space Room (Rm No. 330)**

- (1) Fire Area—F1300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wall common with RIP Panel area (Rm 331), and the wall common with the FPC pipe space room (Rm 318) are fire barriers of 3 h fire-resistive concrete construction. The containment serves as one wall of the room. The remaining walls, the ceiling and the floor are concrete and are not rated as they are internal to fire area F1300. Access to the room is provided from corridor C (Rm 335) (El 4800 mm) via the stairs.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.4-E.9 at El 4800 mm.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.4.-E.9 at EL 4800 mm/Manual
ABC hand extinguishers	Col. 5.4.-E.9 at EL 4800 mm/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a fire area which is separate from the fire areas containing equipment which provides alternate means of performing the safety or shutdown function.

- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

#### **9A.4.1.3.34 Penetration Room (Rm No. 325)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None that can be released as a result of fire.



- (4) **Qualifications of Fire Barriers**—The containment serves as one wall of the room. Portion of the ceiling which is common to fire area F4201 of 12300 mm level is of 3 h fire resistive concrete construction. The walls, the remainder of ceiling and the floor are concrete and are not rated as they are internal to fire area F1200. Access to the room is provided from room corridor B (Rm 321) (El 4800 mm) via the stairs.

- (5) **Combustibles Present:**

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) **Detection Provided**—Class A supervised POC in the room and manual alarm pull station at Col. 2.4-F.1 at El 4800 mm.

- (7) **Suppression Available:**

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.4-F.1 at EL 4800 mm/ Manual
ABC hand extinguishers	Col. 2.4-F.1 at EL 4800 mm/ Manual

- (8) **Fire Protection Design Criteria Employed:**

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provides alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) **Consequences of Fire**—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) **Consequences of Fire Suppression**—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

#### **9A.4.1.3.35 Valve Room B, and Pipe Space B (Rm No. 327/348)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wall common with RIP Panel rooms (Rm 320 and 340), the wall common with Emergency Electrical Room A (Rm 310), the wall common with Reactor Water Sampling Rack (Rm 380), portion of the floor over the Emergency Electrical Room “A” at elevation 10500 mm, and the floor area over room 342, and the ceiling which is common to fire areas F4201 of 12300 mm level are of 3 h fire-resistive concrete construction. The remaining walls and the floor are concrete and are not rated as they are internal to fire area F1200. Access to the room is provided from the stairs via room 325 grating floor.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 2.5-F.0 at El 4800 mm, and Col. 5.5-B.2.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.5-B.2, and Col. 2.5-F.0 at El 4800 mm/Manual
ABC hand extinguishers	Col. 5.5-B.2, and Col. 2.5-F.0 at El 4800 mm/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provides alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Alternate functions are provided in other fire areas.

Smoke from a fire would be removed by the normal HVAC System, if it is not isolated. If the normal HVAC System is isolated, smoke removal is by the SGTS system.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system external to the corridor, external to the rooms containing the majority of the safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

#### **9A.4.1.3.36 Reactor Water Sampling Rack Room (Rm No. 349)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls, and floor are concrete but are not fire rated as they are internal to fire area F1200. The containment serves as one wall of the room. The ceiling is fire barrier of 3 h fire resistive concrete construction. Access and egress from the room is provided through a non rated door to corridor D (Rm 344) via the stairs.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.8-B.5 at El. 4800 mm.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.8-B.5 at El 4800 mm/ Manual
ABC hand extinguishers	Col. 1.8-B.5 at El 4800 mm/ Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate concrete enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Loss of function, which is not safety-related, is acceptable.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (13) Remarks—None.

**9A.4.1.3.37 Filter Demineralizer Area (Rm No. 347)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—This area is comprised of 4 demineralizer pits in a large block of concrete. Access to the pits is by hatches at elevation 12300 mm. The pits and their contents represent no fire hazard for this floor. See Section 9A.4.1.4.23 for a discussion of the fire protection features associated with the hatch area for the demineralizer pits in lieu of any further discussion in this section.

**9A.4.1.3.38 Division 4 Remote Digital Logic Controller Room (Rm No. 381)**

- (1) Fire Area—F3401
- (2) Equipment: See Table 9A.6-2
- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The building exterior wall, the wall common with emergency electrical room A (Rm 310), the wall common with the corridor D (Rm 344), the wall common with RIP panel A room (Rm 340), the ceiling, and the floor are 3 h fire-resistive concrete construction. A 3 h fire-resistive door provides access to this room from emergency electrical room A (Rm 310).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station outside the room in the R/B clean area leading to the control building corridor.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel with an electrically safe nozzle.	Outside the room in the R/B clean area leading to the control building corridor/Manual
ABC hand extinguishers	Outside the room in the R/B clean area leading to the control building corridor/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the EHVAC(A) system operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.

- (b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—None

#### **9A.4.1.3.39 Reactor Water Sampling Rack Room (Rm 380)**

- (1) Fire Area—F3400
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D4	Yes, D4

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The containment serves as one wall of the room. The remainder of the walls, and the floor are fire barriers and are of 3 h fire-resistive concrete construction. The ceiling is concrete and is not rated as it is internal to fire area F3400. Access to the room is provided from reactor water sampling rack room (Rm 349) via a 3 h fire-resistive door. This is a division 4 room sitting within a division 2 fire area (F1200). Electrical cables for equipment in the room are routed to the room through conduit embedded in the floor and walls of the reactor building. This provides the equivalent of 3 hours of separation of the division 4 cables from areas containing cables from other divisions.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.8-B.5 at EL. 4800.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.8-B.5 at El.4800 mm/Manual
ABC hand extinguishers	Col. 1.8-B.5 at El.4800 mm/Manual



- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a fire area which is separate from the fire areas containing equipment which provides alternate means of performing the safety or shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

**9A.4.1.3.40 FPC FD Rack Room (Rm No. 346)**

- (1) Fire Area—F1200

- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls, ceiling and floor are concrete but are not fire rated as they are internal to fire area F1200. The containment serves as one wall of the room. Access and egress from the room is provided through a non rated door to corridor D (Rm 344).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.8-B.5
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.8-B.5/Manual
ABC hand extinguishers	Col. 1.8-B.5/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a separate concrete enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Loss of function, which is not safety-related, is acceptable.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—None.

#### **9A.4.1.4 Building—Reactor Bldg EI 12300 mm**

##### **9A.4.1.4.1 Upper Drywell (Rm No. 491)**

- (1) Fire Area—F4901
- (2) Equipment: See Table 9A.6-2 for this elevation. Devices within the upper drywell are also listed at floor elevation 18100.

#### **Safety-Related**

#### **Provides Core Cooling**

Yes, D1,D2, D3,& D4

Yes

- (3) Radioactive Material Present—Normally, none that can be released as a result of fire. Depending on operating history, low levels of contamination could be present and is contained within containment.
- (4) Qualifications of Fire Barriers—Except for the steel drywell head, the walls, floor and ceiling are concrete, which is approximately 1 meter thick, as a minimum. Risers lead from the lower drywell up through the diaphragm floor to the upper drywell. The primary purpose of the risers is to equalize the pressure between the upper and lower drywell. The risers are also used for the routing of cables and piping between the upper and lower drywells. There is a personnel lock with its center line at elevation 19170 mm and azimuth 230 degrees. This single personnel lock provides the only

access and egress for the upper drywell. An equipment removal lock is provided at centerline elevation 19170 mm and azimuth 130 degrees. The drywell atmosphere is inerted with nitrogen during plant operation.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
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Divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m <sup>2</sup> , NCLL (727 MJ/m <sup>2</sup> maximum average) applies.
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- (6) Detection Provided: None - Primary Containment is inerted during the normal plant operation.

- (7) Suppression Available:

Type	Location/Actuation
Inerted during plant operation. Drywell spray is ultimate line of defense during plant outage.	General/Manual
Standpipe and hose reel.	Personnel lock entrance/Manual
ABC hand extinguishers during significant outage work.	Temporary as conditions warrant/ Manual

- (8) Fire Protection Design Criteria Employed:

- (a) Credit is taken for the fact that the drywell is inerted during plant operation.
- (b) Quantities of combustibles are minimized.
- (c) The spacing between redundant equipment and cabling is kept to a maximum.
- (d) Smoke removal is provided by the drywell purge and exhaust system.

- (9) Consequences of Fire—A fire during plant operation is not possible due to the drywell being inerted. A fire in the upper drywell would not prevent the continuation of core cooling.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the drywell
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe, external to the drywell (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) Inerted atmosphere.
  - (b) Quantities of combustibles minimized.
- (13) Remarks:
  - (a) There are containment electrical penetrations in the upper drywell.
  - (b) The valve and HVAC motors will have small quantities of lubricating grease for their bearings. These minor amounts of grease do not present a fire hazard.

#### **9A.4.1.4.2 North Controlled Entry and Corridor A (Rm No. 410)**

- (1) Fire Area—F4101
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—A controlled access entryway is included in this room. The entry wall common with the steam tunnel (Rm No. 440), the electrical and instrumentation room (Rm 411) and part of the exterior wall serve as fire barriers between adjacent fire areas and are of 3 h fire-resistive concrete construction. The remainder of the walls, the ceiling and the floor are concrete and are not rated as they are internal to fire area F4101. This entry serves as the main access from the control building for the north half of the reactor building. The door from the control building is a 3 h fire-resistive door.

The corridor A walls common with the steam tunnel (Rm 440), the stair and elevator well walls, A diesel generator room (Rm 412), valve room (A) and the service bay (Rm 413) serve as fire barriers between adjacent fire areas and are of 3 h fire-resistive

concrete construction. The floor is also a fire barrier to limit the size of the fire areas below and to protect the lower regions of the building, which contain the majority of the ESF equipment. The ceiling just outside the ECCS valve room A (Rm 414) is a fire barrier. The remainder of the walls and the ceiling are concrete and are not rated as they are internal to fire area F4101. Access to the corridor is provided from the controlled entry room, the stairs and the elevator, and corridor C (Rm 430B). The door to room 430B is a 3 h fire-rated door. The corridor provides direct access to the electrical and instrumentation penetration room (Rm 411) and to ECCS valve room A (Rm 414) through 5 psid, 3 h fire-rated doors.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at 5.4-B.1 and 5.9-F.2.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.4-B.1& 5.9-F.2/Manual
ABC hand extinguishers	Col. 5.4-B.1& 5.9-F.2/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5. Alternate access is provided by South Controlled Access Entry (Rm No. 193) Access is provided to the corridor from either end.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system in the corridor, external to the rooms containing the main safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—Although the areas surrounding the diesel generator room are of the same safety division, the diesel generator room is designated as a separate fire area due to the relatively large amounts of lubricating and fuel oil present.

#### **9A.4.1.4.3 E and I Penetration Room (Div 1)(Rm No. 411)**

- (1) Fire Area—F1101
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—Portions of the floor and ceiling provide fire barriers to other fire areas and are of 3-hour fire-resistive concrete construction. The walls common with the Steam Tunnel (Rm 440) and room 410 are of 3 h fire-resistive concrete construction. The wall common to room 414 is concrete but is not rated as it is internal to fire area F1101. The containment serves as one wall of the room. Access to the room is provided from Corridor A (Rm 410) through an entry vestibule with a 5 psid, 3-hour fire-rated door.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	1454 MJ/m <sup>2</sup> NCLL (1454 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.4-B.1.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.4-B.1/Manual
ABC hand extinguishers	Col. 5.4-B.1/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.



- (b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—None.

#### **9A.4.1.4.4 Diesel Generator A Room (Rm No. 412)**

- (1) Fire Area—F4100
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The building exterior walls, the walls common with Corridor A (Rm 410), the wall common with stair wells (Rooms 195 and 316), and the floor are of 3 h fire resistive concrete construction. The interior partition walls, and ceiling are not fire rated as they are internal to fire F4100. The exterior wall of the room has a removable section for removal of equipment from the diesel generator room. Access to this room is provided from the Clean Area Access A/C (Rm 413) through a 3 h fire rated door and through the removable section in the exterior wall.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	Could be variable due to possible oil leaks. Foam sprinkler system provided.
Lubricating Oil	
Fuel Oil	

- (6) Detection Provided—Class A supervised rate-compensated thermal detectors and infrared detectors. The detection system is a cross-zoned system requiring two detectors, one of each in each zone. Each detector initiates a local alarm upon sensing fire. The second detector alarm provides fire confirmation, which opens the preaction valve and initiates the system alarm in the control room. There are manual pull stations at Col. 6.5-C.9.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Preaction foam-water sprinkler system. Audible alarms are provided.	Initiates by individual discharge head opening (when fusible link melts) and simultaneous receipt of any one of the following signals: <ul style="list-style-type: none"> <li>(a) Both detector alarm signals (one of each in each zone) or,</li> <li>(b) Either detector alarm signal in combination with loss of pressure in the dry pipe/Automatic</li> </ul>
Standpipe and hose reel	Col. 6.5-C.9/Manual
Foam hose reel	Manual
ABC hand extinguishers	Col. 6.5-C.9/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the EHVAC(A) system operating in its smoke removal mode. The emergency supply fan (A) will also remove smoke from the room if the diesel is running or if initiated manually.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual hose suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) ANSI B31.1 standpipe (rupture unlikely)
  - (d) Provision of cross zone detector alarms
  - (e) Provision of low pressure alarm in dry pipe
  - (f) Provision of preaction valve
  - (g) Provision of close head sprinkler system
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—Although the areas surrounding the adjacent diesel generator room are of the same safety division, the diesel generator room is designated as a separate fire area due to the relatively large amounts of lubricating and fuel oil present.

#### **9A.4.1.4.5 Clean Area Access A/C (Rm No. 413)**

- (1) Fire Area—F3300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—All walls are of 3 h fire-resistive concrete construction. The floor and ceiling are common to fire area F3300, above and below, and therefore are not rated. There are two 3 h fire-resistive doors, one each to diesel generator rooms A and C. There is a floor hatch for removal of equipment from the floor below. A removable panel is provided in the exterior wall for moving equipment in and out of the reactor building.

- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC detection system in the room and alarm pull station at Col. 6.5-C.9.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.5-C.9/Manual
ABC hand extinguishers	6.5-C.9/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The non-safety-related function is located in a separate fire resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes loss of function of the room and, consequently, temporary loss of access to the A and C diesel generator rooms. Continuous access to the diesel generator rooms is not required. Access to diesel generator room B is unaffected.  
  
Smoke from a fire will be removed by the EHVAC(C) system operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system internal to this non-safety-related room
  - (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)
  - (d) Alternate access routes to other areas of the reactor building are provided

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None

**9A.4.1.4.6 ECCS Valve A Room (Rm No. 414)**

## (1) Fire Area—F1101

## (2) Equipment: See Table 9A.6-2

**Safety-Related****Provides Core Cooling**

Yes, D1

Yes, D1

## (3) Radioactive Material Present—None that can be released as a result of fire.

(4) Qualifications of Fire Barriers—All walls except the wall common with Rm 411 serve as fire barriers and are of 3 h fire-resistive concrete construction. A section of the ceiling common to fire area F4110 above is of 3 h fire-resistive concrete construction. The remainder of the ceiling is internal to fire area F1101 and not rated concrete construction. The reactor containment serves as one wall to this room. Access to the room is provided from corridor A (Rm 410) through an entry room and a 5 psid, 3 h fire- rated door to the corridor.

## (5) Combustibles Present:

**Fire Loading****Total Heat of Combustion (MJ)**

None

727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup>  
maximum average) applies

(6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 5.4-B.1 and 5.9-F.2.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.4-B.1 & 5.9-F.2/Manual
ABC hand extinguishers	Col. 5.4-B.1 & 5.9-F.2/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) All penetrations are within a single fire area.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—The room contains cable in conduit only.

**9A.4.1.4.7 ECCS Valve C Room (Rm No. 431)**

- (1) Fire Area—F1300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—All walls serve as fire barriers and are of 3 h fire-resistive concrete construction. A section of the ceiling is common to fire area F4310 above and is of 3 h fire-resistive concrete construction. The remaining ceiling area is internal to fire area F1300 and not rated. The reactor containment serves as one wall to this room. Access to the room is provided from corridor C (Rm 430B) through an entry room and a 3 h fire-rated door to the corridor.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.4-B.1 and 5.9-F.2.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.4-B.1 & 5.9-F.2/Manual
ABC hand extinguishers	Col. 5.4-B.1 & 5.9-F.2/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate fire resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—The room contains cable in conduit only.

#### **9A.4.1.4.8 Corridor C (Equipment Entry) (Rm Nos. 430A and 430B)**

- (1) Fire Area—F4301(Rm 430A)

F4303 (Rm 430B)

- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None that can be released as a result of fire.

- (4) Qualifications of Fire Barriers—Room 430 is divided into rooms 430A and 430B. Room 430B provides a separate fire area F4303 between room 430A (fire area F4301) and room 410 (fire area F4101). There is a 3-hour fire rated door at each end of room 430B providing a vestibule between room 430A and room 410. The floors



and walls of room 430B serve as fire barriers and are of 3-hour fire-resistive concrete construction. The ceiling of room 430B is not rated as it is common to room 530B above within fire area F4303. Room 430B provides access to ECCS Valve Room C (Rm 431) via a 3-hour fire-rated door. The walls common with the C diesel generator room (Rm 432), valve room (C) (Rm 431), corridor B (Rm 420), and the exterior wall serve as fire barriers and are of 3 h fire-resistive concrete construction. The floor of room 430A is also a fire barrier to limit the size of the fire areas below and to protect the lower regions of the building, which contains the majority of the ESF equipment. The walls of room 430A are concrete and are not rated as they are internal to fire area F4301. A section of the ceiling common to fire areas F4300, F1300 and F3300 above is of 3 h fire-resistive concrete construction. The remainder of the ceiling is not fire rated as it is internal to fire area F4301. Access to corridor A room 430A is provided from room 430B and corridor B (Rm 420) via 3 h fire-resistive doors. Room 430A provides direct access to the electrical and instrumentation penetration room (Rm 433) through a non-rated door. There is an open hatch in Room 430A to the floors above. A large steel non-fire-rated door provides access to the reactor building for moving in fuel and other large loads.

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies
Lubricant Fuel Oil	Could be a variable due to possible lubricant, and fuel oil leaks in transient. Deluge sprinkler system provided.

(6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at 5.9-F.2 and 2.1-F.1.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Ordinary hazard deluge sprinkler having a water density of 6.1 L/min/m <sup>2</sup> and a coverage of 9.3 m <sup>2</sup> per head	Hatch Area/Manual
Standpipe and hose reel	Col. 5.9-F.2 & 2.1-F.1/Manual
ABC hand extinguishers	Col. 5.9-F.2 & 2.1-F.1/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (d) Sprinkler system provided as extra protection for the temporary higher fire loadings due to bringing trucks and equipment into the area and to compensate for the large open hatch.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5. Access is provided to the corridor from either end.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in the corridor, external to the rooms containing the main safety-related equipment
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

(d) ANSI B31.1 standpipe (rupture unlikely)

(12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks:

- (a) Although the areas surrounding the diesel generator room are of the same safety division, the diesel generator room is designated as a separate fire area due to the relatively large amounts of lubricating and fuel oil present.
- (b) The common wall between the corridor and valve room (C) was specified to have a 3 h fire rating to protect the ESF equipment in the valve room during periods of increased fire loading in the corridor during maintenance periods.

#### **9A.4.1.4.9 E and I Penetration Room (Div 3)(Rm No. 433)**

- (1) Fire Area—F4301
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The floor and the wall common with ECCS Valve Room C are fire barriers and are of 3 h fire-resistive concrete construction. The containment serves as one wall of the room. The remaining walls and ceiling are concrete but are not fire rated as they are internal to fire area F4301. Access to the room is provided from Corridor C (Rm 430A) through an entry vestibule with a nonrated door.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.9-F.2 and 2.1-F.1.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.9-F.2 & 2.1-F.1/Manual
ABC hand extinguishers	Col. 5.9-F.2 & 2.1-F.1/ Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (a) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—None.

**9A.4.1.4.10 Diesel Generator C Room (Rm No. 432)**

- (1) Fire Area—F4300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The building exterior walls, the walls common with Corridor C (Rms 430A and 430B), the wall common with Clean Area Access A/C (Rm 413), and the floor are of 3 h fire-resistive concrete construction. The interior partition walls, is not fire rated as they are internal to fire F4300. The ceiling is of concrete construction but is not a fire barrier as the HVAC for the diesel is located on the floor above. The exterior wall of the room has a removable section for removal of equipment from the diesel generator room. Access to this room is provided from the clean area access A/C (Rm 413) through a 3 h fire rated door and through the removable section of the external wall.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies
Lubricant Fuel Oil Fuel Oil	Could be variable due to possible oil leaks. Foam sprinkler system provided.

- (6) Detection Provided—Class A supervised rate-compensated thermal detectors and infrared detectors. The detection system is a cross-zoned system requiring two detectors, one of each in each zone. Each detector initiates a local alarm upon sensing fire. The second detector alarm provides fire confirmation, which opens the preaction valve and initiates the system alarm in the control room. There are manual pull stations at Col. 6.5-C.9.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Preaction foam-water sprinkler system. Audible alarms are provided.	Initiates by individual discharge head opening (when fusible link melts) and simultaneous receipt of any one of the following signals: <ul style="list-style-type: none"> <li>(a) both detector alarm signals (one of each in each zone) or,</li> <li>(b) either detector alarm signal in combination with loss of pressure in the dry pipe./Automatic</li> </ul>
Standpipe and hose reel	Col. 6.5-C.9/Manual
Foam hose reel	Manual
ABC hand extinguishers	Col. 6.5-C.9/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the EHVAC(C) system operating in its smoke removal mode. The emergency supply fan (C) will also remove smoke from the room if the diesel is running or if initiated manually.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual hose suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) ANSI B31.1 standpipe (rupture unlikely)
  - (d) Provision of cross zone detector alarms
  - (e) Provision of low pressure alarm in dry pipe
  - (f) Provision of preaction valve
  - (g) Provision of close head sprinkler system
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—Although the areas surrounding the adjacent diesel generator room are of the same safety division, the diesel generator room is designated as a separate fire area due to the relatively large amounts of lubricating and fuel oil present.

**9A.4.1.4.11 Not Used****9A.4.1.4.12 Corridor B (Rm No. 420)**

- (1) Fire Area—F4201
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls common with the elevator and stair well walls, the Diesel Generator B Room (Rm 423) and the ECCS Valve B Room (Rm 421) serve as fire barriers and are of 3 h fire-resistive concrete construction. The floor is also a fire barrier to limit the size of the fire areas below and to protect the lower regions of the building, which contains the majority of the ESF equipment. The walls common with the E and I Penetration Room (Rm 422) and the ceiling are fire-

resistive concrete but are nonrated as they are internal to fire area F4201. Access to the corridor is provided from corridor D (Rm 445), corridor C (Rm 430A) and stairs and elevator No.3. A 3 h fire damper is installed in the HVAC duct (located next to the elevator) where it passes through the fire barrier floor to the division 2 areas on the level below. This fire barrier divides the division 2 area of the building to limit the magnitude of possible damage due to a single fire.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at 5.9-F.2 and 2.1-F.1.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.9-F.2 & 2.1-F.1/Manual
ABC hand extinguishers	Col. 5.9-F.2 & 2.1-F.1/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5. Access is provided to the corridor from either end.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.



- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system in the corridor, external to the rooms containing the main safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—Although the areas surrounding the diesel generator room are of the same safety division, the diesel generator room is designated as a separate fire area due to the relatively large amounts of lubricating and fuel oil present.

#### **9A.4.1.4.13 E and I Penetration Room (Rm No. 424)**

- (1) Fire Area—F4201
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The floor and the wall adjacent to room 435 is a fire barrier and is of 3 h fire-resistive construction. The containment serves as one wall of the room. The remaining walls and ceiling are fire- resistive concrete but are not fire rated as they are internal to fire area F4201. Access to the room is provided from Corridor C (Rm 420) through an entry vestibule.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	1454 MJ/m <sup>2</sup> NCLL (1454 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.9-F.2 and 2.1-F.1.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.9-F.2 & 2.1-F.1/ Manual
ABC hand extinguishers	Col. 5.9-F.2 & 2.1-F.1/ Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Loss of the non-safety-related function is acceptable.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.

- (b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—None.

#### **9A.4.1.4.14 Not Used**

#### **9A.4.1.4.15 Diesel Generator B Room (Rm No. 423)**

- (1) Fire Area—F4200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The building exterior walls, the walls common with Corridor B (Rm 420), the wall common with stair wells (Rms 193 and 329), and the floor are of 3 h fire resistive concrete construction. The interior partition walls, and ceiling are not fire rated as they are internal to fire F4200. The ceiling of the room is not a fire barrier as the fan room is located directly above this diesel generator room. The exterior wall of the room has a removable section for removal of equipment from the diesel generator room. Access to this room is provided from the Clean Area Access C/D (Rm 426) through a 3 h fire-rated door and through the removable section of the external wall.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	Could be variable due to possible oil leaks. Foam sprinkler system provided.
Lubricating Oil	
Fuel Oil	

- (6) Detection Provided—Class A supervised rate-compensated thermal detectors and infrared detectors. The detection system is a cross-zoned system requiring two detectors, one of each in each zone. Each detector initiates a local alarm upon sensing fire. The second detector alarm provides fire confirmation, which opens the preaction valve and initiates the system alarm in the control room. There is a manual pull stations at Col. 1.4-C.8.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Preaction foam-water sprinkler system. Audible alarms are provided.	Initiates by individual discharge head opening (when fusible link melts) and simultaneous receipt of any one of the following signals:  (a) both detector alarm signals (one of each in each zone) or,  (b) either detector alarm signal in combination with loss of pressure in the dry pipe./Automatic
Standpipe and hose reel	Col. 1.4-C.8/Manual
Foam hose reel	Manual
ABC hand extinguishers	Col. 1.4-C.8/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provide alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the EHVAC(B) system operating in its smoke removal mode. The emergency supply fan (B) will also remove smoke from the room if the diesel is running or if initiated manually.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual hose suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) ANSI B31.1 standpipe (rupture unlikely)
  - (d) Provision of cross zone detector alarms
  - (e) Provision of low pressure alarm in dry pipe
  - (f) Provision of preaction valve
  - (g) Provision of close head sprinkler system
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—Although the areas surrounding the adjacent diesel generator room are of the same safety division, the diesel generator room is designated as a separate fire area due to the relatively large amounts of lubricating and fuel oil present.

#### **9A.4.1.4.16 ECCS Valve B Room (Rm No. 421)**

- (1) Fire Area—F1200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—All walls serve as fire barriers and are of 3 h fire-resistive concrete construction. The rooms below (323 and 324) are in the same fire area (F1200); therefore the floor is not fire rated. The reactor containment serves as one wall to this room. A section of the ceiling, common to room 520 above, is of three hour fire-resistive concrete construction. Access to the room is provided from corridor B (Rm 420) through a 3 h fire-rated door to the corridor.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.6-B.5 and 2.1-F.1.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.6-B.5 & 2.1-F.1/Manual
ABC hand extinguishers	Col. 1.6-B.5 & 2.1-F.1 /Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) All penetrations are within a single fire area.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—The room contains cable in conduit only.

**9A.4.1.4.17 Clean Area Access B/D (Rm No. 426)**

- (1) Fire Area—F3200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The exterior wall, the wall common with the South Controlled Entry and Corridor (Rm 445), the walls common with the stair wells (Rm 329) and the elevator (Rm 328) are of 3 h fire resistive concrete construction. The floor and ceiling are not fire rated as they are internal to fire area F3400. There is a floor hatch for removal of equipment from the floor below. The exterior wall of the room has a removable section for moving equipment in and out of the reactor building. A 3 h fire resistive door provides access to this room from the Diesel Generator B room (Rm 423).
- (5) Combustibles Present—No significant quantities of exposed combustibles.
- (6) Detection Provided—Class A supervised POC detection system and alarm pull station in Col. 1.5-C.7
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.5-C.7/Manual
ABC hand extinguishers	Col. 1.5-C.7/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The non-safety-related function is located in a separate fire resistive enclosure.

- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes loss of function of the room and, consequently, temporary loss of access to the B diesel generator room. Continuous access to the diesel generator room is not required. Access to diesel generator room A and C is unaffected.

Smoke from a fire will be removed by the EHVAC(B) system operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system internal to this non-safety-related room
  - (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)
  - (d) Alternate access routes to other areas of the reactor building are provided
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

#### **9A.4.1.4.18 E and I Penetration Room (Div 4)(Rm 444)**

- (1) Fire Area—F3400
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D4	Yes, D4

- (3) Radioactive Material Present—None that can be released as a result of fire.



- (4) Qualifications of Fire Barriers—All walls and a section of the floor serve as a fire barrier between room 444 (F3400) and fire areas F1200 and F4201, and are of 3 h fire-resistive concrete construction. This remainder of the floor is internal to fire area F3400 below and is not fire rated. The ceiling is internal to fire area F3400 and therefore is nonrated. The containment serves as one wall of the room. Access to the room is provided from corridor D (Rm 445) through a 3 h fire-resistive door.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	1454 MJ/m <sup>2</sup> NCLL (1454 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.6-B.8 and 2.1-F.1.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.6-B.8 & 2.1-F.1/Manual
ABC hand extinguishers	Col. 1.6-B.8 & 2.1-F.1/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room

- (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—Cabling to the room is routed in embedded conduit to give an equivalent of a 3 h fire-rating for the separation between the Division 4 cables and other plant cabling.

#### **9A.4.1.4.19 South Controlled Entry and Corridor (Rm No. 445)**

- (1) Fire Area—F4201
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wall common with the Clean Area Access Room (Rm 426), the division 4 electrical penetration room (Rm No.444) and the floor are of 3 h fire-resistive concrete construction. The remainder of the walls are concrete and are not rated as they are internal to fire area F4201. A portion of the ceiling is of 3 h fire-resistive concrete construction to maintain separation between fire area F4201 (Rm 445) and fire area F3200 in rooms 527 and 541 above. There is not a fire barrier between this corridor and Corridor B (Rm 420). There are nonrated doors from this corridor to the Filter/ Demineralizer Pre Coat Room (Rm 446), the Filter/Demineralizer Access Room (Rm 447), and the CUW Valve Room (Rm 443).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.6-B.8 and 2.1-F.1.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.6-B.8 & 2.1-F.1/Manual
ABC hand extinguishers	Col. 1.6-B.8 & 2.1-F.1/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The non-safety-related function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Alternate entry is provided by Controlled Entry and Corridor A (Rm 410) Access to the corridor is from either end.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in this non-safety-related room, external to the rooms containing safety-related equipment
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—None.

#### **9A.4.1.4.20 CUW valve room (Rm No. 443)**

- (1) Fire Area—F4201
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The floor is of 3 h fire-resistive concrete construction. The wall common to room 444 (F3400) is of 3 h fire-resistive concrete construction. The remaining walls and ceiling are concrete and are not rated as they are internal to fire area F4201. The containment serves as one wall of the room. Access to the room is provided from corridor D (Rm 447) through a non fire rated door.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.6-B.8 and 2.1-F.1.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.6-B.8 & 2.1-F.1/Manual
ABC hand extinguishers	Col. 1.6-B.8 & 2.1-F.1/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Inboard isolation valves provide alternate means of isolation.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (a) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—None.

#### **9A.4.1.4.21 Not Used**

#### **9A.4.1.4.22 PASS Rack Room (Rm No. 441)**

- (1) Fire Area—F4201
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The building exterior wall, the wall common with the steam tunnel and the floor are of 3 h fire-resistive concrete construction. The remainder of the walls and ceiling are concrete and are not rated as they are internal to fire area F4201. Entry and egress to the room is from the control building.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 2.9-A.0.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Control building 4.0-K.9/ El. 12300/Manual
ABC hand extinguishers	Control building 4.0-K.9/ El. 12300/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The non-safety-related function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system is in the control building on the 12300 elevation in a passageway (Rm 506) near the PASS room (Rm 441)
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

(d) ANSI B31.1 standpipe (rupture unlikely)

(12) Fire Containment or Inhibiting Methods Employed:

(a) The functions are located in a separate fire-resistive enclosure.

(b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—None

#### **9A.4.1.4.23 Filter/Demineralizer Access Room (Rm No. 447)**

(1) Fire Area—F4201

(2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

(3) Radioactive Material Present—None that can be released as a result of fire.

(4) Qualifications of Fire Barriers—The floor and the wall common to the pipe space serve as fire barriers and are of 3 h fire-resistive concrete construction. The remainder of the walls are concrete and are not rated as they are internal to fire area F4201. Access to the room is provided from Corridor D (part of Rm 445) through a nonrated door.

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

(6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 1.6-B.8.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.6-B.8/Manual
ABC hand extinguishers	Col. 1.6-B.8/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—None.



**9A.4.1.4.24 Filter/Demineralizer Pre Coat Room (Rm No. 441)**

- (1) Fire Area—F4201
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The floor and the reactor building outside wall are of 3 h fire-resistive concrete construction. The remainder of the walls and ceiling are concrete and are not rated as they are internal to fire area F4201. Access is provided from Corridor D (part of Rm 445) through a nonrated door.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.5-B.8.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.6-B.8/Manual
ABC hand extinguishers	Col. 1.6-B.8/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate fire resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function, which is not safety-related. Loss of this non-safety-related function is acceptable.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system in rooms external to the rooms containing safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

#### **9A.4.1.4.25 Not Used**

#### **9A.4.1.4.26 Steam Tunnel (Rm No. 440)**

- (1) Fire Area—F4900
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1, D2	Yes, D1, D2, D33 & ND

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The floor, walls and ceiling are of 3 h fire-resistive concrete construction. One wall is formed by the containment. The tunnel passes through the control building to the turbine building where a vent shaft is provided. A ventilation control panel is provided at the wall of the reactor building. There are

blowout panels for venting secondary containment located in the walls of the tunnel in the reactor building. Personnel entry to the steam tunnel is through a shield door at floor elevation 18100 mm.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the tunnel and manual alarm pull station at Col. 5.3-B.0, floor elevation 18100 mm.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Control building 5.3-B.0/ El. 18100 mm/Manual
ABC hand extinguishers	Control building 5.3-B.0/ El. 18100 mm/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The valves are spatially separated and are designed to fail closed on loss of actuation power. The provisions for core cooling systems backup are discussed in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System.
- (a) Location of the manual suppression system in rooms external to the rooms containing safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

**9A.4.1.4.27 Not Used****9A.4.1.4.28 E and I Electrical Penetration Room (Rm No. 435)**

- (1) Fire Area—F4301
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The containment serves as one wall of the room. The wall common to room 424 (F4201) and the floor are of 3 h fire-resistive concrete construction. The remaining walls are concrete and are not rated as they are internal to fire area F4310. The ceiling is formed by the bottom of the spent fuel storage pool. A nonrated door provides entry and egress to the room from corridor C (room 430A).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	1454 MJ/m <sup>2</sup> NCLL (1454 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 5.9-F.2.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.9-F.2/Manual
ABC hand extinguishers	Col. 5.9-F.2/ Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The non-safety-related function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system for this safety-related room is external
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—None

**9A.4.1.5 Building—Reactor Bldg EI 18100 mm****9A.4.1.5.1 Corridor A (Rm No. 510)**

- (1) Fire Area—F4101
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls common with the steam tunnel (Rm 440), stairwell (Rm 195), elevator (Rm 192), D/G HVAC and fan A room (Rm 514), D/G A control panel room (Rm 516), steam tunnel access room (Rm 512), penetration room (Rm 511), division 1 electrical penetration room (518), corridor room C (Rm 530B), and the clean area access room (517) serve as fire barriers between adjacent fire areas and are of 3 h fire-resistive concrete construction. The remainder of the walls and the floor are concrete and are not rated as they are internal to fire area F4101. The ceiling is fire resistant and part of the wall is formed by the containment. Also, part of the wall in common with the steam tunnel is a blow out panel for pressure relief in the event of pressurization of secondary containment. Access to the corridor is provided from the stair and elevator via 3 h fire-resistive doors. The corridor provides direct access to the steam tunnel entry room (Rm 512) via a vestibule and 5 psid, 3-hour fire rated door. A three hour fire-resistive door provides entry to and egress from corridor C (Rm No 530B). The room is divided into two compartments by a non rated wall and door at row A.5.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at 5.5-A.9

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.5-A.9/Manual
ABC hand extinguishers	Col. 5.3-A.9/ Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (d) All penetrations are within a single fire area.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in the corridor, external to the rooms containing the main safety-related equipment
- (a) Provision of raised supports for the equipment
- (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None

**9A.4.1.5.2 D/G Fan and HVAC Room (Rm No. 514)**

- (1) Fire Area—F4100
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The exterior wall, the walls common to stairwell (Rm 292), the D/G Exhaust Duct A (Rm 515), the D/G Control Panel A (Rm 516), and corridor A (Rm 510) serve as a fire barrier and is of 3 h fire-resistive concrete construction. The floor is internal to fire area F4100 and is not fire rated. Portion of the ceiling common to fire areas F4102 (Rm 613) and F6101 (Rm 610) is of a 3 h fire-resistive concrete construction. The remaining portion of the ceiling is internal to fire area F4100 and is not fire rated.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.
Fuel Oil	Could be variable due to possible fuel oil leaks in lines passing through this room.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.3-C.2.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.3-C.1 & 6.3-D.2/Manual
ABC hand extinguishers	Col. 6.3-C.1 & 6.3-D.2/Manual



- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a fire area which is separate from the fire areas containing equipment providing alternate means of performing the safety or shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the EHVAC(A) system operating in its smoke removal mode. The emergency supply fan (A) will also remove smoke from the room if the diesel is running or if initiated manually.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual hose suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (a) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—Due to the large ventilation openings in the floor, this room must be considered as an extension of the diesel generator room below.

#### **9A.4.1.5.3 Exhaust Duct A (Room 515)**

- (1) Fire Area F4100

- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The room has a large ventilation opening to the outside and is not fire rated. The second exterior wall, the walls common with D/G Fan and HVAC Room (Rm 514), and the D/G Control Panel A (Rm 516) serve as a fire barrier and is of 3 h fire-resistive concrete construction. The remaining walls, the floor and ceiling are of concrete construction but are not fire rated as they are internal to fire area F4100.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—manual alarm pull station at Col. 6.3-C.2
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.3-C.2/Manual
ABC hand extinguishers	Col. 6.3-C.2/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from the fire areas containing equipment providing alternate means of performing the safety or shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

The emergency supply fan (A) will remove smoke from the room if the diesel is running or if initiated manually. The room is also vented directly outside of the building by the large ventilation opening in the wall.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual hose suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—Due to the large ventilation openings in the floor, this room must be considered as an extension of the diesel generator room below. There is a damper for confining the carbon dioxide to the diesel generator room during fire suppression activities.

#### **9A.4.1.5.4 DG Control Panel A (Room 516)**

- (1) Fire Area—F4102
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The exterior wall, the walls common to corridor A (Rm 510), the D/G Fan and HVAC room (Rm 514), and the D/G Exhaust Duct A (Rm 515) are of 3 h fire-resistive concrete construction. A section of the ceiling common to fire area F4100 above (Rm 612) and the entire floor are of 3 h fire-

resistive construction. The remainder of the ceiling is internal to fire area F4102 and is not fire rated. There is a 3 h fire-resistive door that provides access from the clean area access room (Rm 517) to the D/G (A) control panel room (Rm 516).

- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC detection system and alarm pull station at 6.3-C.2 and 6.3-D.2.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.3-C.2, 6.3-D.2/Manual
ABC hand extinguishers	6.3-C.2, 6.3-D.2/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The non-safety-related function is located in a separate fire resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes loss of function of the room and, consequently, temporary loss of access to the A diesel generator HVAC room. Continuous access to the diesel generator HVAC room is not required. Functional backup is provided by diesel generators B and C.  
  
Smoke from a fire will be removed by the EHVAC(A) system operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system internal to this non-safety-related room
  - (b) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)

(d) Alternate access routes to other areas of the reactor building are provided

(12) Fire Containment or Inhibiting Methods Employed:

(a) The functions are located in a separate fire-resistive enclosure.

(b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—None

#### **9A.4.1.5.5 Steam Tunnel Entry Room (Rm No. 512)**

(1) Fire Area—F1101

(2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

(3) Radioactive Material Present—None that can be released as a result of fire.

(4) Qualifications of Fire Barriers—The ceiling and walls common to steam tunnel room (Rm 440) and the corridor A (Rm 510) are fire barriers and are of 3 h fire-resistive concrete construction. The floor is internal to fire area F1101 and is not fire rated. There is a hatch in the ceiling for removal of equipment. Access is from corridor A, through a vestibule and 5 psid, 3-hour fire rated door. Access to the steam tunnel from this room is provided via a 3 h fire-rated door. The room is also the access passage to the Division 1 E and I Penetration Room (Rm 511) via a non rated door.

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

(6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at 5.5-A.9.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.5-A.9/Manual
ABC hand extinguishers	Col. 5.5-A.9/ Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (d) All penetrations are within a single fire area.

## (9) Consequences of Fire—The postulated fire assumes the temporary loss of the function. Temporary loss of access to the steam tunnel is acceptable.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in the corridor, external to the rooms containing the main safety-related equipment
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None

**9A.4.1.5.6 Corridor C (Rm Nos. 530A and 530B)**

- (1) Fire Area—F4301: Rm 530A

F4303: Rm 530B

- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	No

- (3) Radioactive Material Present—None that can be released as a result of fire.

- (4) Qualifications of Fire Barriers—Room 530 is divided into room 530A and 530B. Room 530B provides a separate fire area (F4303) between room 530A (fire area F4301) and room 510 (fire area F4101). There is a 3-hour fire-rated door at each end of room 530B providing a vestibule between rooms 530A and 510. The ceiling and walls of room 530B serve as fire barriers to adjacent fire areas and are of 3-hour fire-resistive concrete construction. The floor of 530B is internal to fire area F4303 and is not fire-rated. Room 530B provides access to division 3 electrical penetration room (Rm 532) via a 3-hour fire-rated door. One wall of the room 530A is formed by the containment. The walls common to room 531 are internal to fire area F4301 and therefore are not fire rated. The remaining walls between room 530A and rooms 532 (division 3 electrical penetration room), 517 (access area A/C), 533 (D/G C fan room) and 536 (D/G C control panel room) serve as fire barriers and are of 3 h fire-resistive concrete construction. A section of the floor and ceiling are common to fire areas F1300 below and F3300 above and are of 3 h fire-resistive concrete construction. The remainder of the floor and ceiling are concrete and not rated because they are internal to fire area F4301. Access to room 530A is provided from room 530B and room 520 via a 3 h fire-resistive door. Room 530A also contains a large equipment hatch open to the floor above and below.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Lubricating Oil and Fuel Oil	Could be variable due to possible lubricant, and fuel oil leaks in transient. Deluge sprinkler system provided.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.5-A.9 and 5.9-F.2.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.5-A.9 & 5.9-F.2/Manual
ABC hand extinguishers	Col. 5.5-A.9 & 5.9-F.2/ Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) All penetrations are within a single fire area.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—Sprinklers have been provided on the basis that the fire loading in this area could be highly variable as equipment and material are moved in and out of the upper drywell during maintenance.



**9A.4.1.5.7 U/D Equipment Hatch (Rm No. 531)**

- (1) Fire Area—F4301
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls are concrete and are not rated as they are internal to fire area F4301. The containment serves as one wall of the room. Access to the room is provided from Corridor C (Rm No. 535) via a 3 h fire-resistive door. A nonrated sliding shielding door is provided for the transfer of large equipment through the room.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.9-F.2 and 5.5-A.9.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.9-F.2 & 5.5-A.9/Manual
ABC hand extinguishers	Col. 5.9-F.2 & 5.5-A.9/ Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate fire resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—The room contains cable in conduit only.

#### **9A.4.1.5.8 DG Control Panel C Room (Rm No. 536)**

- (1) Fire Area—F4302
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The exterior wall and walls common to corridor C (Rm 530A), the D/G Fan and HVAC room (Rm 533), the D/G Exhaust Duct C (Rm 534), and the clean area access A/C (Rm 517) are of 3 h fire-resistive concrete construction. A 3 h fire-resistive door provides access and egress from the clean area access. A fire rated wall and door separates room No. 536 from the D/G fan and

HVAC Room (Rm 533). A section of the ceiling common to fire area F4300 above and the entire floor below are of 3 h fire-resistive concrete construction. The remainder of the ceiling is internal to fire area F4302 and is not fire rated.

- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC detection system and alarm pull stations at 6.3-D.2 and 6.3-C.2.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.3-D.2 6.3-C.2/Manual
ABC hand extinguishers	6.3-D.2 6.3-C.2/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The non-safety-related function is located in a separate fire resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes loss of function of the room and, consequently, temporary loss of access to the C diesel generator HVAC room. Continuous access to the diesel generator HVAC room is not required. Functional backup is provided by diesel generators A and B.  
  
Smoke from a fire will be removed by the EHVAC(C) system operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (b) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None

**9A.4.1.5.9 D/G Fan and HVAC Room (Rm No. 533)**

- (1) Fire Area—F4300
- (2) Equipment: See Table 9A.6-2

**Safety-Related****Provides Core Cooling**

Yes, D3

Yes, D3

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The walls common to corridor C (Rm 530A), the D/G Exhaust Duct C room (Rm 534), the D/G Control Panel C room (Rm 536), and the exterior wall are of 3 h fire-resistive concrete construction. Access and egress is provided by a fire rated door connection room 533 to room 536. The portion of the ceiling common to fire areas F4302 (Rm 633) and F6301 (Rm 630) are of 3 h fire-resistive concrete construction. The remaining portion of the ceiling and the entire floor are not fire rated because they are internal to fire area F4300.
- (5) Combustibles Present:

**Fire Loading****Total Heat of Combustion (MJ)**

Cable Tray

727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.

Fuel Oil

Could be variable due to possible fuel oil leaks in lines passing through this room.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.3-C.2 and 6.3-D.2.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.3-C.2 6.3-D.2/Manual
ABC hand extinguishers	6.4-C.2 6.4-D.8/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the EHVAC(C) system operating in its smoke removal mode. The emergency supply fan (C) will also remove smoke from the room if the diesel is running or if initiated manually.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual hose suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—Due to the large ventilation openings in the floor, this room must be considered as an extension of the diesel generator room below.

#### **9A.4.1.5.10 Exhaust Duct C Room (Rm No. 534)**

- (1) Fire Area—F4300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The room has a large ventilation opening to the outside and is not fire rated. A concrete fire rated wall separates this room from the D/G C fan and HVAC room (Rm 533). The second exterior wall and the D/G Control Panel C room (Rm 536) are of 3 h fire-resistive concrete construction. The floor and the ceiling are not fire rated as they are internal to fire area F4300.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—manual alarm pull station at Col. 6.3-D.2 and 6.3-C.2.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.3-D.2, 6.3-C.2/Manual
ABC hand extinguishers	6.4-D.2, 6.4-C.2/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from the fire areas containing equipment providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

The emergency supply fan (C) will remove smoke from the room if the diesel is running or if initiated manually.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual hose suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

#### **9A.4.1.5.11 Not Used**

#### **9A.4.1.5.12 Corridor B (Rm No. 520)**

- (1) Fire Area—F4201
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wall common with the diesel generator fan and HVAC room (Rm 522), the exterior wall, the spent fuel storage pool wall, the elevator (Rm 194), the stairwell (Rm 193), the D/G control room (Rm 524), the clean access area B room (Rm 527) and the division 2 electrical penetration room (Rm 528) wall serve as fire barriers and are of 3 h fire-resistive concrete construction. Sections

of the floor and ceiling that are common to fire areas F4230, F4320 and F1200 below and F6200 above are of 3 h fire-resistive concrete construction. The remainder of the walls, floor and ceiling are of concrete construction, but are non-fire rated. The building cross-corridor has a 3 h fire-resistive door where room 520 meets with room 530A.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 2.1-F.0.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.1-F.1/Manual
ABC hand extinguishers	Col. 2.1-F.1 & 1.8-B.1/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:



- (a) Location of the manual suppression system in the corridor, external to the rooms containing main safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

**9A.4.1.5.13 U/D Personnel Hatch (Rm No. 521)**

- (1) Fire Area—F4201
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls, ceiling and the floors are concrete and are not rated as they are internal to fire area F4201. The containment serves as one wall of the room. Access to the room is provided from Corridor B (Rm No. 520).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 2.1-F.1.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.1-F.1/Manual
ABC hand extinguishers	Col. 2.1-F.1 & 1.8-B.2/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—The room contains cable in conduit only.

**9A.4.1.5.14 D/G Fan and HVAC Room B (Rm No. 522)**

- (1) Fire Area—F4200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The exterior wall and the wall common with corridor B (Rm 520), the D/G Control Panel B (Rm 524), the D/G Exhaust Duct B (Rm 523), and the stairwell (Rm 293) are of 3 h fire-resistive concrete construction. The portion of the ceiling common to fire areas F4202 (Rm 525) and F6201 (Rm 620) are of 3 h fire-resistive concrete construction. The remaining portion of the ceiling and the entire floor are not fire rated as they are internal to fire area F4200.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.
Fuel Oil	Could be variable due to possible fuel oil leaks in lines passing through this room.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.6-D.5.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.6-D.5/Manual
ABC hand extinguishers	Col. 1.6-D.5/ Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from the fire areas containing equipment providing alternate means of performing the safety or shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.
- Smoke from a fire will be removed by the EHVAC(B) system operating in its smoke removal mode. The emergency supply fan (B) will also remove smoke from the room if the diesel is running or if initiated manually.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual hose suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—Due to the large ventilation openings in the floor, this room must be considered as an extension of the diesel generator room below.

**9A.4.1.5.15 Exhaust Duct B Room (Rm No. 523)**

- (1) Fire Area—F4200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The room has a large ventilation opening to the outside and is not fire rated. A 3 h fire rated wall separates this room from the DG Control Panel B Room (Rm 524), and the D/G Fan and HVAC room B (Rm 522), and the fourth wall (exterior). The floor and the ceiling are not fire rated as they are internal to fire area F4200.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—manual alarm pull station at Col. 1.6-D.5.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.6-D.5/Manual
ABC hand extinguishers	Col. 1.6-D.5/ Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a fire area which is separate from the fire areas containing equipment providing alternate means of performing the safety or shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

The emergency supply fan (B) will also remove smoke from the room if the diesel is running or if initiated manually.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual hose suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—Due to the large ventilation openings in the floor, this room must be considered as an extension of the diesel generator room below.

#### **9A.4.1.5.16 DG Control Panel B (Rm No. 524)**

- (1) Fire Area—F4202
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—All walls are of 3 h fire-resistive concrete construction. A portion of the ceiling serves as a fire barrier between fire areas F4200 and F4202. The remainder of the ceiling and the entire floor do not serve as fire barriers and are not fire rated. A 3 h fire rated door provides access from clean area

access room 527. There are two, 3 h fire rated doors, one for access to diesel generator fan room B (Rm 522) and the other to the duct room (Rm 523). There is a floor hatch for removal of equipment from the floor below.

- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC detection system and alarm pull station in the room.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.6-D.5/Manual
ABC hand extinguishers	1.6-D.5/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The non-safety-related function is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes loss of function of the room and, consequently, temporary loss of access to the B diesel generator HVAC room. Continuous access to the diesel generator HVAC room is not required. Functional backup is provided by diesel generators A and C.  
  
Smoke from a fire will be removed by the EHVAC(B) system operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system internal to this non-safety-related room
  - (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)

(d) Alternate access routes to other areas of the reactor building are provided

(12) Fire Containment or Inhibiting Methods Employed:

(a) The functions are located in a separate fire-resistive enclosure.

(b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—None

#### **9A.4.1.5.17 Not Used**

#### **9A.4.1.5.18 Not Used**

#### **9A.4.1.5.19 Electrical Penetration Room (Rm 543)**

(1) Fire Area—F3400

(2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D	Yes, D

(3) Radioactive Material Present—None that can be released as a result of fire.

(4) Qualifications of Fire Barriers—The containment serves as one wall of the room. The remaining walls serve as fire barriers and are of 3 h fire-resistive concrete construction. The floor is internal to fire area F3400 and is not fire rated. The ceiling is common to fire areas F4201 and F6400 above and is of 3 h fire-resistive concrete construction. Access to the room is provided from corridor D (Rm 547) through a 3 h fire-resistant door.

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	1454 MJ/m <sup>2</sup> ECLL (1454 MJ/m <sup>2</sup> maximum average) applies.

(6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.8-B.1 and 2.1-F.1.



## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.8-B.1 & 2.1-F.1/Manual
ABC hand extinguishers	Col. 1.8-B.1 & 2.1-F.1/ Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—Cabling to the room is routed in embedded conduit to give an equivalent of a 3 h fire-rating for the separation between the Division 4 cables and other plant cabling.

**9A.4.1.5.20 FPC Valve Room (Rm No. 542)**

- (1) Fire Area—F4201
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The wall common to the steam tunnel (Rm.440) and the wall common to the Division 4 electrical penetration room (Rm 543) are of 3 h fire-resistive concrete construction. The containment also serves as one wall of the room. The remaining walls and floor are internal to fire area F4201 and are not fire rated. A section of the ceiling is common to fire area F6201 above and is of 3 h fire-resistive concrete construction. The remainder of the ceiling is not fire rated. Access to the room is provided from the FPC HVH pump area (Rm 547) through an open interconnecting vestibule.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.8-B.1.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.1-F.1 & 1.8-B.1/Manual
ABC hand extinguishers	Col. 2.1-F.1 & 1.8-B.1/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Inboard isolation valves provide alternate means of isolation.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

#### **9A.4.1.5.21 FPC Pump Room (Rm No. 546)**

- (1) Fire Area F4201
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1, and 2	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—Two walls are formed by exterior walls of the building. The remaining walls, and the floor and ceiling, are internal to fire area F4201 and are not fire rated. Access to the room is provided from the FPC HVH area (Rm 547) via a non fire rated door.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.8-B.1.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.1-F.1 & 1.8-B.1/Manual
ABC hand extinguishers	Col. 2.1-F.1 & 1.8-B.1/ Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. A redundant means of providing cooling to the spent fuel pool is through the RHR system.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None.

**9A.4.1.5.22 Not Used****9A.4.1.5.23 Not Used****9A.4.1.5.24 Not Used****9A.4.1.5.25 Not Used****9A.4.1.5.26 FPC Heat Exchanger Room (Rm No. 544)**

- (1) Fire Area—F4201
- (2) Equipment: See Table 9A.6-2

**Safety-Related****Provides Core Cooling**

Yes, D1 &amp; D2

No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The exterior wall of the room and the wall common with the steam tunnel (Rm 440) are of 3 h fire-resistive concrete construction. The remainder of the walls, the ceiling and the floor are concrete and are not rated as they are internal to fire area F4201. Access is provided by removing removable shield blocks which separate the two FPC heat exchanger rooms (Rms 544 and 545).
- (5) Combustibles Present:

**Fire Loading****Total Heat of Combustion (MJ)**

Cable Tray

727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup>  
maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.8-B.1.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.8-B.1/Manual
ABC hand extinguishers	Col. 1.8-B.1/ Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes loss of the function, which is not safety-related.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in the corridor, external to the rooms containing safety-related equipment
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None.

**9A.4.1.5.27 Instrument Piping Penetration Room (Rm No. 511)**

(1) Fire Area—F1101

(2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
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Yes, D1	Yes, D1
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(3) Radioactive Material Present—None that can be released as a result of fire.

(4) Qualifications of Fire Barriers—The ceiling and walls common to the steam tunnel room (Rm No.517) and corridor A (Rm 510) are fire barriers and are of 3 h fire-resistive concrete construction. The containment serves as one wall of the room. The floor is internal to fire area F1101 and is not fire rated. Access is from the steam tunnel access room (Rm 511) through a non-fire rated door.

(5) Combustibles Present:

<b>Fire Loading Total</b>	<b>Total Heat of Combustion (MJ)</b>
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Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.
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(6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 5.5-A.9.

(7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
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Standpipe and hose reel	Col. 5.5-A.9/Manual
ABC hand extinguishers	Col. 5.5-A.9/ Manual

(8) Fire Protection Design Criteria Employed:

(a) The function is located in a separate fire-resistive enclosure.

(b) Fire detection and suppression capability is provided and accessible.

(c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

(d) All penetrations are within a single fire area.

- (9) Consequences of Fire—The postulated fire assumes loss of the function. Three divisions of redundant penetrations are provided in other fire areas.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in the corridor, external to the rooms containing the main safety-related equipment
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—None.

#### **9A.4.1.5.28 Clean Area Access Room (Rm No. 517)**

- (1) Fire Area—F3300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—All walls and a section of the floor, common to fire areas F4101 and F4301 below, are of 3 h fire-resistive concrete construction. The ceiling is internal to fire area F3300 above and is not fire rated. Three h fire-resistive doors provide access and egress from the D/G A control room (Rm (516), the D/G C control room (Rm 536), the elevator (Rm 317) and the stairwell (Rm 316).



- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.3-C.2 and 6.3-D.2.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.3-C.2 & 6.3-D.2/Manual
ABC hand extinguishers	Col. 6.3-C.2 & 6.3-D.2/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes loss of the function.

Smoke from a fire will be removed by the EHVAC(C) system operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Provision of raised supports for the equipment
- (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.

- (b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—None.

#### **9A.4.1.5.29 Division 1 Electrical Penetration Room (Rm No. 518)**

(1) Fire Area—F1101

(2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

(3) Radioactive Material Present—None that can be released as a result of fire.

(4) Qualifications of Fire Barriers—The floor is not rated as it is internal to fire area F1101. The containment forms one wall and the remaining walls are of 3 h fire-resistive concrete construction. The ceiling is common to fire area F4301 above and is of 3 h fire-resistive concrete construction. Access to the room is provided from the corridor A (Rm 510) through a 5 psid, 3 h fire rated door.

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	1454 MJ/m <sup>2</sup> ECLL (1454 MJ/m <sup>2</sup> maximum average) applies.

(6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.5-A.9 and 5.9-F.2.

(7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.5-A.9 & 5.9-F.2/Manual
ABC hand extinguishers	Col. 5.5-A.9 & 5.9-F.2/Manual

(8) Fire Protection Design Criteria Employed:

(a) The function is located in a separate fire-resistive enclosure.

- (b) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. A redundant means of providing cooling to the spent fuel pool is through the RHR System.  
  
Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

**9A.4.1.5.30 Service Corridor B (Rm No. 527)**

- (1) Fire Area—F3202
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—A portion of the floor and the wall common with corridors B and D (Rms 520 and 547) are fire barriers and are of 3 h fire-resistive concrete construction. The floor and remaining walls are internal to fire area F4102

and are not fire rated. Access is from stair No.4 (Rm 327) and elevator No.4 (Rm 328) via 3 h fire rated doors. This corridor provides access to the DG control panel B room (Rm 524) and the RIP transformer room (Rm 541).

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at 1.6-D.5.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.6-D.5/Manual
ABC hand extinguishers	Col. 1.6-D.5/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes loss of the function. Temporary loss of access to the adjacent rooms is acceptable.

Smoke from a fire will be removed by the EHVAC(B) system operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in the corridor with a backup from the floor below

- (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

#### **9A.4.1.5.31 Division 2 Electrical Penetration Room (Rm No. 528)**

- (1) Fire Area—F4201
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—One wall of the room is formed by the containment. All remaining walls serve as fire barriers and are of 3 h fire-resistive concrete construction. The floor is internal to fire area F1200 and is not fire rated. The ceiling is common to fire area F4201 above and is of 3 h fire-resistive concrete construction. Access to the room is via a 3 h fire-resistive door from corridor B (Rm 520).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	1454 MJ/m <sup>2</sup> ECLL (1454 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col.2.1-F.1 and 1.8-B.1.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.1-F.1 & 1.9-B.1/Manual
ABC hand extinguishers	Col. 2.1-G.1 & 1.8-B.1/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) All penetrations are within a single fire area.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—The room contains cable in conduit only.

**9A.4.1.5.32 Division 3 Electrical Penetration Room (Rm No. 532)**

- (1) Fire Area—F1300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—One wall of the room is formed by the containment. The remaining walls serve as fire barriers and are of 3 h fire-resistive concrete construction. The floor is common with fire area F1300 below and is not fire rated. The ceiling is common with fire area F4301 above and is of 3 h fire-resistive concrete construction. A 3 h fire-resistive curbed door provides access from Corridor C (Rm 530B).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	1454 MJ/m <sup>2</sup> ECLL (1454 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.9-F.2.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Ordinary hazard wet pipe sprinklers, Hatch Area/Manual having a water density of 6.1 L/min/m <sup>2</sup> and a coverage of 9 m <sup>2</sup> per head	
Standpipe and hose reel	Col. 5.9-F.2 & 5.5-A.9/Manual
ABC hand extinguishers	Col. 5.9-F.2 & 5.5-A.9/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system in the corridor, external to the rooms containing main safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

#### **9A.4.1.5.33 Pits and Pools (Rm No. 538, 539)**

Rooms 538 and 539 are extensions of the pits and pools described for floor six. They are not open to this floor. See the floor six section on pits and pools for a discussion of these rooms.



**9A.4.1.5.34 RIP Transformer Room (Rm No. 541)**

- (1) Fire Area—F3200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The floor and the wall common with corridor D (Rm 547) are fire barriers and are of 3 h fire-resistive concrete construction. The ceiling and remaining walls are internal to fire area F4102 and are not fire rated. Access is from corridor B (Rm 527) via a nonrated door.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 1.6-D.5.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.6-D.5/Manual
ABC hand extinguishers	Col. 1.6-D.5/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes loss of the function. There are 8 other RIP transformers located elsewhere.

Smoke from a fire will be removed by the EHVAC(B) system operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system in the corridor with a backup from the floor below
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

#### **9A.4.1.5.35 FPC Heat Exchanger Room (Rm No. 545)**

- (1) Fire Area—F4201
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—One wall of the room is formed by the building exterior wall. The remaining walls and the floor are internal to fire area F4201 and are not fire rated. A section of the ceiling is common to fire area F6201 above and is of 3 h fire-resistive concrete construction.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.8-B.1 and 2.1-F.1.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.1-F.1 & 1.8-B.1/Manual
ABC hand extinguishers	Col. 2.1-F.1 & 1.8-B.1/ Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes loss of the function.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in the corridor, external to the rooms containing safety-related equipment
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None.

**9A.4.1.5.36 Corridor D (Rm No. 547)**

- (1) Fire Area—F4201
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls common with clean access area D/B (Rm 440), transformer room (541) and the division 4 electrical penetration room (543) are of 3 h fire-resistive concrete construction. The remainder of the walls are not fire rated. A section of the floor, common to fire area F3400 below, and ceiling common to fire area F3200 above, is of 3 h fire-resistive concrete construction. The remainder of the floor and ceiling are concrete and are not fire rated as they are internal to fire area F4201. Corridor D opens directly into corridor B (Rm 520). There are nonrated doors from corridor D to the FPC heat exchanger room (Rm 545), the FPC pump room (Rm 546) and FPC valve room (Rm 542). A 3 h fire-resistive door provides access from corridor D to the division 4 electrical penetration room (Rm 543).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.8-B.1 and 2.1-F.1.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.8-B.1 & 2.1-F.1/Manual
ABC hand extinguishers	Col. 1.8-B.1 & 2.1-F.1/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. Access to the corridor is from one end only. The corridor does not provide access to any area containing equipment required for safe shutdown of the plant.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in the corridor, external to the rooms containing safety-related equipment
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None.

**9A.4.1.5.37 Upper Drywell (Rm No.591)**

- (1) Fire Area—F4901
- (2) Equipment: See Table 9A.6-2 for this elevation. Devices within the upper drywell are also listed at floor elevation 12300 mm.

Note: Section 9A.4.1.4.1 applies for the remainder of the information for the upper drywell. See that section for additional information.

**9A.4.1.6 Building—Reactor Bldg EI 23500 mm and 27200 mm****9A.4.1.6.1 Cross Corridor A (Rm No. 614)**

- (1) Fire Area—F6102
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The exterior wall, inside wall, ceiling and floor of this corridor are of 3 h fire-resistive construction. This corridor extends across the reactor building. At the west end of the corridor, a 3 h fire-resistive door opens to the electrical equipment room (Rm 640). At the other end of the corridor, a 3-hour fire-rated door opens into D/G (A) exhaust fan area (Rm 613).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.0-B.2 and 6.2-B.0.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.0-B.2 & 6.2-B.0/Manual
ABC hand extinguishers	Col. 1.0-B.2 & 6.2-B.0/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—Alternate routes to the areas interconnected by the corridor are provided.

Smoke from a fire will be removed by the EHVAC(A) system operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in rooms adjacent to the corridor
- (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None.

**9A.4.1.6.2 D/G Fuel Day Tank A Room (Rm No. 610)**

- (1) Fire Area—F6101
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None
- (4) Qualifications of Fire Barriers—The walls, ceiling and floor serve as fire barriers between adjacent fire areas and are of 3 h fire-resistive concrete construction. Two 3 h fire-resistive doors provide access from D/G equipment room (A) (Rm 613). The sunken volume of the room is adequate to hold the entire contents of the day tank if an uncontrolled leak should occur.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
12,113 liters of Diesel fuel	5.28E+04

- (6) Detection Provided—Class A supervised rate-compensated thermal detectors and infrared detectors. The detection system is a cross-zoned system requiring two detectors, one in each zone, to sense fire before initiating the deluge foam-water sprinkler system. The system alarms on any single detector sensing fire. Manual alarm pull stations are provided at Col. 6.2-B.0 and 6.6-D.0.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Deluge from water sprinkler system. Audible alarms are provided.	Initiated by Class A cross zone (thermal infrared) detectors/Automatic
Standpipe and hose reel	Col. 6.2-B.0 & 6.6-D.0/Manual
ABC hand extinguishers	Col. 6.2-B.0 & 6.6-D.0/Manual



(8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

(9) Consequences of Fire—The postulated fire assumes the loss of the function. Diesel generators B and C would not be affected.

Smoke from a fire will be removed by the EHVAC(A) system operating in its smoke removal mode.

(10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

(11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in an area external to the D/G (A) fuel day tank room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)
- (e) Cross-zone detectors to initiate deluge foam-water sprinkler system
- (f) Provision of rate-compensated thermal detectors (less susceptible to dust and combustion products which may be in the D/G room), and infrared detectors initiating system alarm

(12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—The sunken volume of the room is adequate to hold the entire contents of the day tank if an uncontrolled leak should occur.

**9A.4.1.6.3 AC Filter/Fan Area (Rm No. 615)**

- (1) Fire Area—F4301
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls common with the dryer/separator pit, reactor well; the floor and the walls common with cross corridor A (Rm No.614), the elevator (area 192) and stairwell (area 292) are of 3 h fire- resistive concrete construction. The remainder of the walls and ceiling are not rated as they are internal to fire area F4301. A section of the floor is common to fire area F4101 below and is of 3 h fire-resistive concrete construction. The remainder of the floor is part of the containment and is of greater than 3 h fire-resistive concrete construction. The ceiling is internal to fire area F4301 and is not fire rated. Access to Rm 615 is provided by elevator (area 192), stair well Rm 292 and a corridor from room 643 via a 3 h fire-resistive door. Access to room 615 is also provided directly from room 634 which is in the same fire area. A 3 h fire-resistive damper is installed in the HVAC duct which passes through the floor next to the elevator (area 192) from fire area F4301 down to fire area F4101 on the 18100 mm elevation directly below.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 5.2-B.6 and 5.2-D.8.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.2-B.6 & 5.2-D.8/Manual
ABC hand extinguishers	Col. 5.2-B.2 & 5.2-D.8/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a room separate from the rooms which contain safety-related equipment.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. There are no emergency core cooling or safe shutdown system components in the area.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system internal to this non safety-related room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

**9A.4.1.6.4 D/G (A) Equipment Room (Rm No. 613)**

- (1) Fire Area—F4102

- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls common with the fuel day tank area (Rm 610), the D/G (A)/Z HVAC room (Rm 612), the valve maintenance room (Rm 616), the D/G A and C access room (Rm 638) and stairwell areas (Rm 316 and Rm 195) serve as fire barriers between adjacent fire areas and are of 3 h fire-resistive concrete construction. A section of the ceiling under the FMRCDD panel room (Rm 654—fire area F3300) and a section of the floor over rooms 510, 514 and 517 below (fire areas F4101 and F3300) are also of 3 h fire-resistive concrete construction. Access to the area is provided from room 638 through a 3 h fire-resistive door. Access is also provided from room 614 through a 3-hour fire rated door.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 6.2-B.0 and 6.6-D.0.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.2-B.0 & 6.6-D.0/Manual
ABC hand extinguishers	Col. 6.2-B.0 & 6.6-D.0/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Diesel generators B and C would not be affected.

Smoke from a fire will be removed by the EHVAC(A) system operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Provision of raised supports for the equipment
  - (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

#### **9A.4.1.6.5 D/G (A)/Z HVAC Room (Rm No. 612)**

- (1) Fire Area—F4100
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—With the exception of the exterior wall where the ventilation opening to the outside is located, the remaining walls are all of a 3 h fire-resistive concrete construction. A portion of the floor over the D/G control Panel A area (Rm 516) and the entire ceiling are of a 3 h fire-resistive concrete construction. The remaining portion of the floor is within fire area F4100 and is not required to be a fire barrier. Access to this room is via a 3 h resistive door from the D/G (A) equipment room (Rm 613). The pipe chase for the D/G (A) exhaust stack is accessed through this room.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.
Bag Filters	Variable, depending on the amount of dust and debris collected.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.2-B.0 and 6.6-D.0.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.2-B.0 & 6.6-D.0/Manual
ABC hand extinguishers	Col. 6.2-B.0 & 6.6-D.0/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the Emergency supply fan (A) if the diesel is running or if manually initiated.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual hose suppression system external to the room

- (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—Due to the large ventilation openings in the floor, this room must be considered as an extension of the diesel generator room below.

#### **9A.4.1.6.6 SRV/MSIV Maintenance Room (Rm No. 616)**

- (1) Fire Area—F4301
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None, normally. Low level contamination may be present during maintenance operations on safety relief valves, any radiation release is contained within containment.
- (4) Qualifications of Fire Barriers—The walls common to the D/G (A) exhaust fan room (Rm 613) and access room (Rm 638) serve as fire barriers between adjacent fire areas and are of 3 h fire-resistive concrete construction. The remainder of the walls are internal to fire area F4301 and are not fire rated. A section of the floor is common to fire areas F4101, F1100 and F1300 below and is of 3 h fire-resistive concrete construction. The remainder of the floor is internal to fire area F4301 and is not fire rated. The ceiling is internal to fire area F4301 and is not fire rated. Access to the room is provided from room 615 and room 634 by non fire rated doors. There is a floor hatch at each end of the room for bringing the valves up from the floor below.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None, normally small amounts of cleaning fluid during SRV maintenance periods	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col.5.2-B.6 and 5.2-D.8.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.2-B.6 & 5.2-D.8/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a room separate from the rooms which contain safety-related equipment.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes loss of the function. The function is not safety-related.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.



- (b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—None.

#### **9A.4.1.6.7 ISI Test Room (Rm No. 617)**

- (1) Fire Area—F4301
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls and a section of the ceiling are not fire rated as they are internal to fire area F4301. The remainder of the ceiling is common to room 659 (fire area F6100) above and is of 3 h fire-resistive concrete construction. The floor is part of the containment and is equivalent to greater than 3 h fire-resistive concrete construction. Access to room 617 is provided from room 615 through a non fire rated door.
- (5) Combustibles Present—No significant amount of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC detection system in the room and alarm pull station at Col. 5.2-B.6 and 5.2-D.8.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.2-B.6 & 5.2-D.8/Manual
ABC hand extinguishers	Col. 5.2-B.6 & 5.2-D.8/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a room separate from the rooms which contain safety-related systems.
  - (b) Fire detection and suppression is provided and accessible.

- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. There are no emergency core cooling or safe shutdown system components in the area.  
  
Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe rupture unlikely
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

#### **9A.4.1.6.8 D/G (C) Equipment Room (Rm 633)**

- (1) Fire Area—F4302
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—All walls are of 3 h fire-resistive concrete construction. A section of the ceiling under the FMCRD panel room (Rm 654, fire area F3300) and a section of the floor over the D/G Fan and HVAC room (Rm 533,

fire area F4300) are of a 3 h fire-resistive concrete construction. All doors are 3 h fire-resistive doors. Access to the room is from the corridor (Rm 635) and clean access area A/C Room (Rm 638).

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

Small amounts of lubricants.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 6.6-D.0. and 6.5-E.8.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.6-D.0& 6.5-E.8/Manual
ABC hand extinguishers	Col.6.6-D.0 & 6.5-E.8/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Diesel generators A and B would not be affected.

Smoke from a fire will be removed by the EHVAC(C) system operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of manual suppression system external to the room containing the main safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

#### **9A.4.1.6.9 D/G (C)/Z HVAC Room (Rm No. 632)**

- (1) Fire Area—F4300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—With the exception of the exterior wall where the ventilation opening to the outside is located, the remaining walls are all of 3 h fire-resistive concrete construction. A portion of the floor over the D/G control Panel C area (Rm 536) and the entire ceiling are of a 3 h fire-resistive concrete construction. The remaining portion of the floor is within fire area F4300 and is not required to be a fire barrier. Access to this room is via a 3 h fire-resistive door from the D/G (C) equipment room (Rm 633). The pipe chase for the D/G C exhaust stack is accessed through this room.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.
Bag Filters	Variable, depending on the amount of dust and debris collected.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.5-E.8 and 6.6-D.0.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.5-E.8 & 6.6-D.0/Manual
ABC hand extinguishers	Col. 6.5-E.8 & 6.6-D.0/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The postulated fire assumes the loss of the function. Diesel generators A and B would not be affected.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The Provisions for core cooling systems backup. are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the emergency supply fan (C) if the diesel is running or if initiated manually.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual hose suppression system external to the room
- (b) Provision of raised supports for the equipment

- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—Due to the large ventilation openings in the floor, this room must be considered as an extension of the diesel generator room below.

#### **9A.4.1.6.10 D/G Fuel Day Tank C Room (Rm No. 630)**

- (1) Fire Area—F6301
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None
- (4) Qualifications of Fire Barriers—The walls, ceiling and floor serve as fire barriers between adjacent fire areas and are of 3 h fire-resistive concrete construction. Two 3 h fire-resistive doors provide access from D/G control room C (Rm 633).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
12,113 liters of Diesel fuel	5.28E+04

- (6) Detection Provided—Class A supervised rate-compensated thermal detectors and infrared detectors. The detection system is a cross-zoned system requiring two detectors, one in each zone, to sense fire before initiating the deluge foam-water sprinkler system. The system alarms on any single detector sensing fire. Manual alarm pull stations are provided at Col. 6.5-E.8 and 6.6-D.0.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Deluge foam-water sprinkler system. Audible alarms are provided.	Initiated by Class A cross zone (thermal and infrared) detectors/Automatic
Standpipe and hose reel	Col. 6.5-E.8 & 6.6-D.8/Manual
ABC hand extinguishers during significant outage work.	Col. 6.5-E.8 & 6.6-D.8/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. Diesel generators A and B would not be affected.

Smoke from a fire will be removed by the EHVAC(C) system operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room containing the D/G (C) fuel day tank
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)
- (e) Cross-zone detectors to initiate deluge foam-water sprinkler system
- (f) Provision of rate-compensated thermal detectors (less susceptible to dust and combustion products which may be in the D/G room), and infrared detectors initiating system alarms

- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—The sunken volume of the room is adequate to hold the entire contents of the day tank if an uncontrolled leak should occur.

#### **9A.4.1.6.11 Hatch and Corridor B/C Room (Rm No. 634)**

- (1) Fire Area—F4301
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The exterior wall, and walls common to the spent fuel pool are of 3 h fire-resistive concrete construction.

One section of the floor is common to fire area F4201 on the floor below and is of 3 h fire-resistive concrete construction. Another section of the floor is over the containment and exceeds 3 h fire-resistive concrete construction. The remainder of the floor is internal to fire area F4301. An equipment hatch in room 634 is open to rooms 530A and 430A below, and room 734 above when the hatch cover in room 734 is removed. These rooms are all in the same fire area F4301. A 3 h fire-resistive door provides access to room 634 from room 622. Room 634 connects directly into room 615 which is in the same fire area. A section of the ceiling is common to rooms 658 and 659 above (fire area F6100) and therefore is of 3 h fire-resistive concrete construction. Another section of ceiling is common to room 635 above (fire area F4300) and is also 3 h fire-resistive concrete construction. The remaining ceiling of room 634 is common to room 734 above which is in the same fire area and is not fire rated.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies



- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.2-D.8 and 2.8-F.1.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.2-D.8 & 2.8-F.1/Manual
ABC hand extinguishers	Col. 5.2-D.8 & 2.8-F.1/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—Alternate routes to the areas interconnected by the corridor are provided.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in rooms adjacent to the corridor
- (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—None.

**9A.4.1.6.12 Corridor B SLC Area (Rm No. 622)**

- (1) Fire Area—F4201
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1, and D2	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The ceiling, the walls common with the spent fuel pool (Rm 693), the new fuel storage pit and the new fuel inspection pit (Rms 664 and 665 respectively), the D/G (B) exhaust fan room (Rm 625), the elevator (Rm 194) and stairwell area (Rm 293) serve as fire barriers between adjacent fire areas and are of 3 h fire-resistant concrete construction. The remainder of the walls and floor are not rated as they are internal to fire area F4201. Access is provided from the elevator and stairwell, and from cross-corridor B/C (Rm 634) through a 3 h fire-resistive door. A hallway (Rm 643) opens directly into the room.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col.2.8-F.1 and 2.7-C.0.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.7-C.0& 2.8-F.1/Manual
ABC hand extinguishers	Col. 2.7-C.0 & 2.8-F 1/ Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.

- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function of equipment in the room. The systems in the room are not required to be single failure proof against fire.  
  
Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Provision of raised supports for the equipment
  - (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—The SLC injection pumps and tanks are located in a curbed pit in the corridor and are vulnerable to loss by a single fire.

**9A.4.1.6.13 D/G Fuel Day Tank Room B (Rm No. 620)**

- (1) Fire Area—F6201
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None
- (4) Qualifications of Fire Barriers—The walls, ceiling and floor serve as fire barriers between adjacent fire areas and are of 3 h fire-resistive concrete construction. Two 3 h fire-resistive doors provide access from the D/G B equipment room (Rm 625).

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
12,113 liters of Diesel fuel	5.28E+04

- (6) Detection Provided—Class A supervised rate-compensated thermal detectors and infrared detectors. The detection system is a cross-zoned system requiring two detectors, one in each zone, to sense fire before initiating the deluge foam-water sprinkler system. The system alarms on any single detector sensing fire. Manual alarm pull stations are provided at Col.1.4-D.7.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Deluge foam-water sprinkler system. Audible alarms are provided.	Initiated by Class A cross zone (thermal and infrared detectors/Automatic
Standpipe and hose reel.	Col. 1.4-D.7/Manual
ABC hand extinguishers.	Col. 1.4-D.6/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Diesel generators A and C would not be affected.

Smoke from a fire will be removed by the EHVAC (B) system operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system in an area external to the room containing the main safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
  - (e) Cross-zone detectors to initiate deluge foam-water sprinkler system
  - (f) Provision of rate-compensated thermal detectors (less susceptible to dust and combustion products which may be in the D/G room), and infrared detectors initiating system alarms
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—The sunken volume of the room is adequate to hold the entire contents of the day tank if an uncontrolled leak should occur.

#### **9A.4.1.6.14 D/G (B) Equipment Room (Rm No. 625)**

- (1) Fire Area—F4202
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—All walls are of 3 h fire-resistive construction. A section of the ceiling below the FMCRD panel room (Rm 681, fire, F7200) is of 3 h fire-resistive concrete construction. Sections of the floor above the D/G Fan and HVAC room B (Rm 524), and the service corridor B (Rm 527) are of 3 h fire-resistive concrete construction. Access to the area is provided from the stairs and elevator (areas 329 and 328 respectively), from corridor Rm 635 (via corridor Rm 626) and from the electrical equipment room (Rm 640). Each access route is through a 3 h fire-resistive door.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at 1.4 D.7, 1.0-B.2.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.4-D.7, and 1.0-B.2/Manual
ABC hand extinguishers	Col. 1.4-D.7, and 1.0-B.2/ Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Diesel generators A and C would not be affected.

Smoke from a fire will be removed by the EHVAC (B) system operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Provision of raised supports for the equipment
- (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None.

**9A.4.1.6.15 D/G (B)/Z HVAC Room (Rm No. 624)**

- (1) Fire Area—F4200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—With the exception of the exterior wall where the ventilation opening to the outside is located, the remaining walls are all of a 3 h fire-resistive concrete construction. A portion of the floor above the D/G control panel B area (Rm 524) and the entire ceiling are of 3 h fire-resistive concrete construction. The remaining portion of the floor is within fire area F4200 and is not required to be a fire barrier. Access to this room is via a 3 h fire-resistive door from the D/G (B) equipment room (Rm 625). The pipe chase for the D/G B exhaust stack is accessed through this room.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies
Bag Filters	Variable, depending on the amount of dust and debris collected.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.4-D.7 and 1.0-B.2.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel.	Col. 1.4-D.7 & 1.0-B.2/Manual
ABC hand extinguishers.	Col. 1.4-D.6 & 1.0-B.2/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the emergency supply fan (B) if the diesel is running or if initiated manually.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual hose suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—Due to the large ventilation openings in the floor, this room must be considered as an extension of the diesel generator room below.



**9A.4.1.6.16 ISI Inspection (Rm No. 639)**

- (1) Fire Area—F4301
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—All four walls, the floor and ceiling are internal to fire area F4301 and therefore are not fire rated.
- (5) Combustibles Present—No significant amount of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC detection system in the room and alarm pull station at 5.2-D.8 and 5.2-B.6.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	5.2-D.8 & 5.2-B.6/Manual
ABC hand extinguishers	5.2-D.8 & 5.2-B.6/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) Fire detection and suppression capability is provided and accessible.
  - (b) Fire stops are provided for cable tray and piping penetration through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function.  
  
Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual hose suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

**9A.4.1.6.17 Not Used****9A.4.1.6.18 Not Used****9A.4.1.6.19 Corridor D (Rm No. 643)**

- (1) Fire Area—F4201
- (2) Equipment—See Table 9A.6-2

**Safety-Related****Provides Core Cooling**

No

No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The walls common with the electrical equipment room (Rm 640), the SGTS A filter train room (Rm 642), corridor room (Rm 614), the floor above the steam tunnel and the ceiling serve as fire barriers between adjacent fire areas and are of 3 h fire-resistive concrete construction. A 3 h fire rated door provides access from the AC filter/fan area (Rm 615). Room 643 connects directly into room 622.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at 2.7-C.0 and 2.8-F.1.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.7-C.0,& 2.8-F.1/Manual
ABC hand extinguishers	Col. 2.7-C.0,& 2.8-F.1/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Loss of the SGTS by an exposure fire is acceptable.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Provision of raised supports for the equipment
- (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None.

**9A.4.1.6.20 SGTS B Division 2 Room (Rm No. 641)**

- (1) Fire Area—F4201
- (2) Equipment: See Table 9A.6-2

**Safety-Related****Provides Core Cooling**

Yes, D2

No

- (3) Radioactive Material Present—Filters within their housing may become contaminated with use. Releases up the stack could occur as a result of fire. However, the system is capable of being isolated in case of any fire, and burn itself out by cutting the oxygen to the fire.
- (4) Qualifications of Fire Barriers—The walls common with the electrical equipment room (Rm 640), the SGTS A division 3 room (Rm 642), the ceiling, and a section of the floor common to fire area F3400 (Rm 543) below serve as fire barriers between adjacent fire areas and are of 3 h fire-resistive concrete construction. The remainder of the floor (not common to F3400), the wall common with SLC Area and corridor B room 622 are not rated as they are internal to fire area F4201. A non-fire rated door provides access from corridor D (Rm 643).
- (5) Combustibles Present:

**Fire Loading****Total Heat of Combustion (MJ)**

Cable Tray

727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup>  
maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 2.7-C.0 and 2.8-F.1.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.7-C.0 & 2.8-F.1/Manual
ABC hand extinguishers	Col. 2.7-C.0 & 2.8-F.2/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes loss of function. The complete loss of the SGTS B as a consequence of a single fire is acceptable. Functional backup is provided by SGTS A (Div. III).

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in the corridor, external to the rooms containing the main safety-related equipment
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None.

**9A.4.1.6.21 SGTS A Division 3 Room (Rm No. 642)**

- (1) Fire Area—F4301
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	No

- (3) Radioactive Material Present—Filters within their housings may become contaminated with use. Releases up the stack could occur as a result of fire. However, the system is capable to be isolated in case of any fire, and burn itself out by cutting off the oxygen to the fire.
- (4) Qualification of Fire Barriers—The walls and floor serve as fire barriers between adjacent fire areas and are of 3 h fire-resistive concrete construction. The ceiling is common with the fire area above (F4301), therefore is not required to be of a 3 h fire barrier. A 3 h fire-resistive curbed door provides access from the corridor D (Rm 643).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 2.7-C.0 and 2.8-F1.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.7-C.0 & 2.8-F1/Manual
ABC hand extinguishers	Col. 2.7-C.0 & 2.8-F2/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.

- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes loss of function. The complete loss of the SGTS A as a consequence of a single fire is acceptable. Functional backup is provided by SGTS B (Div. II).

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in the corridor, external to the rooms containing the main safety-related equipment
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—None.

#### **9A.4.1.6.22 Not Used**

#### **9A.4.1.6.23 Not Used**

#### **9A.4.1.6.24 Upper D/G A HVAC Room (Rm No. 653)**

- (1) Fire Area—F4102
- (2) Equipment: See Table 9A.6-2

#### **Safety-Related**

#### **Provides Core Cooling**

Yes, D1

Yes, D1

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls in common with stairwell (Rm 292), the duct space next to the stairwell, the valve maintenance room (Rm 616), the FMCRD panel room (Rm 654), one exterior wall, sections of the floor over Rooms 610, 612, 613 and the ceiling serve as fire barriers between adjacent fire areas and are of 3 h fire-resistive concrete construction. The remainder of the walls and floor are not fire rated as they are internal to fire area F4102. One exterior wall has ventilation openings to the outside and therefore is not fire rated. Access to room 653 is provided from room 654 through a 3 h fire-resistive door. One corner of the floor has a 1.75 meter step up in it to provide more space for the day tank in the room below.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies
Bag Filters	Variable, depending on the amount of dust and debris collected.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at 6.8 C.0, 6.4-E.5.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.8-C.0 and 6.4-E.5/Manual
ABC hand extinguishers	Col. 6.8-C.0 and 6.4-E.5/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Diesel generators B and C would not be affected.



Smoke from a fire will be removed by the EHVAC (A) system operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Provision of raised supports for the equipment
  - (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

#### **9A.4.1.6.25 FMCRD A/C Panel Room (Rm No. 654)**

- (1) Fire Area—F3300
- (2) Equipment: See Table 9A.6-2

<b>Safety-related</b>	<b>Provides Core Cooling</b>
Yes, D1,D3	Yes, D1

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The walls in common with the D/G A supply fan room (Rm 653), the D/G C supply fan room (Rm 673), the valve maintenance room (Rm 616), the stairwell (Rm 316), the elevator (Rm 317), the exterior wall, and two sections of floor over rooms 613 and 633 below (fire areas F4100 and F4300 respectively) are of 3 h fire-resistive concrete construction. The ceiling is not fire rated as it is internal to fire area F3300. Access to room 654 is provided from the stairwell (Rm 316), the elevator (Rm 317) and rooms 653 and 673 through 3 h fire-resistive doors.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at 6.8 C.0 and 6.4-E.5.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel 1.1-D.0/Manual	Col. 6.8-C.0, and 6.4-E.5/ Manual
ABC hand extinguishers	Col. 6.8-C.0, and 6.4-E.5/ Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. See Section 9A.5 for explanation of consequences of fire on the FMRC system.

Smoke from a fire will be removed by the EHVAC(C) system operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Provision of raised supports for the equipment
- (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None.

**9A.4.1.6.26 Not Used****9A.4.1.6.27 Not Used****9A.4.1.6.28 Not Used****9A.4.1.6.29 Not Used****9A.4.1.6.30 Upper D/G C HVAC Room (Rm No. 673)**

- (1) Fire Area—F4302
- (2) Equipment: See Table 9A.6-2

**Safety-Related****Provides Core Cooling**

Yes, D3

Yes, D3

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The walls in common with the day tank C room, the SRV/MSIV maintenance room (Rm 616), the FMCRD panel room (Rm 654), the exterior walls, sections of floor over the day tank C room (Rm 630), the D/G (C)/Z HVAC Room (Rm 632) and the section of ceiling in common with fire area F3300 (Rm 715) are of 3 h fire-resistive concrete construction. The remaining walls, floor and ceiling are not fire rated as they are internal to fire area F4302. Access to room 673 is from room 654 through 3 h fire-resistive doors.
- (5) Combustibles Present:

**Fire Loading****Total Heat of Combustion (MJ)**

Cable Tray

727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies

Bag Filters

Variable, depending on the amount of dust and debris collected

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at 6.8-C.0 and 6.4-E.5.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.8-C.0, 6.4-E.5/Manual
ABC hand extinguishers	Col. 6.8-C.0, 6.4-E.5/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Diesel generators A and B would not be affected.

Smoke from a fire will be removed by the EHVAC(C) system operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of two manual suppression systems external to the room containing the main safety-related equipment
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—None.

#### **9A.4.1.6.31 Not Used**

#### **9A.4.1.6.32 Upper D/G B HVAC Room (Rm No. 663)**

- (1) Fire Area—F4202
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—One exterior wall, the walls in common with the FMCRD panel room (Rm 681), the day tank room (Rm 620), the PVC purge exhaust fan room (Rm 623), the section of floor over the day tank room (Rm 620), the D/G (B)/Z HVAC room (Rm 624), and ceiling are of 3 h fire-resistive concrete construction. The remainder of the concrete floor is internal to fire area F4202 and the remaining concrete exterior wall has a ventilation opening to the outside, therefore they are not fire rated. Access to room 663 is through a 3 h fire-resistive door from room 681.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies
Bag Filters	Variable, depending on the amount of dust and debris collected.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.4-E.0 and 1.7-C.0.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.4-E.0 & 1.7-C.0/Manual
ABC hand extinguishers	Col. 1.4-E.0 & 1.7-C.0/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The Provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the EHVAC(B) system operation in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual hose suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—None.

#### **9A.4.1.6.33 Upper Corridor B (Rm No. 626)**

- (1) Fire Area—F4200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—The ceiling, the building exterior wall, the wall common with the SLC Area (Rm 622), the wall common with D/G fuel day tank room (Rm 620), the wall common with the stair well (Rm 193), and the portion of the floor over SLC Area (Rm 622) serves as a fire barriers of 3 h fire-resistive concrete construction. The remaining wall and floor are not fire rated as they are within fire area F4200. Access to this room is provided via a 3 h fire-resistive door from DG (C) corridor (Rm 635), and via a non-rated door from DG (B) equipment room (Rm 625).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 1.4-D.7.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.4-D.7/ Manual
ABC hand extinguishers	Col. 1.4-D.7/ Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a separate fire-resistive enclosure.

- (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function of the corridor. Alternate access routes are available.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (b) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Provision of curbs for doorways.
- (13) Remarks—None.

#### **9A.4.1.6.34 Not Used**

#### **9A.4.1.6.35 FMCRD D/B Panel Room (Rm No. 681)**

- (1) Fire Area—F7200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2 & D3	No

- (3) Radioactive Material Present—None that can be released as a result of fire.



- (4) **Qualifications of Fire Barriers**—All walls, the ceiling, and the floor are of 3 h fire-resistive concrete construction. Access to room 681 is from stair well (Rm 329) and elevator (Rm 328) via 3 h rated fire-resistive doors. The room provides access to D/G B upper fan room (Rm 663) and to the electrical room (Rm 680) through 3 h rated fire-resistive doors.

- (5) **Combustibles Present:**

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) **Detection Provided**—Class A supervised POC in the room and manual alarm pull stations at 1.4-E.0, 1.7-C.0.

- (7) **Suppression Available:**

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.4-E.0, and 1.7-C.0/Manual
ABC hand extinguishers	Col. 1.4-E.0, and 1.7-C.0/Manual

- (8) **Fire Protection Design Criteria Employed:**

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) **Consequences of Fire**—The postulated fire assumes the loss of the function. The effects of fire on the FMCRD system are discussed in Section 9A.5.

Smoke from a fire will be removed by the EHVAC(B) system operating in its smoke removal mode.

- (10) **Consequences of Fire Suppression**—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) **Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:**

- (a) Provision of raised supports for the equipment

(b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

(c) ANSI B31.1 standpipe (rupture unlikely)

(12) Fire Containment or Inhibiting Methods Employed:

(a) The functions are located in a separate fire-resistive enclosure.

(b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—None.

#### **9A.4.1.6.36 Not Used**

#### **9A.4.1.6.37 Not Used**

#### **9A.4.1.6.38 MS Tunnel HVH Room (Rm No. 685)**

(1) Fire Area—F4201

(2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

(3) Radioactive Material Present—None that can be released as a result of fire.

(4) Qualifications of Fire Barriers—All walls and the ceiling serve as fire barriers and are of 3hr fire-resistive concrete. The floor is concrete but is non rated as it is internal to fire area F4201. Access to this room is a stairway leading from a lower area internal to fire area F4201.

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

(6) Detection Provided—Class A supervised POC detection system in the room and manual alarm pull stations at Col. 2.7-C.0. (El. 23500 mm).

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col.2.7-C.0/Manual
ABC hand extinguishers	Col.2.7-C.0/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes loss of the function. There are no emergency core cooling or safe shutdown system components in the area.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual hose suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None.

**9A.4.1.6.39 Pits and Pools**

- (1) Fire Area—See individual pits and pools location.

The following pits and pools occupy space at this elevation of the building:

- (a) New Fuel Storage Pit (Rm 664)
- (b) Cask Washdown Pit (Rm 674)
- (c) D/S Transfer Canal (Rm 688)
- (d) D/S Pit (Rm 690)
- (e) Drywell Head Annulus (Rm 691)
- (f) Upper Drywell Head (Rm 692)
- (g) Fuel Transfer Canal (Rm 694)
- (h) Fuel Handling Pool (Rm 693)
- (i) Fuel Storage Pool (Rm 539)
- (j) Cask Pit (Rm 697)
- (k) New Fuel Inspection Pit (Rm 665)

- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes	No

- (3) Radioactive Material Present—None that can be released as the result of a fire.
- (4) All of the listed pits and pools are accessed from the operating floor and are not accessible at this elevation. For this reason, there is no effect on the fire protection features at this elevation. See the discussion for the operating floor for applicable fire protection feature. No further comments will be made in the analysis for this elevation.

**9A.4.1.6.40 PVC Purge Exhaust Fan (Rm No. 623)**

- (1) Fire Area—F4201

- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as the result of a fire.
- (4) Qualification of Fire Barrier—One wall is common to the D/G exhaust fan room 625 and another is common to corridor 626 and stairwell 293. These walls are of 3 h fire-resistive concrete construction. The remaining walls and floor are internal to fire area F4201 and are not fire rated. A section of the ceiling is common to a sunken section of room 721 (fire area F4301) and is of 3 h fire-resistive concrete construction. The remainder of the ceiling is internal to fire area F4201 and is not fire rated.
- (5) Combustibles Present—No significant amount of exposed combustibles.
- (6) Detection Provided—Class A supervised POC detection system in the room and alarm pull station at Col. 2.8-F.1 and 2.7-C.0.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.8-F.1 & 2.7-C.0/Manual
ABC hand extinguishers	Col. 2.8-F.1 & 2.7-C.0/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) Fire detection and suppression capability is provided and acceptable.
- (b) Fire stops are provided for cable tray and piping penetration through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function.
- Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (13) Remarks—None.

#### **9A.4.1.6.41 D/G C Corridor Room (Rm No. 635)**

- (1) Fire Area—F4300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None
- (4) Qualifications of Fire Barriers—All walls, the ceiling, and sections of the floor of corridor 635 that are not common to fire area F4300, are of 3 h fire-resistive concrete construction. A 3 h fire rated door connects corridor room 626 to corridor room 635. Access to corridor 635 is also provided from diesel generator room (Rm 633) through a non-fire-rated door.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.5-E.8 and 1.4-D.7.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.5-E.8 & 1.4-D.7/Manual
ABC hand extinguishers	Col. 6.5-E.8 & 1.4-D.7/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) Fire detection and suppression capabilities provided and accessible.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through fire rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function.

Smoke from a fire will be removed by the EHVAC(C) system operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None.

**9A.4.1.6.42 RIP Power Supply Room (Rm No. 638)**

- (1) Fire Area—F3300
- (2) Equipment: See Table 9A.6-2

Safety-Related	Provides Core Cooling
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No	No
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- (3) Radioactive Material Present—None
- (4) Qualification of Fire Barriers —All walls and a section of the floor common to rooms 510 and 530B below (fire areas F4101 and F4301 respectively) are of 3 h fire-resistive concrete construction. The remainder of the floor and the ceiling is internal to fire area F3300 and is not fire rated.
- (5) Combustibles Present—No significant amount of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC detection system in the room and alarm pull station at 6.2-B.0, 6.6-D.0 and 6.5-E.8 El 23500.
- (7) Suppression Available:

Type	Location/Actuation
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Standpipe and hose reel	6.2-B.0, 6.6-D.0 & 6.5-E.8 El 23500/Manual
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ABC hand extinguishers	6.2-B.0, 6.6-D.0 & 6.5-E.8 El 23500/Manual
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- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetration through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function.

Smoke from a fire will be removed by the EHVAC(C) system operating in its smoke removal mode.



- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual hose suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

#### **9A.4.1.6.43 Electrical Equipment Room (Rm No. 640)**

- (1) Fire Area—F6200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None that can be released as a result of fire.
- (4) Qualifications of Fire Barriers—All walls and the floor are of 3 h fire-resistive concrete construction. A section of the ceiling is common to the FMCRD room (Rm 681) above and is of 3 h fire-resistive concrete construction. The remainder of the ceiling is internal to fire area F6200 and is not fire rated. Access is provided from rooms 625 and 614 through 3 h fire-resistive doors.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at 1.0-B.2 and 1.4-D.7.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.0-B.2 & 1.4-D.7/Manual
ABC hand extinguishers	Col. 1.0-B.2 & 1.4-D.7/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a room separate from the rooms which contain safety-related equipment.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function.

Smoke from a fire will be removed by the EHVAC(B) system operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Provision of raised supports for the equipment
- (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—None.

**9A.4.1.6.44 Fission Product Monitoring (Rm No. 657)**

- (1) Fire Area—F4301
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	No

- (3) Radioactive Material Present—None that can be released as the result of a fire.
- (4) Qualification of Fire Barriers—All four walls, the ceiling floor and door are internal to fire area F4301 and therefore are not fire rated. Access to Rm 657 is provided via a stairwell from Rm 615 on the floor below.
- (5) Combustibles Present—No significant amount of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC detection system in the room and alarm pull station at 5.2-D.8 and 5.2-B.6, elevation 23500 mm.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	5.2-D.8 & 5.2-B.6 El 23500/ Manual
ABC hand extinguishers	5.2-D.8 & 5.2-B.6 El 23500/ Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) Fire detection and suppression capability is provided and accessible.
  - (b) Fire stops are provided for cable tray and piping penetration through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function.  
  
Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual hose suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

**9A.4.1.6.45 Room No. 658**

- (1) Fire Area—F4301
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present: None
- (4) Qualification of Fire Barriers—Three walls, the ceiling, floor and door are internal to fire area F4301 and therefore are not fire rated. A fourth wall is common to room 659 and is of 3 h fire-resistive concrete construction. Access to room 658 is via a stairway from room 616 on the floor below.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC detection system in the room and alarm pull station at 5.2-D.8 and 5.2-B.6, EI 23500.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	5.2-D.8 & 5.2-B.6 El 23500/ Manual
ABC hand extinguishers	5.2-D.8 & 5.2-B.6 El 23500/ Manual

## (8) Fire Protection Design Criteria Employed:

Fire detection and suppression capability is provided and accessible.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual hose suppression system external to the room
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None.

**9A.4.1.6.46 Containment Atmospheric Monitoring System (CAMS) Rack A (Rm No. 659)**

- (1) Fire Area—F6100
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	No

- (3) Radioactive Material Present
- (4) Qualification of Fire Barriers—All four walls, the ceiling, floor and door are of 3 h fire-resistive concrete construction. Access to room 659 is through room 658 through a 3 h fire rated door.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC detection system in the room and alarm pull station at 5.2-D.8 and 5.2-B.6, El 23500 mm.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	5.2-D.8 & 5.2-B.6 El 23500/ Manual
ABC hand extinguishers	5.2-D.8 & 5.2-B.6 El 23500/ Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetration through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function.
- Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual hose suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

#### **9A.4.1.6.47 Electrical Room (Rm No. 680)**

- (1) Fire Area—F6400
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The walls in common with the FMCRD room (Rm 681), the SGTS A filter train room (Rm 642), corridor B room (Rm 643), both exterior walls and the ceiling are of 3 h fire-resistive concrete construction. The floor is common to room 640 below and is not fire rated. Access to room 680 is provided from the FMCRD room via a 3 h fire-resistive door and directly from room 640 below via a stairwell.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at 1.7-C.0 and 1.4-E.0.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.7-C.0 & 1.4-E.0/Manual
ABC hand extinguishers	Col. 1.7-C.0 & 1.4-E.0/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a room separate from the rooms which contain safety-related equipment.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function.

Smoke from a fire will be removed by the EHVAC(B) system operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to this non safety-related room
- (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)



## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None.

**9A.4.1.6.48 Not Used****9A.4.1.6.49 Containment Atmospheric Monitoring System (CAMS) Rack B (Rm No 621)**

- (1) Fire Area—F4201
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The exterior wall and the wall common with the elevator serve as fire barriers and are of 3 h fire-resistive concrete construction. The remaining walls, ceiling and the floor are internal to fire area F4201 and therefore are not fire rated. Access to room 641 is provided through a non fire rated door from corridor B (Rm 622).

## (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable in conduit	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies.

Pre-filters

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 2.7-C.0 and 2.8-F.1.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.7-C.0 and 2.8-F.1/Manual
ABC hand extinguishers	Col. 2.7-C.0 and 2.8-F.1/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetration through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes loss of function. The complete loss of the CAM Monitoring Rack B as a consequence of a single fire is acceptable. Functional backup is provided by CAM Monitoring Rack A Div. I (Rm 659).

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) location of the manual suppression system in the corridor, external to the rooms containing the main safety-related equipment
- (b) provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—None.

**9A.4.1.6.50 Not Used****9A.4.1.7 Building—Reactor Building EI 31700 mm****9A.4.1.7.1 Reactor Building Operating Deck (Rm No. 716)**

(Rm 716 includes rooms 721, 733, 734 and 742 on the 31700 mm level)

- (1) Fire Area—F4301
- (2) Equipment: See Table 9A.2-6

**Safety-Related****Provides Core Cooling**


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Yes, D1,D2

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D3,& D4

- (3) Radioactive Material Present—None that can be released as a result of fire. Spent fuel will be stored in the spent fuel storage pool at times. Since the fuel is under water and a fire would not result in draining the pool, a fire would not cause a release of radioactive material. Also during refueling, any radiation release from the Reactor head, Drywell head, Reactor well, or Refueling pool exposed concrete surface is contained within the secondary containment.
- (4) Qualifications of Fire Barriers—The exterior walls, the roof, the walls common with the stairwell and elevator towers, the RIP A and B supply fan rooms (Rms 715 and 740 respectively), the RCW A surge tank room (Rm 710) and the D/G C exhaust fan room (Rm730) are of 3 h fire-resistive concrete construction. Access to the elevators and stairwell is through 3 h fire-resistive doors. The remaining internal walls do not serve as fire barriers as the rooms are internal to fire area F4301. Operating floor sections in quadrants 3 and 4 that are over fire areas F6201, F7200, F4201 and F4200 are of 3 h fire-resistive concrete construction.
- (5) Combustibles Present:

**Fire Loading****Total Heat of Combustion (MJ)**


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None

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727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup>  
maximum average) applies

- (6) Detection Provided—Class A supervised POC in the HVAC Systems and manual alarm pull stations at Col. 2.0-A.3, 1.8-D.2, 5.8-B.0, 6.0-E.1 and 2.0-E.9.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.0-A.3 & 1.8-D.2, 5.8-B.0, 6.0-E.1 & 2.0-E.9/Manual
ABC hand extinguishers	Col. 2.0-A.4 & 1.8-D.2, 5.8-B.0, 6.0-E.1 & 2.0-E.9/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) Fire detection and suppression capability is provided and accessible.
- (b) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes loss of the function in the fire affected zone. There are radiation monitors located in the area. See Subsection 9A.4.5.5.13 for further discussion of the consequences of fire to these systems.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system at the perimeter of the area
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—The area contains electrical cables in conduit. Cable insulation in conduit is discussed in Subsection 9A.3.4.

The control of the permanent and transitory combustible loads introduced through normal and maintenance operations is the responsibility of the applicant.

#### **9A.4.1.7.2 RIP (A) Supply Fan and RCW (C) Surge Tank (Rm No. 715)**

- (1) Fire Area—F3300
- (2) Equipment: See Table 9A.2-6

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The walls common with the operating floor (Rm 716), the RCW A surge tank room (Rm 710), the D/G C exhaust fan room (Rm 730), the stairwell and elevator (Rms 316 and 317 respectively), and the ceiling are of 3 h fire-resistive concrete construction. The exterior wall is constructed of concrete but has ventilation openings to the outside and therefore is not fire rated. Sections of the floor common to fire areas F4100 and F4300 below (Rms 653 and 673 respectively) are also of 3 h fire-resistive concrete construction. The remainder of the floor is internal to fire area F3300 and is not fire rated.

Access to room 715 is provided by the stairwell and elevator through 3 h fire-resistive doors. Room 715 provides access to rooms 710 via two 5 psid, 3-hour fire-rated doors and 730 via 3 h fire-rated doors.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.6-C.0 and 6.3-E.9.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.6-C.0 & 6.3-E.9/Manual
ABC hand extinguishers	Col. 6.6-C.0 & 6.3-E.9/ Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provides alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the EHVAC(C) system operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Provision of raised supports for the equipment
- (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—Fire area F3300 includes the stair and elevator towers from the 4800 mm elevation and extends to the top of the Reactor Building. In its entirety it forms a service area for personnel access and egress. The floor hatches may be opened at each floor as requires without increasing the fire hazard to the other areas of the building.

**9A.4.1.7.3 Not Used****9A.4.1.7.4 DG (C) Exhaust Fan Room (Rm No. 730)**

- (1) Fire Area—F4302
- (2) Equipment: See Table 9A.2-6

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None
- (4) Qualifications of Fire Barriers—The walls common with the operating floor (Rm 716), the RIP A supply fan room (Rm 715) and the ceiling are of 3 h fire-resistive concrete construction. The floor is internal to Fire Area F4302 and therefore is not fire rated. The exterior walls are constructed of concrete but have ventilation openings to the outside and therefore are not fire rated. A 3 h fire-resistive door provides access from room 715.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.3-E.9 and 6.6-C.0.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.3-E.9& 6.6-C.0/Manual
ABC hand extinguishers	Col. 6.3-E.9& 6.6-C.0/ Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a fire area which is separate from the fire areas containing equipment which provides alternate means of performing the safety or shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the EHVAC(C) system operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual hose suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—There is a large ventilation opening in the floor. The floor below is in the same fire area.

**9A.4.1.7.5 Not Used**



**9A.4.1.7.6 RIP (B) Supply Fan and RCW (B) Surge Tank (Room No. 740)**

- (1) Fire Area—F7200
- (2) Equipment: See Table 9A.2-6

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The walls common with the operating floor (Rm 716), the elevator, stairwell, and ceiling are of 3 h fire-resistive concrete construction. A section of the floor common to room 680 below (fire area F6200) is of 3 h fire-resistive concrete construction. The remaining floor is not fire rated. Three hour rated fire-resistive doors open to the elevator and stairwell. The exterior walls are constructed of concrete but have ventilation openings to the outside and therefore are not fire rated. Access to room 740 is provided by the elevator and stairwell. Also, there is access provided by the cross-building corridor extension of room 740. A door with a 3 h fire rating is provided in the cross-corridor at Col. 5.4.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.8-A.3 and 1.4-D.6.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.8-A.3 & 1.4-D.6/Manual
ABC hand extinguishers	Col. 1.8-A.3 & 1.4-D.6/ Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from the fire areas containing equipment which provided alternate means of performing the safety or shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling backup are defined in Subsection 9A.2.5.
- Smoke from a fire will be removed by the EHVAC(B) system operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Provision of raised supports for the equipment
  - (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

#### **9A.4.1.7.7 Access Service Area (Rm No. 764)**

- (1) Fire Area—F7200
- (2) Equipment: See Table 9A.2-6

#### **Safety-Related**

No

#### **Provides Core Cooling**

No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The wall in common with the operating floor (Rm 716), the mezzanine corridor (Rm 763), the elevator and stairwell and the ceiling are of 3 h fire-resistant concrete construction. The elevator door, stairwell door and door to room no. 763 are also of 3 h fire resistant construction. The floor and the wall common to room 740 are not fire rated as they are internal to Fire Area F7200. Access is provided through 3 h fire rated doors from the stairwell, elevator and airlock (Rm 763).
- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC detection system and alarm pull station at Col. 1.3-E.0.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.3-E.0/Manual
ABC hand extinguishers	Col. 1.3-E.0/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The non-safety-related function is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire—The postulated fire assumes loss of function of the room. The room does not contain equipment required for safe shutdown of the plant and the loss of function is acceptable.  
  
Smoke from a fire will be removed by the EHVAC(C) system operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

(c) ANSI B31.1 standpipe (rupture unlikely)

(12) Fire Containment or Inhibiting Methods Employed:

(a) The functions are located in a separate fire-resistive enclosure.

(b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—None.

#### **9A.4.1.7.8 Refueling Machine Control Room (Rm No. 760)**

(1) Fire Area—F4301

(2) Equipment: See Table 9A.2-6

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

(3) Radioactive Material Present—None.

(4) Qualifications of Fire Barriers—The interior walls and floor are not fire rated as they are within fire area F4301. The exterior walls, the wall common with elevator tower stairwell, and ceiling are of 3 h fire-resistive concrete construction. One wall common to the operating floor contains a viewing window.

Access to the room is provided via a non rated door from the mezzanine corridor (Rm 761).

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

(6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.2-E.1.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.2-E.1/Manual
ABC hand extinguishers	Col. 1.3-E.1 & 1.9-F.7/ Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate enclosure. The equipment is not safety-related.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related and loss of the function is acceptable.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual hose suppression system external to the room
- (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks—None.

#### **9A.4.1.7.9 Gallery (Rm No. 762)**

- (1) Fire Area—F4301

- (2) Equipment: See Table 9A.2-6

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The wall common with the operating floor (Rm 716) contains viewing windows. The walls and floor are not fire rated as they are within fire area F4301. The ceiling is of 3 h fire-resistive concrete construction. Access is provided via a non rated door from the mezzanine (Rm 761).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.3-E.0 and 2.0-F.5.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.3-E.0 & 2.0-F.5/Manual
ABC hand extinguishers	Col. 1.3-E.0 & 2.0-F.5/ Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a separate enclosure.
  - (b) The equipment is not safety-related.
  - (c) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related and loss of the function is acceptable.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual hose suppression system external to the room
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

#### **9A.4.1.7.10 Mezzanine Corridor (Rm No. 761)**

- (1) Fire Area—F4301
- (2) Equipment: See Table 9A.2-6

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The exterior walls and the wall common with the stairwell and the ceiling are of 3 h fire-resistive concrete construction. The interior wall and floor are internal to Fire Area F4301 and therefore are not fire rated. Non fire-rated doors provide access from the airlock room (Rm 763) and the refuel machine control room (Rm 760) and the control room for the refueling machine (Rm 760).

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.3-E.0.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.3-E.0/Manual
ABC hand extinguishers	Col. 1.3-E.0 & 2.0-F.5/ Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate enclosure.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related and the loss of function is acceptable.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (b) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The means of fire detection, suppression and alarming are provided and accessible.
- (b) The functions are located in a separate fire-resistive enclosure.



- (13) Remarks—None.

#### **9A.4.1.7.11 Roof A/C Area (Rm No. 810 and 830)**

- (1) Fire Area—F9300
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1, D3	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The roof at El 3800 mm and the reactor building wall above the roof are of 3 h fire-resistive concrete construction. The walls of the stair and elevator tower are of 3 h fire-resistive concrete construction. There is a 3 h fire-resistive door for access from the stairwell (Rm 316).
- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Alarm pull station on the stair tower at Col. 6.8-C.5.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.8-C.5/Manual
ABC hand extinguishers	None

- (8) Fire Protection Design Criteria Employed:
- (a) The non-safety-related function is located in on the roof, away from any safety-related equipment.
- (b) Fire suppression capability is provided and accessible.
- (9) Consequences of Fire—The postulated fire assumes the loss of function of the diesel generator division 1 and 3 silencers. Loss of diesel generator division 1 and 3 silencers is acceptable, because the function can be replaced by the redundant portion of the system which is located in the different portion of the building.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system internal to the stair tower
  - (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate isolated area.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Provision of doorway curbs.
- (13) Remarks—The hose reel is located inside of the stair tower to protect the hose reel from extremes in weather.

#### **9A.4.1.7.12 Roof B/D Area (Rm No. 820 and 840)**

- (1) Fire Area—F9200
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The roof at El 38200 mm and the reactor building wall above the roof are of 3 h fire-resistive concrete construction. The walls of the stair and elevator tower are of 3 h fire-resistive concrete construction. There is a 3 h fire-resistive door for access from the stairwell (Rm 329).
- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Alarm pull station on the stair tower at Col. 1.3-D.5.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.3-D.5/Manual
ABC hand extinguishers	None

## (8) Fire Protection Design Criteria Employed:

- (a) The non-safety-related function is located in on the roof, away from any safety-related equipment.
- (b) Fire suppression capability is provided and accessible.

## (9) Consequences of Fire—The postulated fire assumes the loss of function of the stack radiation monitors at the base of the stack, and the diesel generator division 2 silencer. Loss of the stack radiation monitors is acceptable. Loss of diesel generator division 2 silencer is acceptable, because the function can be replaced by the redundant divisions of the system which are located in different locations of the building.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system internal to the stair tower
- (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate isolated area.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks—The hose reel is located inside the stair tower to protect it from extremes in weather.

**9A.4.1.7.13 RCW (A) Surge Tank (Rm No. 710)**

- (1) Fire Area—F7100
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—Both internal walls, one exterior wall, the floor and the ceiling are 3 h fire-resistive concrete construction. The remaining exterior wall has an opening for the normal HVAC input to the reactor secondary containment and therefore is not fire rated. Access to room 710 is provided from the RIP A supply fan and RCW C surge tank room (Rm 715) via two 5 psid, 3-hour fire-rated doors. Access to the other side of the reactor building is provided by an interconnecting corridor from this room. A 3 h rated fire door is located in the corridor.
- (5) Combustibles Present—No significant quantities of exposed combustibles. 727 MJ/m<sup>2</sup> NCLL (727 MJ/m<sup>2</sup> maximum average) applies.
- (6) Detection Provided—Class A supervised POC detection system and alarm pull stations room at 6.6-C.0 and 6.3-E.9.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.6-C.0/Manual
ABC hand extinguishers	Col. 6.3-E.9 /Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a fire area which is separate from the fire areas containing equipment which provides alternate means of performing the safety or shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The provisions for core cooling systems backup are defined in Subsection 9A.2.5.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (b) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None.

#### **9A.4.1.7.14 Periodic Inspection Room (Rm No. 720)**

- (1) Fire Area—F4301
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The wall common to the elevator (Rm 293), the exterior walls and the floor is of 3 h fire-resistive concrete construction. The remaining walls and the ceiling are not rated as they are internal to fire area F4301. Access to this room is provided via non fire rated doors from the refuel machine control room (Rm 722) and the operating floor (Rm 716).

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable Tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 2.0-E.9.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.0-E.9/Manual
ABC hand extinguishers	Col. 2.0-E.9/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The equipment is not safety-related.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Loss of the function which is not safety-related is acceptable.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual hose suppression system external to the room
- (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate enclosure.

- (b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—None.

#### **9A.4.1.7.15 RIP Repair Room (Rm No. 723)**

- (1) Fire Area—F4301
- (2) Equipment: See Table 9A.6-2

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None
- (4) Qualifications of Fire Barriers—The exterior wall, the floor, and the wall common with the stairwell (Rm 329) and room 740 are of 3 h fire-resistive concrete construction. The ceiling and remaining internal walls are common to fire area F4301 and therefore are not fire rated. A 3 h fire-resistive door provides access from the operating floor.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 2.0-E.9.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.0-E.9/Manual
ABC hand extinguishers	Col. 2.0-E.9/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a separate enclosure.

(b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. Loss of the function which is not safety-related is acceptable.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

(a) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

(b) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed

(a) The means of fire detection, suppression and alarming are provided and accessible.

(b) The functions are located in a separate fire-resistive enclosure.

- (13) Remarks: None.

#### **9A.4.1.7.16 Refuel Machine Control Room HVH (Rm No. 722)**

- (1) Fire Area—F4301

- (2) Equipment: See Table 9A.2-6

#### **Safety-Related**

#### **Provides Core Cooling**

No

No

- (3) Radioactive Material Present—None.

- (4) Qualifications of Fire Barriers—The exterior wall, the floor (common to fire area F4200 below) and ceiling are of 3 h fire-resistive concrete construction. The interior walls are not fire rated. Access is provided from periodic inspection room (Rm 720).



- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 2.0-E.9.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 2.0-E.9/Manual
ABC hand extinguishers	Col. 2.0-E.9/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate enclosure. The equipment is not safety-related.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related and loss of the function is acceptable.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of manual hose suppression system external to the room
- (b) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (c) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The means of fire detection, suppression and alarming are provided and accessible.
- (b) The functions are located in a separate fire-resistive enclosure.

## (13) Remarks—None

**9A.4.1.7.17 Standby Gas Treatment System Pipe Space Room (Rm No. 741)**

- (1) Fire Area—F4301
- (2) Equipment: See Table 9A.2-6

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, N/A	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—The wall common with RIP (B) supply fan room (Rm 740), the ceiling, and the floor are fire barriers of 3 h fire-resistive concrete construction. The remainder of the walls are not fire rated as they are internal to fire Area F4301. A non-rated door provides access from the operating deck Area (Rm 742).
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 1.7-D.2.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 1.7-D.2/Manual
ABC hand extinguishers	Col. 1.7-D.2/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire—The postulated fire assumes the loss of the function.  
 Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of manual hose suppression system external to the room
  - (b) Provision of raised supports of the equipment
  - (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The means of fire detection, suppression and alarming are provided and accessible.
  - (b) The functions are located in a separate fire-resistive enclosure.
- (13) Remarks—There are no divisional safety-related electrical equipment mounted in this room.

#### **9A.4.1.7.18 HVAC Supply Duct Room (Rm No. 711)**

- (1) Fire Area—F4301
- (2) Equipment: See Table 9A.2-6

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.

- (4) Qualifications of Fire Barriers—All walls, the ceiling, and a section of the floor are of 3 h fire-resistive concrete construction. The remaining floor is a duct space used for the building HVAC. Access to room 711 is provided from the Surge Tank Room (Rm 710) under the HVAC duct, through a 3 h fire-resistive door.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 6.3-C.0, El 31700 mm.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 6.3-C.0, El 31700 mm/Manual
ABC hand extinguishers	Col. 6.3-C.0, El 31700 mm/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related and the loss of function is acceptable.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (b) ANSI B31.1 standpipe (rupture unlikely)
  - (c) Location of manual suppression system external to the room
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The means of fire detection, suppression and alarming are provided and accessible.
  - (b) The functions are located in a separate fire-resistive enclosure.
- (13) Remarks—None.

#### **9A.4.1.7.19 Elevator Equipment Room (Rm No. 811)**

- (1) Fire Area—F1520
- (2) Equipment: See Table 9A.2-6

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—All walls, the ceiling, and a section of the floor are of 3 h fire-resistive concrete construction. The remaining floor is not fire rated as it is internal to fire area F1520. Access to room 811 is provided from the stair well room 195 through a 3 h fire-resistive door.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.8-B.0, EI 31700.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.8-B.0, El 31700 mm/Manual
ABC hand extinguishers	Col. 5.8-B.0, El 31700 mm/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related and the loss of function is acceptable.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (b) ANSI B31.1 standpipe (rupture unlikely)
- (c) Location of the manual suppression system external to the room

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks: None

**9A.4.1.7.20 Elevator Equipment Room (Rm No. 821)**

- (1) Fire Area—F1540
- (2) Equipment: See Table 9A.2-6

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualifications of Fire Barriers—All walls, the ceiling, and a section of the floor are of 3 h fire-resistive concrete construction. The remaining floor is not fire rated as it is internal to fire area F1540. Access to room 821 is provided from the stair well room 193 through a 3 h fire-resistive door.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.8-B.0, EI 31700.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	Col. 5.8-B.0, EI 31700/Manual
ABC hand extinguishers	Col. 5.8-B.0, EI 31700/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the function. The function is not safety-related and the loss of function is acceptable.

Smoke from a fire will be removed by the normal HVAC System operating in its smoke removal mode.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (b) ANSI B31.1 standpipe (rupture unlikely)
- (c) Location of the manual suppression system external to the room

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks: None

## **9A.4.2 Control Building**

### **9A.4.2.1 Floor One EI –8200 mm and –2150 mm**

#### **9A.4.2.1.1 RCW “A” (Rm No. 111)**

(Consists of Rm No. 111 on both the –8200 mm level and –2150 mm level and Rm Nos. 212 and 217 on the –2150 mm level). Note: The space around the RCW heat exchangers is open to both levels of the (Rm No. 111).

- (1) Fire Area FC1110
- (2) Equipment: See Table 9A.6-3

#### **Safety-Related**

#### **Provides Core Cooling**

Yes, D1

Yes, D1

- (3) Radioactive Material Present:

None that can be released as a result of a fire.



**(4) Qualification of Fire Barriers:**

The walls in common with this fire area (FC1110) and adjacent fire areas FC1210 and FC1310 on the –8200 mm and –2150 mm level serve as fire barriers and are of three hour fire-resistive concrete construction. The building exterior wall of fire area FC1110 on both levels is also of three hour fire-resistive concrete construction. The remaining room wall on both levels is not a fire barrier as it is internal to fire area FC1110 and is used to separate the access passageways (Rm Nos. 112 and 211) from the RCW heat exchanger and pump area. Passage between Rm Nos. 111 and 211 is via Rm No. 217 and passage between Rm Nos. 111 and 112 is through a non-rated personnel door located in the large equipment access doorway (used for installation and removal of the RCW heat exchanger). The ceiling (El. 3450 mm) of Rm No. 111 on the –2150 mm level is not a fire barrier because the area above (Rm Nos. 311, 312, 313, and 314 are part of fire area FC1110. Piping from service water (SW) “A” enters Rm No. 111 on the second level. Three hour, fire-resistive penetration barriers are provided where the SW piping enters Rm No. 111. The floor of Rm No. 111 (El. –8200 mm) is the base mat of the building. The portion of the floor of Rm No. 111 that extends over room 131 on the –2150 mm elevation is of three hour fire-resistive concrete construction. The floor and walls of the division 3, Service Water “C” pipe chase are of three hour fire-resistive concrete construction where they pass through Rm No. 111.

**(5) Combustibles Present: (NCLL applies)**

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays, small amount of pump motor lubricants	

**(6) Detection Provided:**

Class A supervised POC detection system in the room and manual pull alarm stations at 4.05-J.05 on the –8200 level and –2150 level in Rm Nos. 211 respectively.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	4.00-J.05 on the –8200 mm level & –2150 mm level/Manual
ABC hand extinguishers	4.05-J.05 on the –2150 mm level, 4.00-J.60 on the –8200 mm level & 4.07-J.65 on the –150 mm level/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (9) Consequences of Fire: The postulated fire assumes the loss of the RCW “A” function and the consequential loss of division 1. RCW Systems “B” and “C” would not be affected, and provide an alternate means of safe shutdown.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in an area external to the room containing the safety-related equipment
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a fire-resistive enclosure.

- (b) The means of fire detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

(13) Remarks: None.

#### **9A.4.2.1.2 Passageway (Rm No. 112)**

- (1) Fire Area FC1110
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present —None.
- (4) Qualification of Fire Barriers—One wall is internal to FC1110 and is not a designated fire barrier. The opposite wall is a building exterior wall of three hour fire-resistive concrete construction. The ceiling (El. -2150 mm) is not a designated fire barrier and the floor is the base mat of the building. Both ends of the passageway have three hour fire-resistive doors. Access to the room is by either of these doors.
- (5) Combustibles Present: (NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	

- (6) Detection Provided: Class A supervised POC detection system in the room and manual pull alarm station at 4.05-J.05.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	4.05-J.05/Manual
ABC hand extinguishers	4.05-J.05/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) Fire detection and suppression capability is provided and accessible.
  - (b) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.
- (9) Consequences of Fire—The postulated fire assumes the loss of the RCW “A” function and the consequential loss of division 1, although that most likely would not be the case. RCW Systems “B” and “C” would not be affected, and provide an alternate means of safe shutdown.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Refer to Section 3.4 “Water Level (Flood) Design”, for the drain system.
  - (b) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (13) Remarks: None.

#### **9A.4.2.1.3 RCW “B” (Rm No. 121)**

(Consists of Rm No. 121 on both the –8200 level and –2150 level and Rm Nos. 224 and 227 on the –2150 level). Note: The space around the RCW heat exchangers is open to Rm No. 121 on both levels.

- (1) Fire Area FC1210

- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present:

None that can be released as a result of a fire.

- (4) Qualification of Fire Barriers:

The wall in common with adjacent fire area FC1110 on the –8200 mm and -2150 mm level is a designated fire barrier and is of three hour fire-resistive concrete construction. The building exterior wall of Rm No. 121 on both levels is also a fire barrier and is of three hour fire-resistive concrete construction. The remaining walls on both levels are not fire barriers because they are internal to fire area FC1210 and are used to separate the access passageways (Rm Nos. 122 and 221) from the RCW “B” heat exchanger and pump area. Piping for Service Water “B” enters Rm No. 121 on the second level. Three hour fire-resistive barriers are provided where the SW piping enters Rm No. 121. Passage between Rm Nos. 121 and 221 is via Rm No. 227 and passage between Rm Nos. 121 and 122 is through a non-rated personnel door located in the large equipment access doorway. A section of the ceiling (level 3450 mm) of Rm No. 121 is common to the Division 4 electrical equipment area (Rm Nos. 341, 342 and 343 in fire area FC3410) and is therefore designated as a fire barrier and is of three hour fire-resistive concrete construction. The remainder of the ceiling is internal to fire area FC1210 and is not a fire barrier. The floor of Rm No.121 is the base mat of the building. The divisions 1 and 3 pipe tunnels pass through the upper elevation of this room. They are of three hour fire-resistive concrete construction.

- (5) Combustibles Present: (NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays pump motor lubricants	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided:

Class A supervised POC detection system in the room and manual pull alarm stations at 1.41-J.60 on the –8200 mm level and –2150 mm level in Rm Nos. 122 and 221

(also in fire area 1210) which serve as equipment access and passageways to Rm No. 121.

(7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.41-J.53 on the –8200 mm level and –2150 mm level/Manual
ABC hand extinguishers	1.41-J.60 on the –8200 mm level and –2150 mm level 2.07-J.60 on the –8200 mm level.  2.12-J.65 on the –2150 mm level/Manual

(8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes the loss of the RCW “B” function and the consequential loss of division 2. RCW Systems “A” and “C” would not be affected, and provide an alternate means of safe shutdown.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system in an area external to the room containing the safety-related equipment
- (b) Provision of raised supports for the equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design,” for the drain system.

(d) ANSI B31.1 standpipe (rupture unlikely)

(12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

(13) Remarks: None.

#### **9A.4.2.1.4 Passageway (Rm No. 122)**

- (1) Fire Area FC1210
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present: None.
- (4) Qualification of Fire Barriers:

Rm No. 122 is an “L” shaped passageway. The three building exterior walls are designated as fire barriers and are of three hour fire-resistive concrete construction. The two internal walls are common to fire area FC1210 (Rm No. 121) and are not fire barrier walls. A three hour fire-resistive door is provided between Rm Nos. 122 and 112 (FC1210 and 1110) at one end of the passageway. At the other end of the passageway, Rm No. 122 connects to a stairwell going up to the same fire area on elevation –2150 mm. An alternate access and egress route, from anyplace on the –8200 mm level, is provided by a stairwell leading up from Rm No. 132. The floor is the base mat of the building.

- (5) Combustibles Present: (NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup>
pump motor lubricants	maximum average) applies

## (6) Detection Provided:

Class A supervised POC in the room and manual pull alarm station at 1.41-J.60.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.41-J.53/Manual
ABC hand extinguishers	1.41-J.60/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) Fire detection and suppression capability is provided and accessible.
- (b) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

## (9) Consequences of Fire:

The postulated fire assumes the loss of the RCW “B” function and the consequential loss of division 2, although that most likely would not be the case. RCW Systems “A” and “C” would not be affected, and provide an alternate means of safe shutdown.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to 9.5.1.1.6 for additional information.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.



(13) Remarks: None.

#### **9A.4.2.1.5 RCW "C," (Rm No. 131)**

(Consists of Rm No 131 on both the –8200 mm level and –2150 mm level, and Rm Nos. 232 and 237 on the –2150 level). Note: The space around the RCW heat exchangers is open to room 131 on both levels.

- (1) Fire Area FC1310
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present:  
None that can be released as a result of a fire.

- (4) Qualification of Fire Barriers:

The wall in common with adjacent fire area 1110 on the –8200 mm and –2150 mm level is designated as a fire barrier and is of three hour fire-resistive concrete construction. The building exterior wall of fire area FC1310 (Rm No. 131) on both levels is designated as a fire barrier and is also of three hour fire-resistive concrete construction. The walls enclosing the division 1 HVAC chase at elevation –2150 mm are fire barriers and are of three hour fire-resistive concrete construction. The remaining walls on both levels are not designated fire barriers because they are internal to fire area FC1310 and are used to separate the access passageways (Rm Nos. 132 and 231) from the RCW heat exchanger and pump area. Piping from Service Water (SW) "C" enters Rm No. 131 on the second level. Three hour, fire-resistive barriers are provided where the SW piping enters the room. Passage between Rm No. 131 and Rm No. 231 is via Rm No. 237 and passage between Rm Nos. 131 and 132 is through a personnel door located in the large equipment access doorway. A section of the ceiling (level 3450 mm) of Rm No. 131 is common to the division 1 Electrical Equipment area (Rm Nos. 315, 316, 317, and 318) and is therefore designated as a fire barrier and is of three hour fire-resistive concrete construction. The remainder of the ceiling is internal to fire area FC1310 and is not a fire barrier. The floor of Rm No. 131 is the base mat of the building.

- (5) Combustibles Present: (NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup>
pump motor lubricants	maximum average) applies

- (6) Detection Provided:

Class A supervised POC detection system in the room and manual pull alarm stations at 6.55-J.60 on the –8200 mm level and –2150 mm level.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.55-J.53 on the –8200 mm level and –2150 mm level/Manual
ABC hand extinguishers	6.55-J.60 on the –8200 mm level and –2150 mm level 5.93-J.60 on the –8200 mm level and 5.85-J.63 on the –2150 mm level/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown functions.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—The postulated fire assumes loss of the RCW “C” function and the consequential loss of division 3. RCW Systems “A” and “B” would not be affected and provide an alternate means of safe shutdown.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or rupture of the Suppression System:
  - (a) Location of the manual suppression system in an area external to the room containing the safety-related equipment
  - (b) Provision of raised supports for the equipment
  - (c) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks: None.

#### **9A.4.2.1.6 Passageway (Rm No. 132)**

- (1) Fire Area FC1310
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers:

Rm No. 132 is an "L" shaped passageway. The two building exterior walls are designated as fire barriers and are of three hour fire-resistive concrete construction. The two internal walls are common to Rm No. 131, fire area FC1310 and are not designated fire barriers. A three hour fire-resistive door is provided between Rm Nos. 132 and 112 (FC1310 and 1110). The other end of the passageway connects to a stairwell going up to the same fire area on elevation –2150 mm. An alternate access

and egress route, that is accessible from anyplace on the –8200 mm level, is provided by a stairwell leading up from Rm No. 122. The floor of Rm No. 132 is the base mat of the building.

- (5) Combustibles Present: (NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided:

Class A supervised POC detection system in the room and manual pull alarm station at 6.55-J.60.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.55-J.53/
ABC hand extinguishers	6.55-J.60/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) Fire detection and suppression capability is provided and accessible.
- (b) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes the loss of the RCW “C” function and the consequential loss of division 3, although that most likely would not be the case. RCW Systems “A” and “B” would not be affected, and provide an alternate means of safe shutdown.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
  - (b) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks: None.

#### **9A.4.2.2 Floor Two EI –2150 mm**

##### **9A.4.2.2.1 Passageway (Rm No. 211)**

- (1) Fire Area FC1110
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present: None.
- (4) Qualification of Fire Barriers:

One wall is internal to fire area FC1110 and is not a designated fire barrier. The opposite wall is a building exterior wall of three hour fire-resistive concrete construction. Both ends of the passageway have three hour fire-resistive doors. The floor and ceiling of Rm No. 211 is common to fire area FC1110 below and above and therefore are not fire barriers.

- (5) Combustibles Present: (NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided:

Class A supervised POC detection system in the room and manual pull alarm station at 4.05-J.05.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	4.00-J.05/
ABC hand extinguishers	4.05-J.05/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes the loss of the RCW “A” function and the consequential loss of division 1, although that most likely would not be the case. RCW Systems “B” and “C” would not be affected, and provide an alternate means of safe shutdown.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

(b) ANSI B31.1 standpipe (rupture unlikely)

(12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

(13) Remarks: None.

#### **9A.4.2.2.2 Passageway (Rm No. 221)**

- (1) Fire Area FC1210
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present: None.
- (4) Qualification of Fire Barriers:

Rm No. 221 is an “L” shaped passageway. The two building exterior walls are designated as fire barriers and are of three hour fire-resistive concrete construction. The two internal walls are common to fire area FC1210 and are not fire barriers. A three hour rated fire door is provided between Rm Nos. 221 and 211 (FC1210 and FC1110). The other end of passageway, Rm No. 221 connects to a stairwell going down to the same fire area on elevation –8200 mm. An alternate means of access and egress, that is accessible from any place on the –2150 mm level, is provided by a stairwell leading up or down from Rm No. 231. The floor of Rm No. 221 is common to fire area FC1210 below and therefore is not a fire barrier.

- (5) Combustibles Present: (NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

## (6) Detection Provided:

Class A supervised POC detection system in the room and manual pull alarm station at 1.41-J.60.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.41-J.53/
ABC hand extinguishers	1.41-J.53/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) Fire detection and suppression capability is provided and accessible.
- (b) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

(9) Consequences of Fire—Postulated fire assumes the loss of the RCW “B” function and the consequential loss of division 2, although that most likely would not be the case. RCW Systems “A” and “C” would not be affected, and provide an alternate means of safe shutdown.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

(10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

(11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.



- (13) Remarks: None.

#### **9A.4.2.2.3 Passageway (Rm No.231)**

- (1) Fire Area FC1310
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present: None.
- (4) Qualification of Fire Barriers:

Rm No. 231 is an “L” shaped passageway. The two building exterior walls are designated as fire barriers and are of three hour fire-resistive concrete construction. The two internal walls are common to fire area FC1310 and are not designated fire barriers. An access door is provided between Rm Nos. 231 and 131 via Rm No. 237. A three hour fire-resistive door is provided between Rm Nos. 231 and 211 (FC1310 and FC1110). The other end of passageway, Rm No. 231, connects to a stairwell leading up or down to rooms in the same fire area. An alternate access and egress route, that is accessible from any place on the –2150 mm level, is provided via a fire barrier door leading to the heat exchanger building from Rm No. 231. The floor of Rm No. 231 is common to fire area FC1310 below and therefore is not a fire barrier.

- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC detection system in the room and manual pull alarm station at 6.55-J.60.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.55-J.53/Manual
ABC hand extinguishers	6.55-J.60/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) Fire detection and suppression capability is provided and accessible.
- (b) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

## (9) Consequences of Fire—Postulated fire assumes the loss of the RCW “C” function and the consequential loss of division “C”, although that most likely would not be the case. RCW Systems “A” and “B” would not be affected, and provide an alternate means of safe shutdown.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (13) Remarks—None.

**9A.4.2.3 Floor Three EI 3500 mm****9A.4.2.3.1 250 VDC Battery Room (Rm No. 313)**

- (1) Fire Area—FC1110
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—All walls with exception of the walls, common to rooms 317 and 318 and the floor are internal to fire area FC1110 and therefore are not designated as fire barriers. The ceiling serves as a fire barrier between adjacent fire areas and is of three hour fire-resistive concrete construction. Access to Rm No. 313 is from Rm No. 312. The common walls between rooms 313, 317, and 318 are a 3 h fire barrier for the purpose of investment protection only.
- (5) Combustibles Present—(ECLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays. HVAC will maintain the hydrogen concentration below 2 vol-%.	1454 MJ/m <sup>2</sup> NCLL (1454 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC detection system in the room and manual pull alarm station at 4.05-J.05, Rm No. 312.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	4.00-J.05, and 4.00-K.95/Manual
ABC hand extinguishers	4.05-J.05 & 4.00-K.39/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray penetrations through designated fire barriers.
- (9) Consequences of Fire—Postulated fire assumes loss of the functions. Non-divisional CVCF and possibly division 1 power would be lost as the area is served by the division 1 HVAC System. Power for divisions 2, 3, and 4 would remain available.
- Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information. |
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of manual suppression system in a room external to the room containing the batteries and cable
  - (b) Provision of raised supports for the batteries
  - (c) ANSI B31.1 standpipe (rupture unlikely)
  - (d) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—None.

**9A.4.2.3.2 Passageway (Rm No. 312)**

- (1) Fire Area—FC1110
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—One wall is internal to fire area FC1110 and is not a designated fire barrier. The opposite wall is a building exterior wall of three hour fire-resistive concrete construction. Both ends of the passageway have three hour fire-resistive doors. The ceiling serves as a fire barrier between adjacent fire areas and is of three hour fire-resistive concrete construction. The floor of Rm No. 312 is common to fire area FC1110 below and is not a fire barrier.
- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm stations at 4.05-J.05.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	4.00-J.05/Manual
ABC hand extinguishers	4.05-J.05/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) Fire detection and suppression capability is provided and accessible.
  - (b) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes loss of the functions. Non-divisional CVCF and division 1 power would possibly be lost, however, power for divisions 2, 3 and 4 would remain available. Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System.
  - (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
  - (b) ANSI B31.1 standpipe (rupture unlikely)
  - (c) Location of the manual suppression system internal to the room
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—None.

#### **9A.4.2.3.3 Non-Divisional Electrical Equipment Room (Rm No. 311)**

- (1) Fire Area—FC1110
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—The wall in common with the adjacent fire area FC3410 is designated as a fire barrier and is of three hour fire-resistive concrete construction. The remaining walls are internal to fire area FC1110 and are not fire

barriers. The ceiling serves as a fire barrier between adjacent fire areas and is of three hour fire-resistive concrete construction. Access to the room is provided via a non-rated door from passageway 312, or 314.

The floor is common to fire area FC1110 below and is not a fire barrier.

(5) Combustibles Present—(ECLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	1454 MJ/m <sup>2</sup> NCLL (1454 MJ/m <sup>2</sup>
Electrical Panels	maximum average) applies

(6) Detection Provided—Class A supervised POC detection system in the room and manual pull alarm station at 4.00-J.05 in Rm No. 312.

(7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	4.00-J.05, Rm No. 312 4.00-K.95 Rm No. 314/Manual
ABC hand extinguishers	4.00-K.39/Manual

(8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetration through designated fire barriers.

(9) Consequences of Fire—Postulated fire assumes the loss of the non-divisional CVCF and DC power and possibly, the division 1 power. Power for divisions 2, 3 and 4 would remain available.

Room cooling is provided by coolers which receive chilled water from the turbine building chilled water system. Room purge (supply and exhaust) is provided by the division 1 HVAC which would be switched to the smoke removal mode upon detection of smoke. The combustion products would then be exhausted directly to the atmosphere without being returned to the division 1 areas. Smoke detection is

provided in the branch exhaust duct for the non-safety-related rooms in this fire area (Rm Nos. 311, 312, 313 and 314). This is an aid to determining that a fire is in the non-safety-related rooms and not in the division 1 rooms served by the common purge system. See Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of manual suppression system in an area external to the room
  - (b) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
  - (c) ANSI B31.1 Standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—None.

#### **9A.4.2.3.4 Passageway (Rm No. 314)**

- (1) Fire Area—FC1110
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—One wall is internal to fire area FC1110 and therefore is not designated as a fire barrier. The opposite wall is a building exterior wall of three hour fire-resistive concrete construction. Both ends of the passageways have a three hour fire-resistive door. The ceiling is designated as a fire barrier between adjacent fire areas and is of three hour fire-resistive concrete construction. The floor of Rm No. 314 is common to fire area FC1110 below and is not a fire barrier.



- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm stations at 4.00-K.95.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	4.00-K.95/Manual
ABC hand extinguishers	4.1--K.95/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in the room.
- (b) Fire suppression and detection capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes loss of the functions. Non-divisional CVCF and possibly division 1 power would be lost as the area is served by the division 1 HVAC System. Power for divisions 2, 3 and 4 would remain available.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System.

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (13) Remarks—None.

**9A.4.2.3.5 Battery Room Div 2 (Rm No. 322)**

- (1) Fire Area—FC1210
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—Three walls are internal to fire area FC1210 and therefore are not designated as fire barriers. The remaining wall is common to fire area FC3410 and is of three hour fire-resistive concrete construction. The ceiling of Rm No. 322 is common to fire area FC4910 and is a designated fire barrier. It is of three hour fire-resistive concrete construction. Access to Rm No. 322 is provided from Rm No. 321. The floor of Rm No. 322 is common to fire area FC1210 below and is not a fire barrier.
- (5) Combustibles Present—(ECLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays. Battery cases HVAC will maintain the hydrogen concentration below 2 vol-%.	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC detection system in the room and manual pull alarm station at 1.45-J.60, room 321.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.45-J.53/Manual
ABC hand extinguishers	1.45-J.60 & 2.05-J.68/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing an alternate means of performing the safety or shutdown functions.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray penetrations through designated fire barriers.

## (9) Consequences of Fire—Postulated fire assumes loss of the function. Division 2 power may be lost. Division 4 power may also be lost due to the shared ventilation system, Division 1 and 3 power would remain available. Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of manual suppression system in a room external to the room containing the batteries and cable
- (b) Provision of raised supports for the batteries
- (c) ANSI B31.1 standpipe (rupture unlikely)
- (d) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (13) Remarks—None.

#### **9A.4.2.3.6 Division 2 Electrical Equipment Room (Rm No. 323)**

- (1) Fire Area—FC1210
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—The wall in common with the adjacent fire area FC3410 is designated as a fire barrier and is of three hour fire-resistive concrete construction. The remaining walls are internal to fire area FC1210 and are not fire barriers. The ceiling of Rm No. 323 is common to fire area FC4910 and serves as a fire barrier between adjacent fire areas. Therefore it is of three hour fire-resistive concrete construction. Access to Rm No. 323 is provided from Rm No. 321. The floor of Rm No. 323 is common to fire area FC1210 below and therefore is not a fire barrier.
- (5) Combustibles Present—(ECLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	1454 MJ/m <sup>2</sup> NCLL (1454 MJ/m <sup>2</sup>
Electrical Panels	maximum average) applies

- (6) Detection Provided—Class A supervised POC detection system in the room and manual pull alarm station at 1.45- J.53 in Rm No. 321.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.45-J.53/Manual
ABC hand extinguishers	2.05-J.68 & 1.8-K.83/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a fire area which is separate from Fire areas providing alternate means of performing the safety or shutdown functions.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetration through designated fire barriers.
- (9) Consequences of Fire—Postulated fire assumes the loss of division 2 electrical power, and possibly division 4 power also due to the shared HVAC System. Power for divisions 1 and 3 would remain available. Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of manual suppression system in an area external to the room
  - (b) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—None.

#### **9A.4.2.3.7 Division 4 Electrical Equipment Room (Rm No. 342)**

- (1) Fire Area—FC3410

- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D4	Yes, D4 (Indirectly by Sensors)

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—The walls in common with the adjacent fire areas (FC1110 and FC1210) are designated as fire barriers and are of three hour fire-resistive concrete construction. The remaining wall is internal to fire area FC3410 and is not a fire barrier. The ceiling of Rm No. 342 is common to fire area FC4910 and serves as a fire barrier between adjacent fire areas. It is of three hour fire-resistive concrete construction. Access to Rm No. 342 is provided from Rm No. 343. The floor of Rm No. 342 is common to fire area FC1210 below and is of three hour fire-resistive concrete construction.
- (5) Combustibles Present—(ECLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	1454 MJ/m <sup>2</sup> NCLL (1454 MJ/m <sup>2</sup>
Electrical Panels	maximum average) applies

- (6) Detection Provided—Class A supervised POC detection system in the room and manual pull alarm station at 1.45-J.53 in Rm No. 321.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.45-J.53, and 4.00-K.95/Manual
ABC hand extinguishers	2.52-K.10/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety and shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes the loss of the division 4 electrical power and possibly division 2 power also due to the shared HVAC System. Power for divisions 1 and 3 would remain available. Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of manual suppression system in an area external to the room
  - (b) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—None.

#### **9A.4.2.3.8 Battery Room Division 4 (Rm No. 341)**

- (1) Fire Area—FC3410
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D4	Yes, D4

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—One wall is internal to fire area FC3410 and therefore is not a fire barrier. The remaining walls of Rm No. 341 are common to fire areas FC1210 and FC1110 and are designated as fire barriers. They are of three hour fire-resistive concrete construction. The ceiling of Rm. No. 341 is common to adjacent

fire area FC4910 and is of three hour fire-resistive concrete construction. Access to Rm No. 341 is from Rm No. 321. The floor of Rm No. 341 is common to fire area FC1210 below and is of three hour fire-resistive concrete construction.

- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays. HVAC will maintain the hydrogen concentration below 2 vol-%.	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC detection system in the room and manual pull alarm station at 1.45-J.60 (Rm No. 321) and 4.00-J.05 (Rm No. 312).

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.45-J.53 & 4.00-J.05/Manual
ABC hand extinguishers	1.45-J.53 and 4.00-J.05/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown functions.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes the loss of the division 4 electrical power and possibly division 2 power due to the shared HVAC System. Power for divisions 1 and 3 would remain available.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.



- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of manual suppression system in a room external to the room containing the batteries and cable
  - (b) Provision of raised supports for the batteries
  - (c) ANSI B31.1 standpipe (rupture unlikely)
  - (d) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—None.

#### **9A.4.2.3.9 Passageway (Rm No. 343)**

- (1) Fire Area—3410
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D4	Yes, D4

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—One wall is internal to fire area FC3410 and is not a fire barrier. The opposite wall is a building exterior wall of three hour fire-resistive concrete construction. Both ends of the passageway have three hour fire-resistive doors. The ceiling is designated as a fire barrier between adjacent fire areas and is of three hour fire-resistive concrete construction. The floor of Rm No. 343 is common to adjacent fire area FC1110 below and is also of three hour fire-resistive concrete construction.

- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm stations at 2.72-K.95.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Hose reel	3.30-K.95/Manual
ABC hand extinguishers	2.72-K.95/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown functions.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes the loss of the division 4 electrical power and possibly division 2 power also due to the shared HVAC System. Power for divisions 1 and 3 power would remain available. Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System.

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) ANSI B31.1, Standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (13) Remarks—None.

**9A.4.2.3.10 Passageway (Rm No. 321)**

- (1) Fire Area—FC1210
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—Rm No. 321 is a passageway that extends across the end of the control building and along approximately one third of its length on each side. The three building exterior walls are designated as fire barriers and are of three hour fire-resistive concrete construction. The three internal walls (except for a section of one wall) are common to adjacent fire area FC1210 and are not fire barriers. The section not common to fire area FC1210 is common to adjacent fire area FC3410 and is of three hour fire-resistive concrete construction. At each end of the passageway there is a three hour fire barrier door separating fire area FC1210 from fire area FC1110 and fire area FC3410. The ceiling serves as a fire barrier between adjacent fire areas and is of three hour fire-resistive concrete construction. A stairwell (Rm No. 325) in the passageway provides access to the control room floor above. An alternate means of access and egress, that is accessible from any place on the 3500 mm level, is provided by a stairwell (Rm No. 336) leading up or down from Rm No. 333. The floor of Rm No. 321 is common to fire area FC1210 below and therefore is not a fire barrier.

- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm stations at 1.45-J.60.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.45-J.53/Manual
ABC hand extinguishers	1.80-K.95 & 1.45-J60/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes loss of division 2. Electrical divisions 1, 3 and 4 would remain operational.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System.

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) ANSI B31.1, Standpipe and hose reel (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (13) Remarks—None.

**9A.4.2.3.11 Division 2 HVAC Chase (Rm No. 324)**

- (1) Fire Area—FC1210
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—Rm No. 324 is defined as vertical section of HVAC chase extending from the ceiling of Rm No. 121, formed by the floor at the 3500 mm elevation, to the floor of Rm No. 627 at the 17150 mm elevation. Three of the walls between the 3500 mm elevation and the ceiling, formed by the floor at the 7900 mm elevation, are internal to fire area FC1210 and are not fire barriers. The fourth wall is common with Rm No. 342 (FC3410) and is designated as a fire barrier. It is of three hour fire-resistive concrete construction. Access to Rm No. 324 from the 3500 mm level is provided by a removable panel. All walls of Rm No. 324 between the floor at the 7900 mm elevation and the ceiling, formed by the floor at the 12300 mm elevation, are of three hour fire-resistive concrete construction. Access to Rm No. 324 at the 7900 mm elevation is provided by a three hour fire-resistive removable panel. Two of the walls of Rm No. 324 between the floor at the 12300 mm elevation and the ceiling, formed by the floor at the 17150 mm elevation, are internal to fire area FC1210 and are not fire barriers. Another wall is common to adjacent Rm No. 522 (FC4910) and the fourth wall is common to adjacent Rm No. 506 (FC5110). Both are designated as fire barriers and are of three hour fire-resistive concrete construction. Access to Rm No. 324 at the 12300 mm elevation is provided from Rm No. 521 by a removable panel.

- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	4.0-K.95, 1.4 - J.5/Manual
ABC hand extinguishers	4.0-K.95, 1.4-J.5, 1.85-K.95/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown functions.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—Postulated fire assumes loss of the function. Therefore, it is assumed that loss of the division 2 HVAC would result in the necessity of shutting down the RCW “B” System and consequently the loss of all of division 2. RCW divisions “A” and “C” would remain operational.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System.

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) Location of the sprinkler system external to the chase

- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The function is located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—Quantities of cable may be so small that they will be in conduit rather than cable trays.

#### **9A.4.2.3.12 Battery Room Division 1 (Rm No. 316)**

- (1) Fire Area—FC1110
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—Two walls of Rm No. 316 are internal to fire area FC1110 and therefore are not designated as fire barriers. The third wall common with room 313 is a 3 h fire barrier for the purpose of investment protection. A fourth wall is common to fire area FC1310 and is of three hour fire-resistive concrete construction. The ceiling of Rm No. 316 is common to fire area FC4910 and serves as a fire barrier. It is of three hour fire-resistive concrete construction. Access to Rm No. 316 is provided from Rm No. 315. The floor of Rm No. 316 is common to fire area FC1310 below and is of three hour fire-resistive concrete construction.
- (5) Combustibles Present—(ECLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays. HVAC will maintain the hydrogen concentration below 2 vol-%.	1454 MJ/m <sup>2</sup> NCLL (1454 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC detection system in the room and manual pull alarm stations at 4.05-J.05 and 6.53-J.57.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.53-J.57 & 4.00-J.05/Manual
ABC hand extinguishers	5.55-J.66/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown functions.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray penetrations through designated fire barriers.

## (9) Consequences of Fire—Postulated fire assumes loss of the division 1 Battery Room and Electrical Equipment Room and consequently all of division 1. Divisions 2, 3 and 4 would remain operational.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of manual suppression system external to the room
- (b) Provision of raised supports for the batteries
- (c) ANSI B31.1 standpipe (rupture unlikely)
- (d) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.



- (13) Remarks—None.

#### **9A.4.2.3.13 Division 1 Electrical Equipment Room (Rm No. 317)**

- (1) Fire Area—FC1110
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—The walls common with the adjacent Rm Nos. 331 and 332 are common to the division 3 fire area FC1310 and are designated as a fire barrier. They are of three hour fire-resistive concrete construction. The walls common with rooms 311, 312, and 313 are of a 3 h fire barrier for the purpose of investment protection. The remaining walls are internal to fire area FC1110 and are not fire barriers. The ceiling of Rm No. 317 is common to fire area FC4910 and serves as a fire barrier between adjacent fire areas. It is of three hour fire-resistive concrete construction. Access to Rm No. 317 is provided from Rm No. 318. The floor of Rm No. 317 is common to division 3 fire area FC1310 below and is of three hour fire-resistive concrete construction.
- (5) Combustibles Present—(ECLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	1454 MJ/m <sup>2</sup> NCLL (1454 MJ/m <sup>2</sup>
Electrical Equipment Panels	maximum average) applies

- (6) Detection Provided—Class A supervised POC detection system in the room and manual pull alarm station at 4.05-J.05 and 6.53-J.62.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	4.00-J.05, 6.53-J.57, and 4.00-K.95/Manual
ABC hand extinguishers	5.55-J.66 & 5.62-K.83/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray penetration through designated fire barriers.
- (9) Consequences of Fire—Postulated fire assumes the loss of division 1 Electrical Power. Divisions 2, 3 and 4 power would remain operational. Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of manual suppression system in an area external to the room
  - (b) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
  - (c) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—None.

#### **9A.4.2.3.14 Division 1 HVAC Chase (Rm No. 319)**

- (1) Fire Area—FC1110
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—Rm No. 319 is defined as a vertical section of HVAC chase extending from the ceiling of Rm No. 111, formed by the floor at the 3500 mm elevation, to the floor of Rm No. 512 at the 12300 mm elevation. All four walls between the floor at the 3500 mm elevation and the ceiling, formed by the floor at the 7900 mm elevation, are internal to fire area FC1110 and therefore are not designated as fire barriers. Access to Rm No. 319 from the 3500 mm level is provided by a removable panel. All four walls of Rm No. 319 between the floor at the 7900 mm elevation and the ceiling, formed by the floor at the 12300 mm elevation, are common to fire area FC4910 and are designated as fire barriers. Access to Rm No. 319 on the 7900 mm level is provided by a three hour fire-resistive removable panel.
- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	4.0 - K.95 & 6.7 - K.85/Manual
ABC hand extinguishers	4.0 - K.95, 6.7 - K.85 & 5.5 - K.95/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing safety or shutdown functions.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray penetrations through rated fire barriers.
- (9) Consequences of Fire—Postulated fire assumes loss of the function. Therefore, it is assumed that loss of the division 1 HVAC would result in the necessity of shutting down the RCW “A” System, however, RCW divisions “B” and “C” would remain operational.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System.
  - (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
  - (b) Location of the suppression system external to the chase
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—Quantities of cable may be so small that they will be in conduit rather than cable tray.

#### **9A.4.2.3.15 Battery Room Division 3 (Rm No. 332)**

- (1) Fire Area—FC1310
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—Three walls of Rm No. 332 are internal to fire area FC1310 and therefore are not designated as fire barriers. A fourth wall is common to fire area FC1110 and is of three hour fire-resistive concrete construction. The ceiling of Rm No. 332 is common to fire area FC4910 and is also of three hour fire-resistive concrete construction. Access to Rm No. 332 is provided from Rm No. 333 by non-rated doors. The floor of Rm No. 332 is common to fire area FC1310 below and is not a fire barrier.

- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays. HVAC will maintain the hydrogen concentration below 2 vol-%.	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC detection system in the room and manual pull alarm stations at 4.05-J.05 and 6.53-J.58.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.53-J.53 & 4.00-J.05/Manual
ABC hand extinguishers	6.02-K.14/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing safety or shutdown functions.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes loss of the division 3 Battery Room and Electrical Equipment Room. Divisions 1, 2 and 4 would remain operational. Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of manual suppression system in a room external to the room containing the batteries and cable
- (b) Provision of raised supports for the batteries

- (c) ANSI B31.1 standpipe (rupture unlikely)
  - (d) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—None.

#### **9A.4.2.3.16 Division 3 Elect. Equipment Room (Rm No. 331)**

- (1) Fire Area—FC1310
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—The wall in common with the adjacent fire area (FC1110) is designated as a fire barrier and therefore is of three hour fire-resistive concrete construction. The remaining walls are internal to fire area FC1310 and are not fire barriers. The ceiling of Rm No. 331 is common to fire area FC4910 and serves as a fire barrier between adjacent fire areas. It is of three hour fire-resistive concrete construction. Access to room 331 is provided from Rm No. 333. The floor of Rm No. 331 is common to fire area FC1310 below and therefore is not a fire barrier.
- (5) Combustibles Present—(ECLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays Electrical panels	1454 MJ/m <sup>2</sup> NCLL (1454 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC detection system in the room and manual pull alarm station at 6.53-J.58.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	4.05-J.05 & 6.53-K.75/Manual
ABC hand extinguishers	6.02-K.14 & 6.10-K.83/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray penetration through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes the loss of division 3 Electrical Power. Divisions 1, 2 and 4 power would remain operational.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of manual suppression system in an area external to the room containing the safety-related equipment
- (b) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

(13) Remarks—None.

#### **9A.4.2.3.17 Division 3 HVAC Chase (Rm No. 335)**

- (1) Fire Area—FC1310
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—No
- (4) Qualification of Fire Barriers—Rm No. 335 is defined as a vertical section of HVAC chase extending from the ceiling of Rm No. 131, formed by the floor at the 3500 mm elevation, to the floor of Rm No. 533 at the 12300 mm elevation. Three of the walls between the floor at the 3500 mm elevation and the ceiling, formed by the floor at the 7900 mm elevation, are internal to fire area FC1310 and therefore are not designated as fire barriers. The fourth wall is common to fire area FC1110 and is of three hour fire-resistive concrete construction. Access to Rm No. 335 on the 3500 mm elevation is provided from Rm No. 331 by a removable panel. All four of the walls of Rm No. 335 between the floor on the 7900 mm elevation and the ceiling, formed by the floor at the 12300 mm elevation, are common to fire area FC4910 and therefore are designated as fire barriers. They are of three hour fire-resistive concrete construction. Access to Rm No. 335 at the 7900 mm elevation is provided by a three hour fire provided by a three hour fire-resistive removable panel.

- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room.



## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	4.00-K.95 & 6.7 - K.85/Manual
ABC hand extinguishers	4.0 - K.95, 6.7 - K.85 & 5.5 - K.95/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown functions.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray penetrations through rated fire barriers.

## (9) Consequences of Fire—Postulated fire assumes loss of the function. Therefore, it is assumed that loss of the division 3 HVAC would result in the necessity of shutting down the RCW “C” System, however, RCW divisions “A” and “B” would remain operational.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) Location of the sprinkler suppression system external to the room

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (13) Remarks—Quantities of cable may be so small that they will be in conduit rather than cable tray.

#### **9A.4.2.3.18 Passageway (Rm No. 333)**

- (1) Fire Area—FC1310
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—Rm No. 333 is a passageway that extends across the end of the control building and along approximately one fifth of its length on each side. The three building exterior walls are designated as fire barriers and are of three hour fire-resistive concrete construction. The three internal walls are internal to fire area FC1310 and are not fire barriers. At each end of the passageway there is a three hour fire barrier door separating fire area FC1310 from fire area FC1110. The ceiling is common to fire area FC4910 above and is designated as a fire barrier. It is of three hour fire-resistive concrete construction. A stairwell (Rm No. 336) in the passageway provides access to the floors below and the control room floor above. An alternate means of access and egress is provided, from any place on the 3500 level, by a stairwell leading up or down from Rm No. 325. The floor of Rm No. 333 is common to fire area FC1310 below and is not a fire barrier.
- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm stations at 6.53-J.58.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.53-J.53 and 6.53-K.75/Manual
ABC hand extinguishers	6.53-J.58 & 6.53-K.70/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in the fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetration through designated fire barriers.

## (9) Consequences of Fire—Postulated fire assumes loss of the function. Electrical divisions 1, 2 and 4 would remain operational.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) ANSI B31.1, Standpipe and hose reel (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (13) Remarks—None.

**9A.4.2.3.19 Passageway (Rm No. 318)**

- (1) Fire Area—FC1110
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—One wall is internal to fire area FC1110 and is not a fire barrier. The opposite wall is a building exterior wall of three hour fire-resistive concrete construction. One end of the passageway has a three hour fire barrier door separating it from fire area FC1310. The other end of the passageway, for the investment protection, has a 3 h fire rated door opening into Rm No. 314 which is in the same fire area as Rm No. 318. The ceiling is common to fire area FC4910 above and therefore is designated as a fire barrier. It is of three hour fire-resistive concrete construction. The floor of Rm No. 318 is common to division 3 fire area FC1310 below and is also of three hour fire-resistive concrete construction.
- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm station at 6.53-J.58.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Hose reel	3.30-K.95 & 6.53-K.75/Manual
ABC Hand Extinguisher	5.62-K.83/Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a separate fire-resistive enclosure.

- (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.
- (9) Consequences of Fire—Postulated fire assumes loss of the function. Electrical divisions 2, 3 and 4 would remain operational.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
  - (b) Location of the manual suppression system external to the room
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—None.

#### **9A.4.2.3.20 Passageway (Rm No. 315)**

- (1) Fire Area—FC1110
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	No

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—One wall is internal to fire area FC1110 and is not designated as a fire barrier. The opposite wall is a building exterior wall of three hour fire-resistive concrete construction. One end of the passageway has a three hour fire

barrier door separating it from fire area FC1310. The other end of the passageway has a 3 h fire barrier door opening into Rm No. 312 for the purpose of investment protection (also in FC1110). The ceiling is common to fire area FC4910 above and is of three hour fire-resistive concrete construction. The floor of Rm No. 315 is common to fire area FC1310 below and is of three hour fire-resistive concrete construction.

- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm station at 4.05-J.05.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	4.00-J.05/Manual
ABC hand extinguishers	4.00-J.05/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes loss of the function. Electrical divisions 2, 3 and 4 would remain operational.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
  - (b) Location of the manual suppression system external to the room
  - (c) ANSI B31.1 Standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—None.

**9A.4.2.3.21 Stairwell (Rm No. 325)**

- (1) Fire Area—FC1210
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	No

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—Rm No. 325 is a stairwell that extends from the 3500 elevation to the 17150 elevation. Walls, floor, and ceiling are concrete and rated 3 h for personnel protection. There is a 3 h rated fire resistive door at each floor elevation. Alternate access is provided by stairwell room 336.
- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A supervised POC detection system in the room and pull alarm stations near the stairwell landing on each elevation.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.45-J.53 El.3500, El.7900 and El.12300 1.37-J.67 El.17150/Manual
ABC hand extinguishers	1.80-K.83 El.3500 1.30-K65 El.7900 1.45-J.55 El.12300 & 1.30-K.55/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Alternate access and egress are provided by a separate stairwell located on the opposite side of the building.

- (9) Consequences of Fire—Postulated fire assumes loss of division 2, and the stairwell. Electrical divisions 1, 3 and 4 would remain operational. Access to the other stairwell is maintained.

Smoke control is by the normal HVAC System functioning in the smoke removal mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) ANSI B31.1, Standpipe and hose reel (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of fire detection, suppression and alarming are provided and accessible.



- (13) Remarks—None.

#### **9A.4.2.3.22 Stairwell (Rm No. 336)**

- (1) Fire Area—FC1310
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—Rm No. 336 is a stairwell that extends from the 3500 elevation to the 17150 elevation. Walls, floor, and ceiling are concrete and rated 3 h for personnel protection. There is a 3 h rated fire resistive door at each floor elevation. Alternate access is provided by stairwell room 325.
- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
None	

- (6) Detection Provided—Class A supervised POC detection system in the room and pull alarm stations near the stairwell landing at each elevation.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.53-K.75 El.3500 & El.7900 660-J.75 El.12300 6.60-J.67 El.17150/Manual
ABC hand extinguishers	6.53-K.75 El.3500 6.53-J.55 & 6.70-K.65 El.7900 660-J.75 & 6.70-K.55 El.12300 6.60-J.67 El.17150/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Alternate access and egress are provided by a separate stairwell located on the opposite side of the building.
- (9) Consequences of Fire—Postulated fire assumes loss of division 3, and stairwell. Electrical divisions 1, 2 and 4 would remain operational. Access to the other stairwell is maintained.
- Smoke control is by the normal HVAC System functioning in the smoke removal mode. Refer to Subsection 9.5.1.1.6 for additional information.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (11) Design Criteria Used for Protection against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
  - (b) ANSI B31.1, Standpipe and hose reel (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks—None

#### **9A.4.2.3.23 Elevator (Rm No. 337)**

- (1) Fire Area—1310
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	No

- (3) Radioactive Material Present—None.

- (4) Qualification of Fire Barriers—Rm No. 337 is an elevator shaft extending from the 3500 elevation to the ceiling formed by the 22200 elevation. Walls, floor and ceiling are concrete and rated 3 h for personnel protection. The elevator door is not fire rated. A separate 3 h rated fire resistive door is provided at each elevator landing doorway.
- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Electrical Cables	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup>
Small amount of elevator motor lubricants	maximum average) applies

- (6) Detection Provided—Class A supervised POC detection in the elevator shaft and pull alarm stations near the elevator door on each elevation.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.53-J.58 & 6.53-J.70 El.3500 6.53-J.58 El.7900 6.60-J.75 El.12300 6.60-J.67 El.17150/Manual
ABC hand extinguishers	6.53-J.58 & 6.53-J.70 El.3500 6.53-J.58 El.7900 6.70-K.55 El.12300 6.70-K.55 El.17150/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire—Postulated fire assumes loss of the function. Electrical divisions 1, 2 and 4 would remain operational.
- Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.
- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
  - (b) ANSI B31.1, Standpipe and hose reel (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable penetrations through rated fire barriers.
- (13) Remarks—None.

#### **9A.4.2.4 Floor Four EI 7900 mm**

##### **9A.4.2.4.1 Control Room Complex**

The Control Room Complex consists of the following rooms, all of which are all located in the same fire area: 491, 492, 493, 494, 495, 496, 497, 498, and 499.

Division 2 and 4 panels are located in Rm No. 495. Division 1 and 3 panels are located in Rm No. 497 and the main operator control panels are located in Rm No. 496. The remaining rooms are offices and passageways.

- (1) Fire Area—FC4910
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1,2,3,4	Yes, D1,2,3,4

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—The outside perimeter of the control room area consists of passageways (Rm Nos.) 491, 492, 493 and 494. The outside walls of these passageways are building exterior walls and are designated as fire barriers, they are of three hour fire-resistive concrete construction. Internal walls are common to fire area FC4910 and are not fire barriers. Stairwells (Rm Nos. 325 and 336) from below (El. 3500 mm) and above (El. 12300 mm) provide access to passageways Rm Nos. 491 and 494 respectively via three hour fire barrier doors. Either stairwell is accessible from any place on the 7900 mm level. The floor of the control room is

common to other fire areas below and is of three hour fire-resistive concrete construction. Portions of the ceiling, that are not common to fire area FC4910 above, are of three hour fire-resistive concrete construction.

- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in conduit	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup>
Electrical Panels	maximum average) applies
Paper	
See item (13), Remarks.	

- (6) Detection Provided—Class A Supervised POC detection system in the room and in the subfloor area and manual pull alarm stations at 1.45-J.60, 4.05-J.07 and 6.53-J.60 and 4.05-K.95.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.45-J.53, 4.00-J.07, 6.53-J.53 & 4.05-K.95/Manual
ABC hand extinguishers	6.53-J.60, 4.05-J.07, 6.53-J.60, 2.02-J.65, 2.02-K.35 4.00-K.70, 4.00-K.28, 5.99-J.65 5.99-K.35, 4.89-J.45, 6.70-K.65 & 1.30-K.65/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in the fire area which is separate from the Remote Shutdown Rooms.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes loss of the function. Therefore it is assumed that the Control Room and Computer Room would not remain functional and habitable. Equipment (not in FC4910) on all elevations would remain functional. Shutdown and core cooling would be accomplished from the Remote Shutdown

Rooms in the Reactor Building. Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
  - (b) ANSI B31.1 Standpipes (rupture unlikely)
  - (c) Provision of raised supports for the equipment
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in separate, but non fire-resistive enclosures.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—The Main Control Room includes a raised floor which is considered part of the room. The raised floor area will be used to route cable to and from the Safety System and Logic Control (SSLC) cabinets, the operator bench boards and displays, and the divisional electrical equipment rooms.

The control room area are raised floor are considered to be non-hazard areas per IEEE 384. Section 8.3.3.6.2.2.3 discusses at length the separation criteria applies to divisional electrical cabling in the control room. It was determined that fire suppression equipment is not needed in the raised floor area. The justification for this position is based on the following:

- (a) The amount of cabling in this area is substantially reduced over current designs.
- (b) The control room is continuously manned so that the presence of a fire will be quickly detected.
- (c) The types of cables located in the raised floor area smolder for a long time and are usually self extinguishing.
- (d) There has never been a fire in the operating plant that has required the evacuation of the control room.

- (e) In the unlikely event that the control room were to require evacuation the Remote Shutdown Panels provide the necessary controls to bring the plant to cold shutdown.

The cabling that will be located in the raised floor area will be one of three types:

- (a) Fiber Optic Cables
- (b) Control and Signal Cables
- (c) Low Voltage Power Cables (<480 Volts)

Divisional separation of these cables will maintained per requirements of IEEE 384, Reg Guide 1.75, and GDC 17 (Subsection 8.3.3.1). For the raised floor area this effectively means that divisional cable trays will be separated by a minimum of 0.91 m horizontal or will be enclosed with at least 3 cm clearance. Furthermore, all low voltage power cables will be contained in flexible or rigid conduit in the raised floor areas. Cable contained in conduit or enclosed trays are not considered to contribute to the combustible loading for the room.

The divisional panels are physically separated as much as practical and located above the divisional electrical equipment rooms. The cabling from the divisional electrical equipment rooms will be routed to the Safety System Logic Control (SSLC) cabinets with Divisions I and III on one side of the operator area and Divisions II and IV located on the opposite side of the operator area.

There is a suspended ceiling but only cables associated with lighting and the fire alarm system are routed above the false ceiling. The cables are in conduit.

Paper within the control room complex is required to be stored in approved containers (file cabinets, cabinets, waste baskets) except when in use.

#### **9A.4.2.5 Floor Five EI 12300 mm**

##### **9A.4.2.5.1 Control Room HVAC “B” Exhaust Duct Chase (Rm No. 522)**

- (1) Fire Area—FC4220
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	No

- (3) Radioactive Material Present—None.

- (4) Qualification of Fire Barriers—Rm No. 522 is defined as a vertical section of HVAC chase extending from the ceiling of the control room, formed by the floor located at the 12300 mm elevation, to the floor of Rm No. 629 located at the 17150 mm elevation. All four walls are designated as fire barriers and are of three hour fire-resistive concrete construction. Access to Rm No. 522 from the 12300 mm level is provided by a three hour, fire-resistive removable panel.
- (5) Combustibles Present—(NCLL Applies)

Type	Fire Loading Total Heat of Combustion (MJ)
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm station at 1.62-J.60.
- (7) Suppression Available:

Type	Location/Actuation
Standpipe and hose reel	4.00-K.95 & 1.6 - J.5/Manual
ABC hand extinguishers	4.0 - K.95 & 1.6 - J.5/Manual

- (8) Fire Protection Design Criteria Employed:
- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
  - (b) Fire detection and suppression capability is provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through designated barriers.

- (9) Consequences of Fire—Postulated fire assumes loss of the function. Alternate means is provided by control room HVAC "C".

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.



- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
  - (b) Location of the manual suppression system in an area external to the room containing the safety-related equipment
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—Quantities of cable may be so small that they will be in conduit rather than cable tray.

#### **9A.4.2.5.2 HVAC "A" Supply (Rm Nos. 511, 512 and 513)**

- (1) Fire Area—FC1110
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1 See Remarks	Yes, D1

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—The exterior walls of the space consisting of Rm Nos. 511, 512, 513 are common to adjacent fire areas FC1310 and FC5110 on the 12300 mm level. Therefore all space exterior walls are designated as fire barriers and are of three hour fire-resistive concrete construction. The ceiling is common to fire area FC1110 above and is not a fire barrier. The floor is common to fire area FC4910 below and is of three hour fire-resistive concrete construction. Access to this area is from Rm No. 593 through a three hour fire-resistive door. Access to Rm No. 512 and 513 from Rm No. 511 is via removable panels.

- (5) Combustibles Present—(NCLL Applies))

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup>
Bag filters	maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm station at 6.50-J75.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.60 - J.75 & 4.0 - J.2/Manual
ABC hand extinguishers	6.50-J.75 and 5.45-J.50/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes loss of the function: Therefore it is assumed that the loss of HVAC Supply “A” would necessitate shutting down the RCW “A” System with the consequential loss of division 1, however, RCW divisions “B” and “C” would remain operational.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (b) Provision of raised supports for the equipment
  - (c) Location of manual suppression system in an area external to the room containing the safety-related equipment
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—This equipment is required to function to support equipment required for remote shutdown and therefore must be and is in a fire area separate from the control room.

#### **9A.4.2.5.3 HVAC “C” Supply (Rm Nos. 531, 532 and 533)**

- (1) Fire Area—FC1310
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—The exterior walls of the space consisting of Rm Nos. 531, 532 and 533 are common to adjacent fire areas FC4910 and FC5110 on the 12300 mm level. All walls are designated as fire barriers and are of three hour fire rated concrete construction. The portion of the ceiling common to fire area FC4220 above is of three hour fire-resistive concrete construction. The remainder of ceiling is common to fire area FC1310 above and is not a fire barrier. Access to this area is from Rm No. 593 via three hour fire rated doors. Access to Rm Nos. 532 and 533 from Rm No. 531 is via removable panels.

- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup>
Bag filters	maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm station at 6.50-J.75.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.60 - J.75 & 4.0 - J.1/Manual
ABC hand extinguishers	6.50-J.75 and 5.45-J.50/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes loss of the function: Therefore it is assumed that the loss of HVAC Supply “C” would necessitate shutting down the RCW “C” System and the consequential loss of division 3, however, RCW divisions “A” and “B” would remain operational.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (b) Provision of raised supports for the equipment
  - (c) Location of manual suppression system in an area external to the room containing the safety-related equipment
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—None.

#### **9A.4.2.5.4 Stairwell Landing (Rm No. 505)**

- (1) Fire Area—FC1310
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—The stairwell landing is a continuation of the division 3 fire area from below and is a different division than surrounding Rm Nos. 506 and 593, therefore the three internal walls are fire barriers. The fourth wall is a building exterior wall and a fire barrier. Therefore all stairwell landing walls on the 12300 mm level are of three hour fire-resistive concrete construction. Access to the stairwell and elevator (Rm Nos. 336 and 337) is provided by the landing. A portion of the ceiling is common to fire area FC4310 above and is of three hour fire-resistive concrete construction. The remainder of the ceiling is common to fire area FC1310. The floor is common to fire area FC4310 below and is of three hour fire-resistive concrete construction. Access between Rm No. 593 and the stairwell is provided via a three hour fire-resistive door.

- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm station at 6.50-J.75.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.60-J.75/Manual
ABC hand extinguishers	6.70-K.55 and 6.50-J.75/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in the fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—Postulated fire assumes loss of the function. An alternate means of access and egress is provided by an up/down stairwell which opens into Rm No. 521. The route to this stairwell is via passageway Rm No. 593.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) Location of manual suppression system in an area external to the stairwell
- (c) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (13) Remarks—None.

**9A.4.2.5.5 Chiller Unit “C,” (Rm No. 534)**

- (1) Fire Area—FC1310
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3 See Remarks.	Yes, D3

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—Two of the walls of Rm No. 534 are building exterior walls and are designated as fire barriers and are of three hour fire-resistive concrete construction. The other two walls are common to adjacent fire area FC1310 and are not fire rated. The ceiling is common to fire areas FC4310 and FC1110 above and is of three hour fire-resistive concrete construction. The floor is common to fire area FC4910 below and is also of three hour fire-resistive concrete construction. Access to this area is from Rm No. 593 via a three hour fire rated door.
- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup>
Small amounts of lubricants	maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm station at 6.50-J.75.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.60-J.75 and 4.00-J.07/Manual
ABC hand extinguishers	6.50-J.75 and 5.45-J.50/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety and shutdown functions.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

## (9) Consequences of Fire—Postulated fire assumes loss of the function: Therefore it is assumed that the loss of Chiller Unit “C” would necessitate shutting down the RCW “C” System and control room (CR) HVAC “C” system with the consequential loss of division 3. RCW divisions “A” and “B” and the CR HVAC “B” would remain operational. Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) Provision of raised supports for the equipment
- (c) Location of manual suppression system in an area external to the room containing the safety-related equipment
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of detection, suppression and alarming are provided and accessible.



- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (13) Remarks—Chiller Unit “C” provides cooling for the control room HVAC “C” System which serves the safety-related multi-divisional equipment in the control room and RCW “C”.

#### **9A.4.2.5.6 Rm Nos. 501,502,503 and 504**

- (1) Fire Area—FC5010
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—Rm Nos. 501, 502, 503 and 504 are in a common fire area. The walls enclosing these spaces are common to adjacent fire areas FC4220 and FC4310 and are designated as fire barriers. Therefore they are of three hour fire-resistive concrete construction. The ceiling is common to fire areas FC4910, FC6210 and FC1210 above and is of three hour fire-resistive concrete construction. The floor is common to fire area FC4910 below and is also of three hour fire-resistive concrete construction. Access to Rm Nos. 501 and 503 is provided from Rm No. 521 via three hour fire rated doors. Rm Nos. 502 and 504 are accessible from Rm Nos. 501 and 503, respectively.
- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Negligible	Negligible

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm station at 1.62-J.60.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.62-J.53/Manual
ABC hand extinguishers	1.62-J.60, 2.02-J.65 and 2.02-K.35/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in the fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

(9) Consequences of Fire—Room cooling is provided by coolers which receive chilled water from the turbine building chilled water system. Room purge (supply and exhaust) is provided by the division 2 HVAC which would be switched to the smoke removal mode upon detection of smoke. The combustion products would then be exhausted directly to the atmosphere without being returned to the division 2 areas. Smoke detection is provided in the branch exhaust duct for the non-safety-related rooms in this fire area (Rm Nos. 501, 502, 503, and 504). This is an aid to determining that a fire is in the non-safety-related rooms and not in the division 2 rooms served by the common purge system. Refer to Subsection 9.5.1.1.6 for additional information.

(10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

(11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) Provision of raised supports for the equipment
- (c) Location of manual suppression system in an area external to the room containing the safety-related equipment
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—Room exhaust and makeup air capability is provided by the division 2 control building HVAC System. The Recirc Internal Pump MG Sets and control panels are located in the Control Building Annex.

#### **9A.4.2.5.7 Computer Room (Rm No. 591)**

- (1) Fire Area—FC4910
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—The computer room has three walls which are common to adjacent fire areas FC1110, FC1210, FC1310, FC5010 and FC5110. These walls are designated as fire barriers and are of three hour fire-resistive concrete construction. The remaining walls are internal to fire area FC4910 and are not fire barriers. The floor of Rm No. 591 is common to FC4910 below and is not a fire barrier. The ceiling of Rm No. 591 is common to the steam tunnel above and is of three hour fire-resistive concrete construction. Access to the computer room is provided from Rm No. 592.
- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup>
Paper (See paragraph 13 remarks)	maximum average) applies
Electrical panels	

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm station at 4.05-J.07.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	4.00-J.07/Manual
ABC hand extinguishers	4.05-J.07, 3.92-J.65 and 3.92-K.35/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in the fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes loss of the function. Therefore, it is assumed that the computer room and control room would not remain habitable and/or functional (both are in FC4910). Equipment, not in fire area FC4910, on all elevations, would remain operational. Shutdown and core cooling would be accomplished from the remote shutdown rooms in the reactor building.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) Provision of raised supports for the equipment
- (c) Location of manual suppression system in an area external to the room
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (13) Remarks—A computer floor is provided for routing of the power cables, a few hard wired cables and fiber optic cables from the cable chases. Conduit, flexible and rigid is used.

Paper in the computer room is required to be stored in approved containers (file cabinets, cabinets, waste baskets) except when in use.

**9A.4.2.5.8 Passageway (Rm No. 521)**

- (1) Fire Area—FC1210
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—Rm No. 521 is a passageway which provides equipment and personnel access to Rm Nos. 501 and 503 (FC5010) via three hour fire-resistive doors. The interior walls and building exterior walls of Rm No. 521 are designated as fire barriers and are of three hour fire-resistive concrete construction. Portion of the ceiling of Rm No. 521 is common to fire areas FC4220 and FC4310 above and is of three hour fire-resistive concrete construction. The remaining portion of the ceiling is not fire rated barrier. The floor is common to fire area FC4910 below and is also of three hour fire-resistive concrete construction. Access to Rm No. 521 from above and below is provided by a stairwell (Rm No.325) and from room 592 via a 3 h fire rated door.

- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm station at 1.62-J.60.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.62-J.53/Manual
ABC hand extinguishers	1.62-J.53/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in the fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes loss of the RCW “B” function and the consequential loss of division 2. RCW Systems “A” and “C” would remain operational. Alternate means of access and egress from Rm No. 521 is provided by the stairwell defined as Rm No. 336 which is accessible from Rm No. 521 via passageway Rm Nos. 592 and 593.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

(b) ANSI B31.1 standpipe (rupture unlikely)

(12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a fire-resistive enclosure.
- (b) The means of detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

(13) Remarks—None.

#### **9A.4.2.5.9 Not Used**

#### **9A.4.2.5.10 Passageway (Rm No. 592)**

- (1) Fire Area—FC4910
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—This passageway provides access to the computer room (Rm No. 591). The internal wall is common to Rm No. 591 (FC4910) and is not a fire barrier. The building exterior wall is a designated fire barrier and is of three hour fire-resistive concrete construction. Each end of the passageway has a 3 h fire barrier door opening into a room fire area FC1210, and FC1310. The floor is common to fire area FC4910 below and is not a fire barrier. The ceiling is common to the steam tunnel and is of three hour fire-resistive concrete construction.
- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm station at 4.05-J.07.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	4.00-J.07/Manual
ABC hand extinguishers	4.05-J.07/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

## (9) Consequences of Fire—Postulated fire assumes loss of the function: Therefore it is assumed that the computer room and control rooms (also in FC4910) would not remain habitable and/or functional. Equipment (not in FC4910) on all elevations would remain operational. Shutdown and core cooling would be accomplished from the Remote Shutdown Rooms in the Reactor Building (See para. 13 remarks).

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a fire-resistive enclosure.
- (b) The means of detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.



- (13) Remarks—Although it is assumed that the control room would become uninhabitable, it would most likely remain habitable if the HVAC System is placed in the smoke removal mode.

#### **9A.4.2.5.11 Passageways (Rm No. 593)**

- (1) Fire Area—FC1310
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—These passageways provide access to chiller unit “C,” HVAC supplies “A” and “C,” stairwell landing Rm No. 505 and Rm No. 592. Passageway walls common to HVAC supply “A” (Rm 511), HVAC supply “C” (Rm No. 531), chiller unit “C” (Rm No. 534), stairwell landing (Rm No. 505), Rm No. 506 and exterior walls of the control building are designated as fire barriers and are of three hour fire-resistive concrete construction. The wall common to the computer room (FC4910) and the door common to Rm No. 592 is 3 h fire barrier. The portion of ceiling common to fire area FC1310 above, is not a fire barrier. Those portions of ceiling common to fire areas FC1110, FC4220 and FC4310 above are of three hour fire-resistive concrete construction. The floor is common to fire area FC4910 below and is not a fire barrier.
- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm station at 6.50-J.75.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.60-J.75/Manual
ABC hand extinguishers	6.50-J.75 and 5.45-J.50/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

## (9) Consequences of Fire—Postulated fire assumes loss of the function: Equipment (not in FC1310) on all elevations would remain operational. HVAC A and B remain operational and will not be affected by the fire.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a fire-resistive enclosure.
- (b) The means of detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (13) Remarks—None.

**9A.4.2.5.12 Control Room HVAC “C,” Exhaust Duct Chase (Rm No. 595)**

- (1) Fire Area—FC4310
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	No, See Remarks.

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—Rm No. 595 is defined as a vertical section of HVAC chase extending from the ceiling of the control room, formed by the floor at the 12300 mm elevation, to the 17150 mm elevation. Walls common to Rm No. 512 (FC1110), Rm No. 532 (FC1310) Rm No. 593 (FC1310) and Rm No. 506 (FC5110) are designated fire barriers and are of three hour fire-resistive concrete construction. Access to Rm No. 595 is provided by a removable panel.
- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm station at 6.50-J.75.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	4.0 - J.1 & 6.60-J.67 on the 17150 level/Manual
ABC hand extinguishers	4.0 - J.1 & 6.60 - J.67/ Manual

- (8) Fire Protection Design Criteria Employed:
  - (a) The function is located in a fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire—Postulated fire assumes loss of the function. alternate means is provided by control room HVAC "B".

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System.
- (a) Location of the manual suppression system in an area external to the room containing the safety-related equipment
  - (b) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—Quantities of cable may be so small that they will be in conduit rather than cable tray.

#### **9A.4.2.5.13 Passageway (Rm No. 506)**

- (1) Fire Area—FC5110
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—All walls of this passageway are designated fire barriers and are of three hour fire-resistive concrete construction. The ceiling is common to fire areas FC4310, FC1210, FC1110, FC1310, FC4220 and the steam tunnel above and is of three hour fire-resistive concrete construction. The floor is common to fire area FC4910 below and is also of three hour fire-resistive concrete

construction. This corridor provides controlled access between the reactor and service buildings. It serves no purpose for the control building and is therefore separated from the remainder of the control building by fire barriers.

- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
None	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the fire area and manual pull alarm station at 4.00-K.95

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	4.00-K.95/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a separate fire-resistive enclosure.
- (b) Fire detection capability is provided. Fire suppression capability is provided. A backup manual hose is provided from the service building.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—All systems would continue to function normally. Access between the service building and reactor building would not be possible while a fire was in progress.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

(b) ANSI B31.1 standpipe (rupture unlikely)

(12) Fire Containment or Inhibiting Methods Employed:

(a) The functions are located in a fire-resistive enclosure.

(b) The means of detection, suppression and alarming are provided and accessible.

(c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

(13) Remarks—None.

#### **9A.4.2.6 Floor Six EI 17150 mm**

##### **9A.4.2.6.1 Control Room HVAC Supply “B” (Rm No. 621)**

(1) Fire Area—FC4220

(2) Equipment: See Table 9A.6-3

#### **Safety-Related**

#### **Provides Core Cooling**

Yes, D2

Yes, See Remarks.

(3) Radioactive Material Present—None.

(4) Qualification of Fire Barriers—The building exterior walls and the wall common with Rm No. 623 which is in a different fire area (FC 1210) are designated as fire barriers and are of three hour fire-resistive concrete construction. The supply duct through the building exterior wall in Rm No. 621 does not have a fire damper. See Subsection 9.5.1.1.6 for a discussion and justification of this design feature. The remaining walls are internal to fire area FC4220 and are not fire barriers. The ceiling is a building exterior wall and is of three hour fire-resistive concrete construction. The floor is common to fire areas FC1210 and FC5010 below and is also of three hour fire-resistive concrete construction. Access to Rm No. 621 is provided from Rm No. 622.

(5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup>
Bag filters	maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the room and manual pull alarm station at 1.42-J.67.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.30 - K.52 & 1.37-J.67/Manual
ABC hand extinguishers	1.42-J.67 and 1.30-K.55/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes loss of the CR HVAC supply “B” function. Alternate means is provided by CRHVAC "C" supply.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) Provision of raised supports for the equipment
- (c) Location of manual suppression system in an area external to the room containing the safety-related equipment
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of detection, suppression and alarming are provided and accessible.

- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (13) Remarks—safety-related cooling for multiple divisional equipment is provided by the equipment in this room which is associated with division 2 power.

#### **9A.4.2.6.2 Passageway and Room (Rm No. 622 and 662)**

- (1) Fire Area—FC4220
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2 See remarks.

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—Passageway Rm No. 622 provides access to CR HVAC supply “B” (Rm No. 621) and Rm No. 662 via non fire barrier doors. The building exterior walls and the walls common with Rm Nos. 623, 624, 661 and 325, which are in a different fire area (FC1210) than Rm No. 622 and 662, are designated as fire barriers and therefore are of three hour fire-resistive concrete construction. Interior walls of Rm No. 622 that are common to Rm No. 621 are internal to fire area FC4220 and are not fire barriers. The ceiling of Rm Nos. 622 and 662 is a building exterior wall and is of three hour fire-resistive concrete construction. Access and egress from Rm No. 622 is via the stairwell (Rm No. 325). The floor of Rm Nos. 622 and 662 is common to fire areas FC1210, FC5110, and FC5010 below and is of three hour fire-resistive concrete construction.
- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in tray	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the fire area and manual pull alarm station at 1.42-J.67.



## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.37-J.67/Manual
ABC Hand Extinguishers	1.42-J.67 and 1.30-K.55/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable trays and piping penetrations through designated fire barriers.

## (9) Consequences of Fire—Postulated fire assumes loss of the function. Even though access to the rooms 623, 624, 625, 629, and 325 are not possible, the equipment in these rooms are functional (they are in different fire area). Alternate means is provided by CRHVAC "C".

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a fire-resistive enclosure.
- (b) The means of detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (13) Remarks—safety-related cooling for multiple divisions is provided by redundant systems. Equipment on this level in this fire area provides one division of cooling for the multi-divisional control room.

**9A.4.2.6.3 Chiller Unit “B” (Rm No.623)**

- (1) Fire Area—FC1210
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, D2 See remarks.

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—One wall of Rm No. 623 is common to the steam tunnel and another is a building exterior wall. Both are designated as fire barriers and are of three hour fire-resistive concrete construction. The two interior walls common to adjacent fire area FC4220 (Rm Nos. 621, 622) and FC4310 (Rm 628) and are also of three hour fire-resistive concrete construction. The ceiling is a building exterior wall and is of three hour fire-resistive concrete construction. Portion of the floor is common to adjacent fire area FC5010 below and is of three hour fire-resistive concrete construction. Access to this room is provided from Rm No. 622 via a three hour fire-resistive door.
- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup>
Small amounts of lubricants	maximum average) applies

- (6) Detection Provided:  
  
Class A Supervised POC detection system in the fire area and manual pull alarm station at 1.42-J.67.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.37-J.67/Manual
ABC hand extinguishers	1.42-J.67 and 1.30-K.55/Manual

(8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

(9) Consequences of Fire—Postulated fire assumes loss of the function: Therefore it is assumed that the loss of Chiller Unit “B” would necessitate shutting down the RCW “B” and CR HVAC “B” Systems with consequential loss of division 2. RCW divisions “A” and “C” and CR HVAC System “A” would remain operational.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

(10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

(11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) Provision of raised supports for the equipment
- (c) Location of manual suppression system in an area external to the room containing the safety-related equipment
- (d) ANSI B31.1 standpipe (rupture unlikely)

(12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

(13) Remarks—The chiller unit “B” provides cooling for the control room HVAC “B” system which serves the safety-related multidivisional equipment in the control room and the RCW “B”. This equipment is also required to function to support equipment required for remote shutdown and therefore is in a fire area separate from the control room and its HVAC equipment.

**9A.4.2.6.4 HVAC “B” Supply and Exhaust (Rm Nos. 624, 625, 627, 661 and 664)**

- (1) Fire Area—FC1210
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	Yes, See Remarks.

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—The building exterior wall, common to Rm Nos. 624 and 664, is a fire barrier and is of three hour fire-resistive concrete construction. The walls common to fire area FC4310 (Rm Nos. 622, 626, 628, 662 and 633) are fire barriers of three hour fire-resistive concrete construction. The wall of Rm No. 661 common to Rm No. 623 is a fire barrier. The internal walls of Rm Nos. 624, 625, 627, 661 and 664 are common to fire area FC1210 are not designated fire barriers. The supply duct through the building exterior wall in room 624 and the exhaust duct through the ceiling in Rm No. 661 do not have fire dampers. See Subsection 9.5.1.1.6 for a discussion and justification of this design feature. The ceiling is a building exterior wall and is of three hour fire-resistive concrete construction. Sections of the floor, common to fire areas FC5010 and FC5110 below, are also of three hour fire-resistive concrete construction. Access to the area is provided from Rm No. 622 via a three hour fire-resistive door. Access to Rm Nos. 625, 627 and 661 from room 624 is via removable panels.
- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup>
Bag filters	maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the fire area and manual pull alarm station at 1.42-J.67.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.30 - K.52 & 1.37-J.67/Manual
ABC hand extinguishers	1.42-J.67 and 1.30-K.55/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

## (9) Consequences of Fire—Postulated fire assumes loss of the function and possibly the shutdown of RCW “B” and consequential loss of division 2 due to fire generated smoke and heat. HVAC Supplies and Exhaust “A” and “C” would remain operational.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) Provision of raised supports for the equipment
- (c) Location of manual suppression system in an area external to the room containing the safety-related equipment
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of detection, suppression and alarming are provided and accessible.

- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (13) Remarks—This equipment is required to function to support equipment required for remote shutdown and therefore is in a fire area separate from the control room and its HVAC System.

The exhaust fans do not provide any cooling function. They only serve a purge function which is not necessary to the cooling function of the HVAC System.

#### **9A.4.2.6.5 HVAC “A” Intake Duct and Exhaust (Rm Nos. 613, 617, 618 and 619)**

- (1) Fire Area—FC1110
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, See Remarks.

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—The building exterior wall, Rm No. 619 is a fire barrier and is of three hour fire-resistive concrete construction. The walls common to fire areas FC4220 (Rm Nos. 614, 616 and 654) and fire area FC1310 (Rm No. 653) are fire barriers of three hour fire-resistive concrete construction. The interior walls of Rm Nos. 613, 617 618 and 619 are common to fire area FC1110 and are not designated fire barriers. The supply duct through the building external wall in Rm No. 619 and the exhaust duct through the ceiling in Rm No. 618 do not have fire dampers. See Subsection 9.5.1.1.6. for a discussion and justification of this design feature. The wall adjacent to the steam tunnel is designated as a fire barrier and is of three hour fire-resistive concrete construction. The ceiling of fire area FC1110 forms a building exterior boundary and is of three hour fire-resistive concrete construction. A section of the floor, common to fire area FC5110 below, is also of three hour fire-resistive concrete construction. The remainder of the floor is common to fire area FC1110 below and is not a fire barrier. Access to the HVAC “A” area is provided through Rm Nos. 653 and 654. Access to Rm No. 617 is via a removable panel.

- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the fire area and manual pull alarm station at 6.70-J.67.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.60-J.67/Manual
ABC hand extinguishers	6.60-J.67 and 6.70-K.55/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes loss of the function and possibly the shutdown of RCW “A” and consequential loss of division 1 due to fire generated smoke and heat. HVAC Supplies and Exhaust “B” and “C” would remain operational.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) Provision of raised supports for the equipment

- (c) Location of manual suppression system in an area external to the room containing the safety-related equipment
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated-fire barriers.
- (13) Remarks—This equipment is also required to function to support equipment required for remote shutdown and therefore is in a fire area separate from the control room and its HVAC equipment.

The exhaust fans do not provide any cooling function. They only serve a purge function which is not necessary to the cooling function of the HVAC System.

#### **9A.4.2.6.6 Control Room HVAC Exhaust “B” (Rm No. 626)**

- (1) Fire Area—FC4220
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D2	No

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—The building exterior wall and the steam tunnel wall are fire barriers of three hour fire-resistive concrete construction.

The common interior walls between Rm Nos. 627 and 663 are in the same fire area and are not fire barriers. The ceiling of this fire area forms a building exterior boundary and is of three hour fire-resistive concrete construction. The exhaust duct through the ceiling in Rm No. 626 does not have a fire damper. See Subsection 9.5.1.1.6 for a discussion of this design feature. A section of the floor common to fire area FC1210 and FC5010 below, is also of three hour fire-resistive concrete construction. Access to the CR HVAC Exhaust area is provided from Rm No. 622 through Rm No. 627.



- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the fire area and manual pull alarm station at 1.42-J.67.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	1.37-J.67/Manual
ABC hand extinguishers	1.42-J.67 and 1.30-K.55/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes loss of the function, but continued operation of the exhaust fans are not required for the equipment and systems served. If the CR HVAC “B” or “C” are placed in the smoke removal mode the control room should remain habitable.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design", for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) Provision of raised supports for the equipment

- (c) Location of manual suppression system in an area external to the room containing the safety-related equipment
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—The exhaust fans do not provide any cooling function. They only serve a purge function which is not necessary to the cooling function of the HVAC System.
- Quantities of cable may be so small that they will be in conduit rather than cable tray.

#### **9A.4.2.6.7 Chiller Unit “A” (Rm No. 612)**

- (1) Fire Area—FC1110
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D1	Yes, D1

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—One wall of Rm No. 612 is common to the steam tunnel and another is a building exterior wall. Both are designated as fire barriers and are of three hour fire-resistive concrete construction. The two interior walls area FC4310 (Rm Nos. 611, 615 and 654) are also of three hour fire-resistive concrete construction. The interior wall of Rm No. 612 common to Rm No. 618 is not rated as a fire barrier. The ceiling is a building exterior wall and is of three hour fire-resistive concrete construction. The floor is common to adjacent fire area FC1310 below and is also of three hour fire-resistive concrete construction. Access to this room is provided from Rm No. 611 via a three hour fire-rated door.

- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup>
Small quantities of lubricants	maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the fire area and manual pull alarm station at 6.70-J.67.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.60-J.67/Manual
ABC hand extinguishers	6.60-J.67 and 6.70-K.55/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes loss of the function: Therefore it is assumed that the loss of chiller unit “A” would necessitate shutting down the RCW “A” system, which consequentially results in the loss of Division 1. RCW divisions “B” and “C” would remain operational.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (b) Provision of raised supports for the equipment
  - (c) Location of manual suppression system in an area external to the room containing the safety-related equipment
  - (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—This equipment is required to function to support equipment required for remote shutdown and therefore must be in a fire area separate from the control room.

#### **9A.4.2.6.8 Control Room HVAC Supply “C” (Rm No. 615)**

- (1) Fire Area—FC4310
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, See Remarks.

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—The building exterior wall which has an air intake vent from the outside and the other building exterior wall are both designated fire barriers and are of three hour fire-resistive concrete construction. Another wall common to Rm No. 612 (FC1110) is also designated as a fire barriers and is of three hour fire-resistive concrete construction. The remaining walls are internal to fire area FC4310 and are not fire barriers. The supply duct through the building exterior wall in Rm No. 615 does not have a fire damper. See Subsection 9.5.1.1.6 for a discussion and justification of this design feature. The ceiling is a building exterior wall and is of three hour fire-resistive concrete construction. The floor is common to fire area FC1310 below and is also of three hour fire-resistive concrete construction. Access to Rm No. 615 is provided from Rm No. 611.

- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup>
Bag filters	maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the fire area and manual pull alarm station at 6.70-J.67.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.70 - K.52 & 6.60-J.67/Manual
ABC hand extinguishers	6.60-J.67 and 6.70-K.55/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes loss of the function CR HVAC supply “C” function. Alternate means is provided by CRHVAC "B" supply.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) Provision of raised supports for the equipment

- (c) Location of manual suppression system in an area external to the room containing the safety-related equipment
- (d) ANSI B31.1 standpipe (rupture unlikely)
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The functions are located in a separate fire-resistive enclosure.
  - (b) The means of detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—safety-related cooling for multiple divisional equipment is provided by the equipment in this room which is associated with division 3 power.

#### **9A.4.2.6.9 Passageway and Room (Rm Nos. 611 and 652)**

- (1) Fire Area—FC4310
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	Yes, D3 See Remarks.

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—Passageway Rm No. 611 provides access to CR HVAC supply “C” (Rm No. 615) and Rm No. 652 via non fire barrier doors. It also provides access to Rm Nos. 612, 651 and 634 via three hour fire barrier doors. The building exterior walls and one interior wall of Rm No. 652 (common to fire area FC1310) are designated as fire barriers and are of three hour fire-resistive concrete construction. Room 611 has one building exterior wall which is of three hour fire-resistive concrete construction. Interior walls of Rm No. 611 that are common to Rm No. 615 are internal to fire area FC4310 and are not fire barriers. The remaining interior walls of room 611 are common to Rm Nos. 631, 633, 634, 651 and 612, fire areas FC1310 and FC1110, and are of three hour fire-resistive concrete construction. Access and egress from Rm No. 611 is via the stairwell (Rm No. 336). The ceiling of Rm No. 611 and 652 is a building exterior wall and is of three hour fire-resistive concrete construction. The floor of Rm Nos. 611 and 652 is common to fire areas FC1310 below and is also of three hour fire-resistive concrete construction.

- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the fire area and manual pull alarm station at 6.70-J.67.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.60-J.67/Manual
ABC hand extinguishers	6.60-J.67 and 6.70-K.55/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes loss of function. Even though access to rooms 612, 636, 631, 634 and 651 are not possible, the equipment in these rooms are functional (they are in a different fire area). Alternate means is provided by CRHVAC "B".

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a fire-resistive enclosure.
- (b) The means of detection, suppression and alarming are provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

## (13) Remarks—safety-related cooling for multiple divisions is provided by redundant systems. The equipment on level 17150 in this fire area provides one division of cooling for the multi-divisional control room.

**9A.4.2.6.10 Control Room HVAC Exhaust “C” (Rm No. 614)**

- (1) Fire Area—FC4310
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
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Yes, D3	No, See Remarks.
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- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—All walls in this area are interior walls. The walls common to fire area FC1110 are designated as fire barriers and are of three hour fire-resistive concrete construction. The remaining interior walls are not fire barriers. The ceiling is a building exterior wall and is also of three hour fire-resistive concrete construction. The floor is common to adjacent fire area FC1310 below, is of three hour fire-resistive concrete construction. Access to the CR HVAC “C” exhaust area is provided from Rm No. 631.
- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
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Cable in trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies
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- (6) Detection Provided—Class A Supervised POC detection system in the fire area and manual pull alarm station at 6.70-J.67.



## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.60-J.67/Manual
ABC hand extinguishers	6.60-J.67 and 6.70-K.55/Manual

## (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

## (9) Consequences of Fire—Postulated fire assumes loss of the function, but continued operation of the exhaust fans is not required for the equipment and systems served. If the control room HVAC is manually switched to the smoke removal mode the control room should remain habitable.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

## (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) Provision of raised supports for the equipment
- (c) Location of manual suppression system in an area external to the room containing the safety-related equipment
- (d) ANSI B31.1 standpipe (rupture unlikely)

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.
- (b) The means of detection, suppression and alarming are provided and accessible.

- (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.

- (13) Remarks—The exhaust fans do not provide any cooling function. They only serve a purge function which is not necessary to the cooling function of the HVAC System.

Quantities of cable may be so small that they will be in conduit rather than cable tray.

#### **9A.4.2.6.11 HVAC “C” Intake Duct and Exhaust (Rm Nos. 631, 632, 633, 634, 651, and 653)**

- (1) Fire Area—FC1310
- (2) Equipment: See Table 9A.6-3

<b>Safety-Related</b>	<b>Provides Core Cooling</b>
Yes, D3	No, D3

- (3) Radioactive Material Present—None.
- (4) Qualification of Fire Barriers—The building exterior wall, Rm Nos. 651 and 653 is a fire barrier and is of three hour fire-resistive concrete construction. Rm No. 653 has an air intake opening from the outside. The division 3 supply duct through the building exterior wall in Rm No. 653 and the exhaust duct through the ceiling of Rm No. 634 do not have fire dampers. See Subsection 9.5.1.1.6 for a discussion and justification of this design feature. The wall common to Rm No. 619, fire area FC1110 and Rm Nos. 616, 614, 654, and 611, fire area FC4220 are of three hour fire-resistive concrete construction. The remaining walls are internal and common to fire area FC1310. Therefore they are not fire barriers. The ceiling is a building exterior fire wall and is of three hour fire-resistive concrete construction. Sections of the floor, common to fire areas FC4310 and FC5110 below, are also of three hour fire-resistive concrete construction. Access to Rm Nos. 634 and 651 is provided from room 611 via a three hour fire-resistive door. Access to Rm Nos. 632 and 633 is via removable panels.
- (5) Combustibles Present—(NCLL Applies)

<b>Type</b>	<b>Fire Loading Total Heat of Combustion (MJ)</b>
Cable trays	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies

- (6) Detection Provided—Class A Supervised POC detection system in the fire area and manual pull alarm station at 670-J.67.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Standpipe and hose reel	6.60-J.67/Manual
ABC hand extinguishers	6.60-J.67 and 6.70-K.55/Manual

- (8) Fire Protection Design Criteria Employed:

- (a) The function is located in a fire area which is separate from fire areas providing alternate means of performing the safety or shutdown function.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for cable tray and piping penetrations through designated fire barriers.

- (9) Consequences of Fire—Postulated fire assumes loss of the function, and possibly the shutdown of RCW “C” and consequential loss of division 3 due to fire generated smoke and heat. HVAC Supplies and Exhausts “A” and “B” would remain operational.

Smoke control is by the normal HVAC System functioning in the smoke control mode. Refer to Subsection 9.5.1.1.6 for additional information.

- (10) Consequences of Fire Suppression—Suppression extinguishes the fire. Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, "Water Level (Flood) Design," for the drain system.
- (b) Provision of raised supports for the equipment
- (c) Location of manual suppression system in an area external to the room containing the safety-related equipment
- (d) ANSI B31.1 standpipe (rupture unlikely)

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The functions are located in a separate fire-resistive enclosure.

- (b) The means of detection, suppression and alarming are provided and accessible.
  - (c) Fire stops are provided for cable tray and piping penetrations through rated fire barriers.
- (13) Remarks—The exhaust fans do not provide any cooling function. They only serve a purge function which is not necessary to the cooling function of the HVAC System.

### **9A.4.3 Turbine Building**

#### **9A.4.3.1 Floor B1F (El. 2.3m (2'-2")) - See Figure 9A.4-17 and Table 9A.4.3-1 Summary of Fire Protection Criteria Floor B1F**

##### **9A.4.3.1.1 Fire Area – FT1500 (General Area)**

- (1) Fire Area Boundary Description

Floor B1F shares fire area FT1500 with all other floors in the Turbine Building. Large overhead openings exist between floor B1F and mezzanine MB1F in the high pressure condensate pump area (room 132) and condenser vacuum pump area (room 121).

Open metal grating and non-fire rated equipment access hatches are installed in different locations/elevations between floor B1F and the upper floors in fire area FT1500.

The low pressure condensate pump area (room 140) extends vertically up to and through a non-fire rated equipment hatch in the turbine operating deck floor (floor 3F, elevation 27.8m (85'-10 ½")).

Non-fire rated equipment access hatches between floor B1F and floor MB1F exist in the northwest corridor, high pressure heater drain pump area (room 113), and turbine cooling water equipment area (room 224).

The resin storage tank area and condensate filter backwash receiving tank area extend from floor B1F up through floor MB1F to their respective ceilings at the underside of floor 1F (elevation 12.3m (35'-0")). In the resin storage tank area (room 1X1) open grating is located at elevation 6.3m (15'-3 ½") (floor MB1F).

The offgas charcoal adsorber area (room 112) extends vertically upward through floors MB1F and 1F to the underside of floor 2F (elevation 19.7m (59'-3 ½")). In room 112, metal grating is installed at elevation 12.3m (floor 1F (35'-0")) with a non-fire rated equipment access hatch at room ceiling level, elevation 19.7m (59'-3 ½") (floor 2F).

Open grating is also installed above the B1F floor level in and around the main condenser area (room 120) at elevation 4.5m (9'-6 1/2").

Fire area FT1500 is bounded by:

- The Turbine Building exterior walls
- The interior walls enclosing stairwell no. 2 (room 122, fire area FT1503)
- The interior walls enclosing stairwell no. 4 (room 249, fire area FT2504)
- The interior walls enclosing stairwell no. 6 (room 1X3, fire area FT15X1)
- The interior walls enclosing stairwell no. 7 (room 1X4, fire area FT15X2)
- The interior wall between this floor and the stairwell (room 141, fire area FT15X3) leading down to the access to the Radwaste Tunnel and condensate filter backwash transfer pump area (room 144).
- The floor above the Radwaste Tunnel.
- The ceiling beneath the oil purification unit (room 230, fire area FT2500) on floor MB1F
- The ceiling beneath the oil storage tank (room 1Y1, fire area FT15Y3) on floor MB1F
- The ceiling beneath the EHC hydraulic power unit (room 232, fire area FT15Y4) on floor MB1F

(2) Equipment: See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
-----------------------	------------------------------

Yes

No

(3) Radioactive Material Present—None that can be released as a result of fire.

(4) Qualification of Fire Barriers –

The Turbine Building is classified as Type IA construction in accordance with the International Building Code (IBC), 2006. Type IA construction is noncombustible. The building structural frame, and all exterior and interior bearing walls, are required to be of 3 hour fire-resistive construction. The building floor is required to be of not less than 2 hour fire resistive construction, including supporting beams and joists.

Also, the building roof is required to be of not less than 1 ½ hour fire resistive construction.

The enclosed stairwells that serve floor B1F, stairwell nos. 2, 4, 6 and 7 are of 2 hour fire-resistive concrete construction. Enclosed stairwell nos. 2 and 4 serve to access and exit controlled areas within the Turbine Building and extend vertically upwards to floor 3F at elevation 27.8m (85'-10 ½"). Enclosed stairwell nos. 6 and 7 provide for access and exit from uncontrolled Turbine Building areas associated with the Turbine Cooling Water (TCW) System and extend upwards to floor 1F at grade (elevation 12.3m (35'-0")).

Enclosed stairwell nos. 2, 4, 6 and 7 are separate fire areas and are discussed in Subsections 9A.4.3.1.2 through 9A.4.3.1.5 (fire areas FT1503, FT2504, FT15X1, and FT15X2, respectively).

The Radwaste Tunnel is separated from the Turbine Building by 3 hour fire-resistive concrete construction. This separation includes interior walls between the condensate filter backwash receiving tank area (room 143), condensate filter backwash transfer pump area (room 144), and the B1F floor at elevation 2.3m (2'-2"), adjacent to and above the Radwaste Tunnel.

An unenclosed stairway leading down to the Radwaste Tunnel and condensate filter backwash transfer pump area (room 144) is located in room 141. This stairway is separated from the Turbine Building by a 3 hour fire resistive concrete wall and 3 hour fire-rated door.

The Radwaste Tunnel is separated from the Turbine Building exterior by 3 hour fire-resistive concrete construction along the west side of the building. Also, the pipe space exterior to the Turbine Building along the south wall at this elevation is of 3 hour fire-resistive concrete construction.

The remaining exterior walls are constructed of concrete backed by exterior fill.

Remaining floor areas are made up of the concrete base mat.

The remaining portion of the ceiling of floor B1F is concrete but is not designated as a fire-resistive barrier except where this ceiling falls beneath floor areas associated with the lube oil purification unit (room 230, fire area FT2500), EHC hydraulic power unit (room 232, fire area FT15Y4), and turbine lube oil storage tank areas (room 1Y1, fire area FT15Y3) located on floor MB1F.

## (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
(a) Cable in conduit, and less than the equivalent of 0.6m cable trays	Acceptable
(b) Limited quantities of lubricants in pumps	Negligible
(c) Charcoal in offgas charcoal bed	Does not contribute to fire loading
(d) Resin in resin storage tanks	Does not contribute to fire loading

## (6) Detection Provided – Class A supervised POC, and manual alarm pull stations at Columns – Rows (C-R) TA.4-T7.5, TJ.7-T7.5, TJ.6-T2.2, TG.3-T2.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipes	Stairwells No.2 <122>, No.4 <249>, No.6, and No.7
ABC hand extinguishers and hose stations	TA.1-T6.4, TB.9-T6.4, TC.5-T6.3, TD.2-T6.1, TE.3-T7, TG-T7.2, TB.7-T5.8, TB.1-T5.2, TA.9-T7.8, TC.8-T7.8, TE.7-T7.8, TG.5-T7.8, TH.3-T7.8, TC.2-T3.2, TB.1-T2.9, TB.2-T1.1, TC.6-T2.2, TE.1-T2, TF.9-T2, TC.4-T4, TD.1-T5.6, TG-T5.7, TH.1-T3.9, TG.4-T2.1, TJ-T2.1, TH.3-T4.1, TJ.9-T4.1, TH.8-T6
Wet pipe sprinkler system Design density 12.2 L/min-m <sup>2</sup> (0.3 gpm/ft <sup>2</sup> ) over 464.5 m <sup>2</sup> (5000 ft <sup>2</sup> ) Wet Pipe Sprinkler	Throughout floor B1F
Design density 8.2 L/min-m <sup>2</sup> (0.20 gpm/ft <sup>2</sup> ) over 139 m <sup>2</sup> (1,500 ft <sup>2</sup> )	Stairwell Access to Radwaste Tunnel (Room 141)

## (8) Fire Protection Design Criteria Employed:

- (a) Fire detection and suppression capability is provided and accessible;
- (b) Fire stops are provided for penetrations through rated fire barriers.

- (9) Consequences of Fire – Postulated fire assumes loss of function. Smoke from a fire would be removed by the normal HVAC system except for the following rooms:
  - (a) Rooms 110 and 142 by normal HVAC and process exhaust.
  - (b) Rooms 112 and 144 by process exhaust.
- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Provision of raised supports for the equipment
  - (b) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) Fire stops are provided for penetrations through fire rated barriers.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks:
  - (a) Smoke detectors and temperature controllers are mounted in the exhaust duct of the offgas system to detect any fire in the charcoal beds. The fire is contained by isolating the charcoal adsorber vessel and purging the vessel with nitrogen gas.
  - (b) The following safety-related equipment representing all four safety divisions is mounted on this floor:

B21-PT301 A-D
  - (c) Section 9A.5, Special Cases, provides justification for locating equipment from multiple safety divisions on this floor of the turbine building.
  - (d) Electrical cable insulation in conduit does not represent a combustible fire load.
  - (e) The total flow of the wet pipe sprinkler system on floor B1F with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 10,410 L/min (2750 gpm).
  - (f) The total flow of the wet pipe sprinkler system in the stairwell access to the Radwaste Tunnel (Room 141) with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,596 L/min (950 gpm).



**9A.4.3.1.2 Fire Area – FT1503 (Stairwell No. 2 – Room 122)****(1) Fire Area Boundary Description**

Stairwell No. 2 serves controlled areas inside the Turbine Building at floor level B1F.

Fire area FT1503 extends vertically upward from floor B1F through floor MB1F, and adjacent to floors 1F, 2F, and 3F (elevation 27.8m (85'-10 ½")).

Access is provided to stairwell no. 2 from B1F and each of the upper floors.

Stairwell no. 2 is a separate fire area bounded by interior fire walls at floor levels B1F and MB1F. At floors 1F, 2F, and 3F, stairwell no. 2 is bounded by interior and exterior fire-resistive walls.

**(2) Equipment: See Table 9A.6-4**

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

**(3) Radioactive Material Present – None.****(4) Qualification of Fire Barriers – At floor levels B1F and MB1F, walls enclosing stairwell no. 2 are a minimum of 2 hour fire-resistive concrete construction. Stairwell doors are a minimum of 1-1/2 hour fire rated (doors are 3-hour fire rated for consistency throughout the Turbine Building). The floor is the concrete basemat of floor B1F.**

At floor levels 1F, 2F, and 3F, interior and exterior walls are of 3 hour fire-resistive concrete construction. Doors leading into stairwell no. 2 from inside the Turbine Building are a minimum of 1-1/2 hour fire rated (doors are 3-hour fire rated for consistency throughout the Turbine Building) at all levels. The door at the exit discharge at grade level (floor 1F, elevation 12.3m) is a 3 hour fire rated door.

**(5) Combustibles Present – No significant quantities of exposed combustibles.****(6) Detection Provided – Class A supervised POC at each building floor elevation and manual pull station external to the enclosed stairway at each floor elevation.**

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipe	Stairwell No.2 <122>
ABC portable (hand) extinguishers and hose station	TG.4-T2.1
Wet pipe sprinkler system Design density 6.1 L/min-m <sup>2</sup> (0.15 gpm/ft <sup>2</sup> )	Stairwell No. 2

- (8) Fire Protection Design Criteria Employed:

- (a) The stairwell is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire – The postulated fire assumes loss of function of the enclosed stairway. Smoke from a fire would be removed by the normal HVAC system.

- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The function is provided in a fire-resistive enclosure.
- (b) Fire stops are provided for penetrations through fire rated barriers.
- (c) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks – The total flow of the wet pipe sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,218 L/min (850 gpm).

#### **9A.4.3.1.3 Fire Area – FT2504 (Stairwell No. 4 – Room 249)**

- (1) Fire Area Boundary Description

Stairwell No. 4 serves controlled areas inside the Turbine Building at floor level B1F.

Fire area FT2504 extends vertically upward from floor B1F through floor MB1F, and adjacent to floors 1F, 2F, and 3F (elevation 27.8m (85'-10 1/2")).

Access is provided to stairwell no. 4 from B1F and each of the upper floors.

Stairwell no. 4 is a separate fire area bounded by interior and exterior fire-resistive walls at floor levels B1F, MB1F, 1F, 2F, and 3F.

- (2) Equipment:

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present – None.

- (4) Qualification of Fire Barriers – At floor levels B1F, MB1F, 1F, 2F, and 3F, interior walls enclosing stairwell no. 4 are a minimum of 2 hour fire-resistive concrete construction. Stairwell doors are a minimum of 1-1/2 hour fire rated (doors are 3-hour fire rated for consistency throughout the Turbine Building). The floor is the concrete basemat of floor B1F.

At floor levels 1F, 2F, and 3F, exterior walls are of 3 hour fire-resistive concrete construction. Doors leading into stairwell no. 4 from inside the Turbine Building are a minimum of 1-1/2 hour fire rated (doors are 3-hour fire rated for consistency throughout the Turbine Building) at all levels. The door at the exit discharge at grade level (floor 1F, elevation 12.3m (35'-0")) is a 3 hour fire rated door.

- (5) Combustibles Present – No significant quantities of exposed combustibles.
- (6) Class A supervised POC at each building floor elevation and manual pull station external to the enclosed stairway at each floor elevation.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipe	Stairwell No.4 <249>
ABC portable (hand) extinguishers and hose stations	TA.1-T6.4, TA.9-T7.8,
Wet pipe sprinkler system Design density 6.1 L/min-m <sup>2</sup> (0.15 gpm/ft <sup>2</sup> )	Stairwell No. 4

- (8) Fire Protection Design Criteria Employed:
  - (a) The stairwell is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire – The postulated fire assumes loss of function of the enclosed stairway. Smoke from a fire would be removed by the normal HVAC system.
- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The function is provided in a fire-resistive enclosure.
  - (b) Fire stops are provided for penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks – The total flow of the wet pipe sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,218 L/min (850 gpm).

#### **9A.4.3.1.4 Fire Area – FT15X1 (Stairwell No. 6 - Room 1X3)**

- (1) Fire Area Boundary Description

Stairwell No. 6 serves uncontrolled areas associated with the turbine cooling water system inside the Turbine Building at floor level B1F, and adjustable speed drive equipment at floor levels MB1F and 1F.

Fire area FT15X1 extends vertically upward from floor B1F, through floor MB1F, and terminates on floor 1F (elevation 12.3m (35'-0")).

Access is provided to stairwell no. 6 from B1F and each of the upper floors.

Stairwell no. 6 is a separate fire area bounded by interior and exterior fire-resistive walls at floor levels B1F, MB1F, and 1F.

- (2) Equipment:

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present – None.
- (4) Qualification of Fire Barriers – At floor levels B1F, MB1F, and 1F interior walls enclosing stairwell no. 6 are a minimum of 2 hour fire-resistive concrete construction. Stairwell doors are a minimum of 1-1/2 hour fire rated (doors are 3-hour fire rated for consistency throughout the Turbine Building). The floor is the concrete basemat of floor B1F.
- At floor level 1F, the exterior wall is of 3 hour fire-resistive concrete construction. Doors leading into stairwell no. 6 from inside the Turbine Building are a minimum of 1-1/2 hour fire rated (doors are 3-hour fire rated for consistency throughout the Turbine Building) at all levels. The door at the exit discharge at grade level (floor 1F, elevation 12.3m (35'-0")) is a 3 hour fire rated door.
- (5) Combustibles Present – No significant quantities of exposed combustibles.
- (6) Class A supervised POC at each building floor elevation and manual pull station external to the enclosed stairway at each floor elevation.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipe	Stairwell No.6
ABC portable (hand) extinguishers and hose stations	TJ-T2.1
Wet pipe sprinkler system Design density 6.1 L/min-m <sup>2</sup> (0.15 gpm/ft <sup>2</sup> )	Stairwell No. 6

- (8) Fire Protection Design Criteria Employed:
- (a) The stairwell is located in a separate fire-resistive enclosure.
  - (b) Alternate access and egress routes are provided by a separate enclosed stairwell at this floor level (stairwell no. 7).
  - (c) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire – The postulated fire assumes loss of function of the enclosed stairway. Access to other enclosed stairways at this floor level is maintained. Smoke from a fire would be removed by the normal HVAC system.
- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The function is provided in a fire-resistive enclosure.
  - (b) Fire stops are provided for penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks – The total flow of the wet pipe sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,218 L/min (850 gpm).

#### **9A.4.3.1.5 Fire Area – FT15X2 (Stairwell No. 7 – Room )**

- (1) Fire Area Boundary Description

Stairwell No. 7 serves uncontrolled areas associated with the turbine cooling water system inside the Turbine Building at floor level B1F, and adjustable speed drive equipment at floor levels MB1F and 1F.

Fire area FT15X2 extends vertically upward from floor B1F, through floor MB1F, and terminates on floor 1F (elevation 12.3m (35'-0")).

Access is provided to stairwell no. 6 from B1F and each of the upper floors.

Stairwell no. 7 is a separate fire area bounded by interior and exterior fire-resistive walls at floor levels B1F, MB1F, and 1F.

- (2) Equipment:

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present – None.

- (4) Qualification of Fire Barriers – At floor levels B1F, MB1F, and 1F interior walls enclosing stairwell no. 7 are a minimum of 2 hour fire-resistive concrete construction. Stairwell doors are a minimum of 1-1/2 hour fire rated (doors are 3-hour fire rated for consistency throughout the Turbine Building). The floor is the concrete basemat of floor B1F.

At floor level 1F, the exterior wall is of 3 hour fire-resistive concrete construction. Doors leading into stairwell no. 7 from inside the Turbine Building are a minimum of 1-1/2 hour fire rated (doors are 3-hour fire rated for consistency throughout the Turbine Building) at all levels. The door at the exit discharge at grade level (floor 1F, elevation 12.3m (35'-0")) is a 3 hour fire rated door.

- (5) Combustibles Present – No significant quantities of exposed combustibles.
- (6) Class A supervised POC at each building floor elevation and manual pull station external to the enclosed stairway at each floor elevation.
- (7) Suppression Available:

Type	Location/Actuation
Modified Class III standpipe	Stairwell No.7
ABC portable (hand) extinguishers and hose stations	TH.8-T6
Wet pipe sprinkler system Design density 6.1 L/min-m <sup>2</sup> (0.15 gpm/ft <sup>2</sup> )	Stairwell No. 7

- (8) Fire Protection Design Criteria Employed:
- (a) The stairwell is located in a separate fire-resistive enclosure.
  - (b) Alternate access and egress routes are provided by a separate enclosed stairwell at this floor level (stairwell no. 6).
  - (c) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire – The postulated fire assumes loss of function of the enclosed stairway. Access to other enclosed stairways at this floor level is maintained. Smoke from a fire would be removed by the normal HVAC system.
- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to to Section 3.4, “Water Level (Flood) Design,” for drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Refer to Section 3.4, "Water Level (Flood) Design," for drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The function is provided in a fire-resistive enclosure.
  - (b) Fire stops are provided for penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks – The total flow of the wet pipe sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,218 L/min (850 gpm).

#### **9A.4.3.2 Floor MB1F (El. 6.3m (15'-3 ½")) - See Figure 9A.4-18 and Table 9A.4.3-2 Summary of Fire Protection Criteria Floor MB1F**

##### **9A.4.3.2.1 Fire Area - FT1500 (General Area)**

- (1) Fire Area Boundary Description

Floor MB1F shares fire area FT1500 with all other floors in the Turbine Building. Large overhead openings exist between floor MB1F and B1F over the high pressure condensate pump area (room 132) and condenser vacuum pump area (room 121).

Open metal grating and non-fire rated equipment access hatches are installed in different locations/elevations between floor MB1F and the upper and lower floors in fire area FT1500.

The low pressure condensate pump area (room 140) extends vertically up from floor B1F, through floors MB1F, 1F and 2F, to and through an non-fire rated equipment hatch in the turbine operating deck floor (floor 3F, elevation 27.8m (85'-10 ½")).

Non-fire rated equipment access hatches are installed in the floor between MB1F and floor B1F in the northwest corridor area (room 242), in the pipe space over the high pressure heater drain pump area, and in the adjustable speed drive area (room 214-2) over the turbine cooling water equipment area below.

The resin storage tank area (room 1X1) and condensate filter backwash receiving tank area (room 143) extend from floor B1F up through floor MB1F to their respective ceilings at the underside of floor 1F (elevation 12.3m (35'-0")).

The offgas charcoal adsorber area (room 112) extends vertically upward from floor B1F through floors MB1F and 1F to the underside of floor 2F (elevation 19.7m



(59'-3 1/2"). Room 112 is part of fire area FT1500. In the off-gas charcoal bed area (room 112), metal grating is installed at elevation 12.3m (floor 1F) with a non-fire rated equipment access hatch at room ceiling level, elevation 19.7m (59'-3 1/2") (floor 2F).

Access to the resin storage tank area (room 1X1) and condensate filter backwash receiving tank area (room 143) is from floor MB1F – these areas are part of fire area FT1500. In room 1X1 open grating is installed at this floor level.

Fire area FT1500 is bounded by:

- The Turbine Building exterior walls
- The interior walls enclosing stairwell no. 2 (room 122, fire area FT1503)
- The interior walls enclosing stairwell no. 3 (room 212, fire area FT2502)
- The interior walls enclosing stairwell no. 4 (room 249, fire area FT2504)
- The interior walls enclosing stairwell no. 6 (room 1X3, fire area FT15X1)
- The interior walls enclosing stairwell no. 7 (room 1X4, fire area FT15X2)
- The interior walls enclosing the elevator shaft (room 250, fire area FT15Y2)
- The floor above the access to the Radwaste Tunnel, Room 141, on floor B1F below
- The interior walls enclosing the area housing the lube oil purification unit (room 230, fire area FT2500)
- The interior walls enclosing the area housing the lube oil storage tanks (room 1Y1, fire area FT15Y3)
- The interior walls enclosing the area housing the EHC hydraulic power unit (room 232, fire area FT15Y4)
- The interior wall between the house boiler area (room 247, fire area FT2503) and this fire area, along building column line T8.
- The interior wall between the chiller area (room 248, fire area FT1501) and this fire area, along column line T8.

- (2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present – None that can be released as a result of fire.

- (4) Qualification of Fire Barriers –

The Turbine Building is classified as Type IA construction in accordance with the International Building Code (IBC), 2006. Type IA construction is noncombustible. The building structural frame, and all exterior and interior bearing walls, are required to be of 3 hour fire-resistive construction. The building floor is required to be of not less than 2 hour fire resistive construction, including supporting beams and joists. Also, the building roof is required to be of not less than 1 ½ hour fire resistive construction.

The enclosed stairwells that serve floor MB1F, stairwell nos. 1, 2, 3, 4, 6, 7 and 8 are of 2 hour fire-resistive concrete construction.

Enclosed stairwell nos. 2, 4, 6, and 7 are separate fire areas and are discussed in Subsections 9A.4.3.1.2 through 9A.4.3.1.5 (fire areas FT1503, FT2504, FT15X1, and FT15X2).

Enclosed stairwells 1, 3 and 8 are described in Subsections 9A.4.3.2.2 through 9A.4.3.2.4 (fire areas FT1502, FT2502 and FT15Y1), respectively.

The elevator shaft (room 250) is of 2 hour fire-resistive concrete construction, is a separate fire area (FT15Y2), and is described in Subsection 9A.4.3.2.5.

The walls enclosing the lube oil purification unit (room 230, fire area FT2500), lube oil storage tank area (room 1Y1, fire area FT15Y3), and the EHC hydraulic power unit (room 232, fire area FT15Y4) are separated from fire area FT1500 by 3 hour fire-resistive concrete construction with 3 hour fire rated doors. These rooms are described as separate fire areas in Subsections 9A.4.3.2.6 through 9A.4.3.2.8, respectively.

The house boiler area (room 247, fire area FT2503) is separated from fire area FT1500 by 3 hour fire-resistive concrete construction along building column line T8. The fire area (FT2503) associated with room 247 is addressed in Subsection 9A.4.3.2.9.

The HNCW chiller area (room 248) and instrument, service, and breathing air equipment areas (rooms 111 and 1Y2) are located in one fire area (FT1501) and

separated from fire area FT1500 by 2 hour fire-resistive concrete construction along building column line T8. Fire area FT1501 is discussed in Subsection 9A.4.3.2.10.

The Turbine Building is separated from the horizontal passageway that runs exterior and parallel to the southernmost building wall by 3 hour fire-resistive concrete construction. This horizontal passageway provides a protected exit and access from the Turbine Building to the Control Building and Service Building.

On the west side and exterior to the Turbine Building, between elevation 6.3m (MB1F) and elevation 12.3m (35'-0") (grade) is a large exposed dry pit. The exterior Turbine Building wall at this location is of 3 hour fire-resistive construction.

The remaining exterior walls are of 3 hour fire-resistive concrete construction, consistent with the requirements of the IBC, and are backed by exterior fill.

Remaining floor areas are concrete basemat or 2 hour fire-resistive concrete construction consistent with the requirements of the IBC for a Type IA structure.

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
(a) Cable in conduit, and less than the equivalent of 0.6m cable trays	Acceptable
(b) Limited quantities of lubricants in pumps	Negligible
(c) Charcoal in offgas charcoal bed	Does not contribute to fire loading
(d) Resin in resin storage tanks	Does not contribute to fire loading

(6) Detection Provided – Class A supervised POC, and manual alarm pull stations at Columns – Rows (C-R)

Manual Pull Locations: TA.4-T7.5, TH.5-T7.9, TJ.7-T7.5, TJ.6-T2.2, TG.6-T2, TJ.9-T6.8, TJ.9-T6.1, TJ.9-T3.1.

## (7) Suppression Available:

Type	Location/Actuation
Modified Class III standpipes	Stairwells No.2 <122>, No.3 <212>, No.4 <249>, No.6, and No.7
ABC portable (hand) extinguishers and hose stations	TA.9-T1.1, TA.1-T6.4, TB-T2.9, TB-T5.2, TC.2-T4.2, TB.6-T7.8, TD.4-T7.8, TF.3-T7.8, TH.2-T7.8, TH.5-T6.3, TH.8-T4.5, TG.8-T2.9, TB.9-T7, TC.9-T6.2, TG-T6.2, TJ.9-T7.2, TJ.1-T5.8, TJ.9-T5.1, TJ.1-T3.7, TJ.9-T2.6, TJ.1-T1.1, TG.9-T1.8 <1Y1> TH.5-T2.8 <232> TH.7-T3, TH.8-T4.5 <230> TH.5-T6.3 <FT2503> <247> TA.6-T8.1, TA.9-T9.1 <FT1501> TC.8-T8.1, TH.5-T8.3, TC.2-T9.3, TE.1-T9, TF.9-T9, TH.5-T8.3, TJ.9-T9.4, TH.9-T9.4, TF.9-T9.4, TE-T9.9, TC.1-T9.9
Wet pipe sprinkler system Design density 12.2 L/min-m <sup>2</sup> (0.3 gpm/ft <sup>2</sup> ) over 464.5 m <sup>2</sup> (5000 ft <sup>2</sup> )	Throughout floor MB1F

## (8) Fire Protection Design Criteria Employed:

- (a) Fire detection and suppression capability is provided and accessible;
- (b) Fire stops are provided for penetrations through rated fire barriers.

## (9) Consequences of Fire – Postulated fire assumes loss of function. Smoke from a fire would be removed by the normal HVAC system except for the following rooms:

- (a) Room 142 by normal HVAC and process exhaust.
- (b) Room 112 by process exhaust.

- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Provision of raised supports for the equipment
  - (b) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) Fire stops are provided for penetrations through fire rated barriers.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks:
  - (a) Smoke detectors, and temperature controllers are mounted in the exhaust duct of the offgas system to detect any fire in the charcoal beds. The fire is contained by isolating the charcoal adsorber vessel and purging the vessel with nitrogen gas.
  - (b) Electrical cable insulation in conduit does not represent a combustible fire load.
  - (c) The total flow of the wet pipe sprinkler system on floor MB1F with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 10,410 L/min (2750 gpm).

#### **9A.4.3.2.2 Fire Area – FT1502 (Stairwell No. 1 – Room 114)**

##### **(1) Fire Area Boundary Description**

Stairwell No. 1 serves uncontrolled areas inside the Turbine Building at floor levels MB1F, 1F, and 2F.

Fire area FT1502 extends vertically upward from floor MB1F through floor 2F (elevation 24.4m (74’-8 ½’’)). Stairwell no. 1 is bounded by interior and exterior fire-resistive concrete construction.

Access is provided to stairwell no. 1 from floor MB1F and each of the upper floors.

- (2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present – None.
- (4) Qualification of Fire Barriers – At floor levels MB1F, 1F and 2F; interior walls enclosing stairwell no. 1 are a minimum of 2 hour fire-resistive concrete construction. Exterior walls are of 3 hour fire-resistive concrete construction.

Interior stairwell doors are a minimum of 1-1/2 hour fire rated (doors are 3-hour fire rated for consistency throughout the Turbine Building). The door at the exit discharge at grade level (floor 1F, elevation 12.3m) is a 3 hour fire rated door.

The floor is the concrete basemat of floor MB1F.

- (5) Combustibles Present – No significant quantities of exposed combustibles.
- (6) Detection Provided – Class A supervised POC at each building floor elevation and manual pull station external to the enclosed stairway at each floor elevation.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipe	Stairwell No. 1 <114>
ABC portable (hand) extinguishers and hose station	TJ.9-T9.4
Wet Pipe Sprinkler Design density 6.1 L/min-m <sup>2</sup> (0.15 gpm/ft <sup>2</sup> )	Stairwell No. 1

- (8) Fire Protection Design Criteria Employed:
- (a) The stairwell is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire – The postulated fire assumes loss of function of the enclosed stairway. Smoke from a fire would be removed by the normal HVAC system.
- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The function is provided in a fire-resistive enclosure.
  - (b) Fire stops are provided for penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks – The total flow of the wet pipe sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,218 L/min (850 gpm).

#### **9A.4.3.2.3 Fire Area – FT2502 (Stairwell No. 3 – Room 212)**

- (1) Fire Area Boundary Description

Stairwell No. 3 serves controlled areas inside the Turbine Building at floor levels MB1F, 1F, 2F and 3F.

Fire area FT2502 extends vertically upward from floor MB1F through floor 3F (elevation 27.8m (85'-10 ½")). Stairwell no. 3 is bounded by interior fire resistive concrete construction.

Access is provided to stairwell no. 3 from floor MB1F and each of the upper floors.

- (2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present – None.
- (4) Qualification of Fire Barriers – At floor levels MB1F, 1F, 2F and 3F, walls enclosing stairwell no. 3 are a minimum of 2 hour fire-resistive concrete construction. Stairwell doors are a minimum of 1-1/2 hour fire rated (doors are 3-hour fire rated for consistency throughout the Turbine Building). The floor is the concrete basemat of floor MB1F.
- (5) Combustibles Present – No significant quantities of exposed combustibles.

- (6) Detection Provided – Class A supervised POC at each building floor elevation and manual pull station external to the enclosed stairway at each floor elevation.

- (7) Suppression Available:

Type	Location/Actuation
Modified Class III standpipe	Stairwell No. 3 <212>
ABC portable (hand) extinguishers and hose station	TH.2-T7.8
Wet Pipe Sprinkler Design density 6.1 L/min-m <sup>2</sup> (0.15 gpm/ft <sup>2</sup> )	Stairwell No. 3

- (8) Fire Protection Design Criteria Employed:
- (a) The stairwell is located in a separate fire-resistive enclosure.
  - (b) Alternate access and egress routes are provided by separate enclosed stairways at this floor level.
  - (c) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire – The postulated fire assumes loss of function of the enclosed stairway. Smoke from a fire would be removed by the normal HVAC system.
- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The function is provided in a fire-resistive enclosure.
  - (b) Fire stops are provided for penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks – The total flow of the wet pipe sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,218 L/min (850 gpm).



**9A.4.3.2.4 Fire Area – FT15Y1 (Stairwell No. 8 – Room 1Y5)****(1) Fire Area Boundary Description**

Stairwell No. 8 serves uncontrolled areas inside the Turbine Building at floor levels MB1F, 1F, 2F, 3F and 4F.

Fire area FT15Y1 extends vertically upward from floor MB1F through floor 4F (elevation 38.3m). Stairwell no. 8 is bounded by interior and exterior fire resistive concrete construction.

Access is provided to stairwell no. 8 from floor MB1F and each of the upper floors.

**(2) Equipment – See Table 9A.6-4**

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

**(3) Radioactive Material Present – None.****(4) Qualification of Fire Barriers – At floor levels MB1F, 1F, 2F, 3F and 4F, interior walls enclosing stairwell no. 8 are a minimum of 2 hour fire-resistive concrete construction. Exterior walls are of 3 hour fire-resistive concrete construction.**

Interior stairwell doors are a minimum of 1-1/2 hour fire rated (doors are 3-hour fire rated for consistency throughout the Turbine Building). The door at the exit discharge at grade level (floor 1F, elevation 12.3m) is a 3 hour fire rated door.

The floor is the concrete basemat of floor MB1F.

**(5) Combustibles Present – No significant quantities of exposed combustibles.****(6) Detection Provided – Class A supervised POC at each building floor elevation and manual pull station external to the enclosed stairway at each floor elevation.**

- (7) Suppression Available:

Type	Location/Actuation
Modified Class III standpipe	Stairwell No. 8
ABC portable (hand) extinguishers and hose station	TA.6-T8.1
Wet Pipe Sprinkler Design density 6.1 L/min-m <sup>2</sup> (0.15 gpm/ft <sup>2</sup> )	Stairwell No. 8

- (8) Fire Protection Design Criteria Employed:

- (a) The stairwell is located in a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire – The postulated fire assumes loss of function of the enclosed stairway. Smoke from a fire would be removed by the normal HVAC system.

- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) The function is provided in a fire-resistive enclosure.
- (b) Fire stops are provided for penetrations through fire rated barriers.
- (c) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks – The total flow of the wet pipe sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,218 L/min (850 gpm).

#### **9A.4.3.2.5 Fire Area – FT15Y2 (Elevator Shaft – Room 250)**

- (1) Fire Area Boundary Description

The elevator shaft serves controlled areas inside the Turbine Building. Fire area FT15Y2 extends vertically upward from floor MB1F through floors 1F, 2F, and 3F

(elevation 27.8m (85'-10 ½")). This fire area is bounded by interior fire-resistive walls.

- (2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present – None.
- (4) Qualification of Fire Barriers – The walls enclosing the elevator shaft are of a minimum of 2 hour fire-resistive concrete construction. Elevator doors are 1-1/2 hour fire rated doors.
- (5) Combustibles Present – (NCLL Applies)

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Electrical Cables	727 MJ/m <sup>2</sup> NCLL (727 MJ/m <sup>2</sup> maximum average) applies
Small amount of elevator motor lubricants	Negligible

- (6) Detection Provided – Class A supervised POC in the elevator shaft and manual pull station near the elevator door at each elevation.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipe	Stairwell No. 3 <212>
ABC portable (hand) extinguishers and hose station	TH.2-T7.8
Wet Pipe Sprinkler Design density 8.2 L/min-m <sup>2</sup> (0.20 gpm/ft <sup>2</sup> )	Elevator Shaft

- (8) Fire Protection Design Criteria Employed:
- (a) The stairwell is located in a separate fire-resistive enclosure.
- (b) Alternate access and egress routes are provided by separate enclosed stairways at this floor level.

- (c) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire – The postulated fire assumes loss of function of the enclosed elevator shaft. Smoke from a fire would be removed by the normal HVAC system.
- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The function is provided in a fire-resistive enclosure.
  - (b) Fire stops are provided for penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks – The total flow of the wet pipe sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,596 L/min (950 gpm).

#### **9A.4.3.2.6 Fire Area – FT2500 (Lube Oil Purification Unit - Room 230)**

- (1) Fire Area Boundary Description

The interior walls, ceiling and floor of fire area FT2500, containing the lube oil purification unit, consists of fire-resistive concrete construction.

- (2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present – None.
- (4) Qualification of Fire Barriers – The walls, ceiling and floor enclosing the lube oil purification unit (room 230) are of 3 hour fire-resistive-concrete construction with 3 hour fire rated doors.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Turbine Lube Oil, Class IIIB Combustible Liquid Volume: 7,571 L (2000 gal.) (Est.)	316,500 MJ (299,984,105 Btu)

- (6) Detection Provided – Class A supervised rate compensated thermal detectors. The detection system is a cross zoned system requiring two detectors, one in each zone to sense fire before initiating the suppression system. A manual alarm pull station is located at each door.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipe	Stairwell No. 3 <212>
ABC portable (hand) extinguishers and hose station	TH.5-T6.3
Deluge foam water spray system Foam water density: 20.4 L/min-m <sup>2</sup> (0.5 gpm/ft <sup>2</sup> ) (Est.)	Room 230

- (8) Fire Protection Design Criteria Employed:
- (a) Room 230 is configured as a separate fire-resistive enclosure.
  - (b) Alternate access and egress routes are provided by separate enclosed stairways at this floor level.
  - (c) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire – The postulated fire assumes loss of function of the enclosed area and affected equipment. Smoke from a fire would be removed by the normal HVAC system.
- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system external to the room

- (b) Provision of raised supports for equipment
  - (c) Refer to Section 3.4, "Water Level (Flood) Design," for drain system.
  - (d) Cross zoned detectors for initiation of deluge system
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The function is provided in a fire-resistive enclosure.
  - (b) Fire stops are provided for penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks –The lube oil purification unit contains approximately 7,571 L (2,000 gallons), therefore the deluge foam water sprinkler system must be capable of suppressing any fire in this room. The total flow of the deluge foam sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,710 L/min (980 gpm).

#### **9A.4.3.2.7 Fire Area –FT15Y3 (Lube Oil Storage Tank Area - Room 1Y1)**

- (1) Fire Area Boundary Description

The interior walls, ceiling and floor of fire area FT15Y3, containing two (2) lube oil storage tanks, consists of fire-resistive concrete construction.

- (2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present – None.
- (4) Qualification of Fire Barriers – The walls, ceiling and floor enclosing the lube oil storage tanks (room 1Y1, fire area FT15Y3) are of 3 hour fire-resistive-concrete construction with 3 hour fire rated doors.
- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Turbine Lube Oil, Class IIIB Combustible Liquid Volume: 81,386 L (21,500 gal.) (Est.)	3,402,375 MJ (3,224,829,130 Btu)

- (6) Detection Provided – Class A supervised rate compensated thermal detectors. The detection system is a cross zoned system requiring two detectors, one in each zone to sense fire before initiating the suppression system. A manual alarm pull station is located at each door.

- (7) Suppression Available:

Type	Location/Actuation
Modified Class III standpipe	Stairwell No.2 <122>
ABC portable (hand) extinguishers and hose stations	TH.5-T2.8, TG.8-T2.9
Deluge foam water spray system Foam water density: 20.4 L/min-m <sup>2</sup> (0.5 gpm/ft <sup>2</sup> ) (Est.)	Room 1Y1

- (8) Fire Protection Design Criteria Employed:
- (a) Room 1Y1 is configured as a separate fire-resistive enclosure.
  - (b) Alternate access and egress routes are provided by separate enclosed stairways at this floor level.
  - (c) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire – The postulated fire assumes loss of function of the enclosed area and affected equipment. Smoke from a fire would be removed by the normal HVAC system.
- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for equipment
  - (c) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
  - (d) Cross zoned detectors for initiation of deluge system

- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The function is provided in a fire-resistive enclosure.
  - (b) Fire stops are provided for penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks –The lube oil storage tank area contains approximately 81,386 L (21,500 gallons), therefore the deluge foam water sprinkler system must be capable of suppressing any fire in this room. The total flow of the deluge foam sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 5,867 L/min (1,550 gpm).

#### **9A.4.3.2.8 Fire Area –FT15Y4 (EHC hydraulic power unit - Room 232)**

- (1) Fire Area Boundary Description

The interior walls, ceiling and floor of fire area FT15Y4, containing the EHC hydraulic power unit, consists of fire-resistive concrete construction.

- (2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
Yes	No

- (3) Radioactive Material Present – None.

- (4) Qualification of Fire Barriers – The walls, ceiling and floor enclosing EHC hydraulic power unit (room 1Y1, fire area FT15Y4) are of 3 hour fire-resistive-concrete construction with 3 hour fire rated doors.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Hydraulic Fluid, Class IIIB Combustible Liquid Volume: 6,435 L (1700 gal.) (Est.)	269,025 MJ (254,986,489 Btu)

- (6) Detection Provided – Class A supervised rate compensated thermal detectors. The detection system is a cross zoned system requiring two detectors, one in each zone to sense fire before initiating the suppression system. A manual alarm pull station is located at each door.



## (7) Suppression Available:

Type	Location/Actuation
Modified Class III standpipe	Stairwell No.2 <122>
ABC portable (hand) extinguishers and hose stations	TH.7-T3, TH.8-T4.5, TG.8-T2.9
Deluge foam water spray system Foam water density: 20.4 L/min-m <sup>2</sup> (0.5 gpm/ft <sup>2</sup> ) (Est.)	Room 232

## (8) Fire Protection Design Criteria Employed:

- (a) Room 232 is configured as a separate fire-resistive enclosure.
- (b) Alternate access and egress routes are provided by separate enclosed stairways at this floor level.
- (c) Fire detection and suppression capability is provided and accessible.

## (9) Consequences of Fire – The postulated fire assumes loss of function of the enclosed area and affected equipment. Smoke from a fire would be removed by the normal HVAC system.

## (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (d) Cross zoned detectors for initiation of deluge system

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The function is provided in a fire-resistive enclosure.
- (b) Fire stops are provided for penetrations through fire rated barriers.
- (c) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks:

- (a) The EHC hydraulic power unit contains approximately 6,435 L (1,700 gallons), therefore the deluge foam water sprinkler system must be capable of suppressing any fire in this room. The total flow of the deluge foam sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 5,072 L/min (1,340 gpm).
- (b) The following safety-related equipment representing all four safety divisions is mounted on this floor:  
  
C71-PS002 A-D
- (c) Section 9A.5, Special Cases, provides justification for locating equipment from multiple safety divisions on this floor of the turbine building.

**9A.4.3.2.9 Fire Area –FT2503 (House Boiler Area - Room 247)**

## (1) Fire Area Boundary Description

The house boiler area (room 247) is enclosed by fire-resistive construction. The interior and exterior walls and ceiling that enclose house boiler equipment are of fire-resistive concrete construction.

Adjacent fire areas separated from room 247 include the HCNW chiller area (room 248) instrument, service and breathing air equipment areas (rooms 111 and 1Y2) in fire area FT1501 and stairwell no. 8 (room 1Y5, fire area FT15Y1). Also, the combustion gas turbine area (room 317 – FT3500) is located on floor 1F above.

The house boiler area floor is the concrete basemat.

The house boiler area is an uncontrolled access area. Fire-resistive concrete construction separates room 247 from controlled access areas in the Turbine Building along column line T8.

The main portion of Room 247 extends vertically upward to the underside of floor 2F (elevation 19.7m). Separation between room 247 at this level for this area and the adjacent combustion turbine generator area (room 248 – FT3500) is provided by fire-resistive concrete construction, including the ceiling, above which is switchgear room 'B' (room 310 – FT1501).

## (2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present – None.
- (4) Qualification of Fire Barriers – The interior and exterior walls and ceiling that enclose the house boiler area (room 247 – FT2503) are of 3 hour fire-rated concrete construction with 3 hour fire rated doors.

The enclosed stairwell that serves the house boiler area on floor MB1F, stairwell no. 8, is of 2 hour fire-resistive concrete construction.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
(a) Cable in conduit, and dispersed in cable trays	Limited quantities
(b) Lubricants in pumps	Negligible

Note: The house boiler is electric which eliminates the possibility of fire involving significant quantities of combustible liquid in this area.

- (6) Detection Provided – Class A supervised POC at each building floor elevation and manual pull station external to the enclosed stairway at each floor elevation.

Manual Pull Location: TA.3-T8.2

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipe	Stairwell No.8
ABC portable (hand) extinguishers and hose stations	TA.6-T8.1, TA.9-T9.1
Wet pipe sprinkler system Design density 10.2 L/min-m <sup>2</sup> (0.25 gpm/ft <sup>2</sup> )	Room 247

- (8) Fire Protection Design Criteria Employed:
- (a) Room 247 is configured as a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire – The postulated fire assumes loss of function of the enclosed area and affected equipment. Smoke from a fire would be removed by the normal HVAC system.

- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Provision of raised supports and equipment
  - (b) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The function is provided in a fire-resistive enclosure.
  - (b) Fire stops are provided for penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks:
  - (a) The total flow of the wet pipe sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 9,615 L/min (2,540 gpm).
  - (b) Electrical cable insulation in conduit does not represent a combustible fire load.

**9A.4.3.2.10 Fire Area –FT1501 (HNCW Chiller Area – Room 248, Instrument and Service Air Equipment Area (Room 111) and Breathing Air Equipment Area - Room 1Y2)**

(1) Fire Area Boundary Description

Non fire-resistive walls separate the HNCW chiller area (room 248), instrument and service air system equipment area (room 111) and breathing air equipment area (room 1Y2). These rooms are part of the same fire area (FT1501).

Fire area FT 1501 is separated by fire-resistive construction from enclosed stairwell no. 3, the elevator shaft, enclosed stairwell no. 1, and the adjacent house boiler area (room 247).

The ceiling in this fire area separates rooms 248 and 111 from the combustion turbine generator area (rooms 317 and 2X8 - FT3500) on floor 1F above and is of fire-resistive construction.

The ceiling in fire area FT1501 provides a fire-resistive separation between rooms 248 and 111 and the combustion turbine generator switchgear room (room 2X5 - FT25X1) on floor 1F above.

The ceiling in fire area FT1501 also provides a fire-resistant separation between rooms 248, 111 and 1Y2 and switchgear room 'B' (room 210 - FT25X3) on floor 1F above.

The HNCW chiller area (room 248), instrument and service air equipment area (room 111) and breathing air equipment area (room 1Y2) are uncontrolled access areas. Fire-resistive concrete construction separates fire area FT1501 from controlled access areas in the Turbine Building associated with fire area FT1500 along cloumn line T8.

The floor beneath FT1501 is concrete basemat.

- (2) Equipment - See Table 9A.6-4.

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present - None.

- (4) Qualification of Fire Barriers – The interior and exterior walls that enclose fire area FT1501, which includes the HNCW chiller area (room 248), instrument and service air equipment area (room 111) and breathing air equipment area (room 1Y2), are of 3 hour fire-resistive concrete construction with the exception of bounding walls separating this area from enclosed stairwells, elevator shaft, and ceiling.

The ceiling is of a minimum of 1 hour fire-resistive construction.

Enclosed stairwells no. 1 and 3, and the elevator shaft, are of 2 hour fire-resistive concrete construction. These components are described separately in Subsections 9A.4.3.2.2, 9A.4.3.2.3, and 9A.4.3.2.5, respectively.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
(a) Cable in conduit, and dispersed in cable trays	Acceptable
(b) Limited quantity of lubricants in pumps	Negligible

- (6) Detection Provided – Class A supervised POC at each building floor elevation and manual pull stations.

Manual Pull Locations: TJ.6-T9.8, TJ.9-T9.1

- (7) Suppression Available:

Type	Location/Actuation
Modified Class III standpipes	Stairwells No. 1 <114>
ABC portable (hand) extinguishers and hose stations	TC.8-T8.1, TH.5-T8.3, TC.2-T9.3, TE.1-T9, TF.9-T9, TH.5-T8.3, TJ.9-T9.4, TH.9-T9.4, TF.9-T9.4, TE-T9.9, TC.1-T9.9
Wet pipe sprinkler system Design density: 8.2 L/min-m <sup>2</sup> (0.20 gpm/ft <sup>2</sup> ) over 1500 ft <sup>2</sup>	Rooms 248, 111 and 1Y2

- (8) Fire Protection Design Criteria Employed:
- (a) Fire detection and suppression capability is provided and accessible.
  - (b) Fire stops are provided for penetrations through fire rated barriers.
- (9) Consequences of Fire - The postulated fire assumes loss of function of the enclosed area and affected equipment. Smoke from a fire would be removed by the normal HVAC system.
- (10) Consequences of Fire Suppression - Suppression extinguished the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Provision of raised supports for equipment
  - (b) Refer to Section 3.4, “Water Level (Flood Design),”: for drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) Fire stops are provided for penetrations through fire rated barriers.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks:

- (a) The total flow of the wet pipe sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,596 L/min (950 gpm).
- (b) Electrical cable insulation in conduit does not represent a combustible fire load.

### **9A.4.3.3 Floor 1F (El. 12.3m (35'-0")) – See Figure 9A.4-19 and Table 9A.4.3-3 Summary of Fire Protection Criteria Floor 1F**

#### **9A.4.3.3.1 Fire Area – FT1500 (General Area)**

## (1) Fire Area Boundary Description

Floor 1F shares fire area FT1500 with all other floors in the Turbine Building.

Non fire-rated equipment access hatches are installed in the floor between floor 1F and floor MB1F in the northwest corridor area (room 242).

Non-fire rated equipment access hatches exist in the ceiling of the condensate filter vessel area (room 241) beneath the condensate filter maintenance area (room 342) on floor 2F above.

Additionally, a large non fire-rated equipment hatch is installed in the ceiling above the unloading bay leading to floor 2F above.

The offgas charcoal adsorber area (room 112) extends vertically upward from floor B1F through floors MB1F and 1F to the underside of floor 2F (elevation 19.7m (59'-3 ½")). In room 112, a non fire-rated equipment access hatch is installed at room ceiling level, elevation 19.7m (59'-3 ½") (floor 2F).

The low pressure condensate pump area (room 140) extends vertically up from floor B1F, through floors MB1F, 1F and 2F, to and through a non-fire rated equipment hatch in the turbine operating deck floor (floor 3F, elevation 27.8m (85'-10 ½"))

The steam jet air ejector area (room 311) and gland seal steam condenser area (room 314) extend vertically up from floor 1F, through floor 2F, to and through a non-fire rated equipment hatch in the operating deck floor (floor 3F, elevation 27.8m (85'-10 ½")).

Access to the offgas charcoal adsorber area (room 112) is from floor 1F with open grating is installed at this floor level.

Fire area FT1500 is bounded by:

- The Turbine Building exterior walls
- The exterior walls separating stairwell no. 2 (room 122, fire area FT1503)
- The interior walls enclosing stairwell no. 3 (room 212, fire area FT2502)
- The interior walls enclosing stairwell no. 4 (room 249, fire area FT2504)
- The interior walls enclosing stairwell no. 6 (room 1X3, fire area FT15X1)
- The interior walls enclosing stairwell no. 7 (room 1X4, fire area FT15X2)
- The interior walls enclosing the elevator shaft (room 250, fire area FT15Y2)
- The floor above the area housing the lube oil purification unit (room 230, fire area FT2500) on floor MB1F
- The floor above the area housing the lube oil storage tanks (room 1Y1, fire area FT15Y3 ) on floor MB1F
- The floor above the area housing the EHC hydraulic power unit (room 232, fire area FT15Y4 ) on floor MB1F
- The interior wall between the house boiler area (room 247, fire area FT2503) and this fire area, along building column line T8.
- The interior wall between the combustion turbine generator auxiliary equipment area (room 2X8, fire area FT3500) and this fire area, along column line T8
- The interior wall between the combustion gas turbine switchgear area (room 2X5, fire area FT25X1) and this fire area, along column line T8
- The interior wall between switchgear room 'A' (room 210, fire area FT25X3) and this fire area, along column line T8
- The ceiling between this fire area and the Main Turbine Lube Oil Tank area (room 330, fire area FT3501)
- The ceiling between this fire area and the Generator Seal Oil Unit area (room 3X2, fire area FT35X9)
- The ceiling between this fire area and the Low Pressure Condensate Pump Switchgear area (room 31X-2, fire area FT35X1)



- (2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present – None that can be released as a result of fire.

- (4) Qualification of Fire Barriers –

The Turbine Building is classified as Type IA construction in accordance with the International Building Code (IBC), 2006. Type IA construction is noncombustible. The building structural frame, and all exterior and interior bearing walls, are required to be of 3 hour fire-resistive construction. The building floor is required to be of not less than 2 hour fire resistive construction, including supporting beams and joists. Also, the building roof is required to be of not less than 1 ½ hour fire resistive construction.

The enclosed stairwells that serve floor 1F, stairwell nos. 1, 2, 3, 4, 6, 7 and 8 are of 2 hour fire-resistive concrete construction.

Enclosed stairwell nos. 2, 4, 6, and 7 are separate fire areas and are discussed in Subsections 9A.4.3.1.2 through 9A.4.3.1.5 (fire areas FT1503, FT2504, FT15X1, and FT15X2).

Enclosed stairwells 1, 3 and 8 are described in Subsections 9A.4.3.2.2 through 9A.4.3.2.4 (fire areas FT1502, FT2502 and FT15Y1), respectively.

The elevator shaft (room 250) is of 2 hour fire-resistive concrete construction, is a separate fire area (FT15Y2), and is described in Subsection 9A.4.3.2.5.

Floor areas on this level located above the lube oil purification unit (room 230, fire area FT2500), lube oil storage tank area (room 1Y1, fire area FT15Y3), and the EHC hydraulic power unit (room 232, fire area FT15Y4) are of 3 hour fire-resistive construction. These rooms are described as separate fire areas in Subsections 9A.4.3.2.6 through 9A.4.3.2.8, respectively.

The house boiler area (room 247, fire area FT2503) is separated from fire area FT1500 by 3 hour fire-resistive concrete construction along building column line T8. The fire area (FT2503) associated with room 247 is addressed in Subsection 9A.4.3.2.9.

The combustion turbine generator area (rooms 317 and 2X8, fire area FT3500) is separated from FT1500 on floor 1F by 3 hour fire-resistive concrete construction

along building column line T8. Fire area FT3500 is discussed in Subsection 9A.4.3.3.2.

Combustion turbine generator switchgear (room 2X5, fire area FT25X1) is separated from fire area FT1500 by 3 hour fire-resistive concrete construction along column line T8. This fire area is described in Subsection 9A.4.3.3.3.

Fire area FT1500 is separated from the area housing switchgear room 'A' (room 210, fire area FT25X3) by 2 hour fire-resistive concrete construction along column line T8. Fire area FT25X3 is described in Subsection 9A.4.3.3.4.

The Turbine Building is separated from the horizontal passageway that runs exterior and parallel to the southernmost building wall by 3 hour fire-resistive concrete construction. This horizontal passageway provides a protected exit and access from the Turbine Building to the Control Building and Service Building.

The exterior Turbine Building walls are of 3 hour fire-resistive concrete construction, consistent with the requirements of the IBC.

The ceiling between this fire area and areas on floor 2F above is 3 hour fire resistive concrete construction. These areas include the Main Turbine Lube Oil Tank area (room 330, fire area FT3501, Safety Related Low Pressure Condensate Pump Switchgear (room 31X-2, fire area FT35X1), and the Generator Seal Oil Unit (room 3X2, FT35X9).

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
(a) Cable in conduit, and less than the equivalent of 0.6m cable trays	Acceptable
(b) Limited quantity of lubricants in pumps	Negligible
(c) Charcoal in offgas charcoal bed	Does not contribute to fire loading

(6) Detection Provided – Class A supervised POC, and manual alarm pull stations.

Manual Pull Locations: TA.4-T7.5, TH.5-T7.9, TJ.7-T7.5, TJ.6-T2.2, TG.2-T2, TJ.9-T8.1.

## (7) Suppression Available:

Type	Location/Actuation
Modified Class III standpipes	Stairwells No. 1 <114>, No.2 <122>, No.3 <212>, No.4 <249>, No.6 <1X3>, No.7 <1X4>, and No.8 <1Y5>
ABC portable (hand) extinguishers and hose stations	TA.1-T2.7, TA.9-T4.8, TA.1-T6.4, TB.6-T7.8, TD.4-T7.8, TF.3-T7.8, TH.2-T7.8, TH.1-T6, TH.7-T4.9, TH.9-T2.8, TG.2-T2.1, TB.4-T1.2, TC.5-T2.9, TB.1-T.29, TB.7-T3.4, TC.5-T5, TB.9-T6, TC.6-T6.9, TE.3-T6.9, TJ.9-T6.6, TJ.1-T5.9, TJ.9-T5.2, TJ.1-T4.3, TJ.9-T3.3,
Wet pipe sprinkler system Design density 12.2 L/min-m <sup>2</sup> (0.3 gpm/ft <sup>2</sup> ) over 464.5 m <sup>2</sup> (5000 ft <sup>2</sup> )	Throughout floor 1F

## (8) Fire Protection Design Criteria Employed:

- (a) Fire detection and suppression capability is provided and accessible;
- (b) Fire stops are provided for penetrations through rated fire barriers.

## (9) Consequences of Fire – Postulated fire assumes loss of function. Smoke from a fire would be removed by the normal HVAC system except for the following rooms:

- (a) Rooms 314 and 344 by normal HVAC and process exhaust

## (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Provision of raised supports for the equipment
- (b) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) Fire stops are provided for penetrations through fire rated barriers.

- (b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks:

- (a) Smoke detectors, and temperature controllers are mounted in the exhaust duct of the offgas system to detect any fire in the charcoal beds. The fire is contained by isolating the charcoal adsorber vessel and purging the vessel with nitrogen gas.
- (b) Electrical cable insulation in conduit does not represent a combustible fire load.
- (c) The total flow of the wet pipe sprinkler system on floor 1F with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 10,410 L/min (2750 gpm).

#### **9A.4.3.3.2 Fire Area – FT3500 (Combustion Turbine Generator Area – Rooms 317 and 2X8)**

(1) Fire Area Boundary Description

The combustion turbine generator area (room 317) and associated equipment area (room 2X8) are bounded by concrete fire-resistive wall, floor and ceiling construction.

Adjacent fire areas include the house boiler area (room 247, fire area FT2503), switchgear room 'A' (room 210, fire area FT25X3), the combustion turbine generator switchgear room (room 2X5, fire area FT25X1), and enclosed stairwell no. 8 (room 1Y5, fire area FT15Y1).

The combustion turbine generator area is located above the HNCW chiller area (room 248) and instrument and service air equipment area (room 111) on floor MB1F below (fire area FT1501). The floor separating fire area FT3500 and FT1501 is of fire-resistive concrete construction.

Combustion turbine generator room 317 extends vertically upward from floor 1F, through floor 2F, to the underside of the roof deck at elevation 27.8m.

(2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

(3) Radioactive Material Present – None.

- (4) Qualification of Fire Barriers – The interior and exterior walls enclosing the combustion turbine generator area (rooms 317 and 2X8, FT3500), except for walls enclosing stairwell no. 8, are of 3 hour fire-resistive concrete construction.

Stairwell no. 8 is of 2 hour fire-resistive concrete construction and is described in Subsection 9A.4.3.2.4.

The floor in rooms 317 and 2X8 is of 3 hour fire-resistive concrete construction.

Combustion turbine generator room 317 extends vertically upward to the roof deck at elevation 27.8m. The ceiling (and roof deck) is of 1 ½ hour fire resistive concrete construction consistent with the requirements for a Type IA structure described in the IBC.

The ceiling above the combustion turbine generator equipment area (room 2X8) is of 3 hour fire-resistive concrete construction.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Turbine lube oil tank, Capacity 189 L (50 gal.) (Est.)	7,915 MJ (7,501,972 Btu)
Generator lube oil tank, Capacity 1 325 L (350 gal.) (Est.)	55,405 MJ (52,513,805 Btu)
Fuel oil day tank, No. 2 Diesel Capacity 2000 gal. (Est.)	289,600 MJ (274,487,826 Btu)
Fuel filtering and metering, No. 2 Diesel, Capacity 114 L (30 gal.) (Est.)	4,344 MJ (4,117,317 Btu)
Hydraulic start package, Hydraulic fluid Capacity 378 L (100 gal.) (Est.)	14,000 MJ (13,269,439 Btu)
Diesel starter day tank, No. 2 Diesel Capacity 4 542 L (1,200 gal.) (Est.)	173,760 MJ (164,692,695 Btu)
Diesel starter lube oil tank, Capacity 189 L (50 gal.) (Est.)	7,915 MJ (7,501,972 Btu)

- (6) Detection Provided – Class A supervised rate compensated thermal detectors. The detection system is a cross zoned system requiring two detectors, one in each zone, to sense fire before initiating the suppression system. Manual alarm pull stations at exits.

## (7) Suppression Available:

Type	Location/Actuation
Modified Class III standpipe	Stairwell No. 1 <114>
ABC portable (hand) extinguishers and hose stations	TC.1-T8.2, TD-T8.9, TD.9-T8.2, TA.1-T9.3, TB.9-T9.1, TD.8-T9.1, TF.4-T9.5, TB.9-T9.9, TD.8-T9.9
Deluge foam water sprinkler system Design density 12.2 L/min-m <sup>2</sup> (0.3 gpm/ft <sup>2</sup> ) over 464.5 m <sup>2</sup> (5000 ft <sup>2</sup> )	Rooms 317 and 2X8

## (8) Fire Protection Design Criteria Employed:

- (a) Rooms 317 and 2X8 are configured as a separate fire-resistive enclosure.
- (b) Fire detection and suppression capability is provided and accessible.
- (c) Fire stops are provided for penetrations through rated fire barriers.

## (9) Consequences of Fire – The postulated fire assumes loss of function of the enclosed area and affected equipment. Smoke from a fire would be removed by the normal HVAC system.

## (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of the manual suppression system external to the room
- (b) Provision of raised supports for equipment
- (c) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (d) Cross zoned detectors for initiation of deluge system

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) Fire stops are provided for penetrations through fire rated barriers.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks: The total flow of the wet pipe sprinkler system on floor 1F with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 10,410 L/min (2750 gpm).

#### **9A.4.3.3.3 Fire Area –FT25X1 (Combustion Turbine Generator Switchgear - Room 2X5)**

- (1) Fire Area Boundary Description

The combustion turbine generator switchgear area (room 2X5) is bounded by a concrete fire-resistive wall, floor and ceiling construction.

Adjacent fire areas include the combustion turbine generator area (rooms 317 and 2XS, fire area FT3500), switchgear room 'A' (room 210, fire area FT25X3), and the controlled access areas on floor 1F in the Turbine Building (fire area FT1500).

Fire-resistive concrete construction separates the switchgear room 'A' from fire area FT1500 along column line T8.

- (2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present – None.

- (4) Qualification of Fire Barriers – The combustion turbine generator switchgear room (room 2X5) is separated from the combustion turbine generator area (rooms 317 and 2X8) by 3 hour fire-resistive concrete construction.

The interior separation between room 2X5 and fire area FT1500 at column line T8 is of 2 hour fire-resistive concrete construction. Additionally, the separation between the combustion turbine switchgear room (room 2X5) and switchgear room 'A' is a minimum of 1 hour fire-resistive construction.

The ceiling and floor in room 2X5 are of a minimum 1 hour fire-resistive concrete construction.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable in conduit	Acceptable
Cable Trays	1454 MJ/m <sup>2</sup> (0.1425 Btu/ft <sup>2</sup> ) ECLL (maximum average) applies

- (6) Detection Provided – Class A supervised POC at each building floor elevation and manual pull station external to the enclosed stairway at each floor elevation.

- (7) Suppression Available:

Type	Location/Actuation
Modified Class III standpipe	Stairwell No. 1 <114>
ABC portable (hand) extinguishers and hose stations	TF.4-TB.3
Wet Pipe Sprinkler Design density: 8.2 L/min-m <sup>2</sup> (0.20 gpm/ft <sup>2</sup> ) over 1500 ft <sup>2</sup>	Room 2X5

- (8) Fire Protection Design Criteria Employed:

Fire detection and suppression capability is provided and accessible.

Fire stops are provided for penetrations through fire rated barriers.

- (9) Consequences of Fire – The postulated fire assumes loss of function. Smoke from a fire would be removed by the normal HVAC system.

- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Provision of raised supports for equipment.
- (b) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) Fire stops are provided for penetrations through fire rated barriers.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

- (13) Remarks:

- (a) The total flow of the wet pipe sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,596 L/min (950 gpm).



- (b) Electrical cable insulation in conduit does not represent a combustible fire load.

#### **9A.4.3.3.4 Fire Area –FT25X3 (Switchgear Room ‘A’ - Room 210)**

(1) Fire Area Boundary Description

Switchgear room ‘A’ is bounded by a concrete fire-resistive wall, floor and ceiling construction.

Adjacent fire areas include the combustion turbine generator area (room 317, fire area FT3500), the combustion turbine generator switchgear area (room 2X5, fire area FT25X1), the controlled access areas on floor 1F in the Turbine Building (fire area FT1500), enclosed stairwell no. 1 (room 114, fire area FT1502), enclosed stairwell no. 3 (room no. 212, fire area FT2502), and the elevator shaft (room no. 250, fire area FT15Y2).

The ceiling of Room 210 is of fire-resistive concrete construction, separating switchgear room ‘A’ from switchgear room ‘B’ (room 310, fire area FTFT35X8), 250 VDC battery rooms (rooms 3X4, fire area FT35X3, and 3X5, fire area FT35X2), and electrical equipment area (room 3X9, fire area FT35X7), on floor 2F above.

The floor of Room 110 is of fire-resistive concrete construction to separate this electrical switchgear area from the HNCW chiller area and breathing air equipment area (rooms 248 and 1Y2, fire area FT1501) on floor MB1F below.

A fire-rated equipment hatch is installed in the floor of room 210 providing equipment access to the HNCW chiller area (room 248) below.

(2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

(3) Radioactive Material Present – None.

(4) Qualification of Fire Barriers – Switchgear room ‘A’ (room 210 ) is separated from the combustion turbine generator area (room 317) by 3 hour fire-resistive concrete construction.

Room 210 is separated from stairwell no. 1 (room 114, fire area FT1502), stairwell no. 3 (room 212, fire area FT2502), and the elevator shaft (room 250, fire area FT15Y2), by 2 hour fire-resistive concrete construction. These fire-resistive

separations are described in Subsections 9A.4.3.2.2, 9A.4.3.2.3, and 9A.4.3.2.5, respectively.

Separation from the combustion turbine generator switchgear room is a minimum of a 1 hour fire-resistive construction with a minimum of a  $\frac{3}{4}$  hour fire rated (doors are 3-hour fire rated for consistency throughout the Turbine Building).

The interior separation between switchgear room 'A' (room 210) and fire area FT1500 at column line T8 is of 2 hour fire-resistive concrete construction.

The ceiling and floor in room 210 are of a minimum 1 hour fire-resistive concrete construction.

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable in conduit	Acceptable
Cable Trays	1454 MJ/m <sup>2</sup> (0.1425 Btu/ft <sup>2</sup> ) ECLL (maximum average) applies

(6) Detection Provided – Class A supervised POC at each building floor elevation and manual pull station external to the enclosed stairway at each floor elevation.

Manual Pull Locations: TJ.5-T10

(7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipe	Stairwell No. 1 <114>
ABC portable (hand) extinguishers and hose stations	TG.1-T9, TH.9-T9
Wet Pipe Sprinkler Design density: 8.2 L/min-m <sup>2</sup> (0.20 gpm/ft <sup>2</sup> ) over 1500 ft <sup>2</sup>	Room 210

(8) Fire Protection Design Criteria Employed:

- (a) Fire detection and suppression capability is provided and accessible.
- (b) Fire stops are provided for penetrations through fire rated barriers.

- (9) Consequences of Fire – The postulated fire assumes loss of function. Smoke from a fire would be removed by the normal HVAC system.
- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Provision of raised supports for equipment.
  - (b) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) Fire stops are provided for penetrations through fire rated barriers.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks:
  - (a) The total flow of the wet pipe sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3596 L/min (950 gpm).
  - (b) Electrical cable insulation in conduit does not represent a combustible fire load.

#### **9A.4.3.4 Floor 2F (El. 19.7m (59'-3 ½")) – See Figure 9A.4-20 and Table 9A.4.3-4 Summary of Fire Protection Criteria Floor 2F**

##### **9A.4.3.4.1 Fire Area – FT1500 (General Area)**

###### **(1) Fire Area Boundary Description**

Floor 2F shares fire area FT1500 with all other floors in the Turbine Building.

A non fire-rated equipment access hatch is installed in the floor above the offgas charcoal adsorber room (room 112). Room 112 is part of fire area FT1500.

Additionally, a large non fire-rated equipment hatch exists in the floor on the northwest side of the building leading vertically down to the unloading bay on floor 1F below. Above, in the ceiling, a large grated opening and non-fire rated equipment hatch directly connect floors 2F and 3F.

Non-fire rated equipment access hatches exist in the floor of the condensate filter maintenance area (room 342) over the condensate filter vessel area (room 241) on floor 1F below.

The low pressure condensate pump area (room 140) extends vertically up from floor B1F, through floors MB1F, 1F and 2F, to and through an unprotected equipment hatch in the turbine operating deck floor (floor 3F, elevation 27.8m (85'-10 ½")). The low pressure condensate pump area is part of fire area FT1500.

The steam jet air ejector area (room 311) and gland seal steam condenser area (room 314) extend vertically up from floor 1F, through floor 2F, to and through a non fire-rated equipment hatch in the operating deck floor (floor 3F, elevation 27.8m (85'-10 ½")). Rooms 311 and 314 are part of fire area FT1500.

Fire area FT1500 is bounded by:

- The Turbine Building exterior walls
- The exterior walls separating stairwell no. 2 (room 122, fire area FT1503)
- The interior walls enclosing stairwell no. 3 (room 212, fire area FT2502)
- The interior walls enclosing stairwell no. 4 (room 249, fire area FT2504)
- The interior walls enclosing the elevator shaft (room 250, fire area FT15Y2)
- The interior walls enclosing the area housing the main turbine lube oil tank (room 330, fire area FT3501)
- The interior walls enclosing the area housing the safety related low pressure condensate pump switchgear (room 31X-2, fire area FT35X1)
- The interior walls enclosing the area housing the generator oil seal unit (room 3X2, fire area FT35X9)
- The interior wall between switchgear area 'B' (room 310, fire area FT35X8) and this fire area, along building column line T8.
- The interior wall between 125 VDC and 250 VDC battery rooms (rooms 3X4, 3X5, 3X6, 3X7 and 3X8, fire areas FT35X3, FT35X2, FT35X4, FT35X5, and FT35X6, respectively) and this fire area, along column line T8
- The interior and exterior walls enclosing the steam tunnel area (room 219, fire area FT2505)

(2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present – None that can be released as a result of fire.
- (4) Qualification of Fire Barriers –

The Turbine Building is classified as Type IA construction in accordance with the International Building Code (IBC), 2006. Type IA construction is noncombustible. The building structural frame, and all exterior and interior bearing walls, are required to be of 3 hour fire-resistive construction. The building floor is required to be of not less than 2 hour fire resistive construction, including supporting beams and joists. Also, the building roof is required to be of not less than 1 ½ hour fire resistive construction.

The enclosed stairwells that serve fire area FT1500 on floor 2F, stairwell nos. 2, 3, and 4 are of 2 hour fire-resistive concrete construction. These stairwells are separate fire areas and are discussed in Subsections 9A.4.3.1.2, 9A.4.3.2.3 and 9A.4.3.1.3 (fire areas FT1503, FT2502 and FT2504).

The elevator shaft (room 250) is of 2 hour fire-resistive concrete construction, is a separate fire area (FT15Y2) and is described in Subsection 9A.4.3.2.5.

The walls of the area housing the main turbine lube oil tank (room 330, fire area FT3501), generator hydrogen seal oil unit (room 3X2, fire area FT35X9) and safety related low pressure condensate pump switchgear (room 31X-2, fire area FT35X1) are separated from fire area FT1500 by 3 hour fire-resistive concrete construction with 3 hour fire rated doors. These rooms are described as separate fire areas in Subsections 9A.4.3.4.2 through 9A.4.3.4.4, respectively.

Fire area FT1500 is separated from the area housing switchgear room 'B' (room 210, fire area FT35X8) by 2 hour fire-resistive concrete construction along column line T8. Fire area FT35X8 is described in Subsection 9A.4.3.4.5.

The 125 VDC and 250 VDC battery rooms (rooms 3X4, 3X5, 3X6, 3X7 and 3X8, fire areas FT35X3, FT35X2, FT35X4, FT35X5, and FT35X6, respectively) are separated from fire area FT1500 by 2 hour fire-resistive concrete construction along column line T8. The fire-resistive construction of these battery rooms is described in Subsection 9A.4.3.4.7.

The steam tunnel area (room 219, fire area FT2505) is separated from the turbine building by 3 hour fire-resistive concrete construction. The steam tunnel is described in Subsection 9A.4.3.4.8.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
(a) Cable in conduit and dispersed in cable trays	Acceptable
(b) Limited quantities of lubricants in pumps	Negligible

- (6) Detection Provided – Class A supervised POC, and manual alarm pull stations.

Manual Pull Locations: TA.4-T7.5, TH.5-T7.9, TG.6-T2

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipe	Stairwells No.2 <122>, No.3 <212>, and No.4 <249>
ABC portable (hand) extinguishers and hose stations	TB.1-T2, TB.3-T3.1, TB-T4.6, TC.9-T5.4, TA.9-T5.9, TA.6-T7.8, TC.4-T7.8, TE.2-T7.8, TG-T7.8, TH.5-T7.8, TD.3-T6.1, TE.7-T5.9, TD.4-T1.1, TF.1-T2, TG.4-T2.3, TJ.1-T2.1, TJ.1-T4, TH.9-T6, TG.1-T6
Wet Pipe Sprinkler Design density: 12.2 L/min-m <sup>2</sup> (0.3 gpm/ft <sup>2</sup> ) over 464.5 m <sup>2</sup> (5000 ft <sup>2</sup> )	Throughout floor 2F

- (8) Fire Protection Design Criteria Employed:

- (a) Fire detection and suppression capability is provided and accessible;
- (b) Fire stops are provided for penetrations through rated fire barriers.

- (9) Consequences of Fire – Postulated fire assumes loss of function. Smoke from a fire would be removed by the normal HVAC.

- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Provision of raised supports for the equipment
  - (b) Refer to Section 3.4, "Water Level (Flood) Design," for drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) Fire stops are provided for penetrations through fire rated barriers.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks:
  - (a) The following safety-related equipment representing all four safety divisions is mounted on this floor:
    - C71-PoS001 A-D
    - C71-PoS004 A-D
    - B21-PS028 A-D
  - (b) Section 9A.5, Special Cases, provides justification for locating equipment from multiple safety divisions on this floor of the turbine building.
  - (c) The safety related low pressure condensate pump switchgear is located on this floor.
  - (d) Electrical cable insulation in conduit does not represent a combustible fire load.

#### **9A.4.3.4.2 Fire Area – FT3501 (Main Turbine Lube Oil Tank – Room 330)**

- (1) Fire Area Boundary Description

The interior walls, ceiling and floor of fire area FT3501, containing the main turbine lube oil tank consists of fire-resistive concrete construction.

- (2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present – None.

- (4) Qualification of Fire Barriers – The walls, ceiling and floor enclosing the lube oil purification unit (room 230) are of 3 hour fire-resistive-concrete construction with 3 hour fire rated doors.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Turbine lube oil tank, Capacity 69,966 L (18,483 gal.) (Est.)	2,925,858 MJ (2,773,178,180 Btu)

- (6) Detection Provided – Class A supervised rate compensated thermal detectors. The detection system is a cross zoned system requiring two detectors, one in each zone to sense fire before initiating the suppression system. A manual alarm pull station is located at the door.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipe	Stairwells No.3 <212>
ABC portable (hand) extinguishers and hose stations	TG.8-T6.7, TJ.1-T7
Deluge foam water spray system Foam water density: 20.4 L/min-m <sup>2</sup> (0.5 gpm/ft <sup>2</sup> ) (Est.)	Room 330

- (8) Fire Protection Design Criteria Employed:

- (a) Room 330 is configured as a separate fire-resistive enclosure.
- (b) Alternate access and egress routes are provided by separate enclosed stairways at this floor level.
- (c) Fire detection and suppression capability is provided and accessible.

- (9) Consequences of Fire – The postulated fire assumes loss of function of the enclosed area and affected equipment. Smoke from a fire would be removed by the normal HVAC system.

- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.



- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for equipment
  - (c) Refer to Section 3.4, "Water Level (Flood) Design," for drain system.
  - (d) Cross zoned detectors for initiation of deluge system
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The function is provided in a fire-resistive enclosure.
  - (b) Fire stops are provided for penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks –The main turbine lube oil tank contains approximately 69,966 L (18,483 gallons), therefore the deluge foam water sprinkler system must be capable of suppressing any fire in this room. The total flow of the deluge foam spray system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 4,618 L/min (1,220 gpm).

#### **9A.4.3.4.3 Fire Area –FT35X9 (Generator Hydrogen Seal Oil Unit – Room 3X2)**

- (1) Fire Area Boundary Description

The interior walls, ceiling and floor of fire area FT35X9, containing the generator hydrogen seal oil unit consists of fire-resistive concrete construction.

- (2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present – None.
- (4) Qualification of Fire Barriers – The walls, ceiling and floor enclosing the generator hydrogen seal oil unit (room 3X2) are of 3 hour fire-resistive-concrete construction with 3 hour fire rated doors.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Generator hydrogen seal oil tank, Capacity 5,148 L (1,360 gal.) (Est.)	215,288 MJ (204,053,643 Btu)

- (6) Detection Provided – Class A supervised rate compensated thermal detectors. The detection system is a cross zoned system requiring two detectors, one in each zone to sense fire before initiating the suppression system. A manual alarm pull station is located at the door.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipe	Stairwells No.4 <249>
ABC portable (hand) extinguishers and hose stations	TB.3-T3.1, TB.1-T2
Deluge foam water spray system Foam water density: 20.4 L/min-m <sup>2</sup> (0.5 gpm/ft <sup>2</sup> ) (Est.)	Room 3X2

- (8) Fire Protection Design Criteria Employed:
- (a) Room 3X2 is configured as a separate fire-resistive enclosure.
  - (b) Alternate access and egress routes are provided by separate enclosed stairways at this floor level.
  - (c) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire – The postulated fire assumes loss of function of the enclosed area and affected equipment. Smoke from a fire would be removed by the normal HVAC system.
- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Location of the manual suppression system external to the room
  - (b) Provision of raised supports for equipment

- (c) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (d) Cross zoned detectors for initiation of deluge system
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) The function is provided in a fire-resistive enclosure.
  - (b) Fire stops are provided for penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks – The generator hydrogen seal oil unit contains approximately 5,148 L (1,360 gallons), therefore the deluge foam water spray system must be capable of suppressing any fire in this room. The total flow of the deluge foam spray system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,426 L/min (905 gpm).

#### **9A.4.3.4.4 Fire Area –FT35X1 (Safety Related Low Pressure Condensate Pump Switchgear (Room 31X-2))**

Fire area FT1500 is separated from the area housing switchgear room ‘B’ (room 210, fire area FT35X8) by 2 hour fire-resistive concrete construction along column line T8. Fire area FT35X8 is described in Subsection 9A.4.3.4.5.

##### **(1) Fire Area Boundary Description**

The safety-related low pressure condensate pump switchgear room (room 31X-2, fire area FT35X1) is separated from fire area FT1500 by a concrete fire-resistive wall, floor and ceiling construction.

##### **(2) Equipment – See Remarks**

<b>Safety Related</b>	<b>Provides Core Cooling</b>
Yes	No

##### **(3) Radioactive Material Present – None.**

##### **(4) Qualification of Fire Barriers – The safety-related low pressure condensate switchgear room is enclosed in 3 hour fire-resistant concrete construction including 3 hour fire rated doors.**

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable in conduit	Acceptable
Cable trays	1454 MJ/m <sup>2</sup> (0.1425 Btu/ft <sup>2</sup> ) ECLL (maximum average) applies

- (6) Detection Provided – Class A supervised POC at each building floor elevation and manual pull station external to the enclosed stairway at each floor elevation.

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipes	Stairwells No. 1 <114>, No.3 <212>
ABC portable (hand) extinguishers and hose station	TE.9-T6.6
Wet Pipe Sprinkler Design density: 8.2 L/min-m <sup>2</sup> (0.20 gpm/ft <sup>2</sup> ) over 1500 ft <sup>2</sup>	Room 3X-2

- (8) Fire Protection Design Criteria Employed:

- (a) Fire detection and suppression capability is provided and accessible.
- (b) Fire stops are provided for penetrations through fire rated barriers.

- (9) Consequences of Fire – The postulated fire assumes loss of function. Smoke from a fire would be removed by the normal HVAC system.

- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Provision of raised supports for equipment.
- (b) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

- (12) Fire Containment or Inhibiting Methods Employed:

- (a) Fire stops are provided for penetrations through fire rated barriers.

- (b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks:

- (a) Electrical cable insulation in conduit does not represent a combustible fire load.
- (b) The low pressure condensate pumps are required to automatically trip when a feedwater line break inside the drywell is detected. This is a safety related trip function but is not included in any post-fire safe shutdown success path (i.e., it is not required to safely shutdown to reactor to a hot or cold shutdown condition, or to maintain the reactor in a safe shutdown condition).

This trip function is accomplished by the Safety System Logic and Control (SSLC) which controls the application of divisional 125 VDC control power routed through the Turbine Building to two independent trip coils, respectively, within each safety related breaker.

All four safety related low pressure condensate pump breakers are located in the same fire area (room 3X2, fire area FT35X1). These safety related breakers are protected from a fire inside of the Turbine Building. The 125 VDC divisional control power enters this area from the common fire area (FT1500) to provide for the required trip function.

The SSLC circuits and 125 VDC control power are separated by electrical isolation devices. Therefore, a fire in the Turbine Building, including a fire inside the low pressure condensate pump switchgear room will not affect the SSLC system.

- (c) The total flow of the wet pipe sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 2,983 L/min (788 gpm).

#### **9A.4.3.4.5 Fire Area –FT35X8 (Switchgear Room ‘B’ - Room 310)**

(1) Fire Area Boundary Description

Switchgear room ‘B’ is bounded by a concrete fire-resistive wall, floor and ceiling construction.

Adjacent fire areas include:

- The combustion turbine generator area (room 317, fire area FT3500)
- An electrical equipment area (room 3X9, fire area FT35X7)

- The controlled access areas on floor 2F in the Turbine Building (fire area FT1500)
- Enclosed stairwell no. 1 (room 114, fire area FT1502)
- Enclosed stairwell no. 3 (room no. 212, fire area FT2502)
- Enclosed stairwell no. 8 (room no. 1Y5, fire area FT15Y1)
- The elevator shaft (room no. 250, fire area FT15Y2)
- 125 VDC and 250 VDC battery rooms (room nos. 3X4, 3X5, 3X6, 3X7, and 3X8, and respective fire areas FT35X3, FT35X2, FT35X4, FT35X5, and FT35X6)

The switchgear room 'B' floor is fire-resistive and separate this area from switchgear room 'A' (room 210, fire area FT25X3), house boiler area (room 247, fire area FT2503) and the combustion turbine generator switchgear area (room 2X5, fire area FT2X1) on floor 1F below.

The ceiling is of fire-resistive construction, separating switchgear room 'B' from roof areas, the reactor building exhaust fan area (room 412, fire area FT1500), the turbine building equipment exhaust fan area (room 4X3), and lube oil exhaust fan area on floor 3F above.

A non fire-rated equipment hatch is installed in the floor of room 310 providing equipment access to switchgear area 'A' below.

- (2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present – None.
- (4) Qualification of Fire Barriers – Switchgear room 'B' (room 210 ) is separated from the combustion turbine generator area (room 317) by 3 hour fire resistive concrete construction. This fire resistive separation is described in Subsection 9A.4.3.3.2.

Room 310 is separated from stairwell no. 1 (room 114, fire area FT1502), stairwell no. 3 (room 212, fire area FT2502), stairwell no. 8 (room 1Y5, fire area FT15Y1), and the elevator shaft (room 250, fire area FT15Y2), by 2 hour fire-resistive concrete construction. These fire-resistive separations are described in Subsections 9A.4.3.2.2, 9A.4.3.2.3, 9A.4.3.2.4, and 9A.4.3.2.5, respectively.

Separation from the electrical equipment room (room 3X9, fire area FT35X7), 125 VDC, and 250 VDC battery rooms is a minimum of 1 hour fire-resistive construction with a minimum of a  $\frac{3}{4}$  hour fire rated door (doors are 3-hour fire rated for consistency throughout the Turbine Building). Room 3X9 (fire area FT35X7) is described in Subsection 9A.4.3.4.8. The 125 VDC and 250 VDC battery rooms (room nos. 3X4, 3X5, 3X6, 3X7, and 3X8, and respective fire areas FT35X3, FT35X2, FT35X4, FT35X5, and FT35X6) are described in Subsection 9A.4.3.4.7.

The interior separation between switchgear room 'B' (room 310) and fire area FT1500 at column line T8 is of 2 hour fire-resistive concrete construction.

The ceiling above switchgear room 'B' is a minimum of 1-1/2 hour fire resistive construction when this ceiling is the underside of the roof deck, or a minimum 1 hour fire-resistive construction beneath the reactor building exhaust fan area (room 412), turbine building equipment exhaust fan area (room 4X3), and lube oil exhaust fan area (room 413) on floor 3F (elevation 27.8m) above. Rooms 412, 4X3 and 413 are part of fire area FT1500 on floor 3F.

The switchgear room 'B' floor is of 3 hour fire-resistive construction where located above the house boiler area (room 247, fire area FT2503) and combustion turbine generator area (room 2X8, fire area FT3500). The floor is a minimum 1 hour fire-resistive concrete construction where located over switchgear room 'A' (room 210, fire area FT25X3) and the combustion turbine generator switchgear area (room 2X5, fire area FT25X1).

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable in conduit	Acceptable
Cable trays	1454 MJ/m <sup>2</sup> (0.1425 Btu/ft <sup>2</sup> ) ECLL (maximum average) applies

(6) Detection Provided – Class A supervised POC at each building floor elevation and manual pull station external to the enclosed stairway at each floor elevation.

Manual Pull Locations: TJ.5-T10, TA.2-T8.2

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipes	Stairwells No. 1 <114>, and No.8 <1Y5>
ABC portable (hand) extinguishers and hose station	TA.3-T8.2, TC.1-T8.9, TD.2-T8.1, TE.4-T8.9, TG.1-T8.8, TH.9-T9
Wet Pipe Sprinkler Design density: 8.2 L/min-m <sup>2</sup> (0.20 gpm/ft <sup>2</sup> ) over 1500 ft <sup>2</sup>	Room 310

## (8) Fire Protection Design Criteria Employed:

- (a) Fire detection and suppression capability is provided and accessible.
- (b) Fire stops are provided for penetrations through fire rated barriers.

## (9) Consequences of Fire – The postulated fire assumes loss of function. Smoke from a fire would be removed by the normal HVAC system.

## (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Provision of raised supports for equipment.
- (b) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) Fire stops are provided for penetrations through fire rated barriers.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks:

- (a) Electrical cable insulation in conduit does not represent a combustible fire load.
- (b) The total flow of the wet pipe sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,596 L/min (950 gpm).



**9A.4.3.4.6 Fire Area –FT35X7 (Electrical Equipment Area - Room 3X9)****(1) Fire Area Boundary Description**

The electrical equipment area (room 3X9, fire area FT35X7) is enclosed on one side by turbine building exterior walls and on 3 sides by fire-resistant separation walls separating this area from switchgear room 'B' (room 310, fire area FT35X8).

The electrical equipment area floor separates this room from the combustion turbine generator room (room 317, fire area FT3500) and switchgear room 'A' (room 210, fire area FT25X3) on floor 1F below.

The fire resistive properties of the electrical equipment area ceiling are consistent with the requirements of the IBC for Type IA fire-resistive structures where the ceiling is made up of the roof deck above.

**(2) Equipment – See Table 9A.6-4**

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

**(3) Radioactive Material Present – None.**

**(4) Qualification of Fire Barriers –** The Turbine Building is classified as Type IA construction in accordance with the International Building Code (IBC), 2006. Type IA construction is non-combustible. The building structural frame, and all exterior and interior bearing walls, are required to be of 3 hour fire-resistive construction. The building floor is required to be of not less than 2 hour fire resistive construction, including supporting beams and joists. Also, the building roof is required to be of not less than 1 ½ hour fire resistive construction.

The interior walls and floor that separate the electrical equipment room from adjacent switchgear room 'B' (room 310, fire area FT35X8) and switchgear room 'A' (room 210, fire area FT25X3) on floor 1F below are a minimum 1 hour fire-resistive construction.

**(5) Combustibles Present:**

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable in conduit	Acceptable
Cable trays	1454 MJ/m <sup>2</sup> (0.1425 Btu/ft <sup>2</sup> ) ECLL (maximum average) applies

- (6) Detection Provided – Class A supervised POC at each building floor elevation and manual pull station external to the enclosed stairway at each floor elevation.

Manual Pull Locations: TJ.5-T10, TA.2-T8.2

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipes	Stairwells No. 1 <114>, and No.8 <1Y5>
ABC portable (hand) extinguishers and hose station	TE.4-T8.9, TG.1-T8.8, TH.9-T9
Wet Pipe Sprinkler Design density: 8.2 L/min-m <sup>2</sup> (0.20 gpm/ft <sup>2</sup> ) over 1500 ft <sup>2</sup>	Room 3X9

- (8) Fire Protection Design Criteria Employed:
- (a) Fire detection and suppression capability is provided and accessible.
  - (b) Fire stops are provided for penetrations through fire rated barriers.
- (9) Consequences of Fire – The postulated fire assumes loss of function. Smoke from a fire would be removed by the normal HVAC system.
- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Provision of raised supports for equipment.
  - (b) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) Fire stops are provided for penetrations through fire rated barriers.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks:

- (a) Electrical cable insulation in conduit does not represent a combustible fire load.
- (b) The total flow of the wet pipe sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,596 L/min (950 gpm).

**9A.4.3.4.7 Fire Areas – FT35X3, FT35X2, FT35X4, FT35X5, and FT35X6 (125 VDC and 250 VDC Battery Rooms – Room Nos. 3X4, 3X5, 3X6, 3X7, and 3X8)**

## (1) Fire Area Boundary Description

The walls, floor and ceiling of battery rooms (room nos. 3X4, 3X5, 3X6, 3X7, and 3X8, fire areas FT35X3, FT35X2, FT35X4, FT35X5, and FT35X6) provide a fire-resistive separation between these rooms and adjacent switchgear room 'B' (room 310, fire area FT35X8) and switchgear room 'A' (room 210, fire area FT25X3) on floor 1F below.

A fire-resistive separation is also required between the 125 VDC and 250 VDC battery rooms and the controlled turbine building areas. This fire separation is located along column line T8.

## (2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

## (3) Radioactive Material Present – None.

## (4) Qualification of Fire Barriers –

The interior walls, floor and ceiling of the 125 VDC and 250 VDC battery rooms (room nos. 3X4, 3X5, 3X6, 3X7, and 3X8, fire areas FT35X3, FT35X2, FT35X4, FT35X5, and FT35X6) are of minimum 1 hour fire-resistive construction.

The wall along column line T8 that separates these battery rooms from controlled turbine building areas is of 2 hour fire-resistive construction.

- (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable in conduit	Acceptable
Cable trays	1454 MJ/m <sup>2</sup> (0.1425 Btu/ft <sup>2</sup> ) ECLL (maximum average) applies
HVAC will maintain hydrogen gas concentration less than 1% by volume	Acceptable

- (6) Detection Provided – Class A supervised POC at each building floor elevation and manual pull station external to the enclosed stairway at each floor elevation.

Manual Pull Locations: TJ.5-T10, TA.2-T8.2

- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipes	Stairwells No. 1 <114>, and No.8 <1Y5>
ABC portable (hand) extinguishers and hose station	TE.4-T8.9, TG.1-T8.8, TH.9-T9
Wet Pipe Sprinkler Design density: 8.2 L/min-m <sup>2</sup> (0.20 gpm/ft <sup>2</sup> ) over 1500 ft <sup>2</sup>	Rooms 3X4, 3X5, 3X6, 3X7, and 3X8

- (8) Fire Protection Design Criteria Employed:

- (a) Fire detection and suppression capability is provided and accessible.
- (b) Fire stops are provided for penetrations through fire rated barriers.

- (9) Consequences of Fire – The postulated fire assumes loss of function. Smoke from a fire would be removed by the normal HVAC system.

- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Provision of raised supports for batteries..

(b) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

(12) Fire Containment or Inhibiting Methods Employed:

- (a) Functions provided by batteries are located in separate fire-resistive enclosures
- (b) Fire stops are provided for penetrations through fire rated barriers.
- (c) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks:

- (a) Electrical cable insulation in conduit does not represent a combustible fire load.
- (b) The total flow of the wet pipe sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,596 L/min (950 gpm).

**9A.4.3.4.8 Fire Area –FT2505 (Steam Tunnel - Room 219)**

(1) Fire Area Boundary Description

The steam tunnel (room 219, fire area FT2505) is separated from all other areas by fire-resistive construction. The steam tunnel extends vertically upward along the exterior turbine building wall to an elevation directly beneath the turbine building roof structure.

(2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
Yes	No

(3) Radioactive Material Present – None that can be release as a result of a fire.

(4) Qualification of Fire Barriers – The steam tunnel walls, floor and ceiling are all of 3 hour fire-resistive concrete construction.

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
Cable in conduit and dispersed in cable trays	Acceptable

(6) Detection Provided – Class A supervised rate compensated thermal detectors.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipes	Stairwells No.3 <212> (outside of FT2505)
ABC portable (hand) extinguishers and hose station	TH.5-T7.8, TJ.1-T4, TH.9-T6 (floor 2F, outside of FT2505)  TG.9-T6.8, TH.3-T8, TJ.1-T6, TG.6-T5.1, TJ.9-T4, TG.6-T2.9, TJ.1-T2 (floor 3F, outside of FT2505)

## (8) Fire Protection Design Criteria Employed:

- (a) Fire detection and suppression capability is provided and accessible.
- (b) Fire stops are provided for penetrations through fire rated barriers.

## (9) Consequences of Fire – The postulated fire assumes loss of function. Smoke from a fire would be removed by the normal HVAC system.

## (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

## (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) Location of manual suppression system external to room.
- (b) No floor mounted equipment.
- (c) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) Fire stops are provided for penetrations through fire rated barriers.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

## (13) Remarks:

- (a) The following safety-related equipment representing all four safety divisions are mounted in the steam tunnel:
  - (i) E31-TE021-029 A-D

- (b) Section 9A.5. Special Cases, provides justification for locating equipment from multiple safety divisions on this floor of the turbine building.
- (c) Electrical cable insulation in conduit does not represent a combustible fire load.

#### **9A.4.3.5 Floor 3F (El. 27.8m (85'-10 ½")) – See Figure 9A.4-21 and Table 9A.4.3-5 Summary of Fire Protection Criteria Floor 3F**

##### **9A.4.3.5.1 Fire Area – FT1500 (General Area)**

###### **(1) Fire Area Boundary Description**

Floor 3F shares fire area FT1500 with all other floors in the Turbine Building.

The following openings or non-fire rated openings are present in floor 3F extending downward to floor areas below:

- A large non fire-rated equipment hatch and grated opening exists in the floor on the northwest side of the building leading vertically down to floors 1F and 2F below
- A non-fire rated equipment access hatch is installed above the condensate filter maintenance area (room 342) on floor 2F below
- A non fire-rated equipment access hatch is installed above the low pressure condensate pump area (room 140) on floor B1F below
- A non fire-rated hatch is located above the turbine bypass valve on floor 2F below
- Two (2) large non fire-rated hatches are installed in floor 3F above the 5th and 6th stage feedwater heaters on floor 2F below
- A large non fire-rated hatch is installed above the turbine stop valves and turbine control valves on floor 2F below
- Large gaps and openings in floor 3F beneath the main turbine skirt that extend downward to the main condenser pit area (room 120)

Fire area FT1500 is bounded by:

- The Turbine Building exterior walls
- The exterior walls separating stairwell no. 2 (room 122, fire area FT1503)
- The interior walls enclosing stairwell no. 3 (room 212, fire area FT2502)

- The interior walls enclosing stairwell no. 4 (room 249, fire area FT2504)
- The interior walls enclosing the elevator shaft (room 250, fire area FT15Y2)
- The interior walls enclosing stairwell no. 9 (room 4X5, fire area FT45X1)
- A fire-rated hatch or concrete cover block, if necessary to obtain the proper fire-resistance, is installed over the safety-related low pressure condensate pump switchgear room (room 31X-2, fire area FT35X1) on floor 2F below
- A large fire-rated hatch or concrete cover block, if necessary to obtain the proper fire-resistance, is installed over the main turbine lube oil tank (room 330, fire area FT3501) on floor 2F below
- The exterior turbine building wall providing separation from the steam tunnel area (room 219, fire area FT2505)
- The floor 3F areas above switchgear room 'B' (room 310, fire area FT35X8), electrical equipment area (room 3X9, fire area FT35X7) and 125 VDC and 250 VDC battery rooms (room nos. 3X4, 3X5, 3X6, 3X7 and 3X8, fire areas FT35X3, FT35X2, FT35X4, FT35X5, and FT35X6, respectively)

(2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
Yes	No

(3) Radioactive Material Present – None that can be released as a result of fire.

(4) Qualification of Fire Barriers –

The Turbine Building is classified as Type IA construction in accordance with the International Building Code (IBC), 2006. Type IA construction is noncombustible. The building structural frame, and all exterior and interior bearing walls, are required to be of 3 hour fire-resistive construction. The building floor is required to be of not less than 2 hour fire resistive construction, including supporting beams and joists. Also, the building roof is required to be of not less than 1 ½ hour fire resistive construction.

The enclosed stairwells that serve fire area FT1500 on floor 3F, stairwell nos. 2, 3, and 4 are of 2 hour fire-resistive concrete construction. These stairwells are separate fire areas and are discussed in Subsections 9A.4.3.1.2, 9A.4.3.2.3 and 9A.4.3.1.3 (fire areas FT1503, FT2502 and FT2504).



Enclosed stairwell no. 9 provides access to floor 4F (elevation 38.3m (120' - 4'')). This stairwell is of 2 hour fire-resistive concrete construction. Stairwell no. 9 is described in Subsection 9A.4.3.5.2.

The elevator shaft (room 250) is of 2 hour fire-resistive concrete construction, is a separate fire area (FT15Y2) and is described in Subsection 9A.4.3.2.5.

The equipment access hatches, concrete cover blocks, or other method of providing the required fire-resistance rating, between the safety-related low pressure condensate pump switchgear room (room 31X-2, fire area FT35X1) and main turbine lube oil tank area (room 330, fire area FT3501) and FT1500, are required to have a 3 hour fire-resistance rating.

Floor 3F areas above switchgear room 'B' (room 310, fire area FT35X8), electrical equipment area (room 3X9, fire area FT35X7) and 125 VDC and 250 VDC battery rooms (room nos. 3X4, 3X5, 3X6, 3X7 and 3X8, fire areas FT35X3, FT35X2, FT35X4, FT35X5, and FT35X6, respectively) are of a minimum 1 hour fire-resistive concrete construction. These floor areas include the reactor building exhaust fan area (room 412), turbine building equipment compartment exhaust fan area (room 4X3) and the lube oil area exhaust fan area.

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
(a) Cable in conduit and dispersed in cable trays	Acceptable
(b) Limited quantities of lubricants in pumps	Negligible

(6) Detection Provided – Class A supervised POC, and manual alarm pull stations.

Manual Pull Locations: TA.4-T7.5, TH.5-T7.9, TJ.6-T7.6, TG.6-T1.9, TA.2-T8.2, TJ.5-T9.6

## (7) Suppression Available:

Type	Location/Actuation
Modified Class III standpipes	Stairwells No. 1 <114>, No.2 <122>, No.3 <212>, No.4 <249>, No.8 <1Y5>, No.8 <1Y5>, and No. 9 <4X5>
ABC portable (hand) extinguishers and hose stations	TB.1-T2, TC.6-T2.8, TB-T4, TC.6-T5.1, TA.1-T5.8, TB.8-T6.9, TD.4-T6.4, TF.2-T6.8, TG.9-T6.8, TH.3-T8, TJ.1-T6, TG.6-T5.1, TJ.9-T4, TG.6-T2.9, TJ.1-T2, TE.1-T6.9, TG-T6.9, TE.1-T2.1, TF.9-T2.1, TF.5-T7, TE.2-T8.2, TH-T8.5, TF.3-T8.4,
Wet pipe sprinkler system Design density 12.2 L/min-m <sup>2</sup> (0.3 gpm/ft <sup>2</sup> ) over 464.5 m <sup>2</sup> (5000 ft <sup>2</sup> )	Throughout floor 3F
Closed head pre-action spray system Design density 12.2 L/min-m <sup>2</sup> (0.3 gpm/ft <sup>2</sup> ), Assume 20 spray heads over 10 bearings at coverage of 4.65 m <sup>2</sup> (50 ft <sup>2</sup> ) per head	Turbine generator bearings
Wet pipe sprinkler system Design density 12.2 L/min-m <sup>2</sup> (0.3 gpm/ft <sup>2</sup> ) (5000 ft <sup>2</sup> )	Beneath turbine skirt

## (8) Fire Protection Design Criteria Employed:

- (a) Fire detection and suppression capability is provided and accessible;
  - (b) Fire stops are provided for penetrations through rated fire barriers.
- (9) Consequences of Fire – Postulated fire assumes loss of function. Smoke from a fire would be removed by the normal HVAC.
- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Provision of raised supports for the equipment

- (b) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

(12) Fire Containment or Inhibiting Methods Employed:

- (a) Fire stops are provided for penetrations through fire rated barriers.
- (b) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks:

- (a) The following safety-related equipment representing all four safety divisions is mounted on this floor:

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- (b) Section 9A.5, Special Cases, provides justification for locating equipment from multiple safety divisions on this floor of the turbine building.
- (c) Electrical cable insulation in conduit does not represent a combustible fire load.
- (d) The total flow of the wet pipe sprinkler system on floor 3F with 1893 L/min (500 gpm) hose stream allowance is estimated to be 7,571 L/min (2750 gpm).
- (e) The total flow of the closed head preaction spray system on main turbine bearings with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,596 L/min (950 gpm).
- (f) The total flow of the wet pipe sprinkler system beneath the main turbine skirt with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 10,410 L/min (2750 gpm).

#### **9A.4.3.5.2 Fire Area – FT45X1 (Stairwell No. 9 – Room 4X5)**

(1) Fire Area Boundary Description

Stairwell No. 9 serves controlled areas inside the Turbine Building at floor level 3F.

Fire area FT45X1 extends vertically upward from floor 3F through floor 4F and provides access to and from floor 4F (elevation 38.3m (120’-4’’)).

Stairwell no. 9 is a separate fire area bounded by interior fire walls at floor levels 3F and 4F.

- (2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present – None.
- (4) Qualification of Fire Barriers – At floor levels 3F and 4F, walls enclosing stairwell no. 9 are a minimum of 2 hour fire-resistive concrete construction. Stairwell doors are a minimum of 1-1/2 hour fire rated (doors are 3-hour fire rated for consistency throughout the Turbine Building).
- (5) Combustibles Present – No significant quantities of exposed combustibles.
- (6) Detection Provided – Class A supervised POC at each building floor elevation and manual pull station external to the enclosed stairway at each floor elevation.
- (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipe	Stairwell No. 9 <4X5>
ABC portable (hand) extinguishers and hose stations	TH.3-T8, TJ.1-T6, TH-T8.5
Wet pipe sprinkler system Design density 6.1 L/min-m <sup>2</sup> (0.15 gpm/ft <sup>2</sup> )	Stairwell No. 9

- (8) Fire Protection Design Criteria Employed:
- (a) The stairwell is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire – The postulated fire assumes loss of function of the enclosed stairway. Smoke from a fire would be removed by the normal HVAC system.
- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.

## (12) Fire Containment or Inhibiting Methods Employed:

- (a) The function is provided in a fire-resistive enclosure.
- (b) Fire stops are provided for penetrations through fire rated barriers.
- (c) The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks – The total flow of the wet pipe sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,218 L/min (850 gpm).

#### **9A.4.3.6 Floor 4F (El. 38.3m (120'-4")) – See Figure 9A.4-33 and Table 9A.4.3-6 Summary of Fire Protection Criteria Floor 4F**

##### **9A.4.3.6.1 Fire Area – FT1500 (General Area)**

## (1) Fire Area Boundary Description

Floor 4F shares fire area FT1500 with all other floors in the Turbine Building.

Fire area FT1500 is bounded by:

- The Turbine Building exterior walls
- The interior walls enclosing stairwell no. 9 (room 4X5, fire area FT45X1)
- The interior walls enclosing stairwell no. 10 (room 5X1, fire area FT55X1)

## (2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

## (3) Radioactive Material Present – None that can be released as a result of fire.

## (4) Qualification of Fire Barriers –

The Turbine Building is classified as Type IA construction in accordance with the International Building Code (IBC), 2006. Type IA construction is noncombustible. The building structural frame, and all exterior and interior bearing walls, are required to be of 3 hour fire-resistive construction. The building floor is required to be of not less than 2 hour fire resistive construction, including supporting beams and joists. Also, the building roof is required to be of not less than 1 ½ hour fire resistive construction.

Enclosed stairwell no. 9 extends upward from floor 3F and provides access to equipment on floor 4F. This stairwell is of 2 hour fire-resistive concrete construction. Stairwell no. 9 is described in Subsection 9A.4.3.5.2.

Enclosed stairwell no. 10 extends upward from floor 4F and provides access to equipment on floor 5F. This stairwell is of 2 hour fire-resistive concrete construction. Stairwell no. 10 is described in Subsection 9A.4.3.6.2.

(5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
(a) Cable in conduit and dispersed in cable trays	Acceptable
(b) Limited quantities of lubricants in pumps	Negligible

(6) Detection Provided – Class A supervised POC, and manual alarm pull stations.

Manual Pull Locations: TA.4-T8, TJ.6-T7.6, TF-T6.6

(7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Modified Class III standpipe	Stairwells No.8 <1Y5>, No. 9 <4X5>, and No. 10 <5X1>
ABC portable (hand) extinguishers and hose stations	TD.9-T2, TF.1-T2, TD.9-T6, TF.1-T6, TB.1-T8, TC.9-T8, TE.4-T8, TF.5-T8, TH.9-T8, TG.8-T6.8
Wet pipe sprinkler system Design density 12.2 L/min-m <sup>2</sup> (0.3 gpm/ft <sup>2</sup> ) over 464.5 m <sup>2</sup> (5000 ft <sup>2</sup> )	Throughout floor 4F

(8) Fire Protection Design Criteria Employed:

- (a) Fire detection and suppression capability is provided and accessible;
- (b) Fire stops are provided for penetrations through rated fire barriers.

(9) Consequences of Fire – Postulated fire assumes loss of function. Smoke from a fire would be removed by the normal HVAC.

- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
  - (a) Provision of raised supports for the equipment
  - (b) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
  - (a) Fire stops are provided for penetrations through fire rated barriers.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks – The total flow of the wet pipe sprinkler system on floor 4F with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 10,410 L/min (2750 gpm).

#### **9A.4.3.6.2 Fire Area – FT55X1 (Stairwell No. 10 – Room 5X1)**

- (1) Fire Area Boundary Description

Stairwell No. 10 serves controlled areas inside the Turbine Building at floor level 4F.

Fire area FT55X1 extends vertically upward from floor 4F through floor 5F and provides access to and from floor 5F (elevation 47.2m).

Stairwell no. 10 is a separate fire area bounded by interior fire walls at floor levels 4F and 5F.

- (2) Equipment – See Table 9A.6-4

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

- (3) Radioactive Material Present – None.
- (4) Qualification of Fire Barriers – At floor levels 4F and 5F, walls enclosing stairwell no. 10 are a minimum of 2 hour fire-resistive concrete construction. Stairwell doors are a minimum of 1-1/2 hour fire rated (doors are 3-hour fire rated for consistency throughout the Turbine Building).
- (5) Combustibles Present – No significant quantities of exposed combustibles.

- (6) Detection Provided – Class A supervised POC at each building floor elevation and manual pull station external to the enclosed stairway at each floor elevation.

- (7) Suppression Available:

Type	Location/Actuation
Modified Class III standpipe	Stairwell No. 10 <5X1>
ABC portable (hand) extinguishers and hose stations	TE.4-T8, TF.5-T8
Wet pipe sprinkler system Design density 6.1 L/min-m <sup>2</sup> (0.15 gpm/ft <sup>2</sup> )	Stairwell No. 10

- (8) Fire Protection Design Criteria Employed:
- (a) The stairwell is located in a separate fire-resistive enclosure.
  - (b) Fire detection and suppression capability is provided and accessible.
- (9) Consequences of Fire – The postulated fire assumes loss of function of the enclosed stairway. Smoke from a fire would be removed by the normal HVAC system.
- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) The function is provided in a fire-resistive enclosure.
  - (b) Fire stops are provided for penetrations through fire rated barriers.
  - (c) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks – The total flow of the wet pipe sprinkler system with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 3,218 L/min (850 gpm)



**9A.4.3.7 Floor 5F (El. 47.2m) – See Figure 9A.4-34 and Table 9A.4.3-7 Summary of Fire Protection Criteria Floor 5F****9A.4.3.7.1 Fire Area – FT1500 (General Area)****(1) Fire Area Boundary Description**

Floor 5F shares fire area FT1500 with all other floors in the Turbine Building.

Fire area FT1500 is bounded by:

- The Turbine Building exterior walls
- The interior walls enclosing stairwell no. 10 (room 5X1, fire area FT55X1)

**(2) Equipment – See Table 9A.6-4**

<b>Safety Related</b>	<b>Provides Core Cooling</b>
No	No

**(3) Radioactive Material Present – None that can be released as a result of fire.****(4) Qualification of Fire Barriers –**

The Turbine Building is classified as Type IA construction in accordance with the International Building Code (IBC), 2006. Type IA construction is noncombustible. The building structural frame, and all exterior and interior bearing walls, are required to be of 3 hour fire-resistive construction. The building floor is required to be of not less than 2 hour fire resistive construction, including supporting beams and joists. Also, the building roof is required to be of not less than 1 ½ hour fire resistive construction.

Enclosed stairwell no. 10 extends upward from floor 4F and provides access to equipment on floor 5F. This stairwell is of 2 hour fire-resistive concrete construction. Stairwell no. 10 is described in Subsection 9A.4.3.6.2.

**(5) Combustibles Present:**

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
(a) Cable in conduit and dispersed in cable trays	Acceptable
(b) Limited quantities of lubricants in pumps	Negligible

- (6) Detection Provided – Class A supervised POC, and manual alarm pull stations.

Manual Pull Locations: TF-T6.6

- (7) Suppression Available:

Type	Location/Actuation
Modified Class III standpipe	Stairwells No. 10 <5X1>
ABC portable (hand) extinguishers and hose stations	TB.8-T7, TB.8-T6.2, TD.1-T6.2, TF-T6.2
Wet pipe sprinkler system Design density 12.2 L/min-m <sup>2</sup> (0.3 gpm/ft <sup>2</sup> ) over 464.5 m <sup>2</sup> (5000 ft <sup>2</sup> )	Throughout floor 5F

- (8) Fire Protection Design Criteria Employed:
- (a) Fire detection and suppression capability is provided and accessible.
  - (b) Fire stops are provided for penetrations through rated fire barriers.
- (9) Consequences of Fire – Postulated fire assumes loss of function. Smoke from a fire would be removed by the normal HVAC.
- (10) Consequences of Fire Suppression – Suppression extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:
- (a) Provision of raised supports for the equipment
  - (b) Refer to Section 3.4, “Water Level (Flood) Design,” for drain system.
- (12) Fire Containment or Inhibiting Methods Employed:
- (a) Fire stops are provided for penetrations through fire rated barriers.
  - (b) The means of fire detection, suppression and alarming are provided and accessible.
- (13) Remarks – The total flow of the wet pipe sprinkler system on floor 5F with a 1893 L/min (500 gpm) hose stream allowance is estimated to be 10,410 L/min (2750 gpm).

#### **9A.4.4 Service Building**

##### **9A.4.4.1 General**

The service building does not contain any system or function that could affect the safe, cold shutdown of the reactor. Therefore, a detailed, room-by-room fire hazard analysis is not performed. The basic fire protection features are presented in a method similar to that used in a room-by-room analysis.

##### **9A.4.4.2 Facility Features**

The service building is a completely separate non-seismic structure, but since it houses the main security entrance to the facility, it has controlled access tunnels to the Control Building, the Turbine building and the Reactor Building. The exterior wall facing these buildings is constructed of 3-h fire-resistive concrete. The controlled access doors on this wall are 3 h fire-resistive, A-label doors. Other exterior walls are constructed of concrete, or of gypsum board mounted on metal studs. The four-story stairwell between ground grade (El. 7350m) and El. –7100m, which resides near the center of the building, is considered a separate fire area and is bounded by 2 h rated barrier walls in accordance with NFPA-101.

Due to possible variations of the fire loading with time within the building the facility is fully equipped with an automatic wet pipe sprinkler system combined with standpipes, hose systems and portable extinguishers throughout its interior.

##### **9A.4.4.3 Fire Detection**

Fire detection is provided throughout the facility with the use of Class A supervised POC detection systems. Alarms, both trouble and fire, annunciate in the main security center. Fire alarms sound throughout the service building. Manual fire alarm pull boxes are located at each fire hose and at extinguisher stations.

##### **9A.4.4.4 Fire Suppression Systems**

Fire Suppression systems include:

- (1) NFPA 13, automatic wet pipe sprinklers provided in all areas within the building. The design criteria for the systems are a minimum water density of  $6.1 \text{ L/m}^2$ , with a maximum coverage of  $9.29 \text{ m}^2$  per sprinkler head. Water flow alarms are provided.
- (2) NFPA 14, Standpipes (6.35 cm pipe with 3.81 cm adapter) with 30.48 m of 3.81 cm woven-jacket lined fire hose nozzle located so that each room is less than 30.48 m from a hose station. Standpipe/hose stations are also provided adjacent to the stairwell of every other floor.

- (3) ABC hand extinguishers provided on each floor of the facility, located at or near the hose stations and alarm pull boxes. Additional hand extinguishers are provided in various locations for convenience, or where increased human activity is anticipated.

#### **9A.4.4.5 Penetrations**

Wall, floor and ceiling penetrations for piping, HVAC and cable trays are sealed, as needed, for HVAC control. However, fire dampers or stops are not provided as the nature of the activities within the building, coupled with the complete sprinkler coverage, precludes the need to provide multiple fire areas within the building.

#### **9A.4.4.6 Consequences of Suppression**

Floor drains are provided. Passage to other buildings is via controlled access chambers having normally closed doors. Minor leakage under the doors will be well within the capacity of the floor drain systems of the other buildings. Also, in the adjoining buildings, additional water-tight boundaries (i.e., the 3-hour fire rated walls and doors) separate the nuclear safety-related equipment from the hallways common to the service building access chambers. Raised pads for equipment and curbs are provided to control and confine water to specific areas.

### **9A.4.5 Radwaste Building**

#### **9A.4.5.1 General**

The radwaste building does not contain any system or function that could affect the safe, cold shutdown of the reactor. Therefore, a detailed, room-by-room fire hazard analysis is not required. The basic fire protection features are presented in a method similar to that used in a room-by-room analysis.

#### **9A.4.5.2 Facility Features**

The radwaste building has 2-h fire-resistive concrete and metal stud/gypsum interior walls. Ceilings above areas where dry radioactive materials (or other burnable materials) are stored or processed are also constructed of 2 h (minimum) fire-restrictive concrete. Interior doors have fire-restrictive ratings of 1-1/2 hr, some of which are fitted with 1-1/2 h fire dampers for room ventilation intake. Exterior doors are 2 h fire-restrictive doors, or, they are required to be of special design, analyzed to have a fire resistance equivalent, to a 2 h rating. The radwaste building is not contiguous with any other structure.

#### **9A.4.5.3 Fire Detection**

Fire detection is provided throughout the facility with the use of Class A supervised product-of-combustion (POC) detection systems. Alarms, both trouble and fire, report to the radwaste control room. Fire alarms are sounded throughout the building. Manual fire alarm pull boxes are located at each fire hose and at extinguisher stations.

#### **9A.4.5.4 Fire Suppression Systems**

Fire suppression systems include:

- (1) NFPA 13, automatic wet pipe sprinklers provided in areas where dry radioactive waste, or other flammable material, is processed or stored. The design criteria for the systems are a minimum water density of  $6.1 \text{ L/m}^2$ , with a maximum coverage of  $9.29 \text{ m}^2$  per sprinkler head. Water flow alarms are provided.
- (2) NFPA 14, Standpipes (6.35 cm pipe with 3.81 cm adapter) with 30.48 m of 3.81 cm woven-jacket lined fire hose and nozzle located so that each room is less than 30.48 m from a hose station. Water flow alarms are provided.
- (3) ABC hand extinguishers provided on each floor of the facility, located at or near the hose stations and alarm pull boxes.

#### **9A.4.5.5 Penetrations**

Wall, floor and ceiling penetrations for piping, HVAC and cable trays are fitted with fire-stops or fire dampers with the same fire-resistance rating as the wall, floor and ceiling. Since radioactive materials are processed, many of the walls are much thicker than an equivalent fire wall thickness for shielding purposes.

#### **9A.4.5.6 Consequences of Suppression**

Floor drains are provided with sufficient capacity for fire-water run-off. Raised pads for equipment and curbs are provided to control and confine water to specific areas.

#### **9A.4.6 Plant Yard**

- (1) Space—Plant Site External to the Buildings  
Fire Area—yard
- (2) Equipment: See Figure 9.5-4
- (3) Radioactive Material Present:  
None that can be released as a result of fire.
- (4) Qualification of Fire Barriers—The exterior walls of the safety-related buildings are required to have a fire resistance rating of 3 hours. The diesel oil storage tanks are buried. The dirty and clean turbine lubrication oil tanks are located next to the turbine building, away from the reactor building. Shadow type fire walls are provided between the unit auxiliary transformers and main transformer. These transformers are located more than 15.2 m away from the turbine building walls.

## (5) Combustibles Present:

<b>Fire Loading</b>	<b>Total Heat of Combustion (MJ)</b>
(a) Clean lube oil (7568 liters)	3.2x10 <sup>6</sup>
(b) Dirty lube oil (7568 liters)	3.2x10 <sup>6</sup>
(c) Main transformer oil	Unknown quantity
(d) Unit auxiliary transformer oil	Unknown quantity
(e) Reserve transformer oil	Unknown quantity
(f) Three buried D/G oil tanks	Buried tanks fuel are not contributor to fuel loading

- (6) Detection Provided—Temperature and flame detectors as part of the suppression system for the outdoor transformers. Flame detectors for the turbine lubrication oil tanks. Manual alarm pull stations adjacent to the main power, unit auxiliary and reserve transformers.

## (7) Suppression Available:

<b>Type</b>	<b>Location/Actuation</b>
Outdoor hydrants	See Figure 9.5-5/Manual
Deluge water spray systems	For the main power, unit auxiliary and reserve transformers/Automatic

## (8) Fire Protection Design Criteria Employed:

- (a) Fire detection and suppression capability is provided and accessible.
- (b) Redundant equipment is separated by distance or shadow fire barrier walls.

- (9) Consequences of Fire—The postulated fire assumes loss of the function in the fire affected zone. Exposed equipment is not safety-related. Loss of some equipment could cause initiation of a plant shutdown.

- (10) Consequences of Fire Suppression—extinguishes the fire. Refer to Section 3.4, “Water Level (Flood) Design,” for the drain system.

(11) Design Criteria Used for Protection Against Inadvertent Operation, Careless Operation or Rupture of the Suppression System:

- (a) No exposed safety-related equipment; and
- (b) Fire protection water from a ruptured storage tank would drain away from the safety-related buildings via the normal storm drainage system.

(12) Fire Containment or Inhibiting Methods Employed:

The means of fire detection, suppression and alarming are provided and accessible.

(13) Remarks—None.

**Table 9A.4.3-1 - Summary of Fire Protection Criteria  
Floor B1F**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	FT1503	Stairwell No. 2 (Room 122)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> ) over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	(a) NFPA 804, 2006, paragraph 10.8.2.1(2)  (b) NEIL LCM, March 2008, A3.2.20.5.2.1.1..
		FT2504	Stairwell No. 4 (Room 249)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			
		FT15X1	Stairwell No. 6 (Room 1X3)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			
		FT15X2	Stairwell No. 7 (Room 1X4)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			



**Table 9A.4.3-1 - Summary of Fire Protection Criteria  
Floor B1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	External to Turbine Building	Radwaste Tunnel	Exterior Turbine Building Wall: 3-hour fire resistive  Floor: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601  Turbine Bldg. Floor over Radwaste Building (treated as separation between buildings): IBC, 2006, Table 601	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> ) over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	(a) NFPA 804, 2006, paragraph 10.8.2.1(2)  (b) NEIL LCM, March 2008, A3.2.20.5.2.1.1..
		FT15X3	Stairwell Access to Radwaste Tunnel (Room 141)	Wall: 3-hour fire resistive  Door: 3-hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601  Turbine Bldg. Floor over Radwaste Building (treated as separation between buildings): IBC, 2006, Table 601			

**Table 9A.4.3-1 - Summary of Fire Protection Criteria  
Floor B1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	FT2500	Lube Oil Purification Unit on Floor MB1F (Room 230)	Ceiling: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> ) over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	(a) NFPA 804, 2006, paragraph 10.8.2.1(2)  (b) NEIL LCM, March 2008, A3.2.20.5.2.1.1..
		FT15Y3	Lube Oil Storage Tanks on Floor MB1F (Room 1Y1)	Ceiling: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3			
		FT15Y4	EHC Hydraulic Power Unit Floor MB1F (Room 232)	Ceiling: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1			
FT1503	Stairwell No. 2 (Room 122)	FT1500	General Area	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
FT2504	Stairwell No. 4 (Room 249)	FT1500	General Area	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1

**Table 9A.4.3-1 - Summary of Fire Protection Criteria  
Floor B1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT15X1	Stairwell No. 6 (Room 1X3)	FT1500	General Area	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
FT15X2	Stairwell No. 7 (Room 1X4)	FT1500	General Area	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
FT15X3	Stairwell Access to Radwaste Tunnel (Room 141)	FT1500	General Area	Wall: 3-hour fire resistive  Door: 3-hour fire rated  Ceiling: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601  Turbine Bldg. Floor over Radwaste Building (treated as separation between buildings): IBC, 2006, Table 601	Wet pipe sprinkler	0.20 gpm/ft <sup>2</sup> (8.2 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 950 gpm (3596 L/min)	Ordinary Hazard Group 2 per NFPA 13, paragraph 5.3.2

**Table 9A.4.3-2 - Summary of Fire Protection Criteria  
Floor MB1F**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	FT1503	Stairwell No. 2 (Room 122)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> ) over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	a) NFPA 804, 2006, paragraph 10.8.2.1(2)  (b) NEIL LCM, March 2008, A3.2.20.5.2.1.1.
		FT2502	Stairwell No. 3 (Room 212)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			
		FT2504	Stairwell No. 4 (Room 249)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			
		FT15X1	Stairwell No. 6 (Room 1X3)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			
		FT15X2	Stairwell No. 7 (Room 1X4)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			
		FT15Y2	Elevator Shaft (Room 250)	Walls: 2-hour fire resistive  Doors: 1 1/2-hour fire rated	NFPA 804, paragraphs 8.1.2.4 and 8.1.2.5			

**Table 9A.4.3-2 - Summary of Fire Protection Criteria  
Floor MB1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	FT2500	Lube Oil Purification Unit (Room 230)	Walls: 3-hour fire resistive  Doors: 3-hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> ) over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	a) NFPA 804, 2006, paragraph 10.8.2.1(2)  (b) NEIL LCM, March 2008, A3.2.20.5.2.1.1.
		FT15Y3	Lube Oil Storage Tanks (Room 1Y1)	Walls: 3-hour fire resistive  Doors: 3-hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3			
		FT15Y4	EHC Hydraulic Power Unit (Room 232)	Walls: 3-hour fire resistive  Doors: 3-hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3			
		FT15X3	Stairwell Access to Radwaste Tunnel (Room 141)	Floor: 3-hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601  Turbine Bldg. Floor over Radwaste Building (treated as separation between buildings):  IBC, 2006, Table 601			

**Table 9A.4.3-2 - Summary of Fire Protection Criteria  
Floor MB1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	FT2503	House Boiler Area (Room 247)	Wall: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.6  NOTE: 3-hour wall is specified based on fuel fired boiler. Specified rating may be reduced in the future due to planned electric boiler.	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> ) over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	a) NFPA 804, 2006, paragraph 10.8.2.1(2)  (b) NEIL LCM, March 2008, A3.2.20.5.2.1.1.
		FT1501	HNCW Chiller Area (Room 248), Instrument, Service, and Breathing Air Equipment Areas (Rooms 111 and 1Y2)	Wall: 2-hour fire resistive	Specified by FPE at this location.			
		External to Turbine Building	Horizontal passageway between Turbine Building and Control Building	Exterior Turbine Bldg. Wall: 3-hour fire resistive  Doors: 3-hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601			
FT1503	Stairwell No. 1 (Room 114)	FT1501	HNCW Chiller Area (Room 248), Instrument, Service, and Breathing Air Equipment Areas (Rooms 111 and 1Y2)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1

**Table 9A.4.3-2 - Summary of Fire Protection Criteria  
Floor MB1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1503	Stairwell No. 1 (Room 114)	External to Turbine Building	Horizontal passageway between Turbine Building and Control Building	Exterior Turbine Bldg. Wall: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
FT1503	Stairwell No. 2 (Room 122)	FT1500	General Area	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
FT2504	Stairwell No. 3 (Room 212)	FT1500	General Area	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
		FT15Y2	Elevator Shaft (Room 250)	Walls: 2-hour fire resistive	NFPA 804, paragraphs 8.1.2.4 and 8.1.2.5			
		FT1501	HNCW Chiller Area (Room 248), Instrument, Service, and Breathing Air Equipment Areas (Rooms 111 and 1Y2)	Walls: 2-hour fire resistive	Walls: NFPA 101, paragraph 8.5.6.(1)			

**Table 9A.4.3-2 - Summary of Fire Protection Criteria  
Floor MB1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT2504	Stairwell No. 4 (Room 249)	FT1500	General Area	Walls :2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
		FT15Y1	Stairwell No. 8	Walls: 3-hour fire resistive	Walls: NFPA 101, paragraph 8.5.6.(1)			
FT15X1	Stairwell No. 6 (Room 1X3)	FT1500	General Area	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
FT15X2	Stairwell No. 7 (Room 1X4)	FT1500	General Area	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
		FT1501	HNCW Chiller Area (Room 248), Instrument, Service, and Breathing Air Equipment Areas (Rooms 111 and 1Y2)	Walls: 2-hour fire resistive	Walls: NFPA 101, paragraph 8.5.6.(1)			



**Table 9A.4.3-2 - Summary of Fire Protection Criteria  
Floor MB1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT15X2	Stairwell No. 7 (Room 1X4)	External to Turbine Building	Horizontal passageway between Turbine Building and Control Building	Exterior Turbine Bldg. Wall: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
FT15Y1	Stairwell No. 8 (Room 1X4)	FT2504	Stairwell No. 4 (Room 249)	Walls: 3-hour fire resistive	Walls: NFPA 101, paragraph 8.5.6.(1)	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
		FT2503	House Boiler Area (Room 247)	Walls: 3-hour fire resistive	Walls: NFPA 101, paragraph 8.5.6.(1)			
FT15Y2	Elevator Shaft (Room 250)	FT1500	General Area	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	NFPA 804, paragraphs 8.1.2.4 and 8.1.2.5	Wet pipe sprinkler	0.20 gpm/ft <sup>2</sup> (8.2 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 950 gpm (3596 L/min)	Ordinary Hazard Group 2 per NFPA 13, paragraph 5.3.2
		FT1501	HNCW Chiller Area (Room 248), Instrument, Service, and Breathing Air Equipment Areas (Rooms 111 and 1Y2)	Walls: 2-hour fire resistive	Walls: NFPA 101, paragraph 8.5.6.(1)			
		FT2502	Stairwell No. 3 (Room 212)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			

**Table 9A.4.3-2 - Summary of Fire Protection Criteria  
Floor MB1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT2500	Lube Oil Purification Unit (Room 230)	FT1500	General Area	Walls: 3-hour fire resistive  Doors: 3-hour fire rated  Floor: 3-hour fire resistive  Ceiling: 3-hour fire resistive	NEIL LCM, paragraph 3.2.9.1  NFPA 804, paragraph 8.1.2.3	Deluge Foam Water Spray	0.50 gpm/ ft <sup>2</sup> (20.4 L/min-m <sup>2</sup> ) over the entire area (Est. 640 ft <sup>2</sup> (59.5 m <sup>2</sup> ))  Total flow (Est.): 980 gpm (3710 L/min)	NEIL LCM, paragraph 3.2.20.5 and Appendix A.3.2.20.5  NFPA 15, paragraphs 7.2.1.3 and 7.3.3  NFPA 16, paragraph 7.3.2 and Appendix A.7.3.2
FT15Y3	Lube Oil Storage Tanks (Room 1Y1)	FT1500	General Area	Walls: 3-hour fire resistive  Doors: 3-hour fire rated  Floor: 3-hour fire resistive  Ceiling: 3-hour fire resistive	NEIL LCM, paragraph 3.2.9.1  NFPA 804, paragraph 8.1.2.3	Deluge Foam Water Spray	0.50 gpm/ ft <sup>2</sup> (20.4 L/min-m <sup>2</sup> ) over the entire area (Est. 1400 ft <sup>2</sup> (130 m <sup>2</sup> ))  Total flow (Est.): 1550 gpm (5867 L/min)	NEIL LCM, paragraph 3.2.20.5 and Appendix A.3.2.20.5  NFPA 15, paragraphs 7.2.1.3 and 7.3.3  NFPA 16, paragraph 7.3.2 and Appendix A.7.3.2
FT15Y4	EHC Hydraulic Power Unit (Room 232)	FT1500	General Area	Walls: 3-hour fire resistive  Doors: 3-hour fire rated  Floor: 3-hour fire resistive  Ceiling: 3-hour fire resistive	NEIL LCM, paragraph 3.2.9.1  NFPA 804, paragraph 8.1.2.3	Deluge Foam Water Spray	0.50 gpm/ ft <sup>2</sup> (20.4 L/min-m <sup>2</sup> ) over the entire area (Est. 1120 ft <sup>2</sup> (104 m <sup>2</sup> ))  Total flow (Est.): 1340 gpm (5072 L/min)	NEIL LCM, paragraph 3.2.20.5 and Appendix A.3.2.20.5  NFPA 15, paragraphs 7.2.1.3 and 7.3.3  NFPA 16, paragraph 7.3.2 and Appendix A.7.3.2

**Table 9A.4.3-2 - Summary of Fire Protection Criteria  
Floor MB1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT2503	House Boiler Area (Room 247)	FT1500	General Area	Wall: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.6  NOTE: 3-hour wall is specified based on fuel fired boiler. Specified rating may be reduced in the future due to planned electric boiler.	Wet pipe sprinkler	0.25 gpm/ft <sup>2</sup> (10.2 L/min-m <sup>2</sup> ) over 5440 ft <sup>2</sup> (505 m <sup>2</sup> ) – entire area  Total flow (Est.): 2540 gpm (9615 L/min)	NEIL LCM, paragraph 3.2.20.5  NFPA 804, paragraph 10.24.3
		FT1501	HNCW Chiller Area (Room 248), Instrument, Service, and Breathing Air System Equipment Areas (Rooms 111 and 1Y2)	Walls: 3-hour fire resistive  Doors: 3-hour fire rated	NEIL LCM, March 2008, 3.2.9.6  NOTE: 3-hour wall is specified based on fuel fired boiler. Specified rating may be reduced in the future due to planned electric boiler.			
FT2503	House Boiler Area (Room 247)	FT15Y1	Stairwell No. 8	Walls: 3-hour fire resistive	Walls: NFPA 101, paragraph 8.5.6.(1)	Wet pipe sprinkler	0.25 gpm/ft <sup>2</sup> (10.2 L/min-m <sup>2</sup> ) over 5440 ft <sup>2</sup> (505 m <sup>2</sup> ) – entire area  Total flow (Est.): 2540 gpm (9615 L/min)	NEIL LCM, paragraph 3.2.20.5  NFPA 804, paragraph 10.24.3

**Table 9A.4.3-2 - Summary of Fire Protection Criteria  
Floor MB1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1501	HNCW Chiller Area (Room 248), Instrument, Service, and Breathing Air Equipment Areas (Rooms 111 and 1Y2)	FT1500	General Area	Wall: 2-hour fire resistive	Specified by FPE at this location.	Wet pipe sprinkler	0.20 gpm/ft <sup>2</sup> (8.2 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 950 gpm (3596 L/min)	Ordinary Hazard Group 2 per NFPA 13, paragraph 5.3.2
		FT2502	Stairwell No. 3 (Room 212)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls:NFPA 101, paragraph 8.5.6.(1)  Doors:NFPA 101, Table 8.3.4.2			
		FT15Y2	Elevator Shaft (Room 250)	Walls: 2-hour fire resistive	NFPA 804, paragraphs 8.1.2.4 and 8.1.2.5			
		FT1503	Stairwell No. 1 (Room 114)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls:NFPA 101, paragraph 8.5.6.(1)  Doors:NFPA 101, Table 8.3.4.2			
		FT3500	Combustion Turbine Generator Area (Rooms 2X8 and 317)	Ceiling: 3-hour fire resistive	NFPA 804, paragraph 8.1.2.3			
		FT25X1	Combustion Turbine Generator Switchgear Area (Room 2X5)	Ceiling: Minimum 1-hour fire resistive	NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10			
		FT25X3	Switchgear Room 'A' (Room 210)	Ceiling: Minimum 1-hour fire resistive	NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10			

**Table 9A.4.3-2 - Summary of Fire Protection Criteria  
Floor MB1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1501	HNCW Chiller Area (Room 248), Instrument, Service, and Breathing Air Equipment Areas (Rooms 111 and 1Y2)	FT2503	House Boiler Area (Room 247)	Walls: 3-hour fire resistive  Doors: 3-hour fire rated	NEIL LCM, March 2008, 3.2.9.6  NOTE: 3-hour wall is specified based on fuel fired boiler. Specified rating may be reduced in the future due to planned electric boiler.	Wet pipe sprinkler	0.20 gpm/ft <sup>2</sup> (8.2 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 950 gpm (3596 L/min)	Ordinary Hazard Group 2 per NFPA 13, paragraph 5.3.2
		External to Turbine Building	Horizontal passageway between Turbine Building and Control Building	Exterior Turbine Bldg. Wall: 3-hour fire resistive  Doors: 3-hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601			

**Table 9A.4.3-3 - Summary of Fire Protection Criteria  
Floor 1F**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	FT1503	Stairwell No. 2 (Room 122)	Walls: 3-hour fire resistive  Doors: 3 - hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601  Turbine Bldg. Floor over Radwaste Building (treated as separation between buildings):  IBC, 2006, Table 601  Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> )  over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	a) NFPA 804, 2006, paragraph 10.8.2.1(2)  (b) NEIL LCM, March 2008, A3.2.20.5.2.1.1.
		FT2502	Stairwell No. 3 (Room 212)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			
		FT2504	Stairwell No. 4 (Room 249)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			
		FT15X1	Stairwell No. 6 (Room 1X3)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			

**Table 9A.4.3-3 - Summary of Fire Protection Criteria  
Floor 1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	FT15X2	Stairwell No. 7 (Room 1X4)	Walls: 2-hour fire resistive Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> ) over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	a) NFPA 804, 2006, paragraph 10.8.2.1(2)  (b) NEIL LCM, March 2008, A3.2.20.5.2.1.1.
		FT15Y2	Elevator Shaft (Room 250)	Walls: 2-hour fire resistive Doors: 3-hour fire rated	NFPA 804, paragraphs 8.1.2.4 and 8.1.2.5			
		FT2500	Lube Oil Purification Unit (Room 230)	Floor: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3			
		FT15Y3	Lube Oil Storage Tanks (Room 1Y1)	Floor: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3			
		FT15Y4	EHC Hydraulic Power Unit (Room 232)	Floor: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3			
		FT2503	House Boiler Area (Room 247)	Wall: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.6  NOTE: 3-hour wall is specified based on fuel fired boiler. Specified rating may be reduced in the future due to planned electric boiler.			
		FT3500	Combustion Turbine Generator Area (Rooms 317 and 2X8)	Wall: 3-hour fire resistive	NFPA 804, paragraph 8.1.2.3			

**Table 9A.4.3-3 - Summary of Fire Protection Criteria  
Floor 1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	FT25X1	Combustion Turbine Generator Switchgear (Room 2X5)	Wall: 2-hour fire resistive	Specified by FPE at this location.  NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> ) over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	a) NFPA 804, 2006, paragraph 10.8.2.1(2)  (b) NEIL LCM, March 2008, A3.2.20.5.2.1.1.
		FT25X3	Switchgear Room 'A' (Room 210)	Wall: 2-hour fire resistive	Specified by FPE at this location.  NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10			
		FT2505	Main Steam Tunnel (Room 219)	Exterior Turbine Bldg. Wall: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601			
		FT3501	Main Turbine Lube Oil Tank (Room 330)	Ceiling: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3			
		FT35X1	Safety Related Low Pressure Condensate Switchgear (Room 31X-2)	Ceiling: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1			



**Table 9A.4.3-3 - Summary of Fire Protection Criteria  
Floor 1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	FT35X9	Generator Seal Oil Unit (Room 3X2)	Ceiling: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> ) over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	a) NFPA 804, 2006, paragraph 10.8.2.1(2)  (b) NEIL LCM, March 2008, A3.2.20.5.2.1.1.
		External to Turbine Building	Horizontal passageway between Turbine Building and Control Building	Exterior Turbine Bldg. Wall: 3-hour fire resistive  Doors: 3-hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601			
FT1502	Stairwell No. 1 (Room 114)	FT25X3	Switchgear Room 'A' (Room 210)	Walls: 2-hour fire resistive  Door: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
		External to Turbine Building	Horizontal passageway between Turbine Building and Control Building	Exterior Turbine Bldg. Wall: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601			

**Table 9A.4.3-3 - Summary of Fire Protection Criteria  
Floor 1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1503	Stairwell No. 2 (Room 122)	FT1500	General Area	Walls: 3-hour fire resistive  Doors: 3 - hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601  Turbine Bldg. Floor over Radwaste Building (treated as separation between buildings): IBC, 2006, Table 601  Walls: NFPA 101, paragraph 8.5.6.(1)  Doors :NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1

**Table 9A.4.3-3 - Summary of Fire Protection Criteria  
Floor 1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT2502	Stairwell No. 3 (Room 212)	FT1500	General Area	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
		FT15Y2	Elevator Shaft (Room 250)	Walls: 2-hour fire resistive	NFPA 804, paragraphs 8.1.2.4 and 8.1.2.5		Total flow (Est.): 850 gpm (3218 L/min)	
		FT25X3	Switchgear Room 'A' (Room 210)	Wall: 2-hour fire resistive	Specified by FPE at this location.  NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10			
FT2504	Stairwell No. 4 (Room 249)	FT1500	General Area	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
		FT15Y1	Stairwell No. 8	Walls: 3-hour fire resistive	Walls: NFPA 101, paragraph 8.5.6.(1)		Total flow (Est.): 850 gpm (3218 L/min)	
FT15X1	Stairwell No. 6 (Room 1X3)	FT1500	General Area	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1

**Table 9A.4.3-3 - Summary of Fire Protection Criteria  
Floor 1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT15X2	Stairwell No. 7 (Room 1X4)	FT1500	General Area	Walls: 2-hour fire resistive Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
		External to Turbine Building	Horizontal passageway between Turbine Building and Control Building	Exterior Turbine Bldg. Wall: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601		Total flow (Est.): 850 gpm (3218 L/min)	
FT15Y1	Stairwell No. 8 (Room 1X4)	FT2504	Stairwell No. 4 (Room 249)	Walls: 3-hour fire resistive	Walls: NFPA 101, paragraph 8.5.6.(1)	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
		FT2503	House Boiler Area (Room 247)	Walls: 3-hour fire resistive	Walls: NFPA 101, paragraph 8.5.6.(1)		Total flow (Est.): 850 gpm (3218 L/min)	

**Table 9A.4.3-3 - Summary of Fire Protection Criteria  
Floor 1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT15Y2	Elevator Shaft (Room 250)	FT1500	General Area	Walls: 2-hour fire resistive Doors: 1 ½ -hour fire rated	NFPA 804, paragraphs 8.1.2.4 and 8.1.2.5	Wet pipe sprinkler	0.20 gpm/ft <sup>2</sup> (8.2 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 950 gpm (3596 L/min)	Ordinary Hazard Group 2 per NFPA 13, paragraph 5.3.2
		FT25X3	Switchgear Room 'A' (Room 210)	Walls: 2-hour fire resistive	Specified by FPE at this location.  NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10			
		FT2502	Stairwell No. 3 (Room 212)	Wall: 2-hour fire resistive	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			
FT2503	House Boiler Area (Room 247)	FT1500	General Area	Walls: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.6  NOTE: 3-hour wall is specified based on fuel fired boiler. Specified rating may be reduced in the future due to planned electric boiler.	Wet pipe sprinkler	0.25 gpm/ft <sup>2</sup> (10.2 L/min-m <sup>2</sup> ) over 5440 ft <sup>2</sup> (505 m <sup>2</sup> ) – entire area  Total flow (Est.): 2540 gpm (9615 L/min)	NEIL LCM, paragraph 3.2.20.5  NFPA 804, paragraph 10.24.3

**Table 9A.4.3-3 - Summary of Fire Protection Criteria  
Floor 1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT2503	House Boiler Area (Room 247)	FT15Y1	Stairwell No. 8 (Room 1X4)	Walls: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.6  NOTE: 3-hour wall is specified based on fuel fired boiler. Specified rating may be reduced in the future due to planned electric boiler.  Walls:NFPA 101, paragraph 8.5.6.(1)	Wet pipe sprinkler	0.25 gpm/ft <sup>2</sup> (10.2 L/min-m <sup>2</sup> ) over 5440 ft <sup>2</sup> (505 m <sup>2</sup> ) – entire area  Total flow (Est.): 2540 gpm (9615 L/min)	NEIL LCM, paragraph 3.2.20.5  NFPA 804, paragraph 10.24.3
		FT3500	Combustion Turbine Generator Area (Rooms 317 and 2X8)	Walls: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.6  NOTE: 3-hour wall is specified based on fuel fired boiler. Specified rating may be reduced in the future due to planned electric boiler.			
		FT35X8	Switchgear Room 'B' (Room 310)	Ceiling: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.6  NOTE: 3-hour wall is specified based on fuel fired boiler. Specified rating may be reduced in the future due to planned electric boiler.			

**Table 9A.4.3-3 - Summary of Fire Protection Criteria  
Floor 1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT3500	Combustion Turbine Generator Area (Rooms 317 and 2X8)	FT1501	HNCW Chiller Area (Room 248), Instrument, Service, and Breathing Air Equipment Areas (Rooms 111 and 1Y2)	Floor: 3-hour fire resistive	NFPA 804, paragraph 8.1.2.3	Wet Pipe Sprinkler	0.25 gpm/ft <sup>2</sup> (10.2 L/min-m <sup>2</sup> ) over 2500 ft <sup>2</sup> (230 m <sup>2</sup> )	NFPA 37, paragraph 11.4.5.1  NOTE:Realistic criteria taken from NFPA 37. Flow and density taken from NFPA 804, paragraph 10.9.3, is very demanding (over entire area) and is not realistic for the size of CTG Area.
		FT35X8	Switchgear Room 'B' (Room 310)	Ceiling: 3-hour fire resistive	NFPA 804, paragraph 8.1.2.3		Total flow (Est.): 1440 gpm (5451 L/min)	
		FT1500	General Area	Wall: 3-hour fire resistive	NFPA 804, paragraph 8.1.2.3			
		FT2503	House Boiler Area (Room 247)	Wall: 3-hour fire resistive	NFPA 804, paragraph 8.1.2.3			
		FT25X1	Combustion Turbine Generator Switchgear (Room 2X5)	Wall: 3-hour fire resistive	NFPA 804, paragraph 8.1.2.3			
		FT25X3	Switchgear Room 'A' (Room 210)	Wall: 3-hour fire resistive Door: 3-hour fire rated	NFPA 804, paragraph 8.1.2.3			
FT25X1	Combustion Turbine Generator Switchgear (Room 2X5)	FT1500	General Area	Wall: 2-hour fire resistive	Specified by FPE at this location.  NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10	Wet pipe sprinkler	0.20 gpm/ft <sup>2</sup> (8.2 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )	Ordinary Hazard Group 2 per NFPA 13, paragraph 5.3.2
		FT1501	HNCW Chiller Area (Room 248), Instrument, Service, and Breathing Air Equipment Areas (Rooms 111 and 1Y2)	Floor: Minimum 1-hour fire resistive	NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10		Total flow (Est.): 950 gpm (3596 L/min)	

**Table 9A.4.3-3 - Summary of Fire Protection Criteria  
Floor 1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT25X1	Combustion Turbine Generator Switchgear (Room 2X5)	FT35X8	Switchgear Room 'B' (Room 310)	Ceiling: Minimum 1-hour fire resistive	NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10	Wet pipe sprinkler	0.20 gpm/ft <sup>2</sup> (8.2 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 950 gpm (3596 L/min)	Ordinary Hazard Group 2 per NFPA 13, paragraph 5.3.2
		FT3500	Combustion Turbine Generator Area (Rooms 317 and 2X8)	Wall: 3-hour fire resistive	NFPA 804, paragraph 8.1.2.3			
		FT25X3	Switchgear Room 'A' (Room 210)	Wall: Minimum 1-hour fire resistive  Door: Minimum 1-hour fire rated	NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10			



**Table 9A.4.3-3 - Summary of Fire Protection Criteria  
Floor 1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT25X3	Switchgear Room 'A' (Room 210)	FT1500	General Area	Wall: 2-hour fire resistive	Specified by FPE at this location.  NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10	Wet pipe sprinkler	0.20 gpm/ft <sup>2</sup> (8.2 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 950 gpm (3596 L/min)	Ordinary Hazard Group 2 per NFPA 13, paragraph 5.3.2
		FT1501	HNCW Chiller Area (Room 248), Instrument, Service, and Breathing Air Equipment Areas (Rooms 111 and 1Y2)	Floor: Minimum 1-hour fire resistive	NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10			
		FT35X8	Switchgear Room 'B' (Room 310)	Ceiling: Minimum 1-hour fire resistive	NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10			
		FT3500	Combustion Turbine Generator Area (Rooms 317 and 2X8)	Wall: 3-hour fire resistive	NFPA 804, paragraph 8.1.2.3			
		FT25X1	Combustion Turbine Generator Switchgear (Room 2X5)	Wall: Minimum 1-hour fire resistive  Door: Minimum 1-hour fire rated	NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10			

**Table 9A.4.3-3 - Summary of Fire Protection Criteria  
Floor 1F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT25X3	Switchgear Room 'A' (Room 210)	FT2502	Stairwell No. 3 (Room 212)	Walls: 2-hour fire resistive	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.20 gpm/ft <sup>2</sup> (8.2 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 950 gpm (3596 L/min)	Ordinary Hazard Group 2 per NFPA 13, paragraph 5.3.2
		FT1502	Stairwell No. 1 (Room 114)	Walls: 2-hour fire resistive  Door: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors :NFPA 101, Table 8.3.4.2			
		FT15Y2	Elevator Shaft (Room 250)	Walls: 2-hour fire resistive	NFPA 804, paragraphs 8.1.2.4 and 8.1.2.5			
		External to Turbine Building	Horizontal passageway between Turbine Building and Control Building	Exterior Turbine Bldg. Wall: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601			

**Table 9A.4.3-4 - Summary of Fire Protection Criteria  
Floor 2F**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	FT1503	Stairwell No. 2 (Room 122)	Walls :3-hour fire resistive  Doors: 3 - hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601  Turbine Bldg. Floor over Radwaste Building (treated as separation between buildings):  IBC, 2006, Table 601  Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> ) over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	a) NFPA 804, 2006, paragraph 10.8.2.1(2)  (b) NEIL LCM, March 2008, A3.2.20.5.2.1.1.
		FT2502	Stairwell No. 3 (Room 212)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			
		FT2504	Stairwell No. 4 (Room 249)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			
		FT15Y2	Elevator Shaft (Room 250)	Walls: 2-hour fire resistive  Doors: 1 ½ - hour fire rated	NFPA 804, paragraphs 8.1.2.4 and 8.1.2.5			

**Table 9A.4.3-4 - Summary of Fire Protection Criteria  
Floor 2F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	FT3501	Main Turbine Lube Oil Tank (Room 330)	Walls: 3-hour fire resistive Doors: 3-hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> ) over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	a) NFPA 804, 2006, paragraph 10.8.2.1(2)  (b) NEIL LCM, March 2008, A3.2.20.5.2.1.1.
		FT35X1	Safety Related Low Pressure Condensate Switchgear (Room 31X-2)	Walls: 3-hour fire resistive Doors: 3-hour fire rated	NEIL LCM, March 2008, 3.2.9.1			
		FT35X9	Generator Seal Oil Unit (Room 3X2)	Walls: 3-hour fire resistive Doors: 3-hour fire rated	NEIL LCM, March 2008, 3.2.9.1			
		FT35X8	Switchgear Room 'B' (Room 310)	Wall: 2-hour fire resistive	Specified by FPE at this location.  NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10			
		FT35X3 FT35X2 FT35X4 FT35X5 FT35X6	125VDC and 250VDC Battery Rooms (Rooms 3X4, 3X5, 3X6, 3X7 and 3X8)	Wall: 2-hour fire resistive	Specified by FPE at this location.  NFPA 804, paragraph 10.7.2 (Guidance followed for Safety Related equipment)			
		FT45X1	Stairwell No. 9 (Room 4X5)	Ceiling: 2-hour fire resistive	NFPA 101, paragraph 8.5.6.(1)			

**Table 9A.4.3-4 - Summary of Fire Protection Criteria  
Floor 2F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	FT2505	Main Steam Tunnel (Room 219)	Exterior Turbine Bldg. Wall: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> )  over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	a) NFPA 804, 2006, paragraph 10.8.2.1(2)  (b) NEIL LCM, March 2008, A3.2.20.5.2.1.1.
FT1502	Stairwell No. 1 (Room 114)	FT35X8	Switchgear Room 'B' (Room 310)	Walls: 2-hour fire resistive  Door: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> )  over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1

**Table 9A.4.3-4 - Summary of Fire Protection Criteria  
Floor 2F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1503	Stairwell No. 2 (Room 122)	FT1500	1 - General Area 2 - General Area 3 - Elevator Shaft (Room 250) 4 - Switchgear Room 'B' (Room 310)	Walls: 3-hour fire resistive  Doors: 3 - hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601  Turbine Bldg. Floor over Radwaste Building (treated as separation between buildings):  IBC, 2006, Table 601  Walls:NFPA 101, paragraph 8.5.6.(1)  Doors:NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
FT2502	Stairwell No. 3 (Room 212)	FT1500		Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
		FT15Y2		Walls: 2-hour fire resistive	NFPA 804, paragraphs 8.1.2.4 and 8.1.2.5			
		FT35X8		Wall: 2-hour fire resistive	Specified by FPE at this location.  NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10			

**Table 9A.4.3-4 - Summary of Fire Protection Criteria  
Floor 2F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT2504	Stairwell No. 4 (Room 249)	FT1500	General Area	Walls: 2-hour fire resistive Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1) Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
		FT15Y1	Stairwell No. 8	Walls: 3-hour fire resistive	Walls: NFPA 101, paragraph 8.5.6.(1)		Total flow (Est.): 850 gpm (3218 L/min)	
FT15Y2	Elevator Shaft (Room 250)	FT1500	General Area	Walls: 2-hour fire resistive Doors: 3-hour fire rated	NFPA 804, paragraphs 8.1.2.4 and 8.1.2.5	Wet pipe sprinkler	0.20 gpm/ft <sup>2</sup> (8.2 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )	Ordinary Hazard Group 2 per NFPA 13, paragraph 5.3.2
		FT25X3	Switchgear Room 'A' (Room 210)	Wall: 2-hour fire resistive	Specified by FPE at this location.  NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10		Total flow (Est.): 950 gpm (3596 L/min)	
		FT2502	Stairwell No. 3 (Room 212)	Walls: 2-hour fire resistive Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1) Doors: NFPA 101, Table 8.3.4.2			
FT3501	Main Turbine Lube Oil Tank (Room 330)	FT1500	General Area	Walls: 3-hour fire resistive Doors: 3-hour fire rated Floor: 3-hour fire resistive Ceiling: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3	Deluge Foam Water Spray	0.50 gpm/ ft <sup>2</sup> (20.4 L/min-m <sup>2</sup> ) over the entire area (Est.) 960 ft <sup>2</sup> (89 m <sup>2</sup> ))  Total flow (Est.): 1220 gpm (4618 L/min)	NEIL LCM, paragraph 3.2.20.5 and Appendix A.3.2.20.5  NFPA 15, paragraphs 7.2.1.3 and 7.3.3  NFPA 16, paragraph 7.3.2 and Appendix A.7.3.2

**Table 9A.4.3-4 - Summary of Fire Protection Criteria  
Floor 2F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT35X1	Safety Related Low Pressure Condensate Switchgear (Room 31X-2)	FT1500	General Area	Walls: 3-hour fire resistive Doors: 3-hour fire rated Floor: 3-hour fire resistive Ceiling: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1	Wet pipe sprinkler	0.20 gpm/ft <sup>2</sup> (8.2 L/min-m <sup>2</sup> ) over entire area (Est.)960 ft <sup>2</sup> (89 m <sup>2</sup> )  Total flow (Est.): 788 gpm (2983 L/min)	Ordinary Hazard Group 2 per NFPA 13, paragraph 5.3.2
FT35X9	Generator Seal Oil Unit (Room 3X2)	FT1500	General Area	Walls: 3-hour fire resistive Doors: 3-hour fire rated Floor: 3-hour fire resistive Ceiling: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1	Deluge Foam Water Spray	0.50 gpm/ ft <sup>2</sup> (20.4 L/min-m <sup>2</sup> ) over the entire area (Est. 540 ft <sup>2</sup> (50 m <sup>2</sup> ))  Total flow (Est.): 905 gpm (3426 L/min)	NEIL LCM, paragraph 3.2.20.5 and Appendix A.3.2.20.5  NFPA 15, paragraphs 7.2.1.3 and 7.3.3  NFPA 16, paragraph 7.3.2 and Appendix A.7.3.2



**Table 9A.4.3-4 - Summary of Fire Protection Criteria  
Floor 2F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT35X8	Switchgear Room 'B' (Room 310)	FT1500	General Area	Wall: 2-hour fire resistive  Ceiling: Minimum 1-hour fire resistive	Specified by FPE at this location.  NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10	Wet pipe sprinkler	0.20 gpm/ft <sup>2</sup> (8.2 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 950 gpm (3596 L/min)	Ordinary Hazard Group 2 per NFPA 13, paragraph 5.3.2
		FT25X3	Switchgear Room 'A' (Room 210)	Floor: Minimum 1-hour fire resistive	NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10			
		FT1502	Stairwell No. 1 (Room 114)	Walls: 2-hour fire resistive  Door: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			

**Table 9A.4.3-4 - Summary of Fire Protection Criteria  
Floor 2F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT35X8	Switchgear Room 'B' (Room 310)	FT2502	Stairwell No. 3 (Room 212)	Walls: 2-hour fire resistive	Walls:NFPA 101, paragraph 8.5.6.(1)	Wet pipe sprinkler	0.20 gpm/ft <sup>2</sup> (8.2 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 950 gpm (3596 L/min)	Ordinary Hazard Group 2 per NFPA 13, paragraph 5.3.2
		FT15Y1	Stairwell No. 8 (Room 1Y5)	Walls: 2-hour fire resistive  Door: 3-hour fire rated	Walls:NFPA 101, paragraph 8.5.6.(1)  Doors:NFPA 101, Table 8.3.4.2			
		FT15Y2	Elevator Shaft (Room 250)	Walls: 2-hour fire resistive	NFPA 804, paragraphs 8.1.2.4 and 8.1.2.5			
		FT35X3 FT35X2 FT35X4 FT35X5 FT35X6	125VDC and 250VDC Battery Rooms (Rooms 3X4, 3X5, 3X6, 3X7 and 3X8)	Walls :Minimum 1-hour fire resistive  Doors: 3-hour fire rated  Floors: Minimum 1-hour fire resistive  Ceilings: Minimum 1-hour fire resistive	NFPA 804, paragraph 10.7.2 (Guidance followed for Safety Related equipment)  NFPA 13, paragraph 8.15.10			
		FT3500	Combustion Turbine Generator Area (Rooms 317 and 2X8)	Walls: 3-hour fire resistive	NFPA 804, paragraph 8.1.2.3			
		FT35X7	Electrical Equipment (Room 3X9)	Walls: Minimum 1-hour fire resistive	NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10			

**Table 9A.4.3-4 - Summary of Fire Protection Criteria  
Floor 2F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT35X3 FT35X2 FT35X4 FT35X5 FT35X6	125VDC and 250VDC Battery Rooms (Rooms 3X4, 3X5, 3X6, 3X7 and 3X8)	FT1500	General Area	Wall: 2-hour fire resistive	Specified by FPE at this location.  NFPA 804, paragraph 10.7.2 (Guidance followed for Safety Related equipment)  NFPA 13, paragraph 8.15.10	Wet pipe sprinkler	0.20 gpm/ft <sup>2</sup> (8.2 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 950 gpm (3596 L/min)	Ordinary Hazard Group 2 per NFPA 13, paragraph 5.3.2
FT35X3 FT35X2 FT35X4 FT35X5 FT35X6	125VDC and 250VDC Battery Rooms (Rooms 3X4, 3X5, 3X6, 3X7 and 3X8)	FT35X3 FT35X2 FT35X4 FT35X5 FT35X6	125VDC and 250VDC Battery Rooms (Rooms 3X4, 3X5, 3X6, 3X7 and 3X8)	Walls: Minimum 1-hour fire resistive  Doors: 3-hour fire rated  Floors: Minimum 1-hour fire resistive  Ceilings: Minimum 1-hour fire resistive	NFPA 804, paragraph 10.7.2 (Guidance followed for Safety Related equipment)  NFPA 13, paragraph 8.15.10	Wet pipe sprinkler	0.20 gpm/ft <sup>2</sup> (8.2 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 950 gpm (3596 L/min)	Ordinary Hazard Group 2 per NFPA 13, paragraph 5.3.2
		FT35X8	Switchgear Room 'B' (Room 310)	Walls: Minimum 1-hour fire resistive  Doors: 3-hour fire rated  Ceilings: Minimum 1-hour fire resistive	NFPA 804, paragraph 10.7.2 (Guidance followed for Safety Related equipment)  NFPA 13, paragraph 8.15.10			
		FT2502	Stairwell No. 3 (Room 212)	Wall: 2-hour fire resistive	Specified by FPE at this location.  NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10			

**Table 9A.4.3-4 - Summary of Fire Protection Criteria  
Floor 2F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT15Y1	Stairwell No. 8 (Room 1X4)	FT35X8	Switchgear Room 'B' (Room 310)	Walls: 2-hour fire resistive  Door: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
		FT2504	Stairwell No. 4 (Room 249)	Walls: 3-hour fire resistive	Walls: NFPA 101, paragraph 8.5.6.(1)		Total flow (Est.): 850 gpm (3218 L/min)	
FT3500	Combustion Turbine Generator Area (Rooms 317 and 2X8)	FT35X8	Switchgear Room 'B' (Room 310)	Walls: 3-hour fire resistive	NFPA 804, paragraph 8.1.2.3	Wet Pipe Sprinkler	0.25 gpm/ft <sup>2</sup> (10.2 L/min-m <sup>2</sup> ) over 2500 ft <sup>2</sup> (230 m <sup>2</sup> )  Total flow (Est.): 1440 gpm (5451 L/min)	NFPA 37, paragraph 11.4.5.1  NOTE: Realistic criteria taken from NFPA 37. Flow and density taken from NFPA 804, paragraph 10.9.3, is very demanding (over entire area) and is not realistic for the size of CTG Area.
FT35X7	Electrical Equipment (Room 3X9)	FT35X8	Switchgear Room 'B' (Room 310)	Walls: Minimum 1-hour fire resistive	NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10	Wet pipe sprinkler	0.20 gpm/ft <sup>2</sup> (8.2 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 950 gpm (3596 L/min)	Ordinary Hazard Group 2 per NFPA 13, paragraph 5.3.2  Ordinary Hazard Group 2 per NFPA 13, paragraph 5.3.2

**Table 9A.4.3-5 - Summary of Fire Protection Criteria  
Floor 3F**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	FT1503	Stairwell No. 2 (Room 122)	Walls: 3-hour fire resistive Doors: 3 - hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601  Turbine Bldg. Floor over Radwaste Building (treated as separation between buildings): IBC, 2006, Table 601  Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> )  over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	a) NFPA 804, 2006, paragraph 10.8.2.1(2)  (b) NEIL LCM, March 2008, A3.2.20.5.2.1.1.
		FT2502	Stairwell No. 3 (Room 212)	Walls: 2-hour fire resistive Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			
		FT2504	Stairwell No. 4 (Room 249)	Walls: 2-hour fire resistive Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			
		FT15Y2	Elevator Shaft (Room 250)	Walls: 2-hour fire resistive Doors: 1 ½ - hour fire rated	NFPA 804, paragraphs 8.1.2.4 and 8.1.2.5			

**Table 9A.4.3-5 - Summary of Fire Protection Criteria  
Floor 3F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500 General Area		FT45X1	Stairwell No. 9 (Room 4X5)	Walls: 2-hour fire resistive  Doors: 3-hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> ) over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	a) NFPA 804, 2006, paragraph 10.8.2.1(2)  (b) NEIL LCM, March 2008, A3.2.20.5.2.1.1.
		FT55X1	Stairwell No. 10 (Room 5X1)	Ceiling: 2-hour fire resistive	NFPA 101, paragraph 8.5.6.(1)			
		FT2505	Main Steam Tunnel (Room 219)	Exterior Turbine Bldg. Wall: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601			
		FT35X1	Safety Related Low Pressure Condensate Switchgear (Room 31X-2)	Floor Hatch or Cover Block: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1			
		FT3501	Main Turbine Lube Oil Tank (Room 330)	Floor Hatch or Cover Block: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3			
		FT35X8	Switchgear Room 'B' (Room 310)	Floor: Minimum 1-hour fire resistive	NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.5.10			

**Table 9A.4.3-5 - Summary of Fire Protection Criteria  
Floor 3F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	FT3500	Combustion Turbine Generator Area (Rooms 317 and 2X8)	Floor: 3-hour fire resistive	NFPA 804, paragraph 8.1.2.3	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> ) over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	a) NFPA 804, 2006, paragraph 10.8.2.1(2)
		FT35X7	Electrical Equipment (Room 3X9)	Floor: Minimum 1-hour fire resistive	NEIL LCM, March 2008, 3.2.9.5  NFPA 13, paragraph 8.15.10			(b) NEIL LCM, March 2008, A3.2.20.5.2.1.1.
FT1500	General Area	--	Main Turbine Bearings	--		Closed head pre-action spray	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> ) over 500 ft <sup>2</sup> (46.5 m <sup>2</sup> )  Total flow (Est.): 3,596 L/min (950 gpm)	NEIL LCM, March 2008, 3.2.20.5  NFPA 804, paragraph 10.8.3
		--	Beneath Main Turbine Skirt	--		Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> ) over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	NEIL LCM, March 2008, 3.2.20.5  NFPA 804, paragraph 10.8.2

**Table 9A.4.3-5 - Summary of Fire Protection Criteria  
Floor 3F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1503	Stairwell No. 2 (Room 122)	FT1500	General Area	Walls: 3-hour fire resistive  Doors: 3 - hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601  Turbine Bldg. Floor over Radwaste Building (treated as separation between buildings): IBC, 2006, Table 601  Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
FT2502	Stairwell No. 3 (Room 212)	FT1500	FT1500	General Area	Walls: 2-hour fire resistive  Doors: 1 ½ - hour fire rated	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
			FT15Y2	Elevator Shaft (Room 250)	Walls: 2-hour fire resistive			



**Table 9A.4.3-5 - Summary of Fire Protection Criteria  
Floor 3F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT2504	Stairwell No. 4 (Room 249)	FT1500	General Area	Walls: 2-hour fire resistive  Doors: 3- hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
		FT15Y1	Stairwell No. 8	Walls: 3-hour fire resistive	Walls: NFPA 101, paragraph 8.5.6.(1)		Total flow (Est.): 850 gpm (3218 L/min)	
FT15Y2	Elevator Shaft (Room 250)	FT1500	General Area	Walls: 2-hour fire resistive  Doors: 1 ½ - hour fire rated	NFPA 804, paragraphs 8.1.2.4 and 8.1.2.5	Wet pipe sprinkler	0.20 gpm/ft <sup>2</sup> (8.2 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )	Ordinary Hazard Group 2 per NFPA 13, paragraph 5.3.2
		FT2502	Stairwell No. 3 (Room 212)	Walls: 2-hour fire resistive	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2		Total flow (Est.): 950 gpm (3596 L/min)	
FT15Y1	Stairwell No. 8 (Room 1X4)	FT2504	Stairwell No. 4 (Room 249)	Walls: 3-hour fire resistive	Walls: NFPA 101, paragraph 8.5.6.(1)	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
FT45X1	Stairwell No. 9 (Room 4X5)	FT1500	General Area	Walls: 2-hour fire resistive  Doors: 3- hour fire rated  Floor: 2-hour fire resistive	Walls and Ceiling: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1

**Table 9A.4.3-6 - Summary of Fire Protection Criteria  
Floor 4F**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	FT15Y1	Stairwell No. 8 (Room 1X4)	Walls: 3-hour fire resistive  Doors: 3 - hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601  Turbine Bldg. Floor over Radwaste Building (treated as separation between buildings): IBC, 2006, Table 601  Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> ) over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	a) NFPA 804, 2006, paragraph 10.8.2.1(2)  (b) NEIL LCM, March 2008, A3.2.20.5.2.1.1.
		FT45X1	Stairwell No. 9 (Room 4X5)	Walls: 2-hour fire resistive  Doors: 3 - hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			
		FT55X1	Stairwell No. 10 (Room 5X1)	Walls: 2-hour fire resistive  Doors: 3 - hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2			

**Table 9A.4.3-6 - Summary of Fire Protection Criteria  
Floor 4F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	FT2505	Main Steam Tunnel (Room 219)	Exterior Turbine Bldg. Wall: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> ) over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	a) NFPA 804, 2006, paragraph 10.8.2.1(2)  (b) NEIL LCM, March 2008, A3.2.20.5.2.1.1.
FT15Y1	Stairwell No. 8 (Room 1X4)	FT1500	General Area	Walls: 3-hour fire resistive  Doors: 3 - hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601  Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1

**Table 9A.4.3-6 - Summary of Fire Protection Criteria  
Floor 4F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT45X1	Stairwell No. 9 (Room 4X5)	FT1500	General Area	Walls: 2-hour fire resistive Doors: 3 - hour fire rated	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1
FT55X1	Stairwell No. 10 (Room 5X1)	FT1500	General Area	Walls: 2-hour fire resistive Doors: 3 - hour fire rated Floor: 2-hour fire resistive	Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1

**Table 9A.4.3-7 - Summary of Fire Protection Criteria  
Floor 5F**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	FT55X1	Stairwell No. 10 (Room 5X1)	Walls: 2-hour fire resistive  Doors: 3 - hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601  Walls: NFPA 101, paragraph 8.5.6.(1)  Doors: NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.30 gpm/ft <sup>2</sup> (12.2 L/min-m <sup>2</sup> ) over minimum application of 5000 ft <sup>2</sup> (464.5 m <sup>2</sup> )  Total flow (Est.): 2750 gpm (10,410 L/min)	a) NFPA 804, 2006, paragraph 10.8.2.1(2)  (b) NEIL LCM, March 2008, A3.2.20.5.2.1.1.

**Table 9A.4.3-7 - Summary of Fire Protection Criteria  
Floor 5F (Continued)**

Fire Area	Description	Adjacent Fire Area	Adjacent Fire Area Description	Fire Rated Separation	Fire Separation Criteria	Automatic Suppression Type	Density	Suppression Criteria
FT1500	General Area	FT2505	Main Steam Tunnel (Room 219)	Exterior Turbine Bldg. Wall: 3-hour fire resistive	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601			
FT55X1	Stairwell No. 10 (Room 5X1)	FT1500	General Area	Walls: 2-hour fire resistive  Doors: 3 - hour fire rated	NEIL LCM, March 2008, 3.2.9.1  NFPA 804, paragraph 8.1.2.3  Also, based on (IBC) H-4 Occupancy and Type 1A construction  Exterior Turbine Bldg. Wall: IBC, 2006, Table 601  Walls: NFPA 101, paragraph 8.5.6.(1)  Doors NFPA 101, Table 8.3.4.2	Wet pipe sprinkler	0.15 gpm/ft <sup>2</sup> (6.1 L/min-m <sup>2</sup> ) over 1500 ft <sup>2</sup> (139 m <sup>2</sup> )  Total flow (Est.): 850 gpm (3218 L/min)	Ordinary Hazard Group 1 per NFPA 13, paragraph 5.3.1

The following figures are located in Chapter 21:

**Figure 9A.4-1 Reactor Building Fire Protection at El. –8200 mm**

**Figure 9A.4-2 Reactor Building Fire Protection at El. –1700 mm**

**Figure 9A.4-3 Reactor Building Fire Protection at El. 4800/8500 mm**

**Figure 9A.4-4 Reactor Building Fire Protection at El. 12300 mm**

**Figure 9A.4-5 Reactor Building Fire Protection at El. 18100 mm**

**Figure 9A.4-6 Reactor Building Fire Protection at El. 23500 mm**

**Figure 9A.4-7 Reactor Building Fire Protection at El. 27200 mm**

**Figure 9A.4-8 Reactor Building Fire Protection at El. 31700/38200 mm**

**Figure 9A.4-9 Reactor Building Fire Protection at Section A-A**

**Figure 9A.4-10 Reactor Building Fire Protection at Section B-B**

**Figure 9A.4-11 Control Building Fire Protection, Section B-B**

**Figure 9A.4-12 Control Building Fire Protection at El. –8200 mm**

**Figure 9A.4-13 Control Building Fire Protection at El. –2150 mm**

**Figure 9A.4-14 Control Building Fire Protection at El. 3500 mm**

**Figure 9A.4-15 Control Building Fire Protection at El. 7900 mm**

**Figure 9A.4-16 Control Building Fire Protection at El. 12300 mm**

**Figure 9A.4-16a Control Building Fire Protection at El. 17150 mm**

**Figure 9A.4-16b Control Building Fire Protection at El. 22200 mm**

**Figure 9A.4-17 Turbine Building Fire Protection at El. 2300 mm**

**Figure 9A.4-18 Turbine Building Fire Protection at El. 6300 mm**

**Figure 9A.4-19 Turbine Building Fire Protection at El. 12300 mm**

**Figure 9A.4-20 Turbine Building Fire Protection at El. 19700 mm**

**Figure 9A.4-21 Turbine Building Fire Protection at El. 27800 mm**

<b>Figure 9A.4-22</b>	<b>Service Building Fire Protection, Section B-B (See Figure 9A.4-11)</b>	<b> </b>
<b>Figure 9A.4-23</b>	<b>Service Building Fire Protection at El. –2150 mm (See Figure 9A.4-13)</b>	<b> </b>
<b>Figure 9A.4-24</b>	<b>Service Building Fire Protection at El. 3500 mm (See Figure 9A.4-14)</b>	<b> </b>
<b>Figure 9A.4-25</b>	<b>Service Building Fire Protection at El. 7900 mm (See Figure 9A.4-15)</b>	<b> </b>
<b>Figure 9A.4-26</b>	<b>Service Building Fire Protection at El. 12300 mm (See Figure 9A.4-16)</b>	<b> </b>
<b>Figure 9A.4-27</b>	<b>Service Building Fire Protection at El. 17150 mm (See Figure 9A.4-16a)</b>	<b> </b>
<b>Figure 9A.4-28</b>	<b>Radwaste Building Fire Protection, Sections A-A and B-B</b>	<b> </b>
<b>Figure 9A.4-29</b>	<b>Radwaste Building Fire Protection at El. –1700 mm</b>	<b> </b>
<b>Figure 9A.4-30</b>	<b>Radwaste Building Fire Protection at El. 5300 mm</b>	<b> </b>
<b>Figure 9A.4-31</b>	<b>Radwaste Building Fire Protection at El. 12300 mm</b>	<b> </b>
<b>Figure 9A.4-32</b>	<b>Radwaste Building Fire Protection at El. 19100 mm</b>	<b> </b>
<b>Figure 9A.4-33</b>	<b>Turbine Building Fire Protection at El. 38300 mm</b>	<b> </b>
<b>Figure 9A.4-34</b>	<b>Turbine Building Fire Protection at El. 47200 mm</b>	<b> </b>



## **9A.5 Special Cases**

### **9A.5.1 Piping Penetrations, Reactor Building**

Piping penetrations through the drywell shell have unique design considerations. The stress and containment requirements along with the temperature inputs to the concrete walls leave little design latitude. Experience has shown that some of these penetrations for high energy piping may not contain a 3-hr fire-resistive barrier such as have provided throughout the other ABWR buildings. Penetration details are not available at this stage of the plant design. It is a COL license information requirement that the detailed design provide completely equivalent construction to tested wall assemblies or testing will be required.

### **9A.5.2 Fire Door Deviations**

The design of the nuclear facility must meet many criteria, including fire resistivity. Fire doors are an example of compromise with other overriding design criteria that must also be met. Some, such as the airlock doors between the lock and the Reactor Building, form part of a pressure vessel and are of special construction. Such doors generally have a backup fire door.

### **9A.5.3 Charcoal Filters for Process Tanks and Drain Sumps**

Several tanks and sumps are fitted with small charcoal canister-type filters to adsorb radioactive halogens and particulates that may be in the gases vented from the tank during filling or draining operations. Vents from the individual filters and tanks with low level radioactivity are ducted to the HVAC exhaust system.

Temperature monitoring and automatic or manually actuated fixed fire suppression systems have not been provided for these filters. Valves cannot be installed in the lines to isolate the filters as valve closure would result in pressure gradients that could cause tank or sump failure. Manual fire suppression systems are available at or nearby each filter.

### **9A.5.4 Pipe Break Analyses**

Per the criteria in Section 3.6, the high pressure fire water systems require analysis for high energy and moderate lines, respectively.

### **9A.5.5 Fire Separation for Divisional Electrical Systems**

There are some cases where cables of more than one division are in relatively close proximity and require special justification. These areas are listed below and justification of each is evaluated in the discussion.

#### **9A.5.5.1 RPS Scram Circuits**

Wiring to each of the four groups of scram solenoids is run in separate rigid steel conduits for the purpose of preventing any possibility of the scram solenoid circuits being exposed to a "hot"

short (i.e., two energized switch legs of different group circuits shorted together that could negate the scram command to more than one group of control rods). The conduits do not require other special separation. Overheating of the conductors, as by fire, cannot cause an unsafe failure because solenoids can be de-energized by shorts to ground or between conductors without creating an unsafe condition.

The AO Scram Solenoid valves are part of the HCU assemblies (two solenoids per valve). They are safety related and receive their divisional power (Division 2 or 3) from RPS via the Scram Solenoid Fuse Panels (H22-PO55 A-H). The fuse panels are located in rooms 111, and 118 (Div. I), 125, and 129 (Div. II). The Div. I rooms are located in separate fire zones from the Div. II rooms, which zones are separated by 3-hour fire barriers. Fire in any of these rooms could cause a short on the cables feeding power to the scram solenoids and cause the associated fuse in the scram solenoid fuse panel to blow. The fault will be limited to the loss of power to the associated solenoid and will not propagate upstream.

Divisions I and IV pressure transmitters which monitor control rod drive charging header pressure are located in the HCU unit room which contains the HCUs for Divisions I and IV. Corresponding Divisions II and III transmitters are located in the Divisions II and III HCU unit room. Each divisional cable is individually contained in steel conduit. Shorts or grounds postulated to occur on these cable will not affect the upstream power division because of the current limiting capability inherent in the low voltage power supplies which feed the transmitters. Therefore, postulated multi-divisional shorts or grounds on these cables, due to fire in one of the HCU rooms, will not cause an unsafe condition.

The air header dump valves act as a diverse backup to the scram logic and are not essential to safety. The two air header dump valves are energized by separate divisions of 125 VDC power. Power wiring to each solenoid is individually circuit-protected and run in separate steel conduit. Therefore, loss of these solenoids, due to fire, will not cause an unsafe condition.

Sensors from the Reactor Protection System (RPS) and the Main Steam Isolation Valve (MSIV) System (via leak detection system) are located in the turbine building.

Due to the nature of the design and construction of the turbine building (not a seismic category or a Class 1E safety-related area) it is possible for all of the sensors and their leads to be damaged during seismic or fire events in the turbine building. This has the potential for affecting the operation of the RPS and MSIV systems and, also, for simultaneously introducing faults and their attendant threats to the power supplies in multiple divisions.

The sensors, type, and system served are:

<b>Description</b>		<b>Type</b>	<b>System</b>
Turbine First Stage Press.	Transmitter	RPS	C71-PT003A-D
Hydraulic Trip Sys. Oil Press.	Transmitter	RPS	C71-PS302A-D
Turbine Stop Valve Pos.	Position Switch	RPS	C71-POS301A-D
Condenser Press.	Transmitter	MSIV	B21-PT301A-D
Main Steam Line Press.	Transmitter	MSIV	B21-PT028A-D

In considering the effect of multiple failures in the turbine building on the operation of the systems, the lack of an RPS trip is acceptable because an RPS backup trip would be generated by high reactor vessel pressure or high flux. Backup trips for MSIV isolation, either direct or indirectly through the RPS, would be generated by the turbine control system, turbine building high temperature, and turbine building high radiation. The turbine building trips are anticipatory but are not absolutely required. Initial tripping by the backups is acceptable.

Tripping of the RPS or MSIV systems as a result of multiple failures in the turbine building is also acceptable. If a turbine building event is so wide ranging that it affects multiple divisions, the reactor should be shut down. The two out of four logic of the systems eliminates trips from minor events.

The manner in which the RPS, MSIV, and power supply systems are designed and installed assures that any combination of electrical failures as a result of occurrences in the turbine building are acceptable. This is true for the position switch circuits because they are hard wired to the solid state logic control (SSLC) cabinet in the control room. Each wire is routed in a separate grounded conduit from the control building to the turbine building as shown in Figure 9A.5-1. The power source is ungrounded 125 VDC with safety grade ground detection. A single ground in the turbine building does not produce any fault current, cause any RPS action, nor prevent tripping if a position switch contact opens. A double ground with one ground on the supply lead and the other ground on the return lead does not produce any fault current or cause any RPS action, but it does prevent sensing of the opening of the switch contact, which is acceptable as explained above.

There must be a ground on the ground fault monitored negative side of the battery in the safety related buildings for fault current to flow due to grounds in the turbine building. The negative side of the safety-related batteries does not enter the turbine building where it would be exposed to possible simultaneous multiple failures.

In addition, for the effects of the double failure of a fault in the turbine building concurrent with a ground on the negative side of the safety-related battery (first random failure) to precipitate back into the 125 VDC system, the safety related fuse in the SSLC cabinet must fail to clear the fault (second random failure). Thus, the initiating event in the turbine building plus two random failures of safety-related equipment in the reactor or control buildings must occur to spread the consequence of the failure in the turbine building beyond the faulted RPS position switch circuit. This double random failure of safety-related equipment must occur in all three safe shutdown divisions to possibly prevent safe shutdown of the plant. Six simultaneous random failures is not credible.

For the pressure transmitters, the signals are low level analog current signals which are transmitted over a shielded twisted pair of conductors per transmitter. The cables are routed in separate grounded conduits on a divisional basis. Shorting together, shorting to ground, or opening a conductor in a current loop cable will only affect the instrument associated with the cable. No damage will occur or propagate as a result of these possible failures. The equivalent internal impedance of the trip unit power supply is sufficient to isolate any electrical condition in the current loop.

In summary, failure of the turbine building sensors and their cables in any fashion is acceptable from the standpoint of both the operation of the systems and disturbances and threats to the power supply systems.

#### **9A.5.5.2 Main Steamline Radiation Monitor Detectors**

These detectors are physically located in the steam tunnel near the main steamlines, just downstream of the outboard main steamline isolation valves.

By design, this area has no exposed combustibles. Additionally, the conduit and the detectors have some physical protection from the steam lines and hangers in the area making it improbable that fire from below could damage the redundant detectors or cable.

The radiation monitor trip devices have a downscale trip such that a downscale reading from the detectors will provide a trip. This trip is in addition to the normal upscale trip so that a failure in either direction will result in trip.

Leak detection temperature detectors of the main steamline LDS measure ambient temperature around the main steamlines and will provide a main steamline valve isolation signal at fire-induced temperatures well below the threshold of damage to the radiation monitor cable. Furthermore, a common failure to all of the radiation monitor divisional cables can only affect the radiation monitors and not the remainder of the divisional equipment.

#### **9A.5.5.3 Main Steamline ADS Relief Valves**

The main steamline ADS relief valves each have three solenoid valve pilots in close proximity at the valve operator. Two of these are used by the ADS. One of the two ADS solenoids is

Division 1. The other is Division 2. A third solenoid is used for the non-ADS high pressure relief function. This solenoid is powered by one of the four divisions, depending on the valve. If any solenoid becomes energized, the associated relief valve will open.

The Division 1 and 2 signal cables are run in separate conduit from their location on the valve to the appropriate divisional penetration and, from there, via divisional raceways to their data communication interfaces.

These valves are located in a low fire loading area and are inaccessible during plant operation so that a transient fire loading cannot be introduced. Also, the containment is inerted during operation.

The conduit is arranged so that Division 1 and Division 2 cables leave the relief valve area in opposite directions.

The solenoid valve coils are located inside metallic enclosures on each valve so that a fire inside the coil compartment of one pilot would not influence the coil or cable of the redundant pilot.

The ADS valves are arranged in two groups of four valves each with adequate spatial separation to ensure that disturbances (i.e., fire, pipe rupture phenomena, falling objects) affecting one group will not affect the other group. For line breaks, requiring ADS for depressurization, the design assures that at least three of the eight valves are available. During operation, sustained fire is not possible in the inerted containment (drywell) area.

Electrically, the ADS logic system load drivers isolate the divisional signals from other components, in their respective division, so that any damage to the cable at the valves would be limited to that particular cable. Electrical arcing damage to a cable or solenoid coil cannot result in inadvertent opening of the main valve because shorts, opens or grounds at the solenoid cannot cause the solenoid to be energized. Short circuits at this location cannot jeopardize 1E power supplies because circuit resistance is sufficient to permit appropriate circuit protection coordination.

With this degree of redundancy, attention to design, electrical isolation, and primary containment inerting, plant safety will not be compromised by having the Division 1 and 2 cables in close proximity at the ADS valves.

#### **9A.5.5.4 Main Steamline Isolation Valve Control and Limit Switch Interfaces**

There are eight MSIVs utilized for isolating the main steamlines, two in each of four main steamlines. The outboard MSIV on each main steamline is located outside the primary containment in the main steam tunnel to the turbine building. The inboard MSIV on each line is located inside the inerted drywell.

The steamlines are arranged so that none of the valves is located vertically above any other MSIV. The electrical connections to each valve are made in two junction boxes (A, B).

Valve limit switch junction box A—located on one side of the valve operating mechanism and oriented across the valve operator below box B—provides interlocking connections from valve limit switches to the RPS control logic for reactor scram, to the LDS MSIV control logic used during MSIV closure tests and to valve position indicating lights at the control room panel.

Pneumatic control junction box B, which is located on the control cylinder at the top of the valve operating mechanism, terminates the 120 VAC control voltage to the coils of the operating and test solenoid pilot valves. Two divisions of power terminate on the same device within the junction box. However, barriers are provided between the device terminations to assure circuit separation. In addition the cables for each division are individually fused, and have another level of circuit breaker protection before connection with the divisional power supply bus. These barriers and two levels of circuit protection assure the essential power busses are not jeopardized should shorts or grounds occur.

The MSIVs are designed to “fail safe” in that loss of power to both solenoids causes closure isolation. For both the inboard and outboard valves, Division II power actuates Solenoid 2 and Division I power actuates Solenoid 3. Solenoid 1 is the test solenoid and is powered By Division 1 (outboard) and Division II (inboard).

The appropriate division of power enters Box A of each valve for connection to limit switches which open when the MSIV closes to initiate a reactor scram trip signal to the divisional scram logic, and to stop MSIV closure during MSIV exciter tests.

In the case of the scram initiation function, the outboard valve limit switches provide redundant trip signals to the signals provided by the inboard valves on each logic.

The MSIVs and the 90% open (10% closure test) contacts and the 92% open (scram) contacts are classified as safety grade components and comply the with the separation and isolation requirements of IEEE-279. The 4% open limit switch contact of each MSIV has no safety function and is used to provide position indication to the process computer and to indicator lights. Non-divisional power is utilized by this switch. A metallic barrier is provided between the Class 1E and the Non-Class 1E terminals.

The inboard MSIVs are contained within the inerted environment during reactor operation. Failure of the MSIV or its control and interlocking circuits that might occur by a postulated fire outside the primary containment cannot prevent closure of at least one of the MSIVs in each line.

The closure of one MSIV will not result in a reactor scram. Since the outboard valve scram signals are redundant to the inboard valves on each line, a fire outside the primary containment will not affect the redundant capability to cause scram.

#### **9A.5.5.5 Under the Reactor Vessel**

This area contains the following electrical cables: rod control and information system (RCIS) cabling, FMCRD separation switch cables, neutron monitor system cabling, and other cables, as required. During reactor operation, the area cannot sustain fire because it is inerted. All cables from the lower drywell are routed up to the upper drywell via interconnecting risers. Conduit, rigid and flexible is used within the risers.

##### **(1) RCIS Cables**

The RCIS cables are routed under the vessel through pull boxes inside the pedestal; then through cable boxes and raceways to electrical containment (RCCV) penetrations. RCIS hardwired cables are also routed from these containment penetrations to the RCIS reactor building panels, which are located in clean areas of the reactor building.

All RCIS cables (i.e., synchro cables, FMCRD brake and motor cables, reed switch rod position status cables) are contained in flexible metallic conduit under the vessel, arranged in the pull boxes mounted just above the CRD restraint structure. All of these RCIS cables are classified as non-safety.

##### **(2) FMCRD Separation Switch Cables**

The FMCRD cables for the Class 1E separation switches of each FMCRD are classified as safety related and separated into two groups (A and B) for routing out of the undervessel area to two separate divisions of the essential communications function (ECF). The cables are routed under the vessel through pull boxes inside the pedestal; then through cable boxes and raceways to electrical containment (RCCV) penetrations. The separation switch cables are then routed from the containment penetrations to ECF panels in the reactor building. The installation of these Class 1E cables is arranged so that "A" and "B" cables travel in opposite directions from under the vessel and pass through penetrations on the opposite side of the reactor building.

The cables receive low-voltage (approx. 48 volts) power from the ECF power supplies. This provides natural circuit protection in event of shorts or grounds on the system. Such events would not jeopardize the integrity or independence of the higher voltage divisional power busses which are upstream of the power supplies.

##### **(3) LPRM Cables**

The LPRM cables are individually contained in flexible metallic conduit under the vessel.

These cables are divided into four divisions of cabling, corresponding to the four divisions of the reactor protection system.

The cabling is also supported on the control rod drive housing flanges. The cabling is routed along particular rows of housing flanges. The Division 1 and 3 cables are routed undervessel to the 0° to 180° half of the core, whereas Division 2 and 4 cables are routed undervessel to the 180° to 360° half of the core. The cabling is then routed through the pedestal and drywell in enclosed solid bottom cable tray in a manner which brings the Division 1 LPRM cables into the 0° to 90° quadrant of the lower drywell; Division 2 into the 180° to 270° quadrant; Division 3 into 90° to 180° quadrant; and Division 4 into the 270° and 360° quadrant. Once in the upper drywell, the cables continue in separated divisional cable raceways and penetrations.

**(4) SRNM Cables**

The cables for the SRNM/IRM detectors are individually contained in flexible metallic conduit. These cables are routed along with, and pass through, the same divisional penetrations with the LPRM cables.

**(5) Other Cables**

All other cables under the pedestal are classed as nondivisional. These cables are routed in rigid or flexible metallic conduit through nondivisional conduit openings in the pedestal wall to nondivisional cable raceways in the containment.

**(6) Fire Damage Analysis**

The containment is inerted during operation so that a fire would not be possible. Additionally the following things also tend to reduce the risk from a fire.

The cabling inside the flexible conduit for the RCIS system and for the neutron monitoring system are all low level signal cables and not likely to be involved in an electrically generated fire internal to the conduit. Even though such a fire is postulated, it would be contained in the individual conduit without damage to the surrounding conduit.

The nondivisional cabling in the conduit is low voltage, fault-protected cable and not likely to be involved in an electrically generated fire internal to the conduit.

The space under the reactor vessel is devoid of combustible material except for the cable insulation inside the various conduit.

It is an interface requirement that administrative procedures to control combustible materials be provided. These procedures will require that combustibles not be stored in areas with divisional cable or within electrical equipment areas.

Maintenance during reactor downtime might involve welding in the area under the vessel. It is an interface requirement that administrative procedures which will require special fire



protection during the welding or other maintenance operations and housekeeping procedures be provided.

It is concluded that design features in the area under the vessel are adequate for protecting the redundant trains against damage by fire.

#### **9A.5.5.6 Local Instrumentation and Control Equipment**

Safety-related panels are generally designed and located to serve a single division. However, some local panels or instrumentation contain equipment of more than one division where operational considerations or instrument piping considerations dictate against location or separated structures. In such cases, spatially diverse equipment allows for the disabling of all equipment on a single panel or rack.

These multidivisional panels and racks are either divided internally into compartments, with barriers between the divisional equipment for separation, or the divisional components have separate metal enclosures and separate enclosed metallic raceways (conduit) to obtain effective physical isolation and low probability of disabling damage to the equipment from a fire generated internally or externally.

The incoming cables for each division are in separate conduit and, where possible, the conduit is embedded in concrete or separated by greater than 0.91 m horizontally, 1.52 m vertically.

Some room areas contain more than one division of instrumentation or other equipment which is needed to isolate redundant sets of isolation valves, HVAC or for some other purpose requiring redundancy. Such instrumentation or equipment is identified in Table 9A.5-1.

#### **9A.5.5.7 Leak Detection System**

Ambient temperature or excessive process flow is measured to detect leakage of primary coolant into or within the below tabulated spaces.

Temperature sensors of redundant divisions are used in the spaces to detect leakage from the reactor coolant pressure boundary and to generate signals that are ultimately used to provide isolation closure signals to the containment isolation valves.

The following table indicates areas where redundant divisions of leak detection equipment are located:

<b>Area Monitored</b>	<b>Division</b>
MSL Pipe Tunnel	1,2,3,4
RHR Equipment Pump Room A	1,2

<b>Area Monitored</b>	<b>Division</b>
RHR Equipment Pump Room B	1,2
RHR Equipment Pump Room C	1,3
RCIC Equipment Area	1,2
CUW Heat Exchanger Rooms	1,2
CUW Pump Room 1	1,2
CUW Pump Room 2	1,2
CUW Valve Room	1,2
CUW Local Panels and Racks Area	1,2
Turbine Building (MSL area)	1,2,3,4

The Division 1 and 2 elements are located in separate temperature detector assemblies and the signal lead cables are brought out in separate rigid (or flexible) conduit. The sensors are located to sense ambient temperature within the listed areas.

Differential pressure detectors of redundant divisions are used to sense excessive flow (i.e., leakage) in process lines of the reactor water clean-up system.

The transmitters are located in separate enclosures and their connecting cables are housed in separate metal conduit. Shorting and/or grounding of these cables due to postulated fire would not jeopardize the emergency power busses because the low-voltage power supplies which feed the transmitters are current-limiting devices.

In event of fire in the spaces protected by temperature detection, it is expected that a signal will be generated by the ambient sensors at compartment temperatures well below the threshold of damage to equipment of either division. This signal would appear to the leak detection temperature sensor as a leak in the process piping or equipment within the compartment.

**9A.5.5.8 Standby Liquid Control**

The following SLC equipment is located in the same general area of the reactor building at the 11,582 mm level, azimuth (approximately) 250° (Division 2 general area) on a concrete slab outside the drywell:

<b>Divisional Equipment</b>	<b>Designated Division</b>
Pump C41-C001A	1
Pump C41-C001B	2
Injection Valve (MO) C41-F006A	1
Injection Valve (MO) C41-F006B	2
Suction Valve (MO) C41-F001A	1
Suction Valve (MO) C41-F001B	2
Control and Power Cabling to "A" Equipment	1
Control and Power Cabling to "B" Equipment	2

**Nondivisional Equipment**


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Boron Storage Tank

Storage Tank Heating elements

Power Cabling for Storage Tank Heaters

The cabling is routed in separate conduit or trays for each division, separated from each other, to meet IEEE-384. Conduit will be embedded in concrete where feasible.

The electric drive motor and cabling for the redundant pumps are located more than 1.52 m apart. The injection valves and cabling are located more than 0.91 m apart centerline to centerline.

The control cables for Division 1 and 2 equipment are in separate conduit and separate from the power cables. The Division 1 power and control cabling is routed out of the Division 2 area to the Division 1 area by conduit embedded in the floor and walls.

Postulated fire damage to the electrical equipment in the SLC area could not inadvertently result in injection of boron because this can only be done by activation of a switch on the control room panel. Fire could damage the power cabling to the pump suction valves or to the pump motors

preventing opening of valves or start of pump motors on command from the control room. However, the SLC equipment is not required for safe shutdown of the reactor, since it is redundant to the RPS.

#### **9A.5.5.9 Not Used**

#### **9A.5.5.10 Not Used**

#### **9A.5.5.11 Standby Gas Treatment System**

The Standby Gas Treatment System consists of two totally independent and redundant divisional trains (Div. II and Div.III). Each divisional train has a filter train (consisting of the demister, an electronic process heater, prefilter, pre-HEPA filter, charcoal adsorber, a post-HEPA filter and space heaters), an exhaust fan and cooling fan. The two divisional trains occupy two separate rooms separated by a 3-hour fire barrier. Each divisional train exhaust is connected to the R/A exhaust duct and they are isolated by fire dampers.

#### **9A.5.5.12 Fine Motion Control Rod Drive Motors**

The power distribution for the FMCRD motors has been redesigned such that they are all powered from Division I, with a non-Class 1E backup power source. Therefore, a special case analysis is not required.

#### **9A.5.5.13 Reactor Building Operating Deck Radiation Monitors**

Radiation monitoring within this area is facilitated by two independent systems. The area radiation monitoring system and the process radiation monitoring system.

The area radiation monitoring (ARM) system is non-safety related and uses two radiation channels in the fuel storage and handling areas. It has no system actuation function, but is used for monitoring of background radiation and radiation resulting from accidental fuel drops. The sensors are mounted on the walls within the fire zone area. These detectors are designed to annunciate local and control room alarms for both high and low radiation conditions. The low condition is an indication of an inoperative radiation monitor. Loss of these detectors, due to fire, does not impact plant safety.

The process radiation monitoring (PRM) channels that are utilized in this area are safety related, and are used to perform isolation functions. The detectors are mounted in the reactor building ventilation system exhaust duct (Rm 643). They are safety related, and receive their power from a dual auctioneered class 1E divisional power supplies of the radiation monitor (D11-Z602A-D Div, 1-4). Each divisional radiation monitor output voltage is hard wired to its associated detector and its voltage and current are limited. Each divisional power cable is routed separately in separate metal conduit. A fire in the room can develop a short on any detector power cable/or all the detectors power cables. A series resistor has been placed in each channel of the auctioneer power supplies, therefore, current drain on the power supply will be limited and the

fault will not propagate any further. A short on a power cable shall generate a down scale inop trip alarm to the radiation monitor control logic in the control room. The radiation monitor control logic requires 2 out of 4 trip to initiate isolation of the reactor building ventilation exhaust duct automatically. Although a fire could cause the system to issue an isolation signal due to its effect on the radiation detectors, the containment isolation valves can be manually reopened from the control room by the operator.

The detectors are mounted in the fuel handling exhaust radiation monitor area (Rms 716, 721, 733 and 742 respectively). They are safety related, and receive their power from a dual auctioneered class 1E divisional high voltage power supplies of the radiation monitor (D11-Z602A-D Div. 1-4). Each divisional radiation monitor output voltage is hard wired to its associated detector and its voltage and current are limited. Each divisional power cable is routed separately in separate metal conduit. A fire in any of the rooms can develop a short on a detector power cable. A series resistor has been placed in each channel of the auctioneered power supplies, the current drain on the power supply will be limited and the fault will not propagate further. A short on power cable will generate a down scale inop trip alarm to the radiation monitor control logic in the control room. The radiation monitor control logic requires 2 out of 4 trip to initiate isolation of the fuel handling exhaust duct automatically. Therefore loss of one or all four divisional detectors in the area due to the fire is acceptable.

The PRM channels are designed such that any two-out-of-four signals, based on very high or very low radiation conditions within the HVAC duct, will initiate the standby gas treatment system (SGTS), isolate the HVAC for the reactor building secondary containment, and initiate closure of the containment vent and purge ducts. The very low radiation trip assures the safety action will be initiated in spite of sensor failure.

The four divisions of PRM sensors are located within close proximity to each other in order to provide true two-out-of-four actuation logic. The arrangement is justified by the automatic actuation of the system's safety function should two or more sensors fail and by the fact that the secondary containment isolation valves can be reopened from the control room by the operator.

#### **9A.5.5.14 RHR Shutdown Cooling Outboard Isolation Valves**

These motor operated valves are safety related. The valves from divisions 2, 3, and 1 are located in valve rooms 414, 421 and 431 (fire area divisions 1, 2 and 3), respectively. This divisionally pairs inboard to outboard valve pairs 2 to 1, 3 to 2, and 1 to 3. The inboard valves which are inaccessible during plant operation match the division of the line in which they are installed. If a division fails, the outboard valve of that division can be manually opened to place the non failed division in operation. For example, if division 3 fails, the division 3 outboard valve which is paired with the division 1 inboard valve can be manually opened to put the division 1 system into service.

From the standpoint of fire, a fire at the location of either an inboard or outboard valve would not prevent closure of the other valve of the pair. If the fire occurred in the valve room, the

inboard valve could be closed. If the fire occurred outside the valve room but inside of the secondary containment, it is possible that the power feeds to the outboard valve and the system which the valve was mounted in could both be disabled by the fire. Since the fire is not in the valve room, personnel could enter the valve room and manually close the valve.

#### **9A.5.5.15 RCIC System**

The RCIC main steam supply outboard isolation valve is a division 2 valve to provide redundancy to the inboard isolation valve. The division 2 outboard valve is located in the division 1 valve room. A fire in the valve room would not prevent closure of the inboard valve which is inside of the containment.

There are 4 safety related turbine exhaust diaphragm pressure transmitters (division 1 and 2) located in the division 1 RCIC room. The transmitters only serve a purpose when the turbine is operating. If a fire occurs the turbine would be shut down and loss of all 4 sensors would be acceptable.

#### **9A.5.5.16 Containment Isolation Valves**

The primary function of each isolation valve is to close to isolate primary containment when isolation is required. In general, outboard isolation valves are assigned to division 1 and inboard isolation valves to division 2. In some cases this results in division 1 outboard isolation valves being located in division 2 or 3 areas. This is acceptable from a functional standpoint because a fire in an area outside of containment and involving the penetration must be assumed to disable the system anyway, without regard to whether or not the outboard isolation valve is disabled. If the valve is open at the time of the fire it could fail in the open position and remain open but the inboard valve would not be involved in the fire and would close on demand. It is a requirement that cables for outboard valves located in fire areas of a division different than the division of the valve not be routed through fire areas containing any circuitry associated with the inboard valve of the isolation pair. See Table 9A.5-2 for identification of specific valves which fall in this category.

#### **9A.5.5.17 Division 4 Sensors**

There are a few cases of division 4 instruments being mounted in division 2 fire and HVAC area. It is possible that both the division 2 and 4 sensors could be lost due to a single fire. This would either cause the two channels to trip high or alarm down scale. A high trip would cause the protective action to be taken as a result of the two-out-of-four logic. For a down scale trip, the operator would know that a failure had occurred and automatic action would still be initiated by divisions 1 or 3. For these reasons, simultaneous loss of both the divisions 2 and 4 instruments is acceptable.

### **9A.5.6 Not Used**

### **9A.5.7 Typical Circuits Analysis of Special Cases**

This analysis is for those cases where a device from one division is located in an area of another division. Only typical cases are analyzed here. Each case type is assigned an electrical separation type code for unique identification. An analysis and a typical electrical connection block diagram (Figure 9A.5-2) are presented for each typical case. Table 9A.5-2 provides a summary of the special cases of the equipment in the reactor building discussed in Appendix 9A.5 Special Cases. It provides the justification and their acceptability from the standpoint of the consequences on the electrical circuits only. The table also references analyses to confirm the acceptability of the loss of function.

In all cases Regulatory Guide 1.75 and IEEE-384 are met. The justification is for the acceptability of complete burnout of the fire area in which the device is located.

Cases with special situations which do not lend themselves to a typical analysis are discussed individually in Appendix 9A, Section 9A.5.

#### **Type 1A, Large 460V Motor**

This type is for a 460V Class 1E motor which is fed from a 480V Class 1E power center and is located in a divisional area different than the division of the motor. A current limiting fuse is added downstream of the breaker in the power center to provide Class 1E redundant protection for the motor feed circuit to assure that a motor or cable fault does not propagate back to the bus and cause the bus supply breaker to open. A fault in the motor circuit will cause a momentary voltage drop on the bus but the 480V loads are required to be designed to accommodate momentary voltage dips while a load breaker is clearing a downstream fault. Tables referencing this typical circuit analysis should have a column which gives the justification for the acceptability of the loss of function of the device.

#### **Type 1B, Small 460V Motor**

Type 1B is the same as Type 1A except that the source of power is a 480V motor control center. Otherwise, the discussion for Type 1A applies.

#### **Type 1C, 460V Motor Operated Valve**

Type 1C is the same as Type 1B except that the load is a 460V valve motor and therefore has a cable for position switches as well as a power cable. The power for the position switches is required to be provided by a control power transformer in the MCC cubicle so that faults in the position switch circuits affect only the power source for the one valve. The motor power circuit protection is the same as Type 1B.

#### **Type 2A, Thermocouple**

Cables are routed in low level signal cable trays with covers or in conduit so that there are no voltage sources within the raceways which could short to the thermocouple leads to create

overvoltage situations in the thermocouple circuits. Loss of signal is all that could occur as a result of failures in the thermocouple circuits. Transfer of voltage disturbances upstream is blocked by the millivolt readout circuits of the I/O unit. Tables referencing this typical circuit analysis should have a column which gives the justification for the acceptability of the loss of function of the device.

#### **Type 2B, Process Instrument Transmitters**

Cables for transmitters for process instruments are routed in low level signal cable trays with covers or in conduit so that there are no voltage sources within the raceways which could short and create overvoltage situations in the instrument circuits. Loss of signal could occur as a result of failures in the transmitter circuits. Upscale and/or downscale trips and/or alarms are provided. The current power supply in the I/O unit blocks upstream transfer of voltage and current disturbances which may occur in the cable or transmitter. Tables referencing this typical circuit analysis should have a column which gives the justification for the acceptability of the loss of function of the device.

#### **Type 3B, AC Solenoid Valves**

The power for operating AC solenoid valves is supplied from the 120 VAC distribution system to the I/O unit for the valve. A current limiting fuse is installed on the power feed line to the I/O unit, so that any fault on solenoid valve is isolated and does not propagate back up into the portions of the AC distribution system common with other systems.

#### **Type 3C, DC Solenoid Valves**

The power for operating DC solenoid valves is supplied from the DC distribution system to the I/O unit for the valve. Both the supply and return for the DC are fused so that faults are isolated and do not propagate back up into the portions of the DC system common with other systems.

#### **Type 4A, Radiation Detector**

Cables for radiation detectors are routed in low level signal cable trays with covers or in conduit so that there are no voltage sources within raceways which could short and create overvoltage situations in the detector circuit. Loss of signal could occur as a result of failures in the detector circuit. A fire in the room can develop a short on a detector power cable. A series resistor has been placed in each channel of the auctioneer power supplies, therefore current drain on the high voltage supply will be limited and the fault will not propagate further. A short on a power cable shall generate a down scale inop trip alarm to the control room.



**Table 9A.5-1 Redundant Instrumentation or Equipment in Same Fire Area**

<b>Device Number</b>	<b>Division of Device(s)</b>	<b>Location</b>	<b>System</b>	<b>Purpose</b>
E51-PT311 B,F	2	RCIC Pump Room	RCIC	Isolation signal to Div II isolation valve.
B21-TE003	1,2	Upper Drywell	NB	Senses instrument lines temperature for enhanced water level indicators.
D11-RE022	1,2,3,4	Spent Fuel Storage Area	PRM	Fuel exchange area exhaust radiation monitor.
D11-RE003 A-D	1,2,3,4	Stack	PRM	Reactor building ventilation system exhaust air radiation monitor.
T22-MT011	1,2	SGTS Monitor Room	SGTS	Monitors for high moisture in SGTS filter train.
U41-D109,10	1,2	FPC Pump Room HVAC	HVAC	Provides redundant heating and ventilation for FPC pump area.
U41-F002 A,B	1,2	Reactor Refueling Area	HVAC	Reactor area exhaust isolation valves.
U41-D111,112	1,2	SGTS Room HVAC	HVAC	Provides redundant heating and ventilation for SGTS equipment area.
G51-F020	1	SPCU Pump Room	SPCU	Redundant isolation valve for SPCU suction line.
K11-F001,2	1,2	CUW/FPC Backwash Tank	RD	Provides redundant drainage for radioactive material disposal.
G31-F003 & G31-F0131	1 1	Reactor Water Cleanup Equipment Area	CUW	Redundant isolation valves for CUW lines.
G41-TE014 A,B	1,2	FPC Heat Exchanger Room	FPC	Redundant temperature sensors.
T31-F002	2	AC Fan and Filter Area	ACS	Redundant isolation valve for atmospheric control system.

Table 9A.5-2 Summary of the Reactor Building Special Cases

Item No.	MPL No.	Div.	Elev.	Horiz. Dim.	Vert. Dim.	Description	Room No.	Fire Area Div.	Elec. Sep. Type Code	Justification for Acceptability of Loss of Function
1	C12-F139A-1*	2	-8200	4.7	B.2	HCU AO VLV (Type of 28)	118	1	3B	See Section 9A.5.5.1
2	C12-F139A-3*	2	-8200	4.7	E.8	HCU AO VLV (Type of 25)	129	3	3B	See Section 9A.5.5.1
3	C12-F139A-4*	2	-8200	3.2	B.2	HCU AO VLV (Type of 25)	111	4	3B	See Section 9A.5.5.1
4	C12-F139B-1*	3	-8200	4.7	B.2	HCU AO VLV (Type of 28)	118	1	3B	See Section 9A.5.5.1
5	C12-F139B-2*	3	-8200	3.2	E.8	HCU AO VLV (Type of 25)	125	2	3B	See Section 9A.5.5.1
6	C12-F139B-4*	3	-8200	3.2	B.2	HCU AO VLV (Type of 25)	111	4	3B	See Section 9A.5.5.1
7	C12-PT011C	3	-8200	4.7	F.2	PRESS TRANSMITTER	126	2	2B	2/4 logic, two Xmtr located in diff.fire area
8	C12-PT011D	4	-8200	3.3	A.8	PRESS TRANSMITTER	117	1	2B	2/4 logic, two Xmtr located in diff.fire area
9	C41-C001A	1	23500	2.4	E.2	SLC INJECT PUMP A	622	2	1B	Redundant to RPS
10	C41-F001A	1	23500	2.5	E.0	MO GLB VLV (SUCTION)	622	2	1C	Redundant to RPS
11	C41-F006A	1	12300	2.2	C.8	MO GLB VLV (INJ)	444	4	1C	Redundant to RPS
12	C41-F006B	2	12300	2.2	C.8	MO GLB VLV (INJ)	444	4	1C	Redundant to RPS
13	D11-E/O-2*	2	12300	5.2	A.5	MSL E/O CONVERTER	410	1	4A	Loss of MSL Rad. Mont. during fire is accept.
14	D11-E/O-3*	3	12300	5.2	A.5	MSL E/O CONVERTER	410	1	4A	Loss of MSL Rad. Mont. during fire is accept.
15	D11-E/O-4*	4	12300	5.2	A.5	MSL E/O CONVERTER	410	1	4A	Loss of MSL Rad. Mont. during fire is accept.
16	D11-RE003A	1	27200	2.7	B.1	REA BLDG EX DETR	643	2	4A	See Section 9A.5.5.13
17	D11-RE003C	3	27200	2.7	B.1	REA BLDG EX DETR	643	2	4A	See Section 9A.5.5.13
18	D11-RE003D	4	27200	2.7	B.1	REA BLDG EX DETR	643	2	4A	See Section 9A.5.5.13

Table 9A.5-2 Summary of the Reactor Building Special Cases (Continued)

Item No.	MPL No.	Div.	Elev.	Horiz. Dim.	Vert. Dim.	Description	Room No.	Fire Area Div.	Elec. Sep. Type Code	Justification for Acceptability of Loss of Function
19	D11-RE022A	1	31700	5.1	C.9	FUEL EX DETECTOR	716	3	4A	See Section 9A.5.5.13
20	D11-RE022B	2	31700	2.8	E.8	FUEL EX DETECTOR	721	3	4A	See Section 9A.5.5.13
21	D11-RE022D	4	31700	2.8	D.0	FUEL EX DETECTOR	742	3	4A	See Section 9A.5.5.13
22	D23-F001A	1	19000	5.7	D.9	SO VALVE	530	3	3C	Redundant device (F001B) located in diff. fire area
23	D23-F004A	1	19000	5.7	D.9	MO GLOBE VALVE	530	3	1C	Redundant "B" vlv located in diff. fire area
24	D23-F005A	1	19000	5.7	D.9	MO GLOBE VALVE	530	3	1C	Redundant "B" vlv located in diff. fire area
25	D23-F006A	1	6000	5.5	E.3	MO GLOBE VALVE	335	3	1C	Redundant "B" vlv located in diff. fire area
26	D23-F007A	1	6000	5.5	E.3	MO GLOBE VALVE	335	3	1C	Redundant "B" vlv located in diff. fire area
27	D23-F008A	1	6000	5.5	E.3	MO GLOBE VALVE	335	3	1C	Redundant "B" vlv located in diff. fire area
28	D23-PT007A	1	19000	5.7	D.9	PRESS TRANSMITTER	530	3	2B	Redundant "B" Xmtr located in diff. fire area
29	D23-RE005B	2	14700	2.1	C.7	GAMMA DETECTOR	444	4	4A	Redundant "A" detr located in diff. fire area
30	E11-F011A	2	14550	6.0	C.5	MO GATE VLV (ISOL)	414	1	1C	See Section 9A.5.5.14
31	E11-F011B	3	14550	2.0	D.2	MO GATE VLV (ISOL)	421	2	1C	See Section 9A.5.5.14
32	E11-F011C	1	14550	5.9	D.6	MO GATE VLV (ISOL)	431	3	1C	See Section 9A.5.5.14
33	E31-F003	2	20100	5.2	B.4	DW FPM A/O SOL VLV (IB)	511	1	3B	See Section 9A.5.5.7
34	E31-F004	2	8850	5.9	C.7	DW FPM A/O SOL VLV (IB)	318	1	3B	See Section 9A.5.5.7

Table 9A.5-2 Summary of the Reactor Building Special Cases (Continued)

Item No.	MPL No.	Div.	Elev.	Horiz. Dim.	Vert. Dim.	Description	Room No.	Fire Area Div.	Elec. Sep. Type Code	Justification for Acceptability of Loss of Function
35	E31-TE005B	2	-8200	6.0	C.5	RCIC AMB TEMP ELEMENT	112	1	2A	See Section 9A.5.5.7
36	E31-TE005C	3	-8200	6.0	C.5	RCIC AMB TEMP ELEMENT	112	1	2A	See Section 9A.5.5.7
37	E31-TE005D	4	-8200	6.0	C.5	RCIC AMB TEMP ELEMENT	112	1	2A	See Section 9A.5.5.7
38	E31-TE008B	2	-8200	5.7	B.3	RHR A AMB TEMP ELEM	110	1	2A	See Section 9A.5.5.7
39	E31-TE008C	3	-8200	5.7	B.3	RHR A AMB TEMP ELEM	110	1	2A	See Section 9A.5.5.7
40	E31-TE008D	4	-8100	5.7	B.3	RHR A AMB TEMP ELEM	110	1	2A	See Section 9A.5.5.7
41	E31-TE008E	1	-8200	2.2	E.7	RHR B AMB TEMP ELEM	121	2	2A	See Section 9A.5.5.7
42	E31-TE008G	3	-8100	2.2	E.7	RHR B AMB TEMP ELEM	121	2	2A	See Section 9A.5.5.7
43	E31-TE008H	4	-8200	2.2	E.7	RHR B AMB TEMP ELEM	121	2	2A	See Section 9A.5.5.7
44	E31-TE008J	1	-8200	5.8	E.7	RHR C AMB TEMP ELEM	132	3	2A	See Section 9A.5.5.7
45	E31-TE008K	2	-8200	5.8	E.7	RHR C AMB TEMP ELEM	132	3	2A	See Section 9A.5.5.7
46	E31-TE008M	4	-8200	5.8	E.7	RHR C AMB TEMP ELEM	132	3	2A	See Section 9A.5.5.7
47	E31-TE009A	1	-1700	1.6	C.0	CUW R/HX AMB TEM ELE	241	2	2A	See Section 9A.5.5.7
48	E31-TE009C	3	-1700	1.6	C.0	CUW R/HX AMB TEM ELE	241	2	2A	See Section 9A.5.5.7
49	E31-TE009D	4	-1700	1.6	C.0	CUW R/HX AMB TEM ELE	241	2	2A	See Section 9A.5.5.7
50	E31-TE009E	1	-8200	1.6	C.0	CUW NR/HX AMB TEM ELE	141	2	2A	See Section 9A.5.5.7
51	E31-TE009G	3	-8200	1.6	C.0	CUW NR/HX AMB TEM ELE	141	2	2A	See Section 9A.5.5.7
52	E31-TE009H	4	-8200	1.6	C.0	CUW NR/HX AMB TEM ELE	141	2	2A	See Section 9A.5.5.7
53	E31-TE009J	1	-8200	2.0	A.8	CUW V RM AMB TEM ELE	443	2	2A	See Section 9A.5.5.7
54	E31-TE009L	3	-8200	2.0	A.8	CUW V RM AMB TEM ELE	443	2	2A	See Section 9A.5.5.7
55	E31-TE009M	4	-8200	2.0	A.8	CUW V RM AMB TEM ELE	443	2	2A	See Section 9A.5.5.7
56	E31-TE010A	1	-8200	1.5	A.8	CUW SUC FLO TEMP ELEM	146	2	2A	See Section 9A.5.5.7

Table 9A.5-2 Summary of the Reactor Building Special Cases (Continued)

Item No.	MPL No.	Div.	Elev.	Horiz. Dim.	Vert. Dim.	Description	Room No.	Fire Area Div.	Elec. Sep. Type Code	Justification for Acceptability of Loss of Function
57	E31-TE010C	3	-8200	1.5	A.8	CUW SUC FLO TEMP ELEM	146	2	2A	See Section 9A.5.5.7
58	E31-TE010D	4	-8200	2.0	A.8	CUW SUC FLO TEMP ELEM	147	2	2A	See Section 9A.5.5.7
59	E31-TE011A	1	-8200	1.5	A.8	CUW RET FLO TEMP ELEM	146	2	2A	See Section 9A.5.5.7
60	E31-TE011C	3	-8200	1.5	A.8	CUW RET FLO TEMP ELEM	146	2	2A	See Section 9A.5.5.7
61	E31-TE011D	4	-8200	2.0	A.8	CUW RET FLO TEMP ELEM	147	2	2A	See Section 9A.5.5.7
62	E31-TE012A	1	-8200	1.5	A.8	CUW B/D FLO TEMP ELEM	146	2	2A	See Section 9A.5.5.7
63	E31-TE012C	3	-8200	1.5	A.8	CUW B/D FLO TEMP ELEM	146	2	2A	See Section 9A.5.5.7
64	E31-TE012D	4	-8200	2.0	A.8	CUW B/D FLO TEMP ELEM	147	2	2A	See Section 9A.5.5.7
65	E51-F036	2	14450	6.0	C.8	MO GATE VLV (ST SUP)	414	1	1C	See Section 9A.5.5.15
66	E51-PT014B	2	-1700	6.2	B.9	PRESS XMTR (TURB EXH)	210	1	2B	See Section 9A.5.5.15
67	E51-PT014F	2	-1700	6.2	B.9	PRESS XMTR (TURB EXH)	210	1	2B	See Section 9A.5.5.15
68	G31-F003	1	14480	2.4	B.6	MO GATE VALVE (ISOL)	443	2	1C	See Table 9A.5-1
69	G31-F072	1	13500	2.3	B.6	AO VALVE	443	2	3C	See Section 9A.5.5.16
70	H22-P044A*	1	23500	6.3	F.1	CAMS GAS CYL RACK A	633	3	N/A	Redundant rack in diff fire area. See Section 9A.5.5.16
71	H22-P055A*	23	-1700	5.2	A.3	SCRAM SOL FUSE PNL A	210	1	N/A	See Section 9A.5.5.1
72	H22-P055B*	23	-1700	4.6	E.8	SCRAM SOL FUSE PNL B	231	3	N/A	See Section 9A.5.5.1
73	H22-P055C*	23	-1700	4.9	E.7	SCRAM SOL FUSE PNL C	231	3	N/A	See Section 9A.5.5.1
74	H22-P055D*	23	-1700	5.0	A.3	SCRAM SOL FUSE PNL D	210	1	N/A	See Section 9A.5.5.1
75	H22-P055E*	23	-1700	5.1	A.3	SCRAM SOL FUSE PNL E	210	1	N/A	See Section 9A.5.5.1
76	H22-P055F*	23	-1700	4.8	E.7	SCRAM SOL FUSE PNL F	231	3	N/A	See Section 9A.5.5.1
77	H22-P055G*	23	-1700	5.0	E.6	SCRAM SOL FUSE PNL G	231	3	N/A	See Section 9A.5.5.1

Table 9A.5-2 Summary of the Reactor Building Special Cases (Continued)

Item No.	MPL No.	Div.	Elev.	Horiz. Dim.	Vert. Dim.	Description	Room No.	Fire Area Div.	Elec. Sep. Type Code	Justification for Acceptability of Loss of Function
78	H22-P055H*	23	-1700	4.8	A.3	SCRAM SOL FUSE PNL H	210	1	N/A	See Section 9A.5.5.1
79	P21-F075B	1	13550	2.5	E.3	MO GATE VALVE (ISO)	420	2	1C	Outbd iso vlv, see Section 9A.5.5.16
80	P21-F081B	1	13550	2.6	E.4	MO GATE VALVE (ISO)	420	2	1C	Outbd iso vlv, see Section 9A.5.5.16
81	P24-F053	1	13550	2.7	E.5	MO GATE VALVE (DW ISO)	420	2	1C	Outbd iso vlv, see Section 9A.5.5.16
82	P24-F142	1	13550	2.8	E.6	MO GATE VALVE (DW ISO)	420	2	1C	Outbd iso vlv, see Section 9A.5.5.16
83	P54-F007B	2	19000	2.2	B.9	MO GLOBE VALVE	543	4	1C	Outbd iso vlv, see Section 9A.5.5.16
84	P54-F200	1	19000	2.4	B.9	MO GLOBE VALVE	543	4	1C	Outbd iso vlv, see Section 9A.5.5.16
85	P54-PT002B	2	19000	2.3	B.9	PRESS TRANSMITTER	543	4	2B	Redundant "A" Xmtr located in diff fire area
86	T22-C002C	2	23500	2.2	B.6	COOLING FAN C	642	3	1B	Redundant "B" pump located in diff fire area
87	T22-C002B	3	23500	2.2	C.7	COOLING FAN B	641	2	1B	Redundant "A" pump located in diff fire area
88	DELETED									
89	T31-F002	2	13700	5.8	C.2	AO VALVE	411	1	3C	Normally closed, fail closed vlv. Loss of atmos control is accept. contmt
90	T31-F003	2	8500	5.5	B.6	AO VALVE	318	1	3C	Normally closed, fail closed vlv. Loss of contmt atmos control is accept.

Table 9A.5-2 Summary of the Reactor Building Special Cases (Continued)

Item No.	MPL No.	Div.	Elev.	Horiz. Dim.	Vert. Dim.	Description	Room No.	Fire Area Div.	Elec. Sep. Type Code	Justification for Acceptability of Loss of Function
91	T31-F008	1	19000	2.6	E.6	AO VALVE	521	2	3C	Normally closed, fail closed vlv. Loss of path to SGTS is accept.
92	T31-F009	1	19000	2.6	E.6	AO VALVE	521	2	3C	Normally closed, fail vlv. Loss of contmt control is accept.atmos.
93	T31-F040	2	13700	5.8	C.2	AO VALVE	411	1	3C	Normally open, fail clsd vlv. Loss of nitro. supply is accept.
94	T31-F041	2	13700	5.8	C.2	AO VALVE	411	1	3C	Normally open, fail clsd vlv. Loss of nitro. supply is accept.
95	T31-F731	1	23500	5.8	C.8	SO VALVE	616	3	3C	Normally open, fail open instru vlv. Backed by manual iso vlv is accept.
96	T31-F737B	1	6500	2.1	D.5	SO VALVE	323	2	3C	Normally open, fail open instru vlv. Backed by manual iso vlv is accept.
97	T31-F739D	4	2800	2.2	C.1	SO VALVE	241	2	3C	Normally open, fail open instru vlv. Backed by manual iso vlv is accept.
98	T31-F741D	4	-1700	2.2	C.1	SO VALVE	241	2	3C	Normally open, fail open instru vlv. Backed by manual iso vlv is accept.
99	T31-F801A	1	18100	2.0	D.5	SO VALVE	528	2	3C	Normally open, fail open instru vlv. Backed by manual iso vlv is accept.
100	T31-F801B	2	18100	5.7	B.8	SO VALVE	510	1	3C	Normally open, fail open instru vlv. Backed by manual iso vlv is accept.

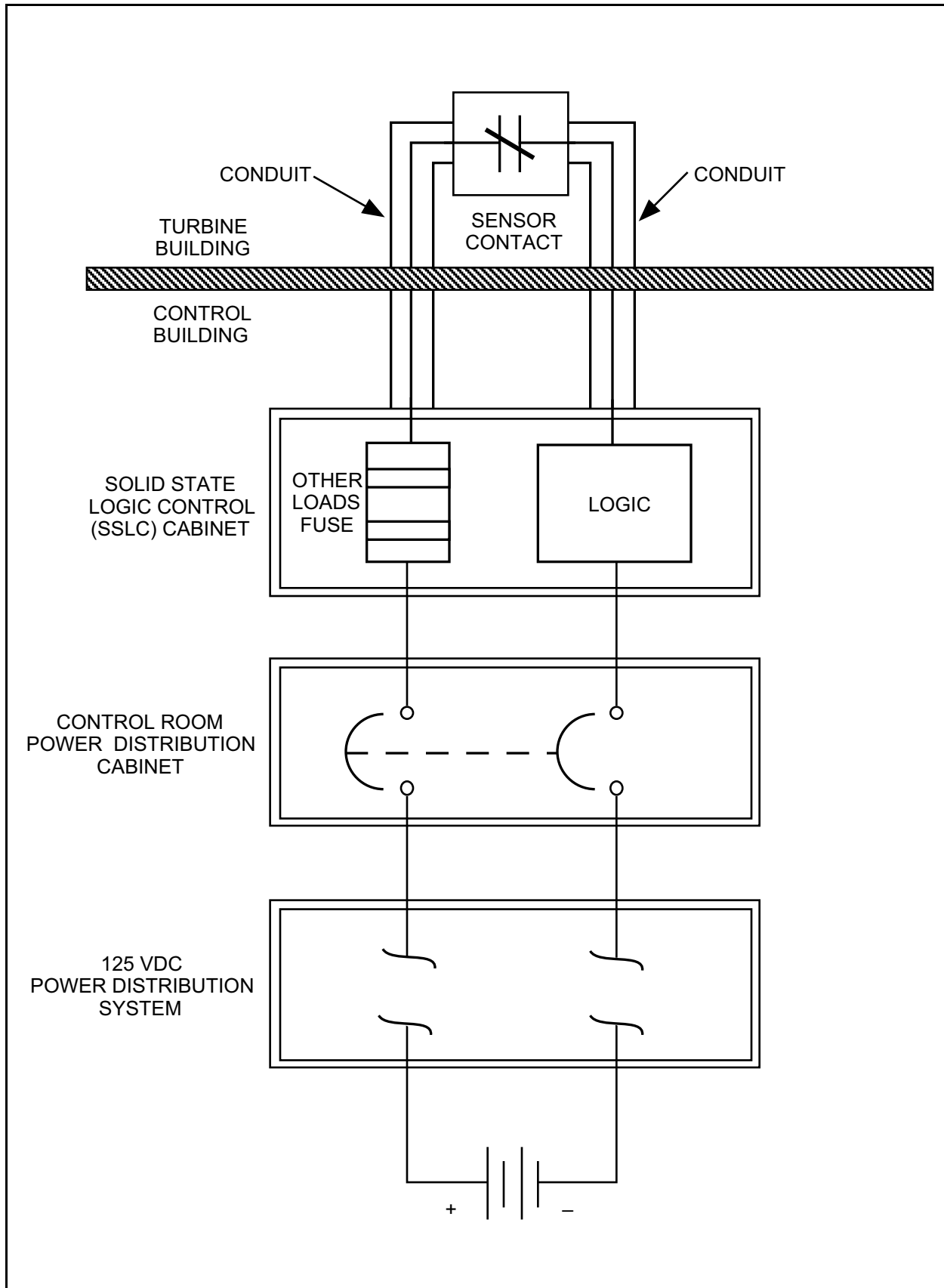
Table 9A.5-2 Summary of the Reactor Building Special Cases (Continued)

Item No.	MPL No.	Div.	Elev.	Horiz. Dim.	Vert. Dim.	Description	Room No.	Fire Area Div.	Elec. Sep. Type Code	Justification for Acceptability of Loss of Function
101	T31-F805A	1	6600	5.9	D.5	SO VALVE	332	3	3C	Normally open, fail open instru vlv. Backed by manual iso vlv is accept.
102	T31-LT058D	4	-8200	2.2	C.1	LEVEL TRANSMITTER	140	2	2B	See Section 9A.5.5.17
103	DELETED									
104	DELETED									
105	DELETED									
106	DELETED									
107	DELETED									
108	DELETED									
109	DELETED									
110	DELETED									
111	U41-D109	1	18100	1.4	A.7	FPC PUMP (A) RM HVH	547	2	1B	Cooling for FPC pump, redundancy provided by RHR
112	U41-F001B	2	31700	6.3	A.4	AO VLV-R/A SUP ISO VLV	710	1	3C	Loss of non-safety related contmt. HVAC is accept.
113	U41-F002A	1	27500	2.8	A.7	AO VLV-R/A EXH ISO (A)	643	2	3C	Loss of non-safety related contmt. HVAC is accept.
114	X-071B	2	19000	2.4	B.9	ADS ACCUMULATOR FEED	543	4	N/A	Redundant div feed in div 1 fire area. OK
115	X-091	2	20100	2.2	C.5	COMPENSATION/INST LINE	543	4	N/A	Redundant pene in div 1, 3 fire area.
116	X-111	2	20100	2.2	C.8	COMPENSATION/INST LINE	543	4	N/A	Redundant pene in div 1, 3 fire area.

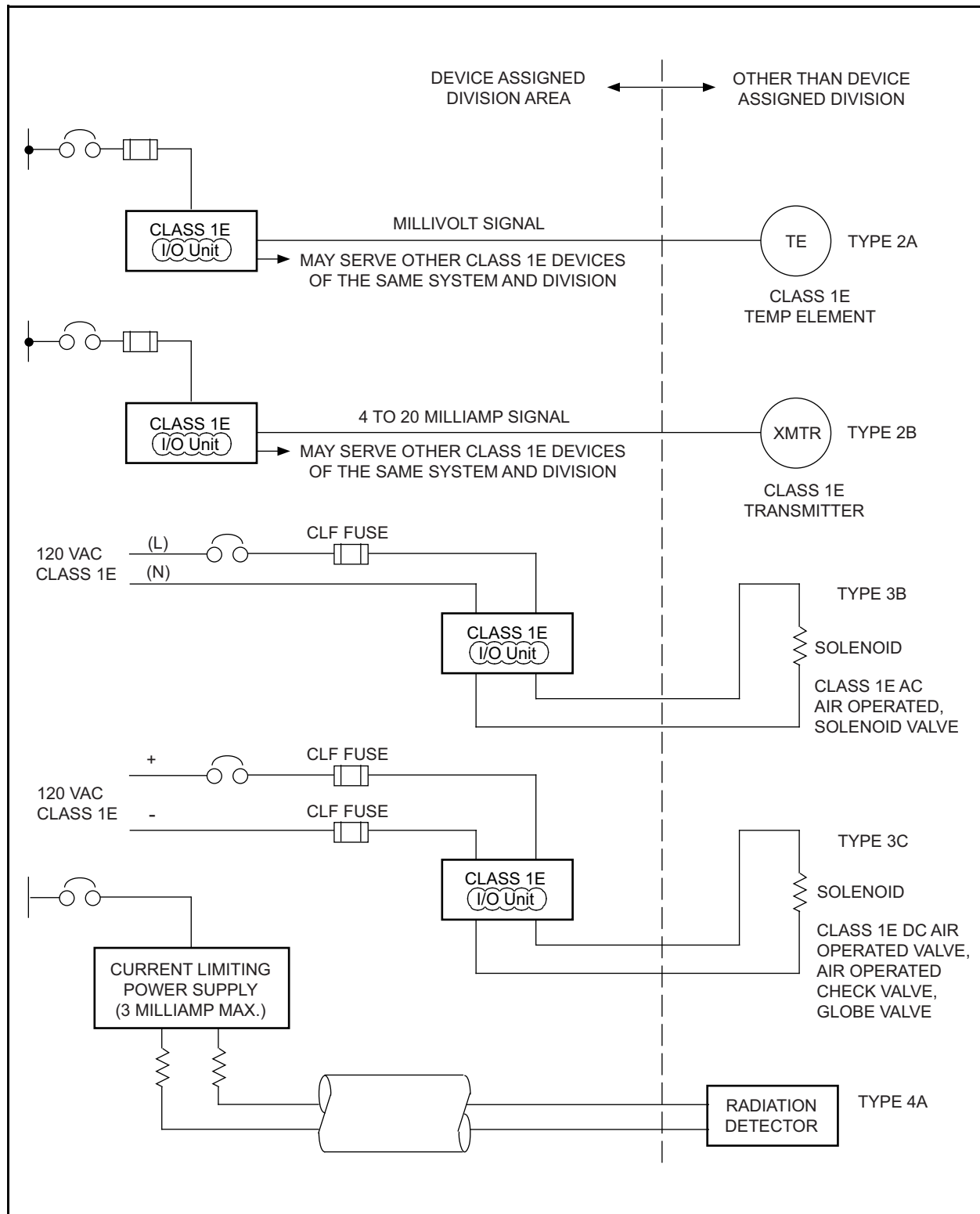


Table 9A.5-2 Summary of the Reactor Building Special Cases (Continued)

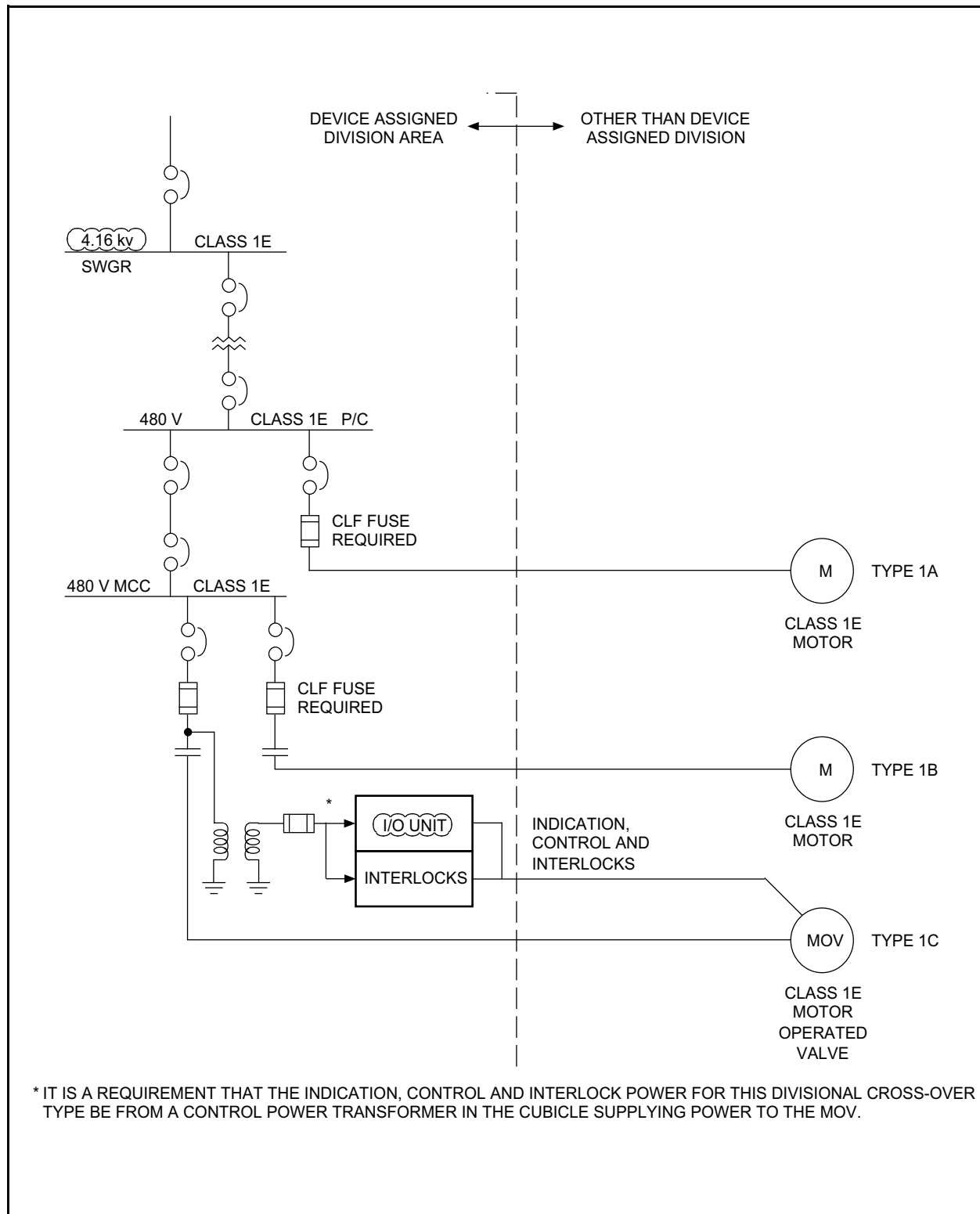
Item No.	MPL No.	Div.	Elev.	Horiz. Dim.	Vert. Dim.	Description	Room No.	Fire Area Div.	Elec. Sep. Type Code	Justification for Acceptability of Loss of Function
117	X-161B	2	14700	2.3	C.0	CAMS SMPLING	444	4	N/A	Redundant pene in div 1 fire area.
118	X-162A	1	19000	5.7	D.8	CAMS GAMMA DETECTOR	530	3	N/A	Redundant pene in div 2 fire area.
119	X-300A	1	6000	5.5	E.3	COMP LEAD WIRE and INSTR	335	3	N/A	Redundant pene in div 2 fire area.
120	X-322D	4	400	5.8	D.6	SUPP CHAMBER WTR LEV	230	3	N/A	Redundant pene in div 1, 2 fire area.
121	X-322E	3	400	2.2	D.6	SUPP CHAMBER WTR LEV	222	2	N/A	Redundant pene in div 1, 2 fire area.
122	X-323D	4	−6700	5.8	D.9	SUPP CHAMBER WTR LEV	130	3	N/A	Redundant pene in div 1, 2 fire area.
123	X-323E	3	−6700	2.2	D.9	SUPP CHAMBER WTR LEV	122	2	N/A	Redundant pene in div 1, 2 fire area.
124	X-332A	1	6000	5.5	E.3	CAMS A-C SAMPLING	335	3	N/A	Pene for redundant function in diff. fire area.



**Figure 9A.5-1 Typical RPS Contact Interface Turbine Building to Control Building**



**Figure 9A.5-2 Typical Electrical Equipment Connection Block Diagrams of Special Cases**



**Figure 9A.5-2 (Continued)**  
**Typical Electrical Equipment Connection Block Diagrams of Special Cases**

## **9A.6 Fire Hazard Analysis Database**

### **9A.6.1 Development of Database**

The approach for the analysis was to review the system piping and instrument diagrams (P&IDs), and to prepare a database which listed every device that could be adversely affected by fire. The compilation of the results of this review is shown in Table 9A.6-1. A column by column explanation of the headings in the table are given in the notes for the table.

In addition to taking information from P&IDs, if the reviewers knew or became aware of something that would eventually be in the plant design but did not appear on any drawing at the time this database was established, it also was added to the list and assigned a special MPL number. This brought the device into the database for tracking. If possible each device was given an electrical safety division assignment and where a drawing providing confirmation of the divisional assignment of a device was available, the number of the drawing also was entered into the database. If the division could not be determined, a question mark was entered.

If a device appeared on the building arrangement drawings, its actual location by row, column and elevation was entered into the database. For all other identified devices, an estimate of location by row, column and elevation, based on the known location of nearby devices and experience was entered into the database. The validity of the location information for each item was indicated as being determined by reference to a drawing or by estimation.

### **9A.6.2 Utilization of Database**

The fire hazard analysis was then performed on the verified or assumed plant design as documented by the database. This made it possible for a fire hazard analysis to be performed on an essentially complete plant configuration. It makes a record of the configuration analyzed available for use as a guide in completing the plant design. The assumed information in the database will be compared to the plant of the COL applicant to confirm that the Appendix 9A fire hazard analysis conclusions are valid for his plant. (See Subsection 9.5.13.12 for COL license information requirements).

As part of the analysis, dimensional definition of the rooms shown on the current building arrangement drawings was entered into a computer database so that a sort of devices by room could be obtained. A copy of the sort is included as Table 9A.6-2. The grouping of devices in each room was used as the assumed grouping for performing the fire hazard analysis.

Notes for Tables 9A.6-1, 2, 3, & 4—Fire Hazard Analysis—Equipment Database

Column Headings:

Item No.

Where listed, this is a serialized number which was added to the database to expedite tracking of the individual records.

#### MPL Number

This is the master parts list number for the device. If the MPL number for a device was not known, a number was made up and an asterisk placed at the right hand end of the number. This facilitates the tracking of devices.

#### Elect. Division

The number or alpha character shown in this column is the electrical divisional assignment utilized for the analysis.

- 1 Division I
- 2 Division II
- 3 Division III
- 4 Division IV
- N Non-divisional (Not Class 1E)
- ? Insufficient information to determine divisional assignment

Multiple numbers per item indicate that there are multiple divisions associated with the item.

#### Elev. Location

Indicates the assigned elevation in millimeters for the location of the device. A “99999” in the column indicates that the elevation is unknown.

#### Location Number Coord.

The building column coordinate for the location of the device in the reactor building.

#### Location Alpha Coord.

The building row coordinate for the location of the device in the reactor building.

#### Description

Short description of the device.

#### System Drawing

The drawing number which identifies the device as being part of the plant design. Usually the drawing number is for the system P&ID. A question mark in this column indicates a drawing was not available.

**Div. Assign. Verification Drawing No.**

This is the number for the drawing used to verify the correct divisional assignment for the device. A question mark indicates that a drawing was not available.

**Status of Device Location**

The information in this column indicates the validity of the device location information. The entries have the following meanings.

- K The location of the drawing was given on the drawing listed in the “Device Location Drawing” column.
- V Device location could not be found on any drawing.
- ?V Device may be shown on a drawing but it is not labeled so it can be identified.
- F Location of device not known. Location will be determined as the detailed design progresses.

**Device Location Drawing**

Drawing number from which indicated location of the device was determined. Question mark indicates no drawing was available.

**Mech. or Ins/Elect. Penet.**

Some of the devices on the list are electrical, instrumentation or mechanical penetrations. The entries have the following meanings:

- N/A Device is not a penetration.
- M Mechanical penetration.
- I/E Instrumentation or Electrical Penetration.
- E Electrical Penetration.

#### Room Number

This is a room number that was assigned strictly for use in the FHA to uniquely identify areas in the plant. The numbers are also shown on the FHA Equipment Drawings, Figure 9A.4-1 through 9A.4-8.

#### Cables

The power and instrumentation cables for each piece of equipment are considered to be part of the equipment listed.



**Table 9A.6-1    Fire Hazard Analysis  
Equipment Data Base — Sorted by MPL Number**

This table has been superseded by Table 9A.6-2

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**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1	E11-B001A	1	-8200	6.4	A.8	HEAT EXCHANGER	103E1797/1	110
2	E11-F004A	1	-8200	6.2	B.3	MO GLOBE VALVE (HXOUT)	103E1797/1	110
3	E11-F005A	1	-8200	6.2	B.3	MO GATE VALVE (INJ)	103E1797/1	110
4	E11-F006A	1	-8200	6.2	B.3	AO CHECK VALVE	103E1797/1	110
5	E11-F043A	1	-8200	6.5	B.1	SO GLOBE VALVE	103E1797/1	110
6	E11-F044A	1	-8200	6.5	B.1	SO GLOBE VALVE	103E1797/1	110
7	E11-F045A	1	-8200	6.5	B.1	MO GLOBE VALVE (SAMPLE)	103E1797/1	110
8	E11-F046A	1	-8200	6.5	B.1	MO GLOBE VALVE (SAMPLE)	103E1797/1	110
9	E11-POT301A	1	-8200	6.2	B.3	POS XMTR (F004A)	103E1797/1	110
10	E11-TE006A	N	-8200	6.4	A.8	TEMP ELEMENT	103E1797/1	110
11	E11-TE007A	N	-8200	6.2	B.3	TEMP ELEMENT	103E1797/1	110
12	E11-TT006A	N	-8200	6.4	A.8	TEMP XMTR (HX A INL)	103E1797/1	110
13	P21-F013A	1	-8200	6.5	A.5	MO GLOBE VALVE	107E5112/0	110
14	P21-F055A	1	-8200	6.5	A.5	MO GATE VALVE	107E5112/0	110
15	P21-F055D	1	-8200	6.5	A.5	MO GATE VALVE	107E5112/0	110
16	P21-FT008A	1	-8200	6.5	A.5	FLOW XMTR (RHR HX A)	107E5112/0	110
17	P21-TE009A	1	-8200	6.5	A.5	TEMP ELEM (RHR HX A)	107E5112/0	110
18	D21-RE024	N	-8200	6.0	B.1	AREA RAD DETECTOR	299X701-171/0	110
19	E11-C001A	1	-8200	5.8	B.3	RHR PUMP A	103E1797/1	110
20	E11-C002A	1	-8200	5.1	B.2	RHR A FILL PUMP	103E1797/1	110
21	E11-F001A	1	-7085	5.2	B.4	MO GATE VALVE (PSUCT)	103E1797/1	110
22	E11-F012A	1	-8200	5.5	B.4	MO GATE VALVE (RSUCT)	103E1797/1	110
23	E11-F013A	1	-8200	5.7	B.3	MO GLOBE VALVE (HXBYP)	103E1797/1	110
--	E11-F014A	1	TBD	TBD	TBD	MO GATE VALVE (FPC)	----?----	TBD
--	E11-F015A	1	TBD	TBD	TBD	MO GATE VALVE (FPC)	----?----	TBD
24	E11-F029A	1	-8200	5.7	B.3	MO GATE VALVE (SPWS)	103E1797/1	110
25	E11-F030A	1	-8200	5.7	B.3	MO GATE VALVE (SPWS)	103E1797/1	110
26	E11-POT302A	1	-8200	5.7	B.3	POS XMTR (FO13A)	103E1797/1	110
27	E11-POT303A	1	-8200	5.7	B.3	POS XMTR (FO30B)	103E1797/1	110
28	E11-TE011A	N	-8200	5.7	B.3	TEMP ELEMENT	103E1797/1	110
29	E31-TE008A	1	-8200	5.7	B.3	RHR A AMB TEMP ELEM	103E1792/1	110

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
30	E31-TE008B	2	-8200	5.7	B.3	RHR A AMB TEMP ELEM	103E1792/1	110
31	E31-TE008C	3	-8200	5.7	B.3	RHR A AMB TEMP ELEM	103E1792/1	110
32	E31-TE008D	4	-8100	5.7	B.3	RHR A AMB TEMP ELEM	103E1792/1	110
33	E31-TE031A	N	-8200	5.7	B.3	RHR A DIFF TEMP ELEM	103E1792/1	110
34	E31-TE032A	N	-8200	5.7	B.3	RHR A DIFF TEMP ELEM	103E1792/1	110
35	U41-D103	1	-8200	5.7	B.7	RHR PUMP (A) ROOM HVH	107E5189/0	110
36	X-201	1	-7085	5.2	B.4	RHR A SUP POOL SUCT	795E880/3	110
37	K17-C102A	N	-8200	6.2	A.4	HCW PUMP - R/B SUMP A	103E1634/0	110
38	K17-C102F	N	-8200	6.2	A.4	HCW PUMP - R/B SUMP A	103E1634/0	110
39	K17-LE108A	N	-8200	6.2	A.4	LEVEL ELEMENT	103E1634/0	110
40	K17-LS106A	N	-8200	6.2	A.4	LEVEL SWITCH	103E1634/0	110
41	K17-LS107A	N	-8200	6.2	A.4	LEVEL SWITCH	103E1634/0	110
42	K17-LT108A	N	-8200	6.2	A.4	LEVEL TRANSMITTER	103E1634/0	110
43	C12-D004-4*	N	-8200	3.2	B.2	HCU (GR 4 TYP OF 25)	103E1789/0	111
44	C12-F139A-4*	2	-8200	3.2	B.2	HCU AO VLV (TYP OF 25)	103E1789/0	111
45	C12-F139B-4*	3	-8200	3.2	B.2	HCU AO VLV (TYP OF 25)	103E1789/0	111
46	C12-F143-4*	N	-8200	3.2	B.2	HCU AO VLV (TYP OF 25)	103E1789/0	111
47	C12-LS129-4*	N	-8200	3.2	B.2	HCU LVL SW (TYP OF 25)	103E1789/0	111
48	C12-POS001-4*	N	-8200	3.2	B.2	FMC RD POS SW (TYP OF 25)	103E1789/0	111
49	C12-PS130-4*	N	-8200	3.2	B.2	HCU PR SW (TYP OF 25)	103E1789/0	111
50	C81-DPT301D	4	-8200	3.4	B.2	DIFF PRESS TRANS	299X701-146/0	111
51	C81-DPT401D	N	-8200	3.4	B.2	DIFF PRESS TRANS	796E357	111
52	C81-DPT404D	N	-8200	3.4	B.2	DIFF PRESS TRANS	796E357	111
53	H22-P001D*	4	-8200	3.4	B.2	CORE FLOW INST RACK D	10Q273-280	111
54	E11-F036A	1	-8200	6.2	D.3	AO GLOBE VALVE	103E1797/1	112
55	E31-TE018A	1	-8200	6.5	C.8	RCIC DIFF TEMP ELEM	103E1792/1	112
56	E31-TE019A	1	-8200	6.5	C.8	RCIC DIFF TEMP ELEM	103E1792/1	112
57	E51-C001	1	-8200	6.3	C.2	RCIC PUMP	103E1795/1	112
58	E51-C002	1	-8200	6.3	C.5	RCIC TURBINE	103E1795/1	112
59	DELETED							
60	DELETED							
61	E51-F001	1	-8200	6.5	D.4	MO GATE VALVE (CST)	103E1795/1	112
62	E51-F011	1	-8200	6.3	C.6	MO GLOBE VALVE (MINFLO)	103E1795/1	112

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
63	DELETED							
64	DELETED							
65	E51-F040	1	-8200	6.2	C.4	AO GLOBE VALVE	103E1795/1	112
66	E51-F041	1	-8200	6.2	C.4	AO GLOBE VALVE	103E1795/1	112
67	E51-F058	1	-8200	6.2	C.4	AO GLOBE VALVE	103E1795/1	112
68	E51-FT007-1	1	-8200	6.6	D.3	FLOW TRANSMITTER	103E1795/1	112
69	E51-FT007-2	1	-8200	6.6	D.3	FLOW TRANSMITTER	103E1795/1	112
70	E51-LS011	1	-8200	6.2	C.3	LEVEL SW (DRN POT)	103E1795/1	112
71	DELETED							
72	DELETED							
73	DELETED							
74	E51-PT001	1	-8200	6.6	D.3	PRESS XMTR (PMP SUCT)	103E1795/1	112
75	E51-PT002	1	-8200	6.6	D.3	PRESS XMTR (PMP SUCT)	103E1795/1	112
76	E51-PT005	1	-8200	6.6	D.3	PRESS XMTR (PMP DISCH)	103E1795/1	112
77	E51-PT008	1	-8200	6.6	D.3	PRESS XMTR (PMP DISCH)	103E1795/1	112
78	E51-SE997*	1	-8200	6.3	C.5	SPEED ELEM (TURB)	103E1795/1	112
79	E51-TE004	1	-8200	6.6	D.3	TEMP ELEM (PMP DISCH)	103E1795/1	112
80	E51-TT004	1	-8200	6.6	D.3	TEMP TRANSMITTER	103E1795/1	112
81	H22-P004*	1	-8200	6.6	D.3	RCIC INSTR RACK	10Q273-280	112
82	H22-P005*	1	-8200	6.5	C.6	RCIC TURBINE INST RACK	10Q273-280	112
83	E31-TE005A	1	-8200	6.0	C.5	RCIC AMB TEMP ELEMENT	103E1792/1	112
84	E31-TE005B	2	-8200	6.0	C.5	RCIC AMB TEMP ELEMENT	103E1792/1	112
85	E31-TE005C	3	-8200	6.0	C.5	RCIC AMB TEMP ELEMENT	103E1792/1	112
86	E31-TE005D	4	-8200	6.0	C.5	RCIC AMB TEMP ELEMENT	103E1792/1	112
87	E51-F006	1	-7050	5.8	C.3	MO GATE VALVE (PSUCT)	103E1795/1	112
88	E51-F008	1	-8200	6.0	C.5	MO GLOBE VALVE (TEST)	103E1795/1	112
89	E51-F009	1	-8200	6.0	C.5	MO GLOBE VALVE (TEST)	103E1795/1	112
90	DELETED							
91	E51-F037	1	-8200	6.0	C.5	MO GLOBE VALVE (ST SUP)	103E1795/1	112
92	DELETED							

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
93	E51-F998*	1	-8200	6.0	C.5	GOVERNING VALVE (HO)	103E1795/1	112
94	E51-F999*	1	-8200	6.0	C.5	TRIP & THROT VALVE	103E1795/1	112
95	E51-POT301	1	-8200	6.0	C.5	POS XTMR (F008)	103E1795/1	112
96	E51-POT302	1	-8200	6.0	C.5	POS XTMR (F009)	103E1795/1	112
97	T31-LT058A	1	-8200	5.9	C.5	LEVEL TRANSMITTER	107E6043/0	112
98	T31-LT059A	1	-8200	5.9	C.5	LEVEL TRANSMITTER	107E6043/0	112
99	U41-D101	1	-8200	6.1	D.3	RCIC PUMP ROOM HVH	107E5189/0	112
100	X-214	1	-7050	5.8	C.5	RCIC PUMP SUCTION	795E883/4	112
101	X-323A	1	-4700	5.8	C.4	SUPP CHAMBER WATER LEV	107E6043/0	112
102	X-323C	1	-6700	5.8	C.6	SUPP CHAMBER WATER LEV	107E6043/0	112
103	H23-P001*	N	-8200	5.5	A.3	I/O DEVICE	----?----	116
104	H22-P008*	N	-8200	5.9	A.8	RHR HT EXCH SAMPLE RACK	10Q273-280	116
105	P91-P023*	N	-8200	5.9	A.8	RHR HX ELEC COND TRANS PNL	NT-5000390	116
106	C12-PT011A	1	-8200	4.7	A.8	PRESS TRANSMITTER	103E1789/0	117
107	C12-PT011D	4	-8200	3.3	A.8	PRESS TRANSMITTER	103E1789/0	117
108	D21-RE011	N	-8200	4.0	A.6	AREA RAD DETECTOR	299X701-171/0	117
109	E51-F003	1	-8200	4.0	A.5	CHECK VALVE	103E1795/1	117
110	U41-B012	N	-8200	4.1	A.5	HEATING COIL, R/B	107E5189/0	117
111	U41-TE011	N	-8200	4.1	A.5	TEMP ELEMENT	107E5189/0	117
112	U41-TT611	N	-8200	4.1	A.5	TEMP TRANS, R/B HVAC	107E5189/0	117
113	C12-D004-1*	N	-8200	4.7	B.2	HCU (GR 1 TYP OF 28)	103E1789/0	118
114	C12-F139A-1*	2	-8200	4.7	B.2	HCU AO VLV (TYP OF 28)	103E1789/0	118
115	C12-F139B-1*	3	-8200	4.7	B.2	HCU AO VLV (TYP OF 28)	103E1789/0	118
116	C12-F143-1*	N	-8200	4.7	B.2	HCU AO VLV (TYP OF 28)	103E1789/0	118
117	C12-LS129-1*	N	-8200	4.7	B.2	HCU LVL SW (TYP OF 28)	103E1789/0	118
118	C12-POS001-1*	N	-8200	4.7	B.2	FMCRD POS SW (TYP OF 28)	103E1789/0	118
119	C12-PS130-1*	N	-8200	4.7	B.2	HCU PR SW (TYP OF 28)	103E1789/0	118
120	C81-DPT301A	1	-8200	4.6	B.1	DIFF PRESS TRANS	299X701-146/0	118
121	C81-DPT401A	N	-8200	4.6	B.1	DIFF PRESS TRANS	299X701-146/0	118
122	C81-DPT404A	N	-8200	4.6	B.1	DIFF PRESS TRANS	796E357	118
123	E11-FT008A1	1	-8200	4.8	B.1	FLOW TRANSMITTER	103E1797/1	118

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
124	E11-FT008A2	1	-8200	4.8	B.1	FLOW TRANSMITTER	103E1797/1	118
125	E11-PT004A	1	-8200	4.8	B.1	POS XMTR	103E1797/1	118
126	E11-PT004E	1	-8200	4.8	B.1	POS XMTR	103E1797/1	118
127	E11-PT005A	1	-8200	4.8	B.1	POS XMTR (PMP A)	103E1797/1	118
128	E11-PT009A	1	-8200	4.8	B.1	POS XMTR (RPV SUC A)	103E1797/1	118
129	E11-TT007A	N	-8200	4.8	B.1	TEMP XMTR (HX A OUT)	103E1797/1	118
130	E11-TT011A	N	-8200	4.8	B.1	TEMP XMTR (HX A OUT)	103E1797/1	118
131	H22-P001A*	1	-8200	4.6	B.2	CORE FLOW INST RACK A	10Q273-280	118
132	H22-P002A*	1	-8200	4.8	B.1	RHR A INST RACK	10Q273-280	118
133	D11-RE023	N	-8200	5.2	A.8	DRYWELL SUMP DRAIN DET.	107E6071/0	119
134	D11-RE024	N	-8200	5.2	A.4	DRYWELL SUMP DRAIN DET.	107E6071/0	119
135	K17-C002A	N	-8200	5.2	A.8	LCW PUMP - R/B SUMP A	103E1634/0	119
136	K17-C002C	N	-8200	5.2	A.8	LCW PUMP - R/B SUMP A	103E1634/0	119
137	K17-C102D	N	-8200	5.2	A.4	HCW PUMP - R/B SUMP D	103E1634/0	119
138	K17-C102I	N	-8200	5.2	A.4	HCW PUMP - R/B SUMP D	103E1634/0	119
139	K17-F032	N	-8200	5.2	A.8	AO VALVE	103E1634/0	119
140	K17-LE108D	N	-8200	5.2	A.4	LEVEL ELEMENT	103E1634/0	119
141	K17-LS007A	N	-8200	5.2	A.8	LEVEL SWITCH	103E1634/0	119
142	K17-LS008A	N	-8200	5.2	A.8	LEVEL SWITCH	103E1634/0	119
143	K17-LS009A	N	-8200	5.2	A.8	LEVEL SWITCH	103E1634/0	119
144	K17-LS106D	N	-8200	5.2	A.4	LEVEL SWITCH	103E1634/0	119
145	K17-LS107D	N	-8200	5.2	A.4	LEVEL SWITCH	103E1634/0	119
146	K17-LT108D	N	-8200	5.2	A.4	LEVEL TRANSMITTER	103E1634/0	119
147	K17-TE006	N	-8200	5.2	A.8	TEMP ELEMENT	103E1634/0	119
148	E11-B001B	2	-8200	1.5	F.3	HEAT EXCHANGER	103E1797/1	121
149	E11-F004B	2	-8200	1.9	E.8	MO GLOBE VALVE (HXOUT)	103E1797/1	121
150	E11-F043B	2	-8200	1.5	F.0	SO GLOBE VALVE	103E1797/1	121
151	E11-F044B	2	-8200	1.5	F.0	SO GLOBE VALVE	103E1797/1	121
152	E11-POT301B	2	-8200	1.9	E.8	POS XMTR (F004B)	103E1797/1	121
153	E11-TE006B	N	-8200	1.5	F.3	TEMP ELEMENT	103E1797/1	121
154	E11-TE007B	N	-8200	1.9	E.8	TEMP ELEMENT	103E1797/1	121
155	E11-TT006B	N	-8200	1.5	F.3	TEMP XMTR (HX B INL)	103E1797/1	121

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
156	K17-C102B	N	-8200	1.8	F.6	HCW PUMP - R/B SUMP B	103E1634/0	121
157	K17-C102G	N	-8200	1.8	F.6	HCW PUMP - R/B SUMP B	103E1634/0	121
158	K17-LE108B	N	-8200	1.8	F.6	LEVEL ELEMENT	103E1634/0	121
159	K17-LS106B	N	-8200	1.8	F.6	LEVEL SWITCH	103E1634/0	121
160	K17-LS107B	N	-8200	1.8	F.6	LEVEL SWITCH	103E1634/0	121
161	K17-LT108B	N	-8200	1.8	F.6	LEVEL TRANSMITTER	103E1634/0	121
162	P21-F013B	2	-8200	1.5	F.5	MO GLOBE VALVE	107E5112/0	121
163	P21-F055B	2	-8200	1.5	F.5	MO GATE VALVE	107E5112/0	121
164	P21-F055E	2	-8200	1.5	F.5	MO GATE VALVE	107E5112/0	121
165	P21-FT008B	2	-8200	1.5	F.5	FLOW XMTR (RHR HX B)	107E5112/0	121
166	P21-TE009B	2	-8200	1.5	F.5	TEMP ELEM (RHR HX B)	107E5112/0	121
167	D21-RE025	N	-8200	2.0	E.9	AREA RAD DETECTOR	299X701-171/0	121
168	E11-C001B	2	-8200	2.2	E.7	RHR PUMP B	103E1797/1	121
169	E11-C002B	2	-8200	2.9	E.7	RHR B FILL PUMP	103E1797/1	121
170	E11-F001B	2	-7085	2.7	E.6	MO GATE VALVE (PSUCT)	103E1797/1	121
171	E11-F012B	2	-8200	2.7	E.6	MO GATE VALVE (RSUCT)	103E1797/1	121
172	E11-F013B	2	-8200	2.3	E.8	MO GLOBE VALVE (HXBYP)	103E1797/1	121
173	E11-F014B	2	-8200	2.3	E.7	MO GATE VALVE (FPC)	103E1797/1	121
174	E11-F015B	2	-8200	2.3	E.7	MO GATE VALVE (FPC)	103E1797/1	121
175	E11-F029B	2	-8200	2.3	E.7	MO GATE VALVE (SPWS)	103E1797/1	121
176	E11-F030B	2	-8200	2.3	E.7	MO GATE VALVE (SPWS)	103E1797/1	121
177	E11-POT302B	2	-8200	2.3	E.8	POS XMTR (FO13B)	103E1797/1	121
178	E11-POT303B	2	-8200	2.3	E.7	POS XMTR (FO30B)	103E1797/1	121
179	E11-TE011B	N	-8200	2.3	E.7	TEMP ELEMENT	103E1797/1	121
180	E31-TE008E	1	-8200	2.2	E.7	RHR B AMB TEMP ELEM	103E1792/1	121
181	E31-TE008F	2	-8200	2.2	E.7	RHR B AMB TEMP ELEM	103E1792/1	121
182	E31-TE008G	3	-8100	2.2	E.7	RHR B AMB TEMP ELEM	103E1792/1	121
183	E31-TE008H	4	-8200	2.2	E.7	RHR B AMB TEMP ELEM	103E1792/1	121
184	E31-TE031E	N	-8200	2.2	E.7	RHR B DIFF TEMP ELEM	103E1792/1	121
185	E31-TE032E	N	-8200	2.2	E.7	RHR B DIFF TEMP ELEM	103E1792/1	121
186	U41-D105	2	-8200	2.7	E.9	RHR PUMP (B) ROOM HVH	107E5189/0	121
187	X-202	2	-7085	2.7	E.6	RHR B SUP POOL SUCT	795E880/3	121
188	E11-FT008B1	2	-8200	1.4	E.2	FLOW TRANSMITTER	103E1797/1	122
189	E11-FT008B2	2	-8200	1.4	E.2	FLOW TRANSMITTER	103E1797/1	122

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
190	E11-FT012B	2	-8200	1.4	E.2	FLOW TRANSMITTER	103E1797/1	122
191	E11-PT004B	2	-8200	1.4	E.2	POS XMTR	103E1797/1	122
192	E11-PT004F	2	-8200	1.4	E.2	POS XMTR	103E1797/1	122
193	E11-PT005B	2	-8200	1.4	E.2	POS XMTR (PMP B)	103E1797/1	122
194	E11-PT009B	2	-8200	1.4	E.2	POS XMTR (RPV SUC B)	103E1797/1	122
195	E11-TT007B	N	-8200	1.4	E.2	TEMP XMTR (HX B OUT)	103E1797/1	122
196	E11-TT011B	N	-8200	1.4	E.2	TEMP XMTR (HX B OUT)	103E1797/1	122
197	E22-F001B	2	-8200	2.2	E.2	MO GATE VALVE (CST)	107E6008/0	122
198	E22-F006B	2	-7085	2.2	D.7	MO GATE VALVE (PSUCT)	107E6008/0	122
199	E22-FT008B1	2	-8200	1.4	D.6	FLOW TRANSMITTER	107E6008/0	122
200	E22-FT008B2	2	-8200	1.4	D.6	FLOW TRANSMITTER	107E6008/0	122
201	E22-PT002B	2	-8200	1.4	D.6	PRESS TRANSMITTER	107E6008/0	122
202	E22-PT003B	2	-8200	1.4	D.6	PRESS TRANSMITTER	107E6008/0	122
203	E22-PT006B	2	-8200	1.4	D.6	PRESS TRANSMITTER	107E6008/0	122
204	E22-PT006F	2	-8200	1.4	D.6	PRESS TRANSMITTER	107E6008/0	122
205	E22-PT007B	2	-8200	1.3	D.7	PRESS TRANSMITTER	107E6008/0	122
206	H22-P002B*	2	-8200	1.4	E.1	RHR B INST RACK	10Q273-280	122
207	H22-P003B*	2	-8200	1.4	D.7	HPCS B INSTR RACK	10Q273-280	122
208	T31-LT058B	2	-8200	2.1	D.5	LEVEL TRANSMITTER	107E6043/0	122
209	T31-LT059B	2	-8200	2.1	D.5	LEVEL TRANSMITTER	107E6043/0	122
210	X-210	2	-7085	2.2	D.7	HPCF PUMP B SUCTION	795E876/4	122
211	X-323E	3	-6700	2.2	D.9	SUPP CHAMBER WATER LEV	107E6043/0	122
212	E22-C001B	2	-8200	2.2	E.3	HPCF PUMP B	107E6008/0	122
213	E22-F008B	2	-8200	2.2	E.3	MO GLOBE VALVE (TEST)	107E6008/0	122
214	E22-F009B	2	-8200	2.2	E.3	MO GLOBE VALVE (TEST)	107E6008/0	122
215	E22-F010B	2	-8200	2.2	E.3	MO GATE VALVE (MINFLO)	107E6008/0	122
216	E22-POE301B	2	-8200	2.2	E.3	PRIMARY POS ELEMENT	107E6008/0	122
217	E22-POE302B	2	-8200	2.2	E.3	PRIMARY POS ELEMENT	107E6008/0	122
218	E22-POT301B	2	-8200	2.2	E.3	POS TRANSMITTER	107E6008/0	122
219	E22-POT302B	2	-8200	2.2	E.3	POS TRANSMITTER	107E6008/0	122
220	U41-D106	2	-8200	1.7	E.3	HPCF PUMP (B) ROOM HVH	107E5189/0	122
221	H23-P002*	N	-8200	4.2	F.8	I/O DEVICE	----?----	123
222	H23-P003*	N	-8200	4.0	F.8	I/O DEVICE	----?----	123



**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
223	H23-P004*	N	-8200	3.8	F.8	I/O DEVICE	----?----	123
224	K17-C301A	N	-8200	2.4	F.6	SD PUMP -R/B SUMP	103E1634/0	123
225	K17-C301B	N	-8200	2.4	F.6	SD PUMP -R/B SUMP	103E1634/0	123
226	K17-LS301	N	-8200	2.4	F.6	LEVEL SWITCH	103E1634/0	123
227	K17-LS302	N	-8200	2.4	F.6	LEVEL SWITCH	103E1634/0	123
228	K17-LS303	N	-8200	2.4	F.6	LEVEL SWITCH	103E1634/0	123
229	K17-C002B	N	-8200	2.8	F.2	LCW PUMP - R/B SUMP B	103E1634/0	124
230	K17-C002D	N	-8200	2.8	F.2	LCW PUMP - R/B SUMP B	103E1634/0	124
231	K17-C102E	N	-8200	2.8	F.7	HCW PUMP - R/B SUMP E	103E1634/0	124
232	K17-C102J	N	-8200	2.8	F.7	HCW PUMP - R/B SUMP E	103E1634/0	124
233	K17-LE108E	N	-8200	2.8	F.7	LEVEL ELEMENT	103E1634/0	124
234	K17-LS007B	N	-8200	2.8	F.2	LEVEL SWITCH	103E1634/0	124
235	K17-LS008B	N	-8200	2.8	F.2	LEVEL SWITCH	103E1634/0	124
236	K17-LS009B	N	-8200	2.8	F.2	LEVEL SWITCH	103E1634/0	124
237	K17-LS106E	N	-8200	2.8	F.7	LEVEL SWITCH	103E1634/0	124
238	K17-LS107E	N	-8200	2.8	F.7	LEVEL SWITCH	103E1634/0	124
239	K17-LT108E	N	-8200	2.8	F.7	LEVEL TRANSMITTER	103E1634/0	124
240	C12-D004-2*	N	-8200	3.2	E.8	HCU (GR 2 TYP OF 25)	103E1789/0	125
241	C12-F139A-2*	2	-8200	3.2	E.8	HCU AO VLV (TYP OF 25)	103E1789/0	125
242	C12-F139B-2*	3	-8200	3.2	E.8	HCU AO VLV (TYP OF 25)	103E1789/0	125
243	C12-F143-2*	N	-8200	3.2	E.8	HCU AO VLV (TYP OF 25)	103E1789/0	125
244	C12-LS129-2*	N	-8200	3.2	E.8	HCU LVL SW (TYP OF 25)	103E1789/0	125
245	C12-POS001-2*	N	-8200	3.2	E.8	FMC RD POS SW (TYP OF 25)	103E1789/0	125
246	C12-PS130-2*	N	-8200	3.2	E.8	HCU PR SW (TYP OF 25)	103E1789/0	125
247	C81-DPT301B	2	-8200	3.4	E.8	DIFF PRESS TRANS	299X701-146/0	125
248	C81-DPT401B	N	-8200	3.4	E.8	DIFF PRESS TRANS	299X701-146/0	125
249	C81-DPT404B	N	-8200	3.4	E.8	DIFF PRESS TRANS	796E357	125
250	H22-P001B*	2	-8200	3.4	E.8	CORE FLOW INST RACK B	10Q273-280	125
251	C12-FQ001-1*	N	-8200	4.1	F.5	FLOW INTEGRATOR	103E1789/0	126
252	C12-FQ001-2*	N	-8200	4.1	F.5	FLOW INTEGRATOR	103E1789/0	126
253	C12-FQ001-3*	N	-8200	4.1	F.5	FLOW INTEGRATOR	103E1789/0	126
254	C12-FQ001-4*	N	-8200	4.1	F.5	FLOW INTEGRATOR	103E1789/0	126
255	C12-FQ002*	N	-8200	4.1	F.5	FLOW INTEGRATOR	103E1789/0	126
256	C12-PT011B	2	-8200	3.3	F.2	PRESS TRANSMITTER	103E1789/0	126

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
257	C12-PT011C	3	-8200	4.7	F.2	PRESS TRANSMITTER	103E1789/0	126
258	D21-RE012	N	-8200	4.0	F.6	AREA RAD DETECTOR	299X701-171/0	126
259	U41-B013	N	-8200	4.1	F.5	HEATING COIL, R/B	107E5189/0	126
260	U41-TE012	N	-8200	4.1	F.5	TEMP ELEMENT	107E5189/0	126
261	U41-TT612	N	-8200	4.1	F.5	TEMP TRANS, R/B HVAC	107E5189/0	126
262	C12-D004-3*	N	-8200	4.7	E.8	HCU (GR 3 TYP OF 25)	103E1789/0	129
263	C12-F041	N	-8200	4.0	E.9	SO VALVE	103E1789/0	129
264	C12-F042	N	-8200	4.0	E.9	SO VALVE	103E1789/0	129
265	C12-F043	N	-8200	4.0	E.9	AO VALVE	103E1789/0	129
266	C12-F044	N	-8200	4.0	E.9	AO VALVE	103E1789/0	129
267	C12-F047	N	-8200	4.0	E.9	AO VALVE	103E1789/0	129
268	C12-F048A	N	-8200	4.0	E.9	AO VALVE	103E1789/0	129
269	C12-F048B	N	-8200	4.0	E.9	AO VALVE	103E1789/0	129
270	C12-F049A	N	-8200	4.0	E.9	AO VALVE	103E1789/0	129
271	C12-F049B	N	-8200	4.0	E.9	AO VALVE	103E1789/0	129
272	C12-F139A-3*	2	-8200	4.7	E.8	HCU AO VLV (TYP OF 25)	103E1789/0	129
273	C12-F139B-3*	3	-8200	4.7	E.8	HCU AO VLV (TYP OF 25)	103E1789/0	129
274	C12-F143-3*	N	-8200	4.7	E.8	HCU AO VLV (TYP OF 25)	103E1789/0	129
275	C12-FE001-1*	N	-8200	4.1	E.9	FLOW ELEMENT (GROUP)	103E1789/0	129
276	C12-FE001-2*	N	-8200	4.1	E.9	FLOW ELEMENT (GROUP)	103E1789/0	129
277	C12-FE001-3*	N	-8200	4.1	E.9	FLOW ELEMENT (GROUP)	103E1789/0	129
278	C12-FE001-4*	N	-8200	4.1	E.9	FLOW ELEMENT (GROUP)	103E1789/0	129
279	C12-FE002*	N	-8200	4.1	E.9	FLOW ELEMENT (COMBINED)	103E1789/0	129
280	C12-LS129-3*	N	-8200	4.7	E.8	HCU LVL SW (TYP OF 25)	103E1789/0	129
281	C12-POS001-3*	N	-8200	4.7	E.8	FMC RD POS SW (TYP OF 25)	103E1789/0	129
282	C12-PS130-3*	N	-8200	4.7	E.8	HCU PR SW (TYP OF 25)	103E1789/0	129
283	C81-DPT301C	3	-8200	4.5	E.8	DIFF PRESS TRANS	299X701-146/0	129
284	C81-DPT401C	N	-8200	4.5	E.8	DIFF PRESS TRANS	299X701-146/0	129
285	C81-DPT404C	N	-8200	4.5	E.8	DIFF PRESS TRANS	796E357	129
286	H22-P001C*	3	-8200	4.6	E.8	CORE FLOW INST RACK C	10Q273-280	129
287	E11-FT008C1	3	-8200	6.6	E.2	FLOW TRANSMITTER	103E1797/1	130
288	E11-FT008C2	3	-8200	6.6	E.2	FLOW TRANSMITTER	103E1797/1	130
289	E11-PT004C	3	-8200	6.6	E.2	POS XMTR	103E1797/1	130

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
290	E11-PT004G	3	-8200	6.6	E.2	POS XMTR	103E1797/1	130
291	E11-PT005C	3	-8200	6.6	E.2	POS XMTR (PMP C)	103E1797/1	130
292	E11-PT009C	3	-8200	6.6	E.2	POS XMTR (RPV SUC C)	103E1797/1	130
293	E11-TT007C	N	-8200	6.6	E.2	TEMP XMTR (HX C OUT)	103E1797/1	130
294	E11-TT011C	N	-8200	6.6	E.2	TEMP XMTR (HX C OUT)	103E1797/1	130
295	E22-F001C	3	-8200	5.8	E.2	MO GATE VALVE (CST)	107E6008/0	130
296	E22-F006C	3	-7085	5.8	D.7	MO GATE VALVE (PSUCT)	107E6008/0	130
297	E22-FT008C1	3	-8200	6.6	D.7	FLOW TRANSMITTER	107E6008/0	130
298	E22-FT008C2	3	-8200	6.6	D.7	FLOW TRANSMITTER	107E6008/0	130
299	E22-PT002C	3	-8200	6.6	D.7	PRESS TRANSMITTER	107E6008/0	130
300	E22-PT003C	3	-8200	6.6	D.7	PRESS TRANSMITTER	107E6008/0	130
301	E22-PT006C	3	-8200	6.6	D.7	PRESS TRANSMITTER	107E6008/0	130
302	E22-PT006G	3	-8200	6.6	D.7	PRESS TRANSMITTER	107E6008/0	130
303	E22-PT007C	3	-8200	6.6	D.8	PRESS TRANSMITTER	107E6008/0	130
304	H22-P002C*	3	-8200	6.6	E.1	RHR C INST RACK	10Q273-280	130
305	H22-P003C*	3	-8200	6.6	D.8	HPCS C INSTR RACK	10Q273-280	130
306	T31-LT058C	3	-8200	5.9	E.0	LEVEL TRANSMITTER	107E6043/0	130
307	X-211	3	-7085	5.8	D.7	HPCF PUMP C SUCTION	795E876/4	130
308	X-323D	4	-6700	5.8	D.9	SUPP CHAMBER WATER LEV	107E6043/0	130
309	E22-C001C	3	-8200	5.7	E.3	HPCF PUMP C	107E6008/0	130
310	E22-F008C	3	-8200	5.7	E.3	MO GLOBE VALVE (TEST)	107E6008/0	130
311	E22-F009C	3	-8200	5.7	E.3	MO GLOBE VALVE (TEST)	107E6008/0	130
312	E22-F010C	3	-8200	5.7	E.3	MO GATE VALVE (MINFLO)	107E6008/0	130
313	E22-POE301C	3	-8200	5.7	E.3	PRIMARY POS ELEMENT	107E6008/0	130
314	E22-POE302C	3	-8200	5.7	E.3	PRIMARY POS ELEMENT	107E6008/0	130
315	E22-POT301C	3	-8200	5.7	E.3	POS TRANSMITTER	107E6008/0	130
316	E22-POT302C	3	-8200	5.7	E.3	POS TRANSMITTER	107E6008/0	130
317	U41-D102	3	-8200	6.3	E.3	HPCF PUMP (C) ROOM HVH	107E5189/0	130
318	E11-B001C	3	-8200	6.4	F.3	HEAT EXCHANGER	103E1797/1	132
319	E11-F004C	3	-8200	6.1	E.8	MO GLOBE VALVE (HXOUT)	103E1797/1	132
320	E11-F043C	3	-8200	6.5	F.0	SO GLOBE VALVE	103E1797/1	132
321	E11-F044C	3	-8200	6.5	F.0	SO GLOBE VALVE	103E1797/1	132

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
322	E11-POT301C	3	-8200	6.1	E.8	POS XMTR (F004C)	103E1797/1	132
323	E11-TE006C	N	-8200	6.4	F.3	TEMP ELEMENT	103E1797/1	132
324	E11-TE007C	N	-8200	6.1	E.8	TEMP ELEMENT	103E1797/1	132
325	E11-TT006C	N	-8200	6.4	F.3	TEMP XMTR (HX C INL)	103E1797/1	132
326	P21-F013C	3	-8200	6.5	F.5	MO GLOBE VALVE	107E5112/0	132
327	P21-F055C	3	-8200	6.5	F.5	MO GATE VALVE	107E5112/0	132
328	P21-F055F	3	-8200	6.5	F.5	MO GATE VALVE	107E5112/0	132
329	P21-FT008C	3	-8200	6.5	F.5	FLOW XMTR (RHR HX C)	107E5112/0	132
330	P21-TE009C	3	-8200	6.5	F.5	TEMP ELEM (RHR HX C)	107E5112/0	132
331	E11-C001C	3	-8200	5.8	E.7	RHR PUMP C	103E1797/1	132
332	E11-C002C	3	-8200	5.1	E.7	RHR C FILL PUMP	103E1797/1	132
333	E11-F001C	3	-7085	5.2	E.6	MO GATE VALVE (PSUCT)	103E1797/1	132
334	E11-F012C	3	-8200	5.5	E.6	MO GATE VALVE (RSUCT)	103E1797/1	132
335	E11-F013C	3	-8200	5.8	E.8	MO GLOBE VALVE (HXBYP)	103E1797/1	132
336	E11-F014C	3	-8200	5.8	E.7	MO GATE VALVE (FPC)	103E1797/1	132
337	E11-F015C	3	-8200	5.8	E.7	MO GATE VALVE (FPC)	103E1797/1	132
338	E11-F029C	3	-8200	5.8	E.7	MO GATE VALVE (SPWS)	103E1797/1	132
339	E11-F030C	3	-8200	5.0	E.7	MO GATE VALVE (SPWS)	103E1797/1	132
340	E11-POT302C	3	-8200	5.8	E.8	POS XMTR (FO13C)	103E1797/1	132
341	E11-POT303C	3	-8200	5.0	E.7	POS XMTR (FO30C)	103E1797/1	132
342	E11-TE011C	N	-8200	5.8	E.7	TEMP ELEMENT	103E1797/1	132
343	E31-TE008J	1	-8200	5.8	E.7	RHR C AMB TEMP ELEM	103E1792/1	132
344	E31-TE008K	2	-8200	5.8	E.7	RHR C AMB TEMP ELEM	103E1792/1	132
345	E31-TE008L	3	-8200	5.8	E.7	RHR C AMB TEMP ELEM	103E1792/1	132
346	E31-TE008M	4	-8200	5.8	E.7	RHR C AMB TEMP ELEM	103E1792/1	132
347	E31-TE031J	N	-8200	5.8	E.7	RHR C DIFF TEMP ELEM	103E1792/1	132
348	E31-TE032J	N	-8200	5.8	E.7	RHR C DIFF TEMP ELEM	103E1792/1	132
349	U41-D104	3	-8200	5.3	E.9	RHR PUMP (C) ROOM HVH	107E5189/0	132
350	X-203	3	-7085	5.2	E.6	RHR C SUP POOL SUCT	795E880/3	132
351	K17-C102C	N	-8200	6.2	F.7	HCW PUMP - R/B SUMP C	103E1634/0	132
352	K17-C102H	N	-8200	6.2	F.7	HCW PUMP - R/B SUMP C	103E1634/0	132
353	K17-LE108C	N	-8200	6.2	F.7	LEVEL ELEMENT	103E1634/0	132
354	K17-LS106C	N	-8200	6.2	F.7	LEVEL SWITCH	103E1634/0	132
355	K17-LS107C	N	-8200	6.2	F.7	LEVEL SWITCH	103E1634/0	132

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
356	K17-LT108C	N	-8200	6.2	F.7	LEVEL TRANSMITTER	103E1634/0	132
357	C12-B001	N	-8200	5.8	F.6	ELECTRIC HEATER	103E1789/0	133
358	C12-C001A	N	-8200	5.5	F.5	CRD PUMP A	103E1789/0	133
359	C12-C001B	N	-8200	5.2	F.5	CRD PUMP B	103E1789/0	133
360	C12-C002A*	N	-8200	5.8	F.3	OIL PUMP AND COOLER A	103E1789/0	133
361	C12-C002B*	N	-8200	5.8	F.5	OIL PUMP AND COOLER B	103E1789/0	133
362	C12-D011A	N	-8200	5.6	F.5	MANUAL/AUTO STATION	103E1789/0	133
363	C12-D011B	N	-8200	5.3	F.5	MANUAL/AUTO STATION	103E1789/0	133
364	C12-DPI001	N	-8200	5.2	F.2	DIFF PRESS INDICATOR	103E1789/0	133
365	C12-DPI006	N	-8200	5.2	F.2	DIFF PRESS INDICATOR	103E1789/0	133
366	C12-DPT001	N	-8200	5.2	F.2	DIFF PRESS TRANSMITTER	103E1789/0	133
367	C12-DPT006	N	-8200	5.2	F.2	DIFF PRESS TRANSMITTER	103E1789/0	133
368	C12-DPT009	N	-8200	5.2	F.2	DIFF PRESS TRANSMITTER	103E1789/0	133
369	C12-E/P001	N	-8200	5.2	F.2	E/P CONVERTER	103E1789/0	133
370	C12-F010B	N	-8200	5.2	F.2	FCV: B	103E1789/0	133
371	C12-F014	N	-8200	5.5	F.5	MO GLOBE VALVE	103E1789/0	133
372	C12-F021	N	-8200	5.5	F.5	MO GLOBE VALVE	103E1789/0	133
373	C12-FI007	N	-8200	5.2	F.2	FLOW INDICATOR	103E1789/0	133
374	C12-FT007	N	-8200	5.2	F.2	FLOW TRANSMITTER	103E1789/0	133
375	C12-PI015	N	-8200	5.2	F.2	PRESS INDICATOR	103E1789/0	133
376	C12-PS401A*	N	-8200	5.6	F.5	PRESS SWITCH (OIL)	103E1789/0	133
377	C12-PS401B*	N	-8200	5.3	F.5	PRESS SWITCH (OIL)	103E1789/0	133
378	C12-PS402A*	N	-8200	5.6	F.5	PRESS SWITCH (OIL)	103E1789/0	133
379	C12-PS402B*	N	-8200	5.3	F.5	PRESS SWITCH (OIL)	103E1789/0	133
380	C12-PS403A*	N	-8200	5.6	F.5	PRESS SWITCH (OIL)	103E1789/0	133
381	C12-PS403B*	N	-8200	5.3	F.5	PRESS SWITCH (OIL)	103E1789/0	133
382	C12-PT003A	N	-8200	5.6	F.5	PRESS TRANSMITTER	103E1789/0	133
383	C12-PT003B	N	-8200	5.3	F.5	PRESS TRANSMITTER	103E1789/0	133
384	C12-PT015	N	-8200	5.2	F.2	PRESS TRANSMITTER	103E1789/0	133
385	C12-TE005	N	-8200	5.2	F.2	TEMP ELEMENT	103E1789/0	133
386	C12-TIS001A*	N	-8200	5.2	F.2	TEMP IND SWITCH	103E1789/0	133
387	C12-TIS001B*	N	-8200	5.2	F.2	TEMP IND SWITCH	103E1789/0	133

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
388	C12-TT005	N	-8200	5.2	F.2	TEMP TRANSMITTER	103E1789/0	133
389	H22-P006A*	N	-8200	5.6	F.5	CRD PUMP A INST RACK	10Q273-280	133
390	H22-P006B*	N	-8200	5.3	F.5	CRD PUMP B INST RACK	10Q273-280	133
391	H22-P006*	N	-8200	5.2	F.2	CRD HYD SYS INST RACK	10Q273-280	133
392	T31-TE053J	N	-8200	5.2	F.3	TEMP ELEMENT	107E6043/0	133
393	T31-TE053K	N	-8200	5.2	F.6	TEMP ELEMENT	107E6043/0	133
394	T31-TE053L	N	-8200	5.6	F.3	TEMP ELEMENT	107E6043/0	133
395	T31-TE053M	N	-8200	5.6	F.6	TEMP ELEMENT	107E6043/0	133
396	C12-F010A	N	-8200	5.5	F.7	FCV: A	103E1789/0	133
397	G51-C001	N	-8200	2.2	C.0	SPCU PUMP	107E6051/0	140
398	G51-F001	N	-7050	2.3	B.9	MO GATE VALVE (ISOL)	107E6051/0	140
399	G51-F002	N	-8200	2.2	C.0	MO GATE VALVE (ISOL)	107E6051/0	140
400	G51-F004	N	-8200	2.2	C.0	AO VALVE	107E6051/0	140
401	G51-F005A	N	-8200	2.2	C.0	AO VALVE	107E6051/0	140
402	G51-F005B	N	-8200	2.2	C.0	AO VALVE	107E6051/0	140
403	G51-F008	N	-8200	2.2	C.0	MO GLOBE VALVE (RECIRC)	107E6051/0	140
404	G51-F009	N	-8200	2.2	C.0	MO GATE VALVE (CST)	107E6051/0	140
405	G51-F014	N	-8200	2.2	C.0	MO GLOBE VALVE (FPC SUP)	107E6051/0	140
406	G51-FT005	N	-8200	2.2	C.0	FLOW TRANSMITTER	107E6051/0	140
407	G51-PIS001	N	-8200	2.2	C.0	PRESS IND SWITCH	107E6051/0	140
408	T31-LT058D	4	-8200	2.2	C.1	LEVEL TRANSMITTER	107E6043/0	140
409	X-216	N	-7050	2.4	B.8	SPCU PUMP SUCTION	107E6051/0	140
410	X-323B	2	-4700	2.2	C.4	SUPP CHAMBER WATER LEV	107E6043/0	140
411	X-323F	2	-6700	2.2	C.6	SUPP CHAMBER WATER LEV	107E6043/0	140
412	D21-RE009	N	-8200	2.0	B.6	AREA RAD DETECTOR	299X701-171/0	140
413	U41-D115-1	N	-8200	1.8	B.5	R/A SPCU R00M HVH	107E5189/0	140
414	U41-D115-2	N	-8200	1.8	B.5	R/A SPCU R00M HVH	107E5189/0	140
415	E31-TE009E	1	-8200	1.6	C.0	CUW NR/HX AMB TEMP ELEM	103E1792/1	141
416	E31-TE009F	2	-8200	1.6	C.0	CUW NR/HX AMB TEMP ELEM	103E1792/1	141
417	E31-TE009G	3	-8200	1.6	C.0	CUW NR/HX AMB TEMP ELEM	103E1792/1	141

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
418	E31-TE009H	4	-8200	1.6	C.0	CUW NR/HX AMB TEMP ELEM	103E1792/1	141
419	E31-TE033E	N	-8200	1.6	C.0	CUW NR/HX DIFF TEMP ELEM	103E1792/1	141
420	E31-TE034E	N	-8200	1.6	C.0	CUW NR/HX DIFF TEMP ELEM	103E1792/1	141
421	G31-B002A	N	-8200	1.8	C.5	NON REGEN. HT. EXCH.	107E5051/0	141
422	G31-B002B	N	-8200	1.5	C.5	NON REGEN. HT. EXCH.	107E5051/0	141
423	G31-B002C	N	-8200	1.8	C.5	NON REGEN. HT. EXCH.	107E5051/0	141
424	G31-B002D	N	-8200	1.5	C.5	NON REGEN. HT. EXCH.	107E5051/0	141
425	G31-TE005A	N	-8200	1.8	C.7	TEMP ELEMENT	107E5051/0	141
426	G31-TE005B	N	-8200	1.5	C.7	TEMP ELEMENT	107E5051/0	141
427	G31-TE006	N	-8200	1.6	C.3	TEMP ELEMENT	107E5051/0	141
428	P21-E/P606A*	N	-8200	1.8	C.0	E/P CONVERT (TCV-CUW)	107E5112/0	141
429	P21-E/P606B*	N	-8200	1.4	C.0	E/P CONVERT (TCV-CUW)	107E5112/0	141
430	P21-F101A	N	-8200	1.6	C.0	MO GATE VALVE	107E5112/0	141
431	P21-F101B	N	-8200	1.4	C.0	MO GATE VALVE	107E5112/0	141
432	G31-FR104	N	-8200	1.4	B.3	FLOW RECORDER	107E5051/0	142
433	G31-PT012	N	-8200	1.9	B.2	PRESS TRANSMITTER	107E5051/0	142
434	H22-P007*	N	-8200	1.9	B.2	REA COOL CU SYS INST RACK	10Q273-280	142
435	H22-P009*	N	-8200	1.3	B.8	SPD SYS SAMPLING RACK	10Q273-280	142
436	G31-F219	N	-8200	2.5	B.3	AO BALL VALVE	107E5051/0	144
437	K17-F001	N	-8200	2.7	B.3	AO VALVE	103E1634/0	144
438	K17-F004	N	-8200	2.7	B.3	AO VALVE	103E1634/0	144
439	K17-LE001	N	-8200	2.7	B.3	LEVEL ELEMENT	103E1634/0	144
440	K17-LI001	N	-8200	2.7	B.3	LEVEL INDICATOR	103E1634/0	144
441	K17-LRS001	N	-8200	2.7	B.3	LEVEL RECORDER SWITCH	103E1634/0	144
442	K17-LS001A	N	-8200	2.7	B.3	LEVEL SWITCH	103E1634/0	144
443	K17-LS001B	N	-8200	2.7	B.3	LEVEL SWITCH	103E1634/0	144
444	K17-LT001	N	-8200	2.7	B.3	LEVEL TRANSMITTER	103E1634/0	144
445	E31-TE010A	1	-8200	1.5	A.8	CUW SUC FLO TEMP ELEM	103E1792/1	146
446	E31-TE010C	3	-8200	1.5	A.8	CUW SUC FLO TEMP ELEM	103E1792/1	146

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
447	E31-TE011A	1	-8200	1.5	A.8	CUW RET FLO TEMP ELEM	103E1792/1	146
448	E31-TE011C	3	-8200	1.5	A.8	CUW RET FLO TEMP ELEM	103E1792/1	146
449	E31-TE012A	1	-8200	1.5	A.8	CUW B/D FLO TEMP ELEM	103E1792/1	146
450	E31-TE012C	3	-8200	1.5	A.8	CUW B/D FLO TEMP ELEM	103E1792/1	146
451	G31-C001B	N	-8200	1.5	A.7	CUW PUMP B	107E5051/0	146
452	E31-TE009J	1	-8200	2.5	B.3	CUW V RM AMB TEMP ELEM	103E1792/1	443
453	E31-TE009K	2	-8200	2.5	B.3	CUW V RM AMB TEMP ELEM	103E1792/1	443
454	E31-TE009L	3	-8200	2.5	B.3	CUW V RM AMB TEMP ELEM	103E1792/1	443
455	E31-TE009M	4	-8200	2.5	B.3	CUW V RM AMB TEMP ELEM	103E1792/1	443
456	E31-TE010B	2	-8200	2.0	A.8	CUW SUC FLO TEMP ELEM	103E1792/1	147
457	E31-TE010D	4	-8200	2.0	A.8	CUW SUC FLO TEMP ELEM	103E1792/1	147
458	E31-TE011B	2	-8200	2.0	A.8	CUW RET FLO TEMP ELEM	103E1792/1	147
459	E31-TE011D	4	-8200	2.0	A.8	CUW RET FLO TEMP ELEM	103E1792/1	147
460	E31-TE012B	2	-8100	2.0	A.8	CUW B/D FLO TEMP ELEM	103E1792/1	147
461	E31-TE012D	4	-8200	2.0	A.8	CUW B/D FLO TEMP ELEM	103E1792/1	147
462	E31-TE033J	N	-8200	2.0	A.8	CUW V RM DIFF TEMP ELEM	103E1792/1	147
463	E31-TE034J	N	-8200	2.0	A.8	CUW V RM DIFF TEMP ELEM	103E1792/1	147
464	G31-C001A	N	-8200	2.0	A.7	CUW PUMP A	107E5051/0	147
465	G31-C002A*	N	-8200	2.4	A.7	CUW HOLDING PUMP A	107E5051/0	149
466	G31-C002B*	N	-8200	2.8	A.7	CUW HOLDING PUMP B	107E5051/0	149
467	T53-TE001E	1	-2240	5.5	C.9	TEMP ELEMENT	107E6059	190
468	T53-TE001F	2	-2240	5.5	C.9	TEMP ELEMENT	107E6059	190
469	T53-TE001J	1	-4920	5.5	C.9	TEMP ELEMENT	107E6059	190
470	T53-TE001K	2	-4920	5.5	C.9	TEMP ELEMENT	107E6059	190
471	T53-TE001N	1	-6590	5.5	C.9	TEMP ELEMENT	107E6059	190
472	T53-TE001P	2	-6590	5.5	C.9	TEMP ELEMENT	107E6059	190
473	T53-TE002E	1	-2240	4.5	D.8	TEMP ELEMENT	107E6059	190



**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
474	T53-TE002F	2	-2240	4.5	D.8	TEMP ELEMENT	107E6059	190
475	T53-TE002J	1	-4920	4.5	D.8	TEMP ELEMENT	107E6059	190
476	T53-TE002K	2	-4920	4.5	D.8	TEMP ELEMENT	107E6059	190
477	T53-TE002N	1	-6590	4.5	D.8	TEMP ELEMENT	107E6059	190
478	T53-TE002P	2	-6590	4.5	D.8	TEMP ELEMENT	107E6059	190
479	T53-TE003E	1	-2240	3.2	E.4	TEMP ELEMENT	107E6059	190
480	T53-TE003F	2	-2240	3.2	E.4	TEMP ELEMENT	107E6059	190
481	T53-TE003J	1	-4920	3.2	E.4	TEMP ELEMENT	107E6059	190
482	T53-TE003K	2	-4920	3.2	E.4	TEMP ELEMENT	107E6059	190
483	T53-TE003N	1	-6590	3.2	E.4	TEMP ELEMENT	107E6059	190
484	T53-TE003P	2	-6590	3.2	E.4	TEMP ELEMENT	107E6059	190
485	T53-TE004E	1	-2240	3.0	D.1	TEMP ELEMENT	107E6059	190
486	T53-TE004F	2	-2240	3.0	D.1	TEMP ELEMENT	107E6059	190
487	T53-TE004J	1	-4920	3.0	D.1	TEMP ELEMENT	107E6059	190
488	T53-TE004K	2	-4920	3.0	D.1	TEMP ELEMENT	107E6059	190
489	T53-TE004N	1	-6590	3.0	D.1	TEMP ELEMENT	107E6059	190
490	T53-TE004P	2	-6590	3.0	D.1	TEMP ELEMENT	107E6059	190
491	T53-TE005E	1	-2240	3.0	B.7	TEMP ELEMENT	107E6059	190
492	T53-TE005F	2	-2240	3.0	B.7	TEMP ELEMENT	107E6059	190
493	T53-TE005J	1	-4920	3.0	B.7	TEMP ELEMENT	107E6059	190
494	T53-TE005K	2	-4920	3.0	B.7	TEMP ELEMENT	107E6059	190
495	T53-TE005N	1	-6590	3.0	B.7	TEMP ELEMENT	107E6059	190
496	T53-TE005P	2	-6590	3.0	B.7	TEMP ELEMENT	107E6059	190
497	T53-TE006E	1	-2240	4.4	C.1	TEMP ELEMENT	107E6059	190
498	T53-TE006F	2	-2240	4.4	C.1	TEMP ELEMENT	107E6059	190
499	T53-TE006J	1	-4920	4.4	C.1	TEMP ELEMENT	107E6059	190
500	T53-TE006K	2	-4920	4.4	C.1	TEMP ELEMENT	107E6059	190
501	T53-TE006N	1	-6590	4.4	C.1	TEMP ELEMENT	107E6059	190
502	T53-TE006P	2	-6590	4.4	C.1	TEMP ELEMENT	107E6059	190
503	K17-C001A	N	-6600	3.7	C.6	LCW PUMP - DW SUMP	103E1634/0	191
504	K17-C001B	N	-6600	3.7	C.6	LCW PUMP - DW SUMP	103E1634/0	191
505	K17-C101A	N	-6600	4.3	C.6	HCW PUMP - DW SUMP	103E1634/0	191
506	K17-C101B	N	-6600	4.3	C.6	HCW PUMP - DW SUMP	103E1634/0	191
507	K17-LE103	N	-6600	4.3	C.6	LEVEL ELEMENT	103E1634/0	191

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
508	K17-LS002	N	-6600	3.7	C.6	LEVEL SWITCH	103E1634/0	191
509	K17-LS003	N	-6600	3.7	C.6	LEVEL SWITCH	103E1634/0	191
510	K17-LS101	N	-6600	4.3	C.6	LEVEL SWITCH	103E1634/0	191
511	K17-LS102	N	-6600	4.3	C.6	LEVEL SWITCH	103E1634/0	191
512	K17-LT103	N	-6600	4.3	C.6	LEVEL TRANSMITTER	103E1634/0	191
513	K17-TE001	N	-6600	3.7	C.6	TEMP ELEMENT	103E1634/0	191
514	H23-P005*	N	-1700	5.8	B.0	I/O DEVICE	----?----	210
515	H22-P055A*	23	-1700	5.2	A.3	SCRAM SOL FUSE PNL A	----?----	210
516	H22-P055D*	23	-1700	5.0	A.3	SCRAM SOL FUSE PNL D	----?----	210
517	H22-P055E*	23	-1700	5.1	A.3	SCRAM SOL FUSE PNL E	----?----	210
518	H22-P055H*	23	-1700	4.8	A.3	SCRAM SOL FUSE PNL H	----?----	210
519	E51-PT009	1	-1700	6.2	B.9	PRESS XMTR (STM SUPP)	103E1795/1	210
520	E51-PT013A	1	-1700	6.2	B.9	PRESS XMTR (TUEB EXH)	103E1795/1	210
521	E51-PT013E	1	-1700	6.2	B.9	PRESS XMTR (TUEB EXH)	103E1795/1	210
522	E51-PT014A	1	-1700	6.2	B.9	PRESS XMTR (TUEB EXH)	103E1795/1	210
523	E51-PT014B	2	-1700	6.2	B.9	PRESS XMTR (TUEB EXH)	103E1795/1	210
524	E51-PT014E	1	-1700	6.2	B.9	PRESS XMTR (TUEB EXH)	103E1795/1	210
525	E51-PT014F	2	-1700	6.2	B.9	PRESS XMTR (TUEB EXH)	103E1795/1	210
526	H22-P010*	1	-1700	6.2	B.9	RCIC STM SYS INST RCK	10Q273-281	210
527	G41-F006	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
528	G41-F007A	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
529	G41-F007B	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
530	G41-F010A	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
531	G41-F010B	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
532	G41-F048A	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
533	G41-F048B	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
534	G41-F049A	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
535	G41-F049B	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
536	G41-F051A	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
537	G41-F051B	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
538	G41-F052	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
539	G41-F062A	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
540	G41-F062B	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
541	G41-F063A	N	-1700	3.7	A.4	AO GLOBE VALVE	107E6042/0	210

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
542	G41-F063B	N	-1700	3.7	A.4	AO GLOBE VALVE	107E6042/0	210
543	G41-F074A	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
544	G41-F074B	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
545	G41-F077A	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
546	G41-F077B	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
547	G41-F078	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
548	G41-F084A	N	-1700	3.7	A.4	AO GLOBE VALVE	107E6042/0	210
549	G41-F084B	N	-1700	3.7	A.4	AO GLOBE VALVE	107E6042/0	210
550	G41-F087A	N	-1700	3.7	A.4	AO GLOBE VALVE	107E6042/0	210
551	G41-F087B	N	-1700	3.7	A.4	AO GLOBE VALVE	107E6042/0	210
552	G41-F101A	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
553	G41-F101B	N	-1700	3.7	A.4	AO BALL VALVE	107E6042/0	210
554	H22-P011*	N	-1700	3.7	A.5	FPC F/D SO VLV RACK	10Q273-281	210
555	X-013A	1	1400	4.0	B.1	RIP PURGE WTR SUPPLY	795E882/4	211
556	X-020A	N	1400	4.0	B.2	CRD INSERT	796E367/3	211
557	X-400A	N	1400	4.0	B.1	TIP DRIVE	795E898	211
558	X-400B	N	1400	4.0	B.1	TIP DRIVE	795E898	211
559	X-400C	N	1400	4.0	B.1	TIP DRIVE	795E898	211
560	X-401	N	1400	4.0	B.1	TIP DRIVE PURGE LINE	795E898	211
561	E11-F008A	1	1200	5.9	C.8	MO GLOBE VALVE (PRET)	103E1797/1	212
562	E11-F021A	1	1200	5.9	C.8	MO GATE VALVE (RECIRC)	103E1797/1	212
563	E11-F031A	1	-1700	5.9	C.6	MO GLOBE VALVE (TEST)	103E1797/1	212
564	E11-POT304A	1	-1700	5.9	C.6	POS XMTR (FO31A)	103E1797/1	212
565	DELETED							
566	T31-F739A	1	2800	5.9	C.4	SO VALVE	107E6043/0	212
567	T31-F741A	1	-1700	5.9	C.4	SO VALVE	107E6043/0	212
568	T31-F743A	1	2800	5.9	C.4	SO VALVE	107E6043/0	212
569	T31-F745A	1	-1700	5.9	C.4	SO VALVE	107E6043/0	212
570	X-204	1	1200	5.9	C.6	RHR PUMP A TEST RET	795E880/3	212
571	X-322A	1	400	5.8	C.5	SUPP CHAMBER WATER LEV	107E6043/0	212
572	X-322C	1	400	5.8	C.6	SUPP CHAMBER WATER LEV	107E6043/0	212
573	G51-F007	N	1650	3.2	B.2	MO GATE VALVE (PRET)	107E6051/0	214
574	X-217	N	1650	3.2	B.2	SPCU PUMP RETURN	107E6051/0	214

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
575	C51-J001A	N	1500	4.2	A.2	ATIP DRIVE A	107E5074/0	215
576	C51-J001B	N	1500	4.0	A.2	ATIP DRIVE B	107E5074/0	215
577	C51-J001C	N	1500	3.8	A.2	ATIP DRIVE C	107E5074/0	215
578	C51-J009	N	1500	4.5	A.2	TIP PURGE EQUIPMENT	107E5074/0	215
579	C51-J011	N	1500	4.5	A.2	TIP PURGE VALVE	107E5074/0	215
580	C51-N006A	N	1500	3.8	A.2	TIP IN-CORE PROBE	107E5074/0	215
581	C51-N006B	N	1500	4.0	A.2	TIP IN-CORE PROBE	107E5074/0	215
582	C51-N006C	N	1500	4.2	A.2	TIP IN-CORE PROBE	107E5074/0	215
583	D21-RE018	N	1500	4.0	A.2	AREA RAD DETECTOR	299X701-171/0	215
584	C51-N005A	N	1500	4.0	A.8	OB PROXIMITY SWITCH	107E5074/0	216
585	C51-N005B	N	1500	4.0	A.8	OB PROXIMITY SWITCH	107E5074/0	216
586	C51-N005C	N	1500	4.0	A.8	OB PROXIMITY SWITCH	107E5074/0	216
587	D21-RE019	N	1500	4.0	A.5	AREA RAD DETECTOR	299X701-171/0	216
588	C51-J004A	N	1500	4.0	B.1	TIP BALL/SHR VLV ASM	107E5074/0	216
589	C51-J004B	N	1500	4.0	B.1	TIP BALL/SHR VLV ASM	107E5074/0	216
590	C51-J004C	N	1500	4.0	B.1	TIP BALL/SHR VLV ASM	107E5074/0	216
591	D21-RE023	N	-1700	5.0	B.1	AREA RAD DETECTOR	299X701-171/0	219
592	D21-RE022	N	-1700	2.0	E.9	AREA RAD DETECTOR	299X701-171/0	221
593	H23-P006*	N	-1700	2.6	F.0	I/O DEVICE	----?-----	221
594	H23-P007*	N	-1700	2.8	F.0	I/O DEVICE	----?-----	221
595	DELETED							
596	DELETED							
597	DELETED							
598	DELETED							
599	DELETED							
600	E11-F008B	2	1200	2.1	D.2	MO GLOBE VALVE (PRET)	103E1797/1	222
601	E11-F021B	2	1200	2.1	D.2	MO GATE VALVE (RECIRC)	103E1797/1	222
602	E11-F031B	2	-1700	2.1	D.4	MO GLOBE VALVE (TEST)	103E1797/1	222
603	E11-POT304B	2	-1700	2.1	D.4	POS XMTR (FO31B)	103E1797/1	222
604	T31-F739B	2	2800	2.1	D.5	SO VALVE	107E6043/0	222
605	T31-F741B	2	-1700	2.1	D.5	SO VALVE	107E6043/0	222
606	T31-F743B	2	2800	2.1	D.5	SO VALVE	107E6043/0	222
607	T31-F745B	2	-1700	2.1	D.5	SO VALVE	107E6043/0	222
608	X-205	2	1200	2.1	D.4	RHR PUMP B TEST RET	795E880/3	222

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
609	X-322E	3	400	2.2	D.6	SUPP CHAMBER WATER LEV	107E6043/0	222
610	D21-RE010	N	-1700	3.8	F.1	AREA RAD DETECTOR	299X701-171/0	223
611	T31-TE053A	N	-1700	4.2	E.8	TEMP ELEMENT	107E6043/0	223
612	T31-TE053B	N	-1700	4.2	E.9	TEMP ELEMENT	107E6043/0	223
613	T31-TE053C	N	-1700	3.8	E.8	TEMP ELEMENT	107E6043/0	223
614	T31-TE053D	N	-1700	3.8	E.9	TEMP ELEMENT	107E6043/0	223
615	X-013B	2	1400	4.0	E.9	RIP PURGE WTR SUPPLY	795E882/4	223
616	X-020B	N	1400	4.0	E.9	CRD INSERT	796E367/3	223
617	D21-RE021	N	-1700	4.0	F.8	AREA RAD DETECTOR	299X701-171/0	225
618	T31-TE053F	N	-1700	3.7	F.5	TEMP ELEMENT	107E6043/0	225
619	T31-TE053H	N	-1700	3.7	F.3	TEMP ELEMENT	107E6043/0	225
620	B31-FIS001A	N	-1700	3.4	F.2	FLOW IND SWITCH	107E5194/0	225
621	B31-FIS001B	N	-1700	3.4	F.2	FLOW IND SWITCH	107E5194/0	225
622	B31-FIS001C	N	-1700	3.4	F.2	FLOW IND SWITCH	107E5194/0	225
623	B31-FIS001D	N	-1700	3.4	F.2	FLOW IND SWITCH	107E5194/0	225
624	B31-FIS001E	N	-1700	3.4	F.2	FLOW IND SWITCH	107E5194/0	225
625	B31-FIS001F	N	-1700	3.4	F.2	FLOW IND SWITCH	107E5194/0	225
626	B31-FIS001G	N	-1700	3.4	F.2	FLOW IND SWITCH	107E5194/0	225
627	B31-FIS001H	N	-1700	3.4	F.2	FLOW IND SWITCH	107E5194/0	225
628	B31-FIS001J	N	-1700	3.4	F.2	FLOW IND SWITCH	107E5194/0	225
629	B31-FIS001K	N	-1700	3.4	F.2	FLOW IND SWITCH	107E5194/0	225
630	B31-TI001A	N	-1700	3.4	F.2	TEMP INDICATOR	107E5194/0	225
631	B31-TI001B	N	-1700	3.4	F.2	TEMP INDICATOR	107E5194/0	225
632	U41-D131B	N	-1700	3.5	F.4	RIP/FMCRD CP RM FCU B	107E5189/0	225
633	E11-F008C	3	1200	5.9	D.2	MO GLOBE VALVE (PRET)	103E1797/1	230
634	E11-F021C	3	1200	5.9	D.2	MO GATE VALVE (RECIRC)	103E1797/1	230
635	E11-F031C	3	-1700	5.9	D.4	MO GLOBE VALVE (TEST)	103E1797/1	230
636	E11-POT304C	3	-1700	5.9	D.4	POS XMTR (FO31C)	103E1797/1	230
637	T31-F739C	3	2800	5.9	D.5	SO VALVE	107E6043/0	230
638	T31-F741C	3	-1700	5.9	D.5	SO VALVE	107E6043/0	230
639	DELETED							
640	DELETED							
641	DELETED							
642	DELETED							

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
643	X-206	3	1200	5.9	D.4	RHR PUMP C TEST RET	795E880/3	230
644	X-322D	4	400	5.8	D.6	SUPP CHAMBER WATER LEV	107E6043/0	230
645	H22-P055C*	23	-1700	4.9	E.7	SCRAM SOL FUSE PNL C	----?----	231
646	H22-P055F*	23	-1700	4.8	E.7	SCRAM SOL FUSE PNL F	----?----	231
647	H22-P055G*	23	-1700	5.0	E.6	SCRAM SOL FUSE PNL G	----?----	231
648	H22-P055B*	23	-1700	4.6	E.8	SCRAM SOL FUSE PNL B	----?----	231
649	P11-FQT102	N	-1700	4.5	F.5	FLOW XMTR (MUWP)	107E111/1	233
650	T31-TE053E	N	-1700	4.5	F.3	TEMP ELEMENT	107E6043/0	233
651	T31-TE053G	N	-1700	4.5	F.5	TEMP ELEMENT	107E6043/0	233
652	U41-D131A	N	-1700	6.3	F.1	RIP/FMCRD CP RM FCU A	107E5189/0	233
653	E31-TE009A	1	-1700	1.6	C.0	CUW R/HX AMB TEMP ELEM	103E1792/1	241
654	E31-TE009B	2	-1700	1.6	C.0	CUW R/HX AMB TEMP ELEM	103E1792/1	241
655	E31-TE009C	3	-1700	1.6	C.0	CUW R/HX AMB TEMP ELEM	103E1792/1	241
656	E31-TE009D	4	-1700	1.6	C.0	CUW R/HX AMB TEMP ELEM	103E1792/1	241
657	E31-TE033A	N	-1700	1.6	C.0	CUW R/HX DIFF TEMP ELEM	103E1792/1	241
658	E31-TE034A	N	-1700	1.6	C.0	CUW R/HX DIFF TEMP ELEM	103E1792/1	241
659	G31-B001A	N	-1700	1.6	C.0	REGEN. HT. EXCHANGER	107E5051/0	241
660	G31-B001B	N	-1700	1.6	C.0	REGEN. HT. EXCHANGER	107E5051/0	241
661	G31-B001C	N	-1700	1.6	C.0	REGEN. HT. EXCHANGER	107E5051/0	241
662	G31-F011	N	-1700	1.6	C.0	MO GLOBE VALVE	107E5051/0	241
663	G31-TE002	N	-1700	1.6	C.4	TEMP ELEMENT	107E5051/0	241
664	G31-TE004	N	-1700	1.6	C.4	TEMP ELEMENT	107E5051/0	241
665	G31-TE015	N	-1700	1.7	C.0	TEMP ELEMENT	107E5051/0	241
666	T31-F741D	4	-1700	2.2	C.1	SO VALVE	107E6043/0	241
667	T31-F739D	4	2800	2.2	C.1	SO VALVE	107E6043/0	241
668	G31-F030B	N	-1700	1.6	B.2	AO VALVE	107E5051/0	243
669	G31-F030A	N	-1700	2.5	B.2	AO VALVE	107E5051/0	243
670	G31-E/P020	N	-1700	1.9	A.3	E/P TRANSDUCER	107E5051/0	244
671	G31-F201A	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
672	G31-F201B	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
673	G31-F202A	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
674	G31-F202B	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
675	G31-F204A	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
676	G31-F204A*	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
677	G31-F204B	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
678	G31-F204B*	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
679	G31-F205A	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
680	G31-F205B	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
681	G31-F208A	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
682	G31-F208B	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
683	G31-F209A	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
684	G31-F209B	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
685	G31-F210A	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
686	G31-F210B	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
687	G31-F211A	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
688	G31-F211B	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
689	G31-F217A	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
690	G31-F217B	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
691	G31-F218A	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
692	G31-F218B	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
693	G31-F236A	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
694	G31-F236B	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
695	G31-F244A	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
696	G31-F244B	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
697	G31-F245A	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
698	G31-F245B	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
699	G31-F248A	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
700	G31-F248B	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
701	G31-F250A	N	-1700	1.9	A.4	AO GLOBE VALVE	107E5051/0	244
702	G31-F250B	N	-1700	1.9	A.4	AO GLOBE VALVE	107E5051/0	244
703	G31-F251A	N	-1700	1.9	A.4	AO GLOBE VALVE	107E5051/0	244
704	G31-F251B	N	-1700	1.9	A.4	AO GLOBE VALVE	107E5051/0	244
705	G31-F256A	N	-1700	1.9	A.4	AO GLOBE VALVE	107E5051/0	244
706	G31-F256B	N	-1700	1.9	A.4	AO GLOBE VALVE	107E5051/0	244

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
707	G31-F263A	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
708	G31-F263B	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
709	G31-F264A	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
710	G31-F264B	N	-1700	1.9	A.4	AO BALL VALVE	107E5051/0	244
711	G31-F267A	N	-1700	1.9	A.4	AO GLOBE VALVE	107E5051/0	244
712	G31-F267B	N	-1700	1.9	A.4	AO GLOBE VALVE	107E5051/0	244
713	G31-F268A	N	-1700	1.9	A.4	AO GLOBE VALVE	107E5051/0	244
714	G31-F268B	N	-1700	1.9	A.4	AO GLOBE VALVE	107E5051/0	244
715	H22-P012A*	N	-1700	1.9	A.4	CUW/FD SO VLV RACK A	10Q273-281	244
716	H22-P012B*	N	-1700	1.9	A.4	CUW/FD SO VLV RACK B	10Q273-281	244
717	X-322B	2	400	2.2	C.5	SUPP CHAMBER WATER LEV	107E6043/0	244
718	X-322F	2	400	2.2	C.6	SUPP CHAMBER WATER LEV	107E6043/0	244
719	G41-C003B	N	-1700	2.4	A.7	FPC HOLDING PUMP B	107E6042/0	248
720	G41-C003A	N	-1700	2.8	A.7	FPC HOLDING PUMP A	107E6042/0	248
721	C51-J002A	N	1500	3.9	B.8	TIP INDEXER A	107E5074/0	290
722	C51-J002B	N	1500	3.9	B.8	TIP INDEXER B	107E5074/0	290
723	C51-J002C	N	1500	4.1	B.8	TIP INDEXER C	107E5074/0	290
724	C51-N004A	N	1500	4.0	B.5	IB PROXIMITY SWITCH	107E5074/0	290
725	C51-N004B	N	1500	4.0	B.5	IB PROXIMITY SWITCH	107E5074/0	290
726	C51-N004C	N	1500	4.0	B.5	IB PROXIMITY SWITCH	107E5074/0	290
727	T53-TE001A	1	-1500	5.5	C.9	TEMP ELEMENT	107E6059	290
728	T53-TE001B	2	-1500	5.5	C.9	TEMP ELEMENT	107E6059	290
729	T53-TE002A	1	-1500	4.5	D.8	TEMP ELEMENT	107E6059	290
730	T53-TE002B	2	-1500	4.5	D.8	TEMP ELEMENT	107E6059	290
731	T53-TE003A	1	-1500	3.2	E.4	TEMP ELEMENT	107E6059	290
732	T53-TE003B	2	-1500	3.2	E.4	TEMP ELEMENT	107E6059	290
733	T53-TE004A	1	-1500	3.0	D.1	TEMP ELEMENT	107E6059	290
734	T53-TE004B	2	-1500	3.0	D.1	TEMP ELEMENT	107E6059	290
735	T53-TE005A	1	-1500	3.0	B.7	TEMP ELEMENT	107E6059	290
736	T53-TE006A	1	-1500	4.4	C.1	TEMP ELEMENT	107E6059	290
737	T53-TE006B	2	-1500	4.4	C.1	TEMP ELEMENT	107E6059	290
738	B31-B001A	N	4000	4.1	C.7	RIP HEAT EXCHANGER A	107E5194/0	291
739	B31-B001B	N	4000	4.3	C.8	RIP HEAT EXCHANGER B	107E5194/0	291



**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
740	B31-B001C	N	4000	4.4	D.0	RIP HEAT EXCHANGER C	107E5194/0	291
741	B31-B001D	N	4000	4.3	D.2	RIP HEAT EXCHANGER D	107E5194/0	291
742	B31-B001E	N	4000	4.1	D.4	RIP HEAT EXCHANGER E	107E5194/0	291
743	B31-B001F	N	4000	3.9	D.4	RIP HEAT EXCHANGER F	107E5194/0	291
744	B31-B001G	N	4000	3.7	D.2	RIP HEAT EXCHANGER G	107E5194/0	291
745	B31-B001H	N	4000	3.6	D.0	RIP HEAT EXCHANGER H	107E5194/0	291
746	B31-B001J	N	4000	3.7	C.8	RIP HEAT EXCHANGER J	107E5194/0	291
747	B31-B001K	N	4000	3.9	C.6	RIP HEAT EXCHANGER K	107E5194/0	291
748	B31-C001A	N	4000	4.1	C.7	RIP PUMP A	107E5194/0	291
749	B31-C001B	N	4000	4.3	C.8	RIP PUMP B	107E5194/0	291
750	B31-C001C	N	4000	4.4	D.0	RIP PUMP C	107E5194/0	291
751	B31-C001D	N	4000	4.3	D.2	RIP PUMP D	107E5194/0	291
752	B31-C001E	N	4000	4.1	D.4	RIP PUMP E	107E5194/0	291
753	B31-C001F	N	4000	3.9	D.4	RIP PUMP F	107E5194/0	291
754	B31-C001G	N	4000	3.7	D.2	RIP PUMP G	107E5194/0	291
755	B31-C001H	N	4000	3.6	D.0	RIP PUMP H	107E5194/0	291
756	B31-C001J	N	4000	3.7	C.8	RIP PUMP J	107E5194/0	291
757	B31-C001K	N	4000	3.9	C.6	RIP PUMP K	107E5194/0	291
758	B31-SE100A*	N	4000	4.1	C.7	SPEED ELEMENT	107E5194/0	291
759	B31-SE100B*	N	4000	4.3	C.8	SPEED ELEMENT	107E5194/0	291
760	B31-SE100C*	N	4000	4.4	D.0	SPEED ELEMENT	107E5194/0	291
761	B31-SE100D*	N	4000	4.3	D.2	SPEED ELEMENT	107E5194/0	291
762	B31-SE100E*	N	4000	4.1	D.4	SPEED ELEMENT	107E5194/0	291
763	B31-SE100F*	N	4000	3.9	D.4	SPEED ELEMENT	107E5194/0	291
764	B31-SE100G*	N	4000	3.7	D.2	SPEED ELEMENT	107E5194/0	291
765	B31-SE100H*	N	4000	3.6	D.0	SPEED ELEMENT	107E5194/0	291
766	B31-SE100J*	N	4000	3.7	C.8	SPEED ELEMENT	107E5194/0	291
767	B31-SE100K*	N	4000	3.9	C.6	SPEED ELEMENT	107E5194/0	291
768	B31-SE101A*	N	4000	4.1	C.7	SPEED ELEMENT	107E5194/0	291
769	B31-SE101B*	N	4000	4.3	C.8	SPEED ELEMENT	107E5194/0	291
770	B31-SE101C*	N	4000	4.4	D.0	SPEED ELEMENT	107E5194/0	291
771	B31-SE101D*	N	4000	4.3	D.2	SPEED ELEMENT	107E5194/0	291
772	B31-SE101E*	N	4000	4.1	D.4	SPEED ELEMENT	107E5194/0	291
773	B31-SE101F*	N	4000	3.9	D.4	SPEED ELEMENT	107E5194/0	291

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
774	B31-SE101G*	N	4000	3.7	D.2	SPEED ELEMENT	107E5194/0	291
775	B31-SE101H*	N	4000	3.6	D.0	SPEED ELEMENT	107E5194/0	291
776	B31-SE101J*	N	4000	3.7	C.8	SPEED ELEMENT	107E5194/0	291
777	B31-SE101K*	N	4000	3.9	C.6	SPEED ELEMENT	107E5194/0	291
778	B31-TE301A	N	4000	4.1	C.7	TEMP ELEMENT	107E5194/0	291
779	B31-TE301B	N	4000	4.3	C.8	TEMP ELEMENT	107E5194/0	291
780	B31-TE301C	N	4000	4.4	D.0	TEMP ELEMENT	107E5194/0	291
781	B31-TE301D	N	4000	4.3	D.2	TEMP ELEMENT	107E5194/0	291
782	B31-TE301E	N	4000	4.1	D.4	TEMP ELEMENT	107E5194/0	291
783	B31-TE301F	N	4000	3.9	D.4	TEMP ELEMENT	107E5194/0	291
784	B31-TE301G	N	4000	3.7	D.2	TEMP ELEMENT	107E5194/0	291
785	B31-TE301H	N	4000	3.6	D.0	TEMP ELEMENT	107E5194/0	291
786	B31-TE301J	N	4000	3.7	C.8	TEMP ELEMENT	107E5194/0	291
787	B31-TE301K	N	4000	3.9	C.6	TEMP ELEMENT	107E5194/0	291
788	B31-TE302A	N	4000	4.1	C.7	TEMP ELEMENT	107E5194/0	291
789	B31-TE302B	N	4000	4.3	C.8	TEMP ELEMENT	107E5194/0	291
790	B31-TE302C	N	4000	4.4	D.0	TEMP ELEMENT	107E5194/0	291
791	B31-TE302D	N	4000	4.3	D.2	TEMP ELEMENT	107E5194/0	291
792	B31-TE302E	N	4000	4.1	D.4	TEMP ELEMENT	107E5194/0	291
793	B31-TE302F	N	4000	3.9	D.4	TEMP ELEMENT	107E5194/0	291
794	B31-TE302G	N	4000	3.7	D.3	TEMP ELEMENT	107E5194/0	291
795	B31-TE302H	N	4000	3.6	D.0	TEMP ELEMENT	107E5194/0	291
796	B31-TE302J	N	4000	3.7	C.8	TEMP ELEMENT	107E5194/0	291
797	B31-TE302K	N	4000	3.9	C.6	TEMP ELEMENT	107E5194/0	291
798	B31-VBE100A*	N	4000	4.1	C.7	VIBRATION ELEMENT	107E5194/0	291
799	B31-VBE100B*	N	4000	4.3	C.8	VIBRATION ELEMENT	107E5194/0	291
800	B31-VBE100C*	N	4000	4.4	D.0	VIBRATION ELEMENT	107E5194/0	291
801	B31-VBE100D*	N	4000	4.3	D.2	VIBRATION ELEMENT	107E5194/0	291
802	B31-VBE100E*	N	4000	4.1	D.4	VIBRATION ELEMENT	107E5194/0	291
803	B31-VBE100F*	N	4000	3.9	D.4	VIBRATION ELEMENT	107E5194/0	291
804	B31-VBE100G*	N	4000	3.7	D.2	VIBRATION ELEMENT	107E5194/0	291
805	B31-VBE100H*	N	4000	3.6	D.0	VIBRATION ELEMENT	107E5194/0	291
806	B31-VBE100J*	N	4000	3.7	C.8	VIBRATION ELEMENT	107E5194/0	291
807	B31-VBE100K*	N	4000	3.9	C.6	VIBRATION ELEMENT	107E5194/0	291

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
808	B31-VBE101A*	N	4000	4.1	C.7	VIBRATION ELEMENT	107E5194/0	291
809	B31-VBE101B*	N	4000	4.3	C.8	VIBRATION ELEMENT	107E5194/0	291
810	B31-VBE101C*	N	4000	4.4	D.0	VIBRATION ELEMENT	107E5194/0	291
811	B31-VBE101D*	N	4000	4.3	D.2	VIBRATION ELEMENT	107E5194/0	291
812	B31-VBE101E*	N	4000	4.1	D.4	VIBRATION ELEMENT	107E5194/0	291
813	B31-VBE101F*	N	4000	3.9	D.4	VIBRATION ELEMENT	107E5194/0	291
814	B31-VBE101G*	N	4000	3.7	D.2	VIBRATION ELEMENT	107E5194/0	291
815	B31-VBE101H*	N	4000	3.6	D.0	VIBRATION ELEMENT	107E5194/0	291
816	B31-VBE101J*	N	4000	3.7	C.8	VIBRATION ELEMENT	107E5194/0	291
817	B31-VBE101K*	N	4000	3.9	C.6	VIBRATION ELEMENT	107E5194/0	291
818	C12-D005001	N1	-1100	4.3	C.7	FMCRD 34-63 A QUAD	103E1789/0	291
819	C12-D005002	N3	-1100	4.3	C.7	FMCRD 54-59 A QUAD	103E1789/0	291
820	C12-D005003	N2	-1100	4.3	D.3	FMCRD 38-19 C QUAD	103E1789/0	291
821	C12-D005004	N1	-1100	4.3	C.7	FMCRD 50-59 A QUAD	103E1789/0	291
822	C12-D005005	N3	-1100	4.3	C.7	FMCRD 38-35 A QUAD	103E1789/0	291
823	C12-D005006	N2	-1100	4.3	D.3	FMCRD 54-35 C QUAD	103E1789/0	291
824	C12-D005007	N2	-1100	4.3	D.3	FMCRD 34-23 C QUAD	103E1789/0	291
825	C12-D005008	N3	-1100	4.3	C.7	FMCRD 50-55 A QUAD	103E1789/0	291
826	C12-D005009	N1	-1100	4.3	C.7	FMCRD 62-47 A QUAD	103E1789/0	291
827	C12-D005010	N1	-1100	4.3	D.3	FMCRD 38-31 C QUAD	103E1789/0	291
828	C12-D005011	N3	-1100	4.3	D.3	FMCRD 58-35 C QUAD	103E1789/0	291
829	C12-D005012	N3	-1100	4.3	C.7	FMCRD 58-47 A QUAD	103E1789/0	291
830	C12-D005013	N1	-1100	4.3	D.3	FMCRD 42-27 C QUAD	103E1789/0	291
831	C12-D005014	N2	-1100	4.3	C.7	FMCRD 54-47 A QUAD	103E1789/0	291
832	C12-D005015	N2	-1100	4.3	C.7	FMCRD 46-63 A QUAD	103E1789/0	291
833	C12-D005016	N2	-1100	4.3	C.7	FMCRD 50-51 A QUAD	103E1789/0	291
834	C12-D005017	N3	-1100	4.3	C.7	FMCRD 46-59 A QUAD	103E1789/0	291
835	C12-D005018	N2	-1100	4.3	D.3	FMCRD 42-23 C QUAD	103E1789/0	291
836	C12-D005019	N2	-1100	4.3	D.3	FMCRD 38-27 C QUAD	103E1789/0	291
837	C12-D005020	N3	-1100	4.3	C.7	FMCRD 38-55 A QUAD	103E1789/0	291
838	C12-D005021	N3	-1100	4.3	C.7	FMCRD 34-67 A QUAD	103E1789/0	291
839	C12-D005022	N3	-1100	3.7	D.3	FMCRD 26-07 B QUAD	103E1789/0	291
840	C12-D005023	N1	-1100	4.3	D.3	FMCRD 38-03 C QUAD	103E1789/0	291
841	C12-D005024	N2	-1100	3.7	C.7	FMCRD 10-43 D QUAD	103E1789/0	291

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
842	C12-D005025	N1	-1100	4.3	C.7	FMCRD 42-35 A QUAD	103E1789/0	291
843	C12-D005026	N3	-1100	3.7	D.3	FMCRD 14-11 B QUAD	103E1789/0	291
844	C12-D005027	N1	-1100	4.3	C.7	FMCRD 54-51 A QUAD	103E1789/0	291
845	C12-D005028	N3	-1100	3.7	C.7	FMCRD 34-39 D QUAD	103E1789/0	291
846	C12-D005029	N3	-1100	4.3	D.3	FMCRD 34-19 C QUAD	103E1789/0	291
847	C12-D005030	N2	-1100	3.7	D.3	FMCRD 10-19 B QUAD	103E1789/0	291
848	C12-D005031	N1	-1100	3.7	D.3	FMCRD 30-23 B QUAD	103E1789/0	291
849	C12-D005032	N3	-1100	3.7	C.7	FMCRD 22-47 D QUAD	103E1789/0	291
850	C12-D005033	N3	-1100	4.3	D.3	FMCRD 54-31 C QUAD	103E1789/0	291
851	C12-D005034	N2	-1100	3.7	C.7	FMCRD 06-47 D QUAD	103E1789/0	291
852	C12-D005035	N1	-1100	3.7	D.3	FMCRD 22-19 B QUAD	103E1789/0	291
853	C12-D005036	N1	-1100	3.7	C.7	FMCRD 34-43 D QUAD	103E1789/0	291
854	C12-D005037	N2	-1100	4.3	D.3	FMCRD 50-31 C QUAD	103E1789/0	291
855	C12-D005038	N3	-1100	4.3	D.3	FMCRD 42-19 C QUAD	103E1789/0	291
856	C12-D005039	N2	-1100	3.7	D.3	FMCRD 30-19 B QUAD	103E1789/0	291
857	C12-D005040	N1	-1100	4.3	C.7	FMCRD 38-67 A QUAD	103E1789/0	291
858	C12-D005041	N3	-1100	4.3	C.7	FMCRD 46-47 A QUAD	103E1789/0	291
859	C12-D005042	N2	-1100	4.3	C.7	FMCRD 42-59 A QUAD	103E1789/0	291
860	C12-D005043	N3	-1100	3.7	C.7	FMCRD 26-39 D QUAD	103E1789/0	291
861	C12-D005044	N2	-1100	4.3	D.3	FMCRD 42-11 C QUAD	103E1789/0	291
862	C12-D005045	N2	-1100	4.3	D.3	FMCRD 46-15 C QUAD	103E1789/0	291
863	C12-D005046	N3	-1100	4.3	D.3	FMCRD 34-31 C QUAD	103E1789/0	291
864	C12-D005047	N3	-1100	3.7	D.3	FMCRD 10-15 B QUAD	103E1789/0	291
865	C12-D005048	N2	-1100	4.3	C.7	FMCRD 46-35 A QUAD	103E1789/0	291
866	C12-D005049	N1	-1100	4.3	D.3	FMCRD 46-19 C QUAD	103E1789/0	291
867	C12-D005050	N2	-1100	4.3	D.3	FMCRD 58-27 C QUAD	103E1789/0	291
868	C12-D005051	N1	-1100	3.7	D.3	FMCRD 26-15 B QUAD	103E1789/0	291
869	C12-D005052	N3	-1100	4.3	D.3	FMCRD 54-19 C QUAD	103E1789/0	291
870	C12-D005053	N1	-1100	4.3	D.3	FMCRD 50-23 C QUAD	103E1789/0	291
871	C12-D005054	N3	-1100	4.3	D.3	FMCRD 66-35 C QUAD	103E1789/0	291
872	C12-D005055	N2	-1100	3.7	C.7	FMCRD 06-39 D QUAD	103E1789/0	291
873	C12-D005056	N1	-1100	4.3	C.7	FMCRD 66-39 A QUAD	103E1789/0	291
874	C12-D005057	N2	-1100	3.7	D.3	FMCRD 06-31 B QUAD	103E1789/0	291
875	C12-D005058	N2	-1100	4.3	C.7	FMCRD 58-51 A QUAD	103E1789/0	291

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
876	C12-D005059	N3	-1100	4.3	D.3	FMCRD 58-23 C QUAD	103E1789/0	291
877	C12-D005060	N1	-1100	4.3	D.3	FMCRD 34-27 C QUAD	103E1789/0	291
878	C12-D005061	N2	-1100	3.7	D.3	FMCRD 22-27 B QUAD	103E1789/0	291
879	C12-D005062	N3	-1100	4.3	C.7	FMCRD 50-43 A QUAD	103E1789/0	291
880	C12-D005063	N2	-1100	4.3	C.7	FMCRD 38-51 A QUAD	103E1789/0	291
881	C12-D005064	N1	-1100	4.3	D.3	FMCRD 58-31 C QUAD	103E1789/0	291
882	C12-D005065	N1	-1100	3.7	D.3	FMCRD 14-27 B QUAD	103E1789/0	291
883	C12-D005066	N1	-1100	4.3	C.7	FMCRD 50-47 A QUAD	103E1789/0	291
884	C12-D005067	N1	-1100	4.3	C.7	FMCRD 38-47 A QUAD	103E1789/0	291
885	C12-D005068	N2	-1100	4.3	C.7	FMCRD 46-55 A QUAD	103E1789/0	291
886	C12-D005069	N1	-1100	3.7	D.3	FMCRD 26-27 B QUAD	103E1789/0	291
887	C12-D005070	N3	-1100	4.3	C.7	FMCRD 58-55 A QUAD	103E1789/0	291
888	C12-D005071	N1	-1100	4.3	C.7	FMCRD 58-39 A QUAD	103E1789/0	291
889	C12-D005072	N1	-1100	4.3	D.3	FMCRD 38-11 C QUAD	103E1789/0	291
890	C12-D005073	N3	-1100	4.3	D.3	FMCRD 42-31 C QUAD	103E1789/0	291
891	C12-D005074	N2	-1100	3.7	D.3	FMCRD 26-11 B QUAD	103E1789/0	291
892	C12-D005075	N3	-1100	4.3	D.3	FMCRD 50-15 C QUAD	103E1789/0	291
893	C12-D005076	N2	-1100	3.7	D.3	FMCRD 34-15 B QUAD	103E1789/0	291
894	C12-D005077	N3	-1100	4.3	C.7	FMCRD 38-43 A QUAD	103E1789/0	291
895	C12-D005078	N2	-1100	3.7	C.7	FMCRD 22-43 D QUAD	103E1789/0	291
896	C12-D005079	N2	-1100	4.3	C.7	FMCRD 58-43 A QUAD	103E1789/0	291
897	C12-D005080	N3	-1100	3.7	C.7	FMCRD 14-59 D QUAD	103E1789/0	291
898	C12-D005081	N1	-1100	4.3	D.3	FMCRD 42-15 C QUAD	103E1789/0	291
899	C12-D005082	N1	-1100	3.7	D.3	FMCRD 18-23 B QUAD	103E1789/0	291
900	C12-D005083	N1	-1100	4.3	C.7	FMCRD 42-43 A QUAD	103E1789/0	291
901	C12-D005084	N1	-1100	3.7	C.7	FMCRD 06-35 D QUAD	103E1789/0	291
902	C12-D005085	N3	-1100	4.3	C.7	FMCRD 42-51 A QUAD	103E1789/0	291
903	C12-D005086	N2	-1100	3.7	C.7	FMCRD 18-59 D QUAD	103E1789/0	291
904	C12-D005087	N3	-1100	4.3	D.3	FMCRD 42-07 C QUAD	103E1789/0	291
905	C12-D005088	N1	-1100	3.7	C.7	FMCRD 14-43 D QUAD	103E1789/0	291
906	C12-D005089	N1	-1100	3.7	C.7	FMCRD 18-35 D QUAD	103E1789/0	291
907	C12-D005090	N2	-1100	3.7	D.3	FMCRD 26-31 B QUAD	103E1789/0	291
908	C12-D005091	N1	-1100	4.3	C.7	FMCRD 46-51 A QUAD	103E1789/0	291
909	C12-D005092	N3	-1100	3.7	D.3	FMCRD 22-11 B QUAD	103E1789/0	291

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
910	C12-D005093	N2	-1100	3.7	C.7	FMCRD 22-55 D QUAD	103E1789/0	291
911	C12-D005094	N3	-1100	3.7	C.7	FMCRD 22-59 D QUAD	103E1789/0	291
912	C12-D005095	N3	-1100	3.7	C.7	FMCRD 26-63 D QUAD	103E1789/0	291
913	C12-D005096	N2	-1100	3.7	D.3	FMCRD 14-23 B QUAD	103E1789/0	291
914	C12-D005097	N2	-1100	3.7	D.3	FMCRD 22-35 B QUAD	103E1789/0	291
915	C12-D005098	N3	-1100	3.7	D.3	FMCRD 30-27 B QUAD	103E1789/0	291
916	C12-D005099	N3	-1100	3.7	D.3	FMCRD 34-11 B QUAD	103E1789/0	291
917	C12-D005100	N1	-1100	3.7	C.7	FMCRD 18-47 D QUAD	103E1789/0	291
918	C12-D005101	N2	-1100	4.3	D.3	FMCRD 62-23 C QUAD	103E1789/0	291
919	C12-D005102	N1	-1100	3.7	C.7	FMCRD 10-51 D QUAD	103E1789/0	291
920	C12-D005103	N3	-1100	3.7	C.7	FMCRD 34-51 D QUAD	103E1789/0	291
921	C12-D005104	N2	-1100	3.7	C.7	FMCRD 14-47 D QUAD	103E1789/0	291
922	C12-D005105	N3	-1100	4.3	D.3	FMCRD 62-27 C QUAD	103E1789/0	291
923	C12-D005106	N1	-1100	3.7	C.7	FMCRD 26-55 D QUAD	103E1789/0	291
924	C12-D005107	N1	-1100	3.7	D.3	FMCRD 30-03 B QUAD	103E1789/0	291
925	C12-D005108	N3	-1100	3.7	C.7	FMCRD 10-47 D QUAD	103E1789/0	291
926	C12-D005109	N1	-1100	3.7	C.7	FMCRD 10-39 D QUAD	103E1789/0	291
927	C12-D005110	N1	-1100	3.7	D.3	FMCRD 26-35 B QUAD	103E1789/0	291
928	C12-D005111	N2	-1100	3.7	D.3	FMCRD 22-07 B QUAD	103E1789/0	291
929	C12-D005112	N1	-1100	4.3	C.7	FMCRD 46-39 A QUAD	103E1789/0	291
930	C12-D005113	N2	-1100	4.3	C.7	FMCRD 38-63 A QUAD	103E1789/0	291
931	C12-D005114	N3	-1100	4.3	C.7	FMCRD 34-59 A QUAD	103E1789/0	291
932	C12-D005115	N2	-1100	3.7	C.7	FMCRD 30-43 D QUAD	103E1789/0	291
933	C12-D005116	N1	-1100	4.3	D.3	FMCRD 62-35 C QUAD	103E1789/0	291
934	C12-D005117	N1	-1100	3.7	C.7	FMCRD 22-39 D QUAD	103E1789/0	291
935	C12-D005118	N3	-1100	4.3	C.7	FMCRD 42-63 A QUAD	103E1789/0	291
936	C12-D005119	N3	-1100	4.3	D.3	FMCRD 46-11 C QUAD	103E1789/0	291
937	C12-D005120	N2	-1100	4.3	D.3	FMCRD 46-27 C QUAD	103E1789/0	291
938	C12-D005121	N3	-1100	3.7	D.3	FMCRD 30-35 B QUAD	103E1789/0	291
939	C12-D005122	N2	-1100	4.3	D.3	FMCRD 38-07 C QUAD	103E1789/0	291
940	C12-D005123	N3	-1100	3.7	D.3	FMCRD 18-27 B QUAD	103E1789/0	291
941	C12-D005124	N2	-1100	4.3	C.7	FMCRD 42-47 A QUAD	103E1789/0	291
942	C12-D005125	N1	-1100	3.7	D.3	FMCRD 34-07 B QUAD	103E1789/0	291
943	C12-D005126	N2	-1100	4.3	D.3	FMCRD 62-31 C QUAD	103E1789/0	291

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
944	C12-D005127	N1	-1100	3.7	D.3	FMCRD 06-23 B QUAD	103E1789/0	291
945	C12-D005128	N1	-1100	4.3	D.3	FMCRD 46-31 C QUAD	103E1789/0	291
946	C12-D005129	N1	-1100	3.7	D.3	FMCRD 10-31 B QUAD	103E1789/0	291
947	C12-D005130	N3	-1100	4.3	C.7	FMCRD 62-43 A QUAD	103E1789/0	291
948	C12-D005131	N3	-1100	3.7	C.7	FMCRD 30-55 D QUAD	103E1789/0	291
949	C12-D005132	N1	-1100	3.7	C.7	FMCRD 26-43 D QUAD	103E1789/0	291
950	C12-D005133	N2	-1100	3.7	C.7	FMCRD 14-35 D QUAD	103E1789/0	291
951	C12-D005134	N1	-1100	3.7	C.7	FMCRD 30-47 D QUAD	103E1789/0	291
952	C12-D005135	N2	-1100	3.7	D.3	FMCRD 14-15 B QUAD	103E1789/0	291
953	C12-D005136	N2	-1100	3.7	D.3	FMCRD 18-31 B QUAD	103E1789/0	291
954	C12-D005137	N2	-1100	3.7	C.7	FMCRD 30-51 D QUAD	103E1789/0	291
955	C12-D005138	N1	-1100	4.3	D.3	FMCRD 66-31 C QUAD	103E1789/0	291
956	C12-D005139	N3	-1100	3.7	D.3	FMCRD 30-15 B QUAD	103E1789/0	291
957	C12-D005140	N2	-1100	4.3	D.3	FMCRD 50-19 C QUAD	103E1789/0	291
958	C12-D005141	N3	-1100	3.7	C.7	FMCRD 02-35 D QUAD	103E1789/0	291
959	C12-D005142	N2	-1100	4.3	C.7	FMCRD 46-43 A QUAD	103E1789/0	291
960	C12-D005143	N3	-1100	3.7	D.3	FMCRD 26-19 B QUAD	103E1789/0	291
961	C12-D005144	N3	-1100	3.7	D.3	FMCRD 18-15 B QUAD	103E1789/0	291
962	C12-D005145	N3	-1100	3.7	C.7	FMCRD 06-43 D QUAD	103E1789/0	291
963	C12-D005146	N1	-1100	3.7	C.7	FMCRD 30-59 D QUAD	103E1789/0	291
964	C12-D005147	N3	-1100	3.7	C.7	FMCRD 18-43 D QUAD	103E1789/0	291
965	C12-D005148	N1	-1100	4.3	C.7	FMCRD 38-59 A QUAD	103E1789/0	291
966	C12-D005149	N2	-1100	3.7	D.3	FMCRD 22-15 B QUAD	103E1789/0	291
967	C12-D005150	N1	-1100	4.3	D.3	FMCRD 54-27 C QUAD	103E1789/0	291
968	C12-D005151	N3	-1100	3.7	C.7	FMCRD 26-51 D QUAD	103E1789/0	291
969	C12-D005152	N3	-1100	3.7	C.7	FMCRD 10-35 D QUAD	103E1789/0	291
970	C12-D005153	N2	-1100	3.7	D.3	FMCRD 30-07 B QUAD	103E1789/0	291
971	C12-D005154	N1	-1100	3.7	D.3	FMCRD 30-31 B QUAD	103E1789/0	291
972	C12-D005155	N2	-1100	3.7	C.7	FMCRD 18-51 D QUAD	103E1789/0	291
973	C12-D005156	N2	-1100	3.7	C.7	FMCRD 18-39 D QUAD	103E1789/0	291
974	C12-D005157	N2	-1100	3.7	C.7	FMCRD 14-55 D QUAD	103E1789/0	291
975	C12-D005158	N1	-1100	3.7	C.7	FMCRD 30-39 D QUAD	103E1789/0	291
976	C12-D005159	N1	-1100	3.7	D.3	FMCRD 30-11 B QUAD	103E1789/0	291
977	C12-D005160	N2	-1100	3.7	D.3	FMCRD 26-23 B QUAD	103E1789/0	291

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
978	C12-D005161	N3	-1100	3.7	C.7	FMCRD 18-55 D QUAD	103E1789/0	291
979	C12-D005162	N1	-1100	3.7	D.3	FMCRD 18-11 B QUAD	103E1789/0	291
980	C12-D005163	N3	-1100	3.7	C.7	FMCRD 14-51 D QUAD	103E1789/0	291
981	C12-D005164	N2	-1100	3.7	D.3	FMCRD 18-19 B QUAD	103E1789/0	291
982	C12-D005165	N3	-1100	3.7	D.3	FMCRD 10-23 B QUAD	103E1789/0	291
983	C12-D005166	N1	-1100	3.7	D.3	FMCRD 02-31 B QUAD	103E1789/0	291
984	C12-D005167	N2	-1100	3.7	D.3	FMCRD 34-35 B QUAD	103E1789/0	291
985	C12-D005168	N1	-1100	4.3	C.7	FMCRD 54-43 A QUAD	103E1789/0	291
986	C12-D005169	N3	-1100	3.7	D.3	FMCRD 06-27 B QUAD	103E1789/0	291
987	C12-D005170	N3	-1100	4.3	C.7	FMCRD 54-39 A QUAD	103E1789/0	291
988	C12-D005171	N3	-1100	3.7	C.7	FMCRD 10-55 D QUAD	103E1789/0	291
989	C12-D005172	N1	-1100	4.3	D.3	FMCRD 38-23 C QUAD	103E1789/0	291
990	C12-D005173	N1	-1100	3.7	C.7	FMCRD 22-63 D QUAD	103E1789/0	291
991	C12-D005174	N2	-1100	4.3	C.7	FMCRD 42-39 A QUAD	103E1789/0	291
992	C12-D005175	N3	-1100	3.7	D.3	FMCRD 34-03 B QUAD	103E1789/0	291
993	C12-D005176	N2	-1100	3.7	D.3	FMCRD 10-27 B QUAD	103E1789/0	291
994	C12-D005177	N1	-1100	3.7	C.7	FMCRD 30-67 D QUAD	103E1789/0	291
995	C12-D005178	N3	-1100	4.3	D.3	FMCRD 46-23 C QUAD	103E1789/0	291
996	C12-D005179	N1	-1100	3.7	C.7	FMCRD 02-39 D QUAD	103E1789/0	291
997	C12-D005180	N3	-1100	3.7	D.3	FMCRD 14-31 B QUAD	103E1789/0	291
998	C12-D005181	N3	-1100	3.7	C.7	FMCRD 14-39 D QUAD	103E1789/0	291
999	C12-D005182	N1	-1100	3.7	D.3	FMCRD 22-31 B QUAD	103E1789/0	291
1000	C12-D005183	N2	-1100	4.3	C.7	FMCRD 62-39 A QUAD	103E1789/0	291
1001	C12-D005184	N2	-1100	3.7	C.7	FMCRD 34-47 D QUAD	103E1789/0	291
1002	C12-D005185	N1	-1100	4.3	D.3	FMCRD 58-19 C QUAD	103E1789/0	291
1003	C12-D005186	N1	-1100	3.7	C.7	FMCRD 22-51 D QUAD	103E1789/0	291
1004	C12-D005187	N1	-1100	4.3	D.3	FMCRD 50-35 C QUAD	103E1789/0	291
1005	C12-D005188	N3	-1100	4.3	D.3	FMCRD 54-11 C QUAD	103E1789/0	291
1006	C12-D005189	N3	-1100	4.3	D.3	FMCRD 38-15 C QUAD	103E1789/0	291
1007	C12-D005190	N1	-1100	4.3	C.7	FMCRD 42-55 A QUAD	103E1789/0	291
1008	C12-D005191	N1	-1100	4.3	C.7	FMCRD 38-39 A QUAD	103E1789/0	291
1009	C12-D005192	N2	-1100	4.3	D.3	FMCRD 54-23 C QUAD	103E1789/0	291
1010	C12-D005193	N2	-1100	4.3	C.7	FMCRD 50-39 A QUAD	103E1789/0	291
1011	C12-D005194	N2	-1100	3.7	C.7	FMCRD 26-47 D QUAD	103E1789/0	291



**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1012	C12-D005195	N1	-1100	4.3	D.3	FMC RD 46-07 C QUAD	103E1789/0	291
1013	C12-D005196	N3	-1100	3.7	D.3	FMC RD 22-23 B QUAD	103E1789/0	291
1014	C12-D005197	N2	-1100	4.3	D.3	FMC RD 54-15 C QUAD	103E1789/0	291
1015	C12-D005198	N2	-1100	4.3	C.7	FMC RD 34-55 A QUAD	103E1789/0	291
1016	C12-D005199	N2	-1100	4.3	D.3	FMC RD 50-11 C QUAD	103E1789/0	291
1017	C12-D005200	N2	-1100	3.7	C.7	FMC RD 26-59 D QUAD	103E1789/0	291
1018	C12-D005201	N3	-1100	4.3	D.3	FMC RD 58-15 C QUAD	103E1789/0	291
1019	C12-D005202	N3	-1100	4.3	D.3	FMC RD 50-27 C QUAD	103E1789/0	291
1020	C12-D005203	N1	-1100	3.7	D.3	FMC RD 14-19 B QUAD	103E1789/0	291
1021	C12-D005204	N2	-1100	4.3	C.7	FMC RD 54-55 A QUAD	103E1789/0	291
1022	C12-D005205	N2	-1100	3.7	C.7	FMC RD 30-63 D QUAD	103E1789/0	291
1023	C51-N007A	1	-1100	4.4	C.9	SRM DETECTOR	107E5074/0	291
1024	C51-N007B	2	-1100	3.7	D.2	SRM DETECTOR	107E5074/0	291
1025	C51-N007C	3	-1100	4.2	D.2	SRM DETECTOR	107E5074/0	291
1026	C51-N007D	4	-1100	3.9	C.9	SRM DETECTOR	107E5074/0	291
1027	C51-N007E	1	-1100	4.2	C.7	SRM DETECTOR	107E5074/0	291
1028	C51-N007F	2	-1100	4.2	C.7	SRM DETECTOR	107E5074/0	291
1029	C51-N007G	3	-1100	3.8	D.3	SRM DETECTOR	107E5074/0	291
1030	C51-N007H	4	-1100	4.1	D.1	SRM DETECTOR	107E5074/0	291
1031	C51-N007J	1	-1100	3.6	C.8	SRM DETECTOR	107E5074/0	291
1032	C51-N007L	3	-1100	3.7	C.5	SRM DETECTOR	107E5074/0	291
1033	C51-N011001	1	-1100	4.0	D.0	LPRM 20-53A	107E5074/0	291
1034	C51-N011002	1	-1100	4.0	D.0	LPRM 20-21A	107E5074/0	291
1035	C51-N011003	2	-1100	4.0	D.0	LPRM 12-37A	107E5074/0	291
1036	C51-N011004	3	-1100	4.0	D.0	LPRM 44-61A	107E5074/0	291
1037	C51-N011005	2	-1100	4.0	D.0	LPRM 12-21A	107E5074/0	291
1038	C51-N011006	1	-1100	4.0	D.0	LPRM 52-37A	107E5074/0	291
1039	C51-N011007	3	-1100	4.0	D.0	LPRM 44-29A	107E5074/0	291
1040	C51-N011008	4	-1100	4.0	D.0	LPRM 36-29A	107E5074/0	291
1041	C51-N011009	3	-1100	4.0	D.0	LPRM 60-45	107E5074/0	291
1042	C51-N011010	1	-1100	4.0	D.0	LPRM 20-37A	107E5074/0	291
1043	C51-N011011	3	-1100	4.0	D.0	LPRM 60-29A	107E5074/0	291
1044	C51-N011012	3	-1100	4.0	D.0	LPRM 28-13A	107E5074/0	291
1045	C51-N011013	4	-1100	4.0	D.0	LPRM 04-45A	107E5074/0	291

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1046	C51-N011014	4	-1100	4.0	D.0	LPRM 36-13A	107E5074/0	291
1047	C51-N011015	4	-1100	4.0	D.0	LPRM 20-29A	107E5074/0	291
1048	C51-N011016	4	-1100	4.0	D.0	LPRM 52-61A	107E5074/0	291
1049	C51-N011017	4	-1100	4.0	D.0	LPRM 36-61A	107E5074/0	291
1050	C51-N011018	4	-1100	4.0	D.0	LPRM 52-13A	107E5074/0	291
1051	C51-N011019	3	-1100	4.0	D.0	LPRM 12-13A	107E5074/0	291
1052	C51-N011020	2	-1100	4.0	D.0	LPRM 12-53A	107E5074/0	291
1053	C51-N011021	3	-1100	4.0	D.0	LPRM 44-13A	107E5074/0	291
1054	C51-N011022	4	-1100	4.0	D.0	LPRM 36-45A	107E5074/0	291
1055	C51-N011023	2	-1100	4.0	D.0	LPRM 60-37A	107E5074/0	291
1056	C51-N011024	3	-1100	4.0	D.0	LPRM 12-45A	107E5074/0	291
1057	C51-N011025	2	-1100	4.0	D.0	LPRM 60-21A	107E5074/0	291
1058	C51-N011026	2	-1100	4.0	D.0	LPRM 28-37A	107E5074/0	291
1059	C51-N011027	1	-1100	4.0	D.0	LPRM 36-21A	107E5074/0	291
1060	C51-N011028	2	-1100	4.0	D.0	LPRM 44-53A	107E5074/0	291
1061	C51-N011029	4	-1100	4.0	D.0	LPRM 20-45A	107E5074/0	291
1062	C51-N011030	3	-1100	4.0	D.0	LPRM 28-45A	107E5074/0	291
1063	C51-N011031	2	-1100	4.0	D.0	LPRM 28-53A	107E5074/0	291
1064	C51-N011032	1	-1100	4.0	D.0	LPRM 36-53A	107E5074/0	291
1065	C51-N011033	1	-1100	4.0	D.0	LPRM 36-05A	107E5074/0	291
1066	C51-N011034	3	-1100	4.0	D.0	LPRM 28-61A	107E5074/0	291
1067	C51-N011035	1	-1100	4.0	D.0	LPRM 52-21A	107E5074/0	291
1068	C51-N011036	1	-1100	4.0	D.0	LPRM 04-37A	107E5074/0	291
1069	C51-N011037	4	-1100	4.0	D.0	LPRM 52-45A	107E5074/0	291
1070	C51-N011038	4	-1100	4.0	D.0	LPRM 20-61A	107E5074/0	291
1071	C51-N011039	2	-1100	4.0	D.0	LPRM 44-05A	107E5074/0	291
1072	C51-N011040	1	-1100	4.0	D.0	LPRM 52-53A	107E5074/0	291
1073	C51-N011041	4	-1100	4.0	D.0	LPRM 04-29A	107E5074/0	291
1074	C51-N011042	2	-1100	4.0	D.0	LPRM 60-53A	107E5074/0	291
1075	C51-N011043	4	-1100	4.0	D.0	LPRM 52-29A	107E5074/0	291
1076	C51-N011044	3	-1100	4.0	D.0	LPRM 44-45A	107E5074/0	291
1077	C51-N011045	3	-1100	4.0	D.0	LPRM 28-29A	107E5074/0	291
1078	C51-N011046	4	-1100	4.0	D.0	LPRM 20-13A	107E5074/0	291
1079	C51-N011047	3	-1100	4.0	D.0	LPRM 12-29A	107E5074/0	291

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1080	C51-N011048	2	-1100	4.0	D.0	LPRM 28-21A	107E5074/0	291
1081	C51-N011049	2	-1100	4.0	D.0	LPRM 44-37A	107E5074/0	291
1082	C51-N011050	2	-1100	4.0	D.0	LPRM 28-05A	107E5074/0	291
1083	C51-N011051	2	-1100	4.0	D.0	LPRM 44-21A	107E5074/0	291
1084	C51-N011052	1	-1100	4.0	D.0	LPRM 36-37A	107E5074/0	291
1085	C51-N012001	3	-1100	4.0	D.0	LPRM 60-37B	107E5074/0	291
1086	C51-N012002	4	-1100	4.0	D.0	LPRM 60-29B	107E5074/0	291
1087	C51-N012003	1	-1100	4.0	D.0	LPRM 36-29B	107E5074/0	291
1088	C51-N012004	3	-1100	4.0	D.0	LPRM 28-53B	107E5074/0	291
1089	C51-N012005	4	-1100	4.0	D.0	LPRM 28-13B	107E5074/0	291
1090	C51-N012006	1	-1100	4.0	D.0	LPRM 52-13B	107E5074/0	291
1091	C51-N012007	4	-1100	4.0	D.0	LPRM 12-45B	107E5074/0	291
1092	C51-N012008	3	-1100	4.0	D.0	LPRM 28-37B	107E5074/0	291
1093	C51-N012009	1	-1100	4.0	D.0	LPRM 36-61B	107E5074/0	291
1094	C51-N012010	4	-1100	4.0	D.0	LPRM 44-61B	107E5074/0	291
1095	C51-N012011	1	-1100	4.0	D.0	LPRM 04-45B	107E5074/0	291
1096	C51-N012012	3	-1100	4.0	D.0	LPRM 12-53B	107E5074/0	291
1097	C51-N012013	1	-1100	4.0	D.0	LPRM 20-29B	107E5074/0	291
1098	C51-N012014	1	-1100	4.0	D.0	LPRM 36-45B	107E5074/0	291
1099	C51-N012015	4	-1100	4.0	D.0	LPRM 28-29B	107E5074/0	291
1100	C51-N012016	4	-1100	4.0	D.0	LPRM 44-13B	107E5074/0	291
1101	C51-N012017	1	-1100	4.0	D.0	LPRM 52-29B	107E5074/0	291
1102	C51-N012018	1	-1100	4.0	D.0	LPRM 36-13B	107E5074/0	291
1103	C51-N012019	4	-1100	4.0	D.0	LPRM 44-45B	107E5074/0	291
1104	C51-N012020	3	-1100	4.0	D.0	LPRM 60-21B	107E5074/0	291
1105	C51-N012021	3	-1100	4.0	D.0	LPRM 44-53B	107E5074/0	291
1106	C51-N012022	1	-1100	4.0	D.0	LPRM 20-13B	107E5074/0	291
1107	C51-N012023	2	-1100	4.0	D.0	LPRM 20-53B	107E5074/0	291
1108	C51-N012024	2	-1100	4.0	D.0	LPRM 20-21B	107E5074/0	291
1109	C51-N012025	1	-1100	4.0	D.0	LPRM 20-45B	107E5074/0	291
1110	C51-N012026	2	-1100	4.0	D.0	LPRM 52-53B	107E5074/0	291
1111	C51-N012027	1	-1100	4.0	D.0	LPRM 04-29B	107E5074/0	291
1112	C51-N012028	2	-1100	4.0	D.0	LPRM 20-37B	107E5074/0	291
1113	C51-N012029	1	-1100	4.0	D.0	LPRM 52-45B	107E5074/0	291

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1114	C51-N012030	3	-1100	4.0	D.0	LPRM 44-05B	107E5074/0	291
1115	C51-N012031	3	-1100	4.0	D.0	LPRM 44-37B	107E5074/0	291
1116	C51-N012032	3	-1100	4.0	D.0	LPRM 28-05B	107E5074/0	291
1117	C51-N012033	2	-1100	4.0	D.0	LPRM 52-37B	107E5074/0	291
1118	C51-N012034	4	-1100	4.0	D.0	LPRM 28-45B	107E5074/0	291
1119	C51-N012035	1	-1100	4.0	D.0	LPRM 52-61B	107E5074/0	291
1120	C51-N012036	4	-1100	4.0	D.0	LPRM 28-61B	107E5074/0	291
1121	C51-N012037	4	-1100	4.0	D.0	LPRM 60-45B	107E5074/0	291
1122	C51-N012038	3	-1100	4.0	D.0	LPRM 60-53B	107E5074/0	291
1123	C51-N012039	1	-1100	4.0	D.0	LPRM 20-61B	107E5074/0	291
1124	C51-N012040	2	-1100	4.0	D.0	LPRM 04-37B	107E5074/0	291
1125	C51-N012041	4	-1100	4.0	D.0	LPRM 12-29B	107E5074/0	291
1126	C51-N012042	4	-1100	4.0	D.0	LPRM 12-13B	107E5074/0	291
1127	C51-N012043	4	-1100	4.0	D.0	LPRM 44-29B	107E5074/0	291
1128	C51-N012044	3	-1100	4.0	D.0	LPRM 12-37B	107E5074/0	291
1129	C51-N012045	3	-1100	4.0	D.0	LPRM 44-21B	107E5074/0	291
1130	C51-N012046	3	-1100	4.0	D.0	LPRM 12-21B	107E5074/0	291
1131	C51-N012047	2	-1100	4.0	D.0	LPRM 52-21B	107E5074/0	291
1132	C51-N012048	2	-1100	4.0	D.0	LPRM 36-53B	107E5074/0	291
1133	C51-N012049	2	-1100	4.0	D.0	LPRM 36-37B	107E5074/0	291
1134	C51-N012050	3	-1100	4.0	D.0	LPRM 28-21B	107E5074/0	291
1135	C51-N012051	2	-1100	4.0	D.0	LPRM 36-21B	107E5074/0	291
1136	C51-N012052	2	-1100	4.0	D.0	LPRM 36-05B	107E5074/0	291
1137	C51-N013001	1	-1100	4.0	D.0	LPRM 28-13C	107E5074/0	291
1138	C51-N013002	3	-1100	4.0	D.0	LPRM 36-53C	107E5074/0	291
1139	C51-N013003	1	-1100	4.0	D.0	LPRM 12-13C	107E5074/0	291
1140	C51-N013004	4	-1100	4.0	D.0	LPRM 12-37C	107E5074/0	291
1141	C51-N013005	2	-1100	4.0	D.0	LPRM 52-61C	107E5074/0	291
1142	C51-N013006	2	-1100	4.0	D.0	LPRM 04-45C	107E5074/0	291
1143	C51-N013007	1	-1100	4.0	D.0	LPRM 60-29C	107E5074/0	291
1144	C51-N013008	1	-1100	4.0	D.0	LPRM 28-61C	107E5074/0	291
1145	C51-N013009	3	-1100	4.0	D.0	LPRM 04-37C	107E5074/0	291
1146	C51-N013010	4	-1100	4.0	D.0	LPRM 12-21C	107E5074/0	291
1147	C51-N013011	1	-1100	4.0	D.0	LPRM 60-45C	107E5074/0	291

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1148	C51-N013012	2	-1100	4.0	D.0	LPRM 36-13C	107E5074/0	291
1149	C51-N013013	4	-1100	4.0	D.0	LPRM 28-37C	107E5074/0	291
1150	C51-N013014	2	-1100	4.0	D.0	LPRM 20-45C	107E5074/0	291
1151	C51-N013015	2	-1100	4.0	D.0	LPRM 20-13C	107E5074/0	291
1152	C51-N013016	1	-1100	4.0	D.0	LPRM 28-45C	107E5074/0	291
1153	C51-N013017	3	-1100	4.0	D.0	LPRM 36-05C	107E5074/0	291
1154	C51-N013018	3	-1100	4.0	D.0	LPRM 36-37C	107E5074/0	291
1155	C51-N013019	1	-1100	4.0	D.0	LPRM 44-13C	107E5074/0	291
1156	C51-N013020	2	-1100	4.0	D.0	LPRM 36-29C	107E5074/0	291
1157	C51-N013021	4	-1100	4.0	D.0	LPRM 60-37C	107E5074/0	291
1158	C51-N013022	4	-1100	4.0	D.0	LPRM 60-21C	107E5074/0	291
1159	C51-N013023	2	-1100	4.0	D.0	LPRM 52-13C	107E5074/0	291
1160	C51-N013024	4	-1100	4.0	D.0	LPRM 28-21C	107E5074/0	291
1161	C51-N013025	4	-1100	4.0	D.0	LPRM 44-05C	107E5074/0	291
1162	C51-N013026	3	-1100	4.0	D.0	LPRM 36-21C	107E5074/0	291
1163	C51-N013027	2	-1100	4.0	D.0	LPRM 36-61C	107E5074/0	291
1164	C51-N013028	3	-1100	4.0	D.0	LPRM 20-21C	107E5074/0	291
1165	C51-N013029	3	-1100	4.0	D.0	LPRM 52-37C	107E5074/0	291
1166	C51-N013030	4	-1100	4.0	D.0	LPRM 44-53C	107E5074/0	291
1167	C51-N013031	2	-1100	4.0	D.0	LPRM 36-45C	107E5074/0	291
1168	C51-N013032	1	-1100	4.0	D.0	LPRM 44-29C	107E5074/0	291
1169	C51-N013033	3	-1100	4.0	D.0	LPRM 52-53C	107E5074/0	291
1170	C51-N013034	4	-1100	4.0	D.0	LPRM 44-21C	107E5074/0	291
1171	C51-N013035	2	-1100	4.0	D.0	LPRM 04-29C	107E5074/0	291
1172	C51-N013036	4	-1100	4.0	D.0	LPRM 12-53C	107E5074/0	291
1173	C51-N013037	2	-1100	4.0	D.0	LPRM 52-45C	107E5074/0	291
1174	C51-N013038	2	-1100	4.0	D.0	LPRM 20-29C	107E5074/0	291
1175	C51-N013039	2	-1100	4.0	D.0	LPRM 20-61C	107E5074/0	291
1176	C51-N013040	4	-1100	4.0	D.0	LPRM 44-37C	107E5074/0	291
1177	C51-N013041	3	-1100	4.0	D.0	LPRM 20-37C	107E5074/0	291
1178	C51-N013042	4	-1100	4.0	D.0	LPRM 28-05C	107E5074/0	291
1179	C51-N013043	1	-1100	4.0	D.0	LPRM 12-29C	107E5074/0	291
1180	C51-N013044	1	-1100	4.0	D.0	LPRM 28-29C	107E5074/0	291
1181	C51-N013045	1	-1100	4.0	D.0	LPRM 44-61C	107E5074/0	291

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1182	C51-N013046	1	-1100	4.0	D.0	LPRM 44-45C	107E5074/0	291
1183	C51-N013047	3	-1100	4.0	D.0	LPRM 20-53C	107E5074/0	291
1184	C51-N013048	4	-1100	4.0	D.0	LPRM 60-53C	107E5074/0	291
1185	C51-N013049	2	-1100	4.0	D.0	LPRM 52-29C	107E5074/0	291
1186	C51-N013050	4	-1100	4.0	D.0	LPRM 28-53C	107E5074/0	291
1187	C51-N013051	3	-1100	4.0	D.0	LPRM 52-21C	107E5074/0	291
1188	C51-N013052	1	-1100	4.0	D.0	LPRM 12-45C	107E5074/0	291
1189	C51-N014001	1	-1100	4.0	D.0	LPRM 60-53D	107E5074/0	291
1190	C51-N014002	1	-1100	4.0	D.0	LPRM 60-37D	107E5074/0	291
1191	C51-N014003	4	-1100	4.0	D.0	LPRM 20-21D	107E5074/0	291
1192	C51-N014004	3	-1100	4.0	D.0	LPRM 36-29D	107E5074/0	291
1193	C51-N014005	3	-1100	4.0	D.0	LPRM 36-61D	107E5074/0	291
1194	C51-N014006	4	-1100	4.0	D.0	LPRM 36-05D	107E5074/0	291
1195	C51-N014007	1	-1100	4.0	D.0	LPRM 12-37D	107E5074/0	291
1196	C51-N014008	3	-1100	4.0	D.0	LPRM 20-29D	107E5074/0	291
1197	C51-N014009	2	-1100	4.0	D.0	LPRM 12-45D	107E5074/0	291
1198	C51-N014010	3	-1100	4.0	D.0	LPRM 20-61D	107E5074/0	291
1199	C51-N014011	2	-1100	4.0	D.0	LPRM 28-61D	107E5074/0	291
1200	C51-N014012	4	-1100	4.0	D.0	LPRM 36-53D	107E5074/0	291
1201	C51-N014013	2	-1100	4.0	D.0	LPRM 44-29D	107E5074/0	291
1202	C51-N014014	4	-1100	4.0	D.0	LPRM 20-37D	107E5074/0	291
1203	C51-N014015	1	-1100	4.0	D.0	LPRM 60-21D	107E5074/0	291
1204	C51-N014016	4	-1100	4.0	D.0	LPRM 52-53D	107E5074/0	291
1205	C51-N014017	4	-1100	4.0	D.0	LPRM 36-37D	107E5074/0	291
1206	C51-N014018	2	-1100	4.0	D.0	LPRM 28-29D	107E5074/0	291
1207	C51-N014019	3	-1100	4.0	D.0	LPRM 52-13D	107E5074/0	291
1208	C51-N014020	1	-1100	4.0	D.0	LPRM 44-21D	107E5074/0	291
1209	C51-N014021	2	-1100	4.0	D.0	LPRM 28-13D	107E5074/0	291
1210	C51-N014022	4	-1100	4.0	D.0	LPRM 36-21D	107E5074/0	291
1211	C51-N014023	2	-1100	4.0	D.0	LPRM 60-45D	107E5074/0	291
1212	C51-N014024	3	-1100	4.0	D.0	LPRM 04-29D	107E5074/0	291
1213	C51-N014025	1	-1100	4.0	D.0	LPRM 28-37D	107E5074/0	291
1214	C51-N014026	1	-1100	4.0	D.0	LPRM 44-05D	107E5074/0	291
1215	C51-N014027	1	-1100	4.0	D.0	LPRM 28-53D	107E5074/0	291

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1216	C51-N014028	3	-1100	4.0	D.0	LPRM 36-13D	107E5074/0	291
1217	C51-N014029	1	-1100	4.0	D.0	LPRM 44-53D	107E5074/0	291
1218	C51-N014030	3	-1100	4.0	D.0	LPRM 36-45D	107E5074/0	291
1219	C51-N014031	2	-1100	4.0	D.0	LPRM 44-13D	107E5074/0	291
1220	C51-N014032	4	-1100	4.0	D.0	LPRM 52-21D	107E5074/0	291
1221	C51-N014033	3	-1100	4.0	D.0	LPRM 52-45D	107E5074/0	291
1222	C51-N014034	4	-1100	4.0	D.0	LPRM 04-37D	107E5074/0	291
1223	C51-N014035	3	-1100	4.0	D.0	LPRM 20-45D	107E5074/0	291
1224	C51-N014036	2	-1100	4.0	D.0	LPRM 12-29D	107E5074/0	291
1225	C51-N014037	2	-1100	4.0	D.0	LPRM 12-13D	107E5074/0	291
1226	C51-N014038	2	-1100	4.0	D.0	LPRM 60-29D	107E5074/0	291
1227	C51-N014039	1	-1100	4.0	D.0	LPRM 12-53D	107E5074/0	291
1228	C51-N014040	1	-1100	4.0	D.0	LPRM 28-05D	107E5074/0	291
1229	C51-N014041	4	-1100	4.0	D.0	LPRM 20-53D	107E5074/0	291
1230	C51-N014042	3	-1100	4.0	D.0	LPRM 52-29D	107E5074/0	291
1231	C51-N014043	4	-1100	4.0	D.0	LPRM 52-37D	107E5074/0	291
1232	C51-N014044	3	-1100	4.0	D.0	LPRM 04-45D	107E5074/0	291
1233	C51-N014045	3	-1100	4.0	D.0	LPRM 52-61D	107E5074/0	291
1234	C51-N014046	2	-1100	4.0	D.0	LPRM 28-45D	107E5074/0	291
1235	C51-N014047	1	-1100	4.0	D.0	LPRM 44-37D	107E5074/0	291
1236	C51-N014048	1	-1100	4.0	D.0	LPRM 28-21D	107E5074/0	291
1237	C51-N014049	2	-1100	4.0	D.0	LPRM 44-61D	107E5074/0	291
1238	C51-N014050	2	-1100	4.0	D.0	LPRM 44-45D	107E5074/0	291
1239	C51-N014051	1	-1100	4.0	D.0	LPRM 12-21D	107E5074/0	291
1240	C51-N014052	3	-1100	4.0	D.0	LPRM 20-13D	107E5074/0	291
1241	G31-TE024	N	-1700	3.8	C.8	TEMP ELEMENT	107E5051/0	291
1242	G31-TE025	N	-1700	3.8	C.8	TEMP ELEMENT	107E5051/0	291
1243	P21-FS051A	N	2000	3.7	D.2	FLO SW (RIP C00LER)	107E5112/0	291
1244	P21-FS051B	N	2000	4.3	D.2	FLO SW (RIP C00LER)	107E5112/0	291
1245	P21-FS052A	N	2000	3.7	C.8	FLO SW (RIP C00LER)	107E5112/0	291
1246	P21-FS052B	N	2000	4.3	C.8	FLO SW (RIP C00LER)	107E5112/0	291
1247	P21-FS053A	N	2000	4.1	C.7	FLO SW (RIP C00LER)	107E5112/0	291
1248	P21-FS053B	N	2000	3.9	C.6	FLO SW (RIP C00LER)	107E5112/0	291
1249	P21-FS054A	N	2000	4.4	D.0	FLO SW (RIP C00LER)	107E5112/0	291

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1250	P21-FS054B	N	2000	3.6	D.0	FLO SW (RIP COOLER)	107E5112/0	291
1251	P21-FS055A	N	2000	4.1	D.4	FLO SW (RIP COOLER)	107E5112/0	291
1252	P21-FS055B	N	2000	3.9	D.4	FLO SW (RIP COOLER)	107E5112/0	291
1253	P21-TE046A	N	2000	3.7	D.2	TEMP ELEM (RIP COOLER)	107E5112/0	291
1254	P21-TE046B	N	2000	4.3	D.2	TEMP ELEM (RIP COOLER)	107E5112/0	291
1255	P21-TE047A	N	2000	3.7	C.8	TEMP ELEM (RIP COOLER)	107E5112/0	291
1256	P21-TE047B	N	2000	4.3	C.8	TEMP ELEM (RIP COOLER)	107E5112/0	291
1257	P21-TE048A	N	2000	4.1	C.7	TEMP ELEM (RIP COOLER)	107E5112/0	291
1258	P21-TE048B	N	2000	3.9	C.6	TEMP ELEM (RIP COOLER)	107E5112/0	291
1259	P21-TE049A	N	2000	4.4	D.0	TEMP ELEM (RIP COOLER)	107E5112/0	291
1260	P21-TE049B	N	2000	3.6	D.0	TEMP ELEM (RIP COOLER)	107E5112/0	291
1261	P21-TE050A	N	2000	4.1	D.4	TEMP ELEM (RIP COOLER)	107E5112/0	291
1262	P21-TE050B	N	2000	3.9	D.4	TEMP ELEM (RIP COOLER)	107E5112/0	291
1263	T31-TE050A	N	1000	4.4	C.7	TEMP ELEMENT	107E6043/0	291
1264	T31-TE050B	N	1000	3.6	D.3	TEMP ELEMENT	107E6043/0	291
1265	T31-TE050C	N	1000	4.4	D.3	TEMP ELEMENT	107E6043/0	291
1266	R22 M/C E	1	4800	3.7	A.5	M/C E - MED VOLT SWTGR	107E5072/0	310
1267	R23 P/C E10	1	4800	4.9	A.5	P/C E10 - LO VOLT SWTGR	107E5072/0	310
1268	R46-CVCF A11	1	4800	4.5	A.5	VITAL D1 120 VAC DIST-R/B	107E5076/0	310
1269	R46-CVCF AN11	N	4800	5.2	A.2	VITAL ND 120 VAC - R/B	107E5076/0	310
1270	R47-IPA10	1	4800	4.0	A.5	120 VAC INSTR DIST PNL	112D4885/0	310
1271	R24 MCC E111	1	4800	5.5	A.2	MCC E111 - R/B	107E5072/0	310
1272	R42 DCMCC A1	1	4800	6.2	A.5	125 VDC MCC A1 - R/B	107E5075/0	310
1273	R24 MCC E112	1	4800	5.2	A.8	MCC E112 - R/B	107E5072/0	310
1274	R24 MCC E113	1	4800	4.5	A.8	MCC E113 - R/B	107E5072/0	310
1275	R24 MCC E110	1	4800	2.7	A.1	MCC E110 - R/B	107E5072/0	310
1276	R42-DCN A10	N	4800	2.6	A.3	125 VDC INSTR DIST PNL	107E5075/0	310



**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1277	H23-P008*	1	4800	2.4	A.3	I/O DEVICE	----?----	310
1278	H23-P009*	1	4800	2.2	A.3	I/O DEVICE	----?----	310
1279	H23-P010*	1	4800	2.1	A.3	I/O DEVICE	----?----	310
1280	H23-P012*	1	4800	2.1	A.1	I/O DEVICE	----?----	310
1281	H23-P013*	1	4800	2.3	A.1	I/O DEVICE	----?----	310
1282	R42-DC A10	1	4800	2.5	A.3	125 VDC INSTR DIST PNL	107E5075/0	310
1283	X-321A	1	6000	5.1	B.4	SUPP CHAMBER PRESSURE	107E6043/0	311
1284	X-331A	1	6000	4.9	B.2	CAMS GAMMA DETECTOR	10R281-431	311
1285	E51-F039	1	5800	5.7	B.9	MO GATE VALVE (ST EXH)	103E1795/1	313
1286	T31-TE052P	N	6000	5.6	B.9	TEMP ELEMENT	107E6043/0	313
1287	X-213	1	5800	5.7	B.9	RCIC TURBINE EXHAUST	795E883/4	313
1288	DELETED							
1289	T31-F721A	N	6500	5.7	B.8	SO VALVE	107E6043/0	313
1290	T31-F721B	N	6500	5.8	B.8	SO VALVE	107E6043/0	313
1291	B21-LT001A	1	4800	5.9	C.7	LEVEL TRANSMITTER	103E1791/1	314
1292	B21-LT002A	1	4800	5.9	C.7	LEVEL TRANSMITTER	103E1791/1	314
1293	B21-LT003A	1	4800	5.9	C.7	LEVEL TRANSMITTER	103E1791/1	314
1294	B21-LT003E	1	4800	5.9	C.7	LEVEL TRANSMITTER	103E1791/1	314
1295	B21-LT004	N	4800	5.9	C.7	LEVEL TRANSMITTER	103E1791/1	314
1296	B21-LT006A	1	4800	5.9	C.7	LEVEL TRANSMITTER	103E1791/1	314
1297	B21-PT007A	1	4800	5.9	C.7	PRESS TRANSMITTER	103E1791/1	314
1298	B21-PT008A	1	4800	5.9	C.7	PRESS TRANSMITTER	103E1791/1	314
1299	B21-PT009	1	4800	5.9	C.7	PRESS TRANSMITTER	103E1791/1	314
1300	B21-PT011A	N	4800	5.9	C.7	PRESS TRANSMITTER	103E1791/1	314
1301	B21-PT025A	1	4800	5.9	C.7	PRESS TRANSMITTER	103E1791/1	314
1302	B21-TE020A	1	4800	5.9	C.7	TEMP ELEMENT	103E1791/1	314
1303	B21-TE022A	1	4800	5.9	C.7	TEMP ELEMENT	103E1791/1	314
1304	B21-TE024A	1	4800	5.9	C.7	TEMP ELEMENT	103E1791/1	314
1305	C31-FT403A	N	4800	5.8	C.4	FLOW TRANSMITTER	796E361	314
1306	C31-FT404A	N	4800	5.8	C.4	FLOW TRANSMITTER	796E361	314
1307	D21-RE015	N	4800	5.8	C.5	AREA RAD DETECTOR	299X701-171/0	314
1308	E31-DPT006A	1	4800	6.0	C.4	RCIC STM FLOW XMTR	103E1792/1	314
1309	E31-DPT013A	1	4800	6.0	C.4	CUW SUC FLOW XMTR	103E1792/1	314
1310	E31-DPT014A	1	4800	6.0	C.4	CUW RET FLOW XMTR	103E1792/1	314

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1311	E31-DPT015A	1	4800	6.0	C.4	CUW B/D FLOW XMTR	103E1792/1	314
1312	E31-DPT016A	1	4800	6.0	C.4	MSL FLOW XMTR	103E1792/1	314
1313	E31-DPT016E	1	4800	6.0	C.4	MSL FLOW XMTR	103E1792/1	314
1314	E31-DPT016J	1	4800	6.0	C.4	MSL FLOW XMTR	103E1792/1	314
1315	E31-DPT016N	1	4800	6.0	C.4	MSL FLOW XMTR	103E1792/1	314
1316	E31-PT007A	1	4800	6.0	C.4	RCIC STM PRESS XMTR	103E1792/1	314
1317	H22-P013A*	1	4800	5.9	C.7	REA SYS INSTR RACK A	10Q273-282	314
1318	H22-P014A*	1	4800	5.8	C.4	MAIN STM FLOW INST RACK A	10Q273-282	314
1319	H22-P015A*	1	4800	6.0	C.4	LEAK DET SYS INST RACK A	10Q273-282	314
1320	T31-F737A	1	6500	5.9	C.5	SO VALVE	107E6043/0	314
1321	T31-POS071A	N	4800	5.9	C.5	POSITION SWITCH	107E6043/0	314
1322	B31-ST100F*	N	4800	6.8	B.4	SPEED TRANSMITTER	107E5194/0	315
1323	B31-ST101F*	N	4800	6.8	B.4	SPEED TRANSMITTER	107E5194/0	315
1324	B31-VBT100F*	N	4800	6.8	B.4	VIBRATION TRANSMITTER	107E5194/0	315
1325	B31-VBT101F*	N	4800	6.8	B.4	VIBRATION TRANSMITTER	107E5194/0	315
1326	C81-C001F	N	4800	6.8	B.4	ADJ SPEED DRIVE-RIP F	299X701-146/0	315
1327	R10-C001F*	N	4800	6.8	B.8	RIP ASD OUTPUT XFMR	----?----	315
1328	B31-ST100A*	N	4800	6.8	A.4	SPEED TRANSMITTER	107E5194/0	315
1329	B31-ST101A*	N	4800	6.8	A.4	SPEED TRANSMITTER	107E5194/0	315
1330	B31-VBT100A*	N	4800	6.8	A.4	VIBRATION TRANSMITTER	107E5194/0	315
1331	B31-VBT101A*	N	4800	6.8	A.4	VIBRATION TRANSMITTER	107E5194/0	315
1332	C81-C001A	N	4800	6.8	A.4	ADJ SPEED DRIVE-RIP A	299X701-146/0	315
1333	R10-C001A*	N	4800	6.8	A.8	RIP ASD OUTPUT XFMR	----?----	315
1334	X-243	1	8850	5.1	B.3	VGL EXHAUST	795E877	318
1335	T31-F003	2	8500	5.5	B.6	AO VALVE	107E6043/0	318
1336	T31-FT003	N	8500	5.5	B.6	FLOW TRANSMITTER	107E6043/0	318
1337	T31-TE004	N	8500	5.5	B.6	TEMP ELEMENT	107E6043/0	318
1338	T31-TE051L	N	8500	5.4	B.5	TEMP ELEMENT	107E6043/0	318
1339	T31-TE051N	N	8500	5.5	B.6	TEMP ELEMENT	107E6043/0	318
1340	T31-TI004	N	8500	5.5	B.6	TEMP INDICATOR	107E6043/0	318
1341	X-240	N	8500	5.4	B.6	WETWELL PURGE SUCTION	107E6043/0	318
1342	E31-F004	2	8850	5.9	C.7	DW FPM A/O SOL VALVE (IB)	103E1792/1	318

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1343	E31-F005	1	8850	5.9	C.7	DW FPM A/O SOL VALVE (OB)	103E1792/1	318
1344	T31-F001	1	8500	5.8	C.2	AO VALVE	107E6043/0	318
1345	X-320	1	8850	5.8	C.2	VAC BKR AIR SUPPLY	107E6043/0	318
1346	X-330	?	8850	5.8	C.6	LDS MONITOR RETURN	796E300	318
1347	X-334	N	8850	5.8	C.3	D/W DEW PT METER RETURN	----?----	318
1348	B31-ST100C*	N	4800	1.2	F.4	SPEED TRANSMITTER	107E5194/0	320
1349	B31-ST101C*	N	4800	1.2	F.4	SPEED TRANSMITTER	107E5194/0	320
1350	B31-VBT100K*	N	4800	1.2	F.4	VIBRATION TRANSMITTER	107E5194/0	320
1351	B31-VBT101K*	N	4800	1.2	F.4	VIBRATION TRANSMITTER	107E5194/0	320
1352	C81-C001C	N	4800	1.2	F.4	ADJ SPEED DRIVE-RIP C	299X701-146/0	320
1353	H23-P021*	N	4800	1.9	F.9	I/O DEVICE	----?----	320
1354	R10-C001G*	N	4800	1.8	F.3	RIP ASD OUTPUT XFMR	----?----	320
1355	R10-C001K*	N	4800	1.2	F.7	RIP ASD OUTPUT XFMR	----?----	320
1356	B31-ST100G*	N	4800	1.2	E.8	SPEED TRANSMITTER	107E5194/0	320
1357	B31-ST100K*	N	4800	1.2	E.3	SPEED TRANSMITTER	107E5194/0	320
1358	B31-ST101G*	N	4800	1.2	E.8	SPEED TRANSMITTER	107E5194/0	320
1359	B31-ST101K*	N	4800	1.2	E.3	SPEED TRANSMITTER	107E5194/0	320
1360	B31-VBT100C*	N	4800	1.2	E.3	VIBRATION TRANSMITTER	107E5194/0	320
1361	B31-VBT100G*	N	4800	1.2	E.8	VIBRATION TRANSMITTER	107E5194/0	320
1362	B31-VBT101C*	N	4800	1.2	E.3	VIBRATION TRANSMITTER	107E5194/0	320
1363	B31-VBT101G*	N	4800	1.2	E.8	VIBRATION TRANSMITTER	107E5194/0	320
1364	C81-C001G	N	4800	1.2	E.8	ADJ SPEED DRIVE-RIP G	299X701-146/0	320
1365	C81-C001K	N	4800	1.2	E.7	ADJ SPEED DRIVE-RIP K	299X701-146/0	320
1366	P24-F216B*	N	4800	1.5	D.1	TCV; RIP AREA B	107E5176/0	320
1367	T31-TE052R	N	6000	2.5	E.6	TEMP ELEMENT	107E6043/0	321
1368	D21-RE017	N	4800	2.8	F.0	AREA RAD DETECTOR	299X701-171/0	321
1369	H23-P022*	N	4800	2.8	F.0	I/O DEVICE	----?----	321
1370	X-300B	2	6000	2.9	E.7	COMP LEAD WIRE & INSTR	107E6043/0	321
1371	X-321B	2	6000	2.7	E.5	SUPP CHAMBER PRESSURE	107E6043/0	321
1372	H23-P023*	N	4800	3.8	F.0	I/O DEVICE	----?----	321
1373	X-331B	2	6000	2.5	E.4	CAMS GAMMA DETECTOR	10R281-431	321
1374	D23-F006B	2	6000	2.6	E.4	MO GLOBE VALVE	107E5139/1	321

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1375	D23-F007B	2	6000	2.6	E.4	MO GLOBE VALVE	107E5139/1	321
1376	D23-F008B	2	6000	2.6	E.4	MO GLOBE VALVE	107E5139/1	321
1377	X-332B	2	6000	2.6	E.5	CAMS A-C SAMPLING	10R281-431	321
1378	U63-C005*	N	4800	1.9	E.8	STORM DRAIN SUMP PUMP	10S539-655	322
1379	U63-LS001	N	4800	1.9	E.8	LEVEL SWITCH	10S539-655	322
1380	U63-LS002	N	4800	1.9	E.8	LEVEL SWITCH	10S539-655	322
1381	B21-LT001B	2	4800	2.1	D.2	LEVEL TRANSMITTER	103E1791/1	323
1382	B21-LT002B	2	4800	2.1	D.2	LEVEL TRANSMITTER	103E1791/1	323
1383	B21-LT003B	2	4800	2.1	D.2	LEVEL TRANSMITTER	103E1791/1	323
1384	B21-LT003F	2	4800	2.1	D.2	LEVEL TRANSMITTER	103E1791/1	323
1385	B21-LT005	N	4800	2.1	D.2	LEVEL TRANSMITTER	103E1791/1	323
1386	B21-LT006B	2	4800	2.1	D.2	LEVEL TRANSMITTER	103E1791/1	323
1387	B21-PT007B	2	4800	2.1	D.2	PRESS TRANSMITTER	103E1791/1	323
1388	B21-PT008B	2	4800	2.1	D.2	PRESS TRANSMITTER	103E1791/1	323
1389	B21-PT011B	N	4800	2.1	D.2	PRESS TRANSMITTER	103E1791/1	323
1390	B21-PT025B	2	4800	2.1	D.2	PRESS TRANSMITTER	103E1791/1	323
1391	B21-TE020B	2	4800	2.1	D.2	TEMP ELEMENT	103E1791/1	323
1392	B21-TE022B	2	4800	2.1	D.2	TEMP ELEMENT	103E1791/1	323
1393	B21-TE024B	2	4800	2.1	D.2	TEMP ELEMENT	103E1791/1	323
1394	C31-FT403B	N	4800	2.1	D.5	FLOW TRANSMITTER	796E361	323
1395	C31-FT404B	N	4800	2.1	D.5	FLOW TRANSMITTER	796E361	323
1396	D21-RE016	N	4800	2.0	D.2	AREA RAD DETECTOR	299X701-171/0	323
1397	E11-F019B	2	4800	2.1	D.4	MO GLOBE VALVE (SPRAY)	103E1797/1	323
1398	E31-DPT006B	2	4800	2.0	D.4	RCIC STM FLOW XMTR	103E1792/1	323
1399	E31-DPT013B	2	4800	2.0	D.4	CUW SUC FLOW XMTR	103E1792/1	323
1400	E31-DPT014B	2	4800	2.0	D.4	CUW RET FLOW XMTR	103E1792/1	323
1401	E31-DPT015B	2	4800	2.0	D.4	CUW B/D FLOW XMTR	103E1792/1	323
1402	E31-DPT016B	2	4800	2.0	D.4	MSL FLOW XMTR	103E1792/1	323
1403	E31-DPT016F	2	4800	2.0	D.4	MSL FLOW XMTR	103E1792/1	323
1404	E31-DPT016K	2	4800	2.0	D.4	MSL FLOW XMTR	103E1792/1	323
1405	E31-DPT016P	2	4800	2.0	D.4	MSL FLOW XMTR	103E1792/1	323
1406	E31-PT007B	2	4800	2.0	D.4	RCIC STM PRESS XMTR	103E1792/1	323
1407	H22-P013B*	2	4800	2.1	D.2	REA SYS INSTR RACK B	10Q273-282	323

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1408	H22-P014B*	2	4800	2.1	D.5	MAIN STM FLOW INST RACK B	10Q273-282	323
1409	H22-P015B*	2	4800	2.0	D.3	LEAK DET SYS INST RACK B	10Q273-282	323
1410	T31-DPT057	N	6500	2.1	D.5	DIFF PRESS TRANSMITTER	107E6043/0	323
1411	T31-DPT101B	2	6600	2.1	D.5	DIFF PRESS TRANSMITTER	107E6043/0	323
1412	T31-F737B	1	6500	2.1	D.5	SO VALVE	107E6043/0	323
1413	T31-F805B	2	6600	2.1	D.5	SO VALVE	107E6043/0	323
1414	T31-POS071B	N	4800	2.1	D.5	POSITION SWITCH	107E6043/0	323
1415	T31-PT056A	N	6500	2.0	D.5	TEMP INDICATOR	107E6043/0	323
1416	T31-PT056B	N	6500	2.1	D.5	PRESSURE TRANSMITTER	107E6043/0	323
1417	T31-F006	2	9000	2.5	E.3	AO VALVE	107E6043/0	325
1418	T31-F007	2	9000	2.5	E.3	AO VALVE	107E6043/0	325
1419	X-241	N	9000	2.5	E.3	WETWELL PURGE EXHAUST	107E6043/0	325
1420	H23-P014*	2	4800	2.4	F.6	I/O DEVICE	----?----	326
1421	R24 MCC F112	2	4800	2.5	F.9	MCC F112 - R/B	107E5072/0	326
1422	R24 MCC F113	2	4800	2.5	F.9	MCC F113 - R/B	107E5072/0	326
1423	H23-P015*	2	4800	2.6	F.5	I/O DEVICE	----?----	326
1424	H23-P016*	2	4800	2.6	F.3	I/O DEVICE	----?----	326
1425	H23-P017*	2	4800	2.6	F.2	I/O DEVICE	----?----	326
1426	R42-DC B10	2	4800	2.6	F.5	125 VDC INSTR DIST PNL	107E5075/0	326
1427	R42-DCN B10	N	4800	2.6	F.6	125 VDC INSTR DIST PNL	107E5075/0	326
1428	R24 MCC F110	2	4800	3.4	F.3	MCC F110 - R/B	107E5072/0	326
1429	R24 MCC F111	2	4800	3.4	F.2	MCC F111 - R/B	107E5072/0	326
1430	R23 P/C F10	2	4800	3.5	F.8	P/C F10 - LO VOLT SWTGR	107E5072/0	326
1431	R46-CVCF BN11	N	4800	3.5	F.5	VITAL ND 120 VAC - R/B	107E5076/0	326
1432	R47-IPB10	2	4800	4.0	F.5	120 VAC INSTR DIST PNL	112D4885/0	326
1433	H23-P018*	2	4800	4.3	F.9	I/O DEVICE	----?----	326
1434	R22 M/C F	2	4800	4.5	F.3	M/C F - MED VOLT SWTGR	107E5072/0	326
1435	R46-CVCF B11	2	4800	4.5	F.5	VITAL D2 120 VAC - R/B	107E5076/0	326
1436	X-200A	2	8900	2.2	D.3	RHR B WETWELL SPRAY	795E880/3	327
1437	X-200B	3	8900	5.9	D.3	RHR C WETWELL SPRAY	795E880/3	330

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1438	P24-F216A*	N	4800	6.5	D.1	TCV; RIP AREA A	107E5176/0	331
1439	B31-ST100B*	N	4800	6.8	E.3	SPEED TRANSMITTER	107E5194/0	331
1440	B31-ST100E*	N	4800	6.8	E.8	SPEED TRANSMITTER	107E5194/0	331
1441	B31-ST100H*	N	4800	6.8	F.4	SPEED TRANSMITTER	107E5194/0	331
1442	B31-ST101B*	N	4800	6.8	E.3	SPEED TRANSMITTER	107E5194/0	331
1443	B31-ST101E*	N	4800	6.8	E.8	SPEED TRANSMITTER	107E5194/0	331
1444	B31-ST101H*	N	4800	6.8	F.4	SPEED TRANSMITTER	107E5194/0	331
1445	B31-VBT100B*	N	4800	6.8	E.3	VIBRATION TRANSMITTER	107E5194/0	331
1446	B31-VBT100E*	N	4800	6.8	E.8	VIBRATION TRANSMITTER	107E5194/0	331
1447	B31-VBT100H*	N	4800	6.8	F.4	VIBRATION TRANSMITTER	107E5194/0	331
1448	B31-VBT101B*	N	4800	6.8	E.3	VIBRATION TRANSMITTER	107E5194/0	331
1449	B31-VBT101E*	N	4800	6.8	E.8	VIBRATION TRANSMITTER	107E5194/0	331
1450	B31-VBT101H*	N	4800	6.8	F.4	VIBRATION TRANSMITTER	107E5194/0	331
1451	C81-C001B	N	4800	6.8	E.3	ADJ SPEED DRIVE-RIP B	299X701-146/0	331
1452	C81-C001E	N	4800	6.8	E.8	ADJ SPEED DRIVE-RIP E	299X701-146/0	331
1453	C81-C001H	N	4800	6.8	F.4	ADJ SPEED DRIVE-RIP H	299X701-146/0	331
1454	R10-C001H*	N	4800	6.8	F.8	RIP ASD OUTPUT XFMR	----?----	331
1455	B21-LT001C	3	4800	5.9	D.2	LEVEL TRANSMITTER	103E1791/1	332
1456	B21-LT002C	3	4800	5.9	D.2	LEVEL TRANSMITTER	103E1791/1	332
1457	B21-LT003C	3	4800	5.9	D.2	LEVEL TRANSMITTER	103E1791/1	332
1458	B21-LT003G	3	4800	5.9	D.2	LEVEL TRANSMITTER	103E1791/1	332
1459	B21-PT007C	3	4800	5.9	D.2	PRESS TRANSMITTER	103E1791/1	332
1460	B21-PT008C	3	4800	5.9	D.2	PRESS TRANSMITTER	103E1791/1	332
1461	B21-PT011C	N	4800	5.9	D.2	PRESS TRANSMITTER	103E1791/1	332
1462	B21-PT025C	3	4800	5.9	D.2	PRESS TRANSMITTER	103E1791/1	332
1463	C31-FT403C	N	4800	5.9	D.5	FLOW TRANSMITTER	796E361	332
1464	C31-FT404C	N	4800	5.9	D.5	FLOW TRANSMITTER	796E361	332
1465	E11-F019C	3	4800	5.9	D.4	MO GLOBE VALVE (SPRAY)	103E1797/1	332
1466	E31-DPT006C	3	4800	5.9	D.4	RCIC STM FLOW XMTR	103E1792/1	332
1467	E31-DPT013C	3	4800	5.9	D.4	CUW SUC FLOW XMTR	103E1792/1	332
1468	E31-DPT014C	3	4800	5.9	D.4	CUW RET FLOW XMTR	103E1792/1	332
1469	E31-DPT015C	3	4800	5.9	D.4	CUW B/D FLOW XMTR	103E1792/1	332
1470	E31-DPT016C	3	4800	5.9	D.4	MSL FLOW XMTR	103E1792/1	332
1471	E31-DPT016G	3	4800	5.9	D.4	MSL FLOW XMTR	103E1792/1	332

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1472	E31-DPT016L	3	4800	5.9	D.4	MSL FLOW XMTR	103E1792/1	332
1473	E31-DPT016R	3	4800	5.9	D.4	MSL FLOW XMTR	103E1792/1	332
1474	E31-PT007C	3	4800	5.9	D.4	RCIC STM PRESS XMTR	103E1792/1	332
1475	H22-P013C*	3	4800	5.9	D.2	REA SYS INSTR RACK C	10Q273-282	332
1476	H22-P014C*	3	4800	5.9	D.5	MAIN STM FLOW INST RACK C	10Q273-282	332
1477	H22-P015C*	3	4800	6.0	D.4	LEAK DET SYS INST RACK C	10Q273-282	332
1478	T31-DPT101A	1	6600	5.9	D.5	DIFF PRESS TRANSMITTER	107E6043/0	332
1479	T31-F805A	1	6600	5.9	D.5	SO VALVE	107E6043/0	332
1480	D23-F007A	1	6000	5.5	E.3	MO GLOBE VALVE	107E5139/1	335
1481	D23-F006A	1	6000	5.5	E.3	MO GLOBE VALVE	107E5139/1	335
1482	D23-F008A	1	6000	5.5	E.3	MO GLOBE VALVE	107E5139/1	335
1483	H23-P025*	N	4800	5.6	E.3	I/O DEVICE	----?----	335
1484	X-300A	1	6000	5.5	E.3	COMP LEAD WIRE & INSTR	107E6043/0	335
1485	X-332A	1	6000	5.5	E.3	CAMS A-C SAMPLING	10R281-431	335
1486	H23-P024*	N	4800	4.8	F.0	I/O DEVICE	----?----	335
1487	U63-C006*	N	4800	6.1	E.8	STORM DRAIN SUMP PUMP	10S539-655	336
1488	U63-LS003	N	4800	6.1	E.8	LEVEL SWITCH	10S539-655	336
1489	U63-LS004	N	4800	6.1	E.8	LEVEL SWITCH	10S539-655	336
1490	H23-P019*	3	4800	5.0	F.1	I/O DEVICE	----?----	337
1491	H23-P020*	3	4800	5.2	F.1	I/O DEVICE	----?----	337
1492	R22 M/C G	3	4800	5.9	F.3	M/C G - MED VOLT SWTGR	107E5072/0	337
1493	R23 P/C G10	3	4800	5.3	F.8	P/C G10 - LO VOLT SWTGR	107E5072/0	337
1494	R24 MCC G110	3	4800	6.0	F.7	MCC G110 - R/B	107E5072/0	337
1495	R24 MCC G111	3	4800	6.0	F.7	MCC G111 - R/B	107E5072/0	337
1496	R24 MCC G112	3	4800	5.2	F.4	MCC G112 - R/B	107E5072/0	337
1497	R24 MCC G113	3	4800	5.2	F.4	MCC G113 - R/B	107E5072/0	337
1498	R42-DC C10	3	4800	5.0	F.1	125 VDC INSTR DIST PNL	107E5075/0	337
1499	R42-DCN C10	N	4800	5.3	F.1	125 VDC INSTR DIST PNL	107E5075/0	337
1500	R46-CVCF C11	3	4800	5.5	F.5	VITAL D3 120 VAC - R/B	107E5076/0	337
1501	R46-CVCF CN11	N	4800	5.4	F.4	VITAL ND 120 VAC - R/B	107E5076/0	337
1502	R47-IPC10	3	4800	5.5	F.5	120 VAC INSTR DIST PNL	112D4885/0	337

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1503	B31-ST100D*	N	4800	1.2	B.6	SPEED TRANSMITTER	107E5194/0	340
1504	B31-ST100J*	N	4800	1.2	C.2	SPEED TRANSMITTER	107E5194/0	340
1505	B31-ST101D*	N	4800	1.2	B.6	SPEED TRANSMITTER	107E5194/0	340
1506	B31-ST101J*	N	4800	1.2	C.2	SPEED TRANSMITTER	107E5194/0	340
1507	B31-VBT100D*	N	4800	1.2	B.6	VIBRATION TRANSMITTER	107E5194/0	340
1508	B31-VBT100J*	N	4800	1.2	C.2	VIBRATION TRANSMITTER	107E5194/0	340
1509	B31-VBT101D*	N	4800	1.2	B.6	VIBRATION TRANSMITTER	107E5194/0	340
1510	B31-VBT101J*	N	4800	1.2	C.2	VIBRATION TRANSMITTER	107E5194/0	340
1511	C81-C001D	N	4800	1.2	B.6	ADJ SPEED DRIVE-RIP D	299X701-146/0	340
1512	C81-C001J	N	4800	1.2	C.2	ADJ SPEED DRIVE-RIP J	299X701-146/0	340
1513	R10-C001D*	N	4800	1.2	B.2	RIP ASD OUTPUT XFMR	----?----	340
1514	C61-P001A	1	4800	1.1	A.3	RSS PANEL DIV. 1	299X700-060/0	341
1515	G31-DPI102A	N	4800	2.6	B.5	DIFF PRESS SWITCH	107E5051/0	344
1516	G31-DPI102B	N	4800	2.4	B.5	DIFF PRESS SWITCH	107E5051/0	344
1517	G31-DPI103A	N	4800	2.6	B.5	DIFF PRESS INDICATOR	107E5051/0	344
1518	G31-DPI103B	N	4800	2.4	B.5	DIFF PRESS INDICATOR	107E5051/0	344
1519	G31-DPS102A	N	4800	2.6	B.5	DIFF PRESS SWITCH	107E5051/0	344
1520	G31-DPS102B	N	4800	2.4	B.5	DIFF PRESS SWITCH	107E5051/0	344
1521	G31-DPS103A	N	4800	2.6	B.5	DIFF PRESS INDICATOR	107E5051/0	344
1522	G31-DPS103B	N	4800	2.4	B.5	DIFF PRESS INDICATOR	107E5051/0	344
1523	G31-DPT102A	N	4800	2.6	B.5	DIFF PRESS TRANS	107E5051/0	344
1524	G31-DPT102B	N	4800	2.4	B.5	DIFF PRESS TRANS	107E5051/0	344
1525	G31-DPT103A	N	4800	2.6	B.5	DIFF PRESS TRANS	107E5051/0	344
1526	G31-DPT103B	N	4800	2.4	B.5	DIFF PRESS TRANS	107E5051/0	344
1527	G31-E/P605A	N	4800	2.6	B.5	E/P TRANSDUCER	107E5051/0	344
1528	G31-E/P605B	N	4800	2.4	B.5	E/P TRANSDUCER	107E5051/0	344
1529	G31-FIC104A	N	4800	2.6	B.5	FLOW IND CONTROLLER	107E5051/0	344
1530	G31-FIC104B	N	4800	2.4	B.5	FLOW IND CONTROLLER	107E5051/0	344
1531	G31-FS104A	N	4800	2.6	B.5	FLOW SWITCH	107E5051/0	344
1532	G31-FS104B	N	4800	2.4	B.5	FLOW SWITCH	107E5051/0	344
1533	G31-FT011A	N	4800	2.6	B.5	FLOW TRANSMITTER	107E5051/0	344
1534	G31-FT011B	N	4800	2.4	B.5	FLOW TRANSMITTER	107E5051/0	344



**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1535	G31-FT104A	N	4800	2.6	B.5	FLOW TRANSMITTER	107E5051/0	344
1536	G31-FT104B	N	4800	2.4	B.5	FLOW TRANSMITTER	107E5051/0	344
1537	G31-F/P104A	N	4800	2.6	B.5	E/P TRANSDUCER	107E5051/0	344
1538	G31-F/P104B	N	4800	2.4	B.5	E/P TRANSDUCER	107E5051/0	344
1539	G31-I/O102A	N	4800	2.6	B.5	I/O UNIT	107E5051/0	344
1540	G31-I/O102B	N	4800	2.4	B.5	I/O UNIT	107E5051/0	344
1541	G31-SQ104A	N	4800	2.6	B.5	SQRT CONVERTER	107E5051/0	344
1542	G31-SQ104B	N	4800	2.4	B.5	SQRT CONVERTER	107E5051/0	344
1543	G31-TS105A	N	4800	2.6	B.5	TEMP SWITCH	107E5051/0	344
1544	G31-TS105B	N	4800	2.4	B.5	TEMP SWITCH	107E5051/0	344
1545	G31-TT605A	N	4800	2.6	B.5	TEMP TRANSMITTER	107E5051/0	344
1546	G31-TT605B	N	4800	2.4	B.5	TEMP TRANSMITTER	107E5051/0	344
1547	G41-CE016A	N	4800	2.2	B.5	CONDUCTIVITY ELEMENT	107E6042/0	344
1548	G41-CE016B	N	4800	2.1	B.5	CONDUCTIVITY ELEMENT	107E6042/0	344
1549	G41-CIS016A	N	4800	2.2	B.5	CONDUCTIVITY INDICATOR	107E6042/0	344
1550	G41-CIS016B	N	4800	2.0	B.5	CONDUCTIVITY INDICATOR	107E6042/0	344
1551	G41-CT016A	N	4800	2.2	B.5	CONDUCTIVITY TRANSMITTER	107E6042/0	344
1552	G41-CT016B	N	4800	2.0	B.5	CONDUCTIVITY TRANSMITTER	107E6042/0	344
1553	G41-D001A	N	4800	2.2	B.5	FILTER/DEMIN	107E6042/0	344
1554	G41-D001B	N	4800	2.1	B.5	FILTER/DEMIN	107E6042/0	344
1555	G41-DPI009A	N	4800	2.2	B.5	DIFF PRESS INDICATOR	107E6042/0	344
1556	G41-DPI009B	N	4800	2.1	B.5	DIFF PRESS INDICATOR	107E6042/0	344
1557	G41-DPI016A	N	4800	2.2	B.5	DIFF PRESS INDICATOR	107E6042/0	344
1558	G41-DPI016B	N	4800	2.1	B.5	DIFF PRESS INDICATOR	107E6042/0	344
1559	G41-DPS009A	N	4800	2.2	B.5	DIFF PRESS SWITCH	107E6042/0	344
1560	G41-DPS009B	N	4800	2.1	B.5	DIFF PRESS SWITCH	107E6042/0	344
1561	G41-DPS016A	N	4800	2.2	B.5	DIFF PRESS SWITCH	107E6042/0	344
1562	G41-DPS016B	N	4800	2.1	B.5	DIFF PRESS SWITCH	107E6042/0	344
1563	G41-DPT009A	N	4800	2.2	B.5	DIFF PRESS TRANS	107E6042/0	344
1564	G41-DPT009B	N	4800	2.1	B.5	DIFF PRESS TRANS	107E6042/0	344
1565	G41-DPT016A	N	4800	2.2	B.5	DIFF PRESS TRANS	107E6042/0	344
1566	G41-DPT016B	N	4800	2.1	B.5	DIFF PRESS TRANS	107E6042/0	344

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1567	G41-E/P011A	N	4800	2.2	B.5	E/P CONVERTER	107E6042/0	344
1568	G41-E/P011B	N	4800	2.1	B.5	E/P CONVERTER	107E6042/0	344
1569	G41-FIC011A	N	4800	2.2	B.5	FLOW IND CONTROLLER	107E6042/0	344
1570	G41-FIC011B	N	4800	2.1	B.5	FLOW IND CONTROLLER	107E6042/0	344
1571	G41-FR011	N	4800	2.2	B.5	FLOW RECORDER	107E6042/0	344
1572	G41-FS011A	N	4800	2.2	B.5	FLOW SWITCH	107E6042/0	344
1573	G41-FS011B	N	4800	2.1	B.5	FLOW SWITCH	107E6042/0	344
1574	G41-FT011A	N	4800	2.2	B.5	FLOW TRANSMITTER	107E6042/0	344
1575	G41-FT011B	N	4800	2.1	B.5	FLOW TRANSMITTER	107E6042/0	344
1576	G41-SQ011A	N	4800	2.2	B.5	SQRT CONVERTER	107E6042/0	344
1577	G41-SQ011B	N	4800	2.1	B.5	SQRT CONVERTER	107E6042/0	344
1578	H22-P027*	N	4800	2.2	B.5	FPC F/D INSTR RACK A	10Q273-282	344
1579	H22-P028*	N	4800	2.0	B.5	FPC F/D INSTR RACK B	10Q273-282	344
1580	H22-P029*	N	4800	2.6	B.5	CUW/FD INSTR RACK A	10Q273-282	344
1581	H22-P030*	N	4800	2.4	B.5	CUW/FD INSTR RACK B	10Q273-282	344
1582	H22-P016*	N	4800	2.1	B.7	FPC FD SAMPL TRANSMITTER	10Q273-282	344
1583	C31-FT403D	N	4800	2.0	C.3	FLOW TRANSMITTER	796E361	344
1584	C31-FT404D	N	4800	2.0	C.3	FLOW TRANSMITTER	796E361	344
1585	B21-LT001D	4	4800	2.0	C.8	LEVEL TRANSMITTER	103E1791/1	345
1586	B21-LT003D	4	4800	2.0	C.8	LEVEL TRANSMITTER	103E1791/1	345
1587	B21-LT003H	4	4800	2.0	C.8	LEVEL TRANSMITTER	103E1791/1	345
1588	B21-PT007D	4	4800	2.0	C.8	PRESS TRANSMITTER	103E1791/1	345
1589	B21-PT025D	4	4800	2.0	C.8	PRESS TRANSMITTER	103E1791/1	345
1590	H22-P013D*	4	4800	2.0	C.6	REA SYS INSTR RACK D	10Q273-282	345
1591	E31-DPT006D	4	4800	2.1	C.7	RCIC STM FLOW XMTR	103E1792/1	345
1592	E31-DPT013D	4	4800	2.1	C.7	CUW SUC FLOW XMTR	103E1792/1	345
1593	E31-DPT014D	4	4800	2.1	C.7	CUW RET FLOW XMTR	103E1792/1	345
1594	E31-DPT015D	4	4800	2.1	C.7	CUW B/D FLOW XMTR	103E1792/1	345
1595	E31-DPT016D	4	4800	2.1	C.7	MSL FLOW XMTR	103E1792/1	345
1596	E31-DPT016H	4	4800	2.1	C.7	MSL FLOW XMTR	103E1792/1	345
1597	E31-DPT016M	4	4800	2.1	C.7	MSL FLOW XMTR	103E1792/1	345
1598	E31-DPT016S	4	4800	2.1	C.7	MSL FLOW XMTR	103E1792/1	345
1599	E31-PT007D	4	4800	2.1	C.7	RCIC STM PRESS XMTR	103E1792/1	345

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1600	H22-P014D*	4	4800	2.1	C.5	MAIN STM FLOW INST RACK D	10Q273-282	345
1601	H22-P015D*	4	4800	2.1	C.3	LEAK DET SYS INST RACK D	10Q273-282	345
1602	H22-P017*	N	4800	2.2	C.7	FPC FD MAIN VLV RACK	10Q273-282	345
1603	H22-P018*	N	4800	2.2	C.5	FPC FD COND MTR RACK	10Q273-282	345
1604	H22-P019*	N	4800	2.2	C.2	FPC FD SAMPLING HOOD	10Q273-282	345
1605	R46-CVCF D11	4	4800	2.1	C.7	VITAL D4 120 VAC - R/B	107E5076/0	345
1606	G31-D009A	N	4800	2.6	B.2	FILTER/DEMIN	107E5051/0	347
1607	G31-D009B	N	4800	2.2	B.2	FILTER/DEMIN	107E5051/0	347
1608	H22-P020*	N	8000	2.6	B.5	LIQ SMPL COOLER RACK,P91	NT-1006644	349
1609	H22-P021*	N	8000	2.3	B.6	LIQ SMPL PRESS CONT,P91	NT-1006644	349
1610	H22-P022*	N	8000	2.1	B.5	REA WATER pH MTR RACK,P91	NT-1006644	349
1611	H22-P023*	N	8000	2.1	B.7	REA DISOL OXYGEN MTR,P91	NT-1006644	349
1612	H22-P024*	N	8000	2.4	B.7	REA WATER COND RACK, P91	NT-1006644	349
1613	H22-P026*	N	8000	2.2	B.5	PAS RELATED AO VLV RACK	10Q273-282	349
1614	P91-P022*	N	8000	2.3	B.8	REA COOLANT SMPL TRANS PNL	NT-5000390	349
1615	H22-P025A*	N	8000	2.1	C.8	REA WATER SMPL HOOD,P91	NT-1006644	380
1616	H22-P025*	N	8000	2.1	C.5	REA WATER GRAB SMPL RK,P91	NT-1006644	380
1617	H23-P011*	4	4800	1.7	A.1	I/O DEVICE	----?-----	381
1618	R42-DC D10	4	4800	1.7	A.1	125 VDC INSTR DIST PNL	107E5075/0	381
1619	C61-P001B	2	4800	1.1	A.7	RSS PANEL DIV. 2	299X700-060/0	383
1620	B21-TE021A	1	4800	5.0	C.0	TEMP ELEMENT	103E1791/1	390
1621	B21-TE021B	2	4800	3.0	E.0	TEMP ELEMENT	103E1791/1	390
1622	B21-TE023A	1	4800	5.0	C.0	TEMP ELEMENT	103E1791/1	390
1623	B21-TE023B	2	4800	3.0	E.0	TEMP ELEMENT	103E1791/1	390
1624	D23-RE006A	1	6000	4.5	B.5	GAMMA DETECTOR	107E5139/1	390
1625	D23-RE006B	2	6000	2.8	E.1	GAMMA DETECTOR	107E5139/1	390
1626	T31-F044A	N	6500	4.0	B.7	AO VALVE	107E6043/0	390

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1627	T31-F044B	N	6500	5.4	D.0	AO VALVE	107E6043/0	390
1628	T31-F044C	N	6500	4.0	E.5	AO VALVE	107E6043/0	390
1629	T31-F044D	N	6500	2.7	D.0	AO VALVE	107E6043/0	390
1630	T31-F044E	N	6500	5.1	C.1	AO VALVE	107E6043/0	390
1631	T31-F044F	N	6500	5.0	E.0	AO VALVE	107E6043/0	390
1632	T31-F044G	N	6500	3.0	E.0	AO VALVE	107E6043/0	390
1633	T31-F044H	N	6500	3.0	C.0	AO VALVE	107E6043/0	390
1634	T31-TE051M	N	8500	5.1	B.9	TEMP ELEMENT	107E6043/0	390
1635	T31-TE051P	N	9000	2.6	D.8	TEMP ELEMENT	107E6043/0	390
1636	T31-TE051R	N	9000	2.6	D.8	TEMP ELEMENT	107E6043/0	390
1637	T31-TE051S	N	9000	2.6	D.8	TEMP ELEMENT	107E6043/0	390
1638	T31-TE052S	N	6000	5.1	E.1	TEMP ELEMENT	107E6043/0	390
1639	T31-TE052T	N	6000	2.8	B.9	TEMP ELEMENT	107E6043/0	390
1640	B21-TE014A	1	4950	3.6	C.5	TEMP ELEMENT	103E1791/1	391
1641	B21-TE014C	2	4950	3.7	D.4	TEMP ELEMENT	103E1791/1	391
1642	B31-TE303A	N	4800	3.5	C.6	TEMP ELEMENT	107E5194/0	391
1643	B31-TE303B	N	4800	3.5	C.6	TEMP ELEMENT	107E5194/0	391
1644	T31-TE052J	N	8500	4.0	C.5	TEMP ELEMENT	107E6043/0	391
1645	T31-TE052K	N	8500	4.4	C.8	TEMP ELEMENT	107E6043/0	391
1646	T31-TE052L	N	8500	4.3	D.3	TEMP ELEMENT	107E6043/0	391
1647	T31-TE052M	N	8500	3.7	D.3	TEMP ELEMENT	107E6043/0	391
1648	T31-TE052N	N	8500	3.6	C.8	TEMP ELEMENT	107E6043/0	391
1649	D11-E/O-1*	1	12300	5.2	A.5	MSL E/O CONVERTER	107E6071/0	410
1650	D11-E/O-2*	2	12300	5.2	A.5	MSL E/O CONVERTER	107E6071/0	410
1651	D11-E/O-3*	3	12300	5.2	A.5	MSL E/O CONVERTER	107E6071/0	410
1652	D11-E/O-4*	4	12300	5.2	A.5	MSL E/O CONVERTER	107E6071/0	410
1653	H22-P040*	N	12300	5.1	A.8	REA CONT VES	----?----	410
1654	P91-P024*	N	12300	5.1	A.8	PCV DEW PT MTR RACK	NT-5000390	410
1655	H23-P026*	N	12300	5.7	B.2	I/O DEVICE	----?----	410
1656	G31-F702A	N	13500	5.4	B.6	INSTR CHECK VALVE	107E5051/0	411
1657	G31-F703A	N	13500	5.4	B.6	INSTR CHECK VALVE	107E5051/0	411
1658	X-103A	1	16400	5.3	B.5	COMPENSATION/INSTR LINE	107E6043/0	411
1659	X-130A	1	13500	5.4	B.6	MAIN STEAM FLOW RATE	795E877	411
1660	X-140A	N	13500	5.3	B.5	CUW FLOW RATE	10P142-078	411

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1661	X-143A	1	14700	5.4	B.6	REA WATER LEV & PRESS	795E877	411
1662	X-144A	1	12650	5.4	B.6	REA WATER LEV & PRESS	795E877	411
1663	X-161A	1	14700	5.3	B.6	CAMS SAMPLING	10R281-431	411
1664	P21-F075A	1	13550	5.2	B.4	MO GATE VALVE (ISO)	107E5112/0	411
1665	P21-F081A	1	13550	5.2	B.4	MO GATE VALVE (ISO)	107E5112/0	411
1666	X-061	1	13550	5.2	B.4	RCW A RIP CLG SUPPLY	107E5112	411
1667	X-062	1	13550	5.2	B.3	RCW A RIP CLG RETURN	107E5112	411
1668	C51-K002A	1	13500	5.5	B.7	SRNM PREAMPLIFIER	107E5074/0	411
1669	C51-K002E	1	13500	5.5	B.7	SRNM PREAMPLIFIER	107E5074/0	411
1670	C51-K002J	1	13500	5.5	B.7	SRNM PREAMPLIFIER	107E5074/0	411
1671	X-100A	N	13500	5.5	B.7	INTERNAL PUMP POWER	795E882	411
1672	X-102A	1	16400	5.5	B.7	CONTROL & INSTRUMENT	795E898	411
1673	X-102E	1	16400	5.5	B.7	CONTROL & INSTRUMENT	795E898	411
1674	X-105A	1	13500	5.6	B.7	NEUTRON DETECTOR	795E898	411
1675	T31-E/P018	N	13700	5.8	C.3	E/P TRANSDUCER	107E6043/0	411
1676	T31-F002	2	13700	5.8	C.2	AO VALVE	107E6043/0	411
1677	T31-F025	1	13700	5.8	C.2	AO VALVE	107E6043/0	411
1678	T31-F039	1	13700	5.8	C.2	AO VALVE	107E6043/0	411
1679	T31-F040	2	13700	5.8	C.2	AO VALVE	107E6043/0	411
1680	T31-F041	2	13700	5.8	C.2	AO VALVE	107E6043/0	411
1681	T31-FT001	N	13700	5.8	C.2	FLOW TRANSMITTER	107E6043/0	411
1682	T31-FT014	N	13700	5.8	C.2	FLOW TRANSMITTER	107E6043/0	411
1683	T31-PI013	N	13700	5.8	C.2	PRESSURE INDICATOR	107E6043/0	411
1684	T31-PT009	N	13700	5.8	C.2	PRESSURE TRANSMITTER	107E6043/0	411
1685	T31-TE002	N	13700	5.8	C.2	TEMP ELEMENT	107E6043/0	411
1686	T31-TE033	N	13700	5.8	C.2	TEMP ELEMENT	107E6043/0	411
1687	T31-TI002	N	13700	5.8	C.2	TEMP INDICATOR	107E6043/0	411
1688	T31-TIC033	N	13700	5.8	C.2	TEMP IND/CONTROLLER	107E6043/0	411
1689	T31-TIS031	N	13700	5.8	C.3	TEMP IND SWITCH	107E6043/0	411
1690	T31-TIS032	N	13700	5.8	C.3	TEMP IND SWITCH	107E6043/0	411
1691	X-080	N	13700	5.8	C.2	DRYWELL PURGE SUCTION	107E6043/0	411

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1692	X-141A	1	13500	5.8	C.2	RCIC BREAK DETEC.LINE A&C	----?----	411
1693	R43-A401A*	1	12300	6.2	A.4	LUBE OIL SUPPLY TANK	H:87-1137	412
1694	R43-A501A*	1	17300	6.9	A.7	EXPANSION TANK	H:87-1137	412
1695	R43-B003A*	1	12300	6.9	A.8	JACKET WATER COOLER	FIG 9.5-7	412
1696	R43-C013A*	1	12300	6.1	A.1	FUEL OIL DRAIN UNIT	H:87-1137	412
1697	R43-C401A*	1	12300	6.1	A.6	DG A LUBE OIL PUMP	FIG 9.5-9	412
1698	P21-DPS033A	1	12300	6.5	B.0	DP SW (EMER DG A)	107E5112/0	412
1699	P21-DPS034A	1	12300	6.5	B.0	DP SW (EMER DG A)	107E5112/0	412
1700	R43-A104A*	1	12300	6.2	B.7	AIR STORAGE	FIG 9.5-8	412
1701	R43-A204A*	1	12300	6.2	B.5	AIR STORAGE	FIG 9.5-8	412
1702	R43-DPS091A*	1	12300	6.9	B.6	DIFF PRESS SWITCH	H:87-1137	412
1703	R43-J001A	1	12300	6.6	B.0	DIESEL GENERATOR	796E301	412
1704	R43-LIS191A*	1	12300	6.7	B.2	LEVEL IND SWITCH	H:87-1137	412
1705	R43-LS142A*	1	12300	6.7	B.2	LEVEL SWITCH	FIG 9.5-6	412
1706	R43-B003C*	3	12300	6.9	E.1	JACKET WATER COOLER	FIG 9.5-7	413
1707	R43-P003A*	1	13300	6.9	B.9	DG(A) CONTROL PNL (B)	----?----	412
1708	R43-P003C*	3	13300	6.9	E.2	DG(C) CONTROL PNL (B)	----?----	432
1709	E11-F011A	2	14550	6.0	C.5	MO GATE VALVE (ISOL)	103E1797/1	414
1710	E51-F036	2	14450	6.0	C.8	MO GATE VALVE (ST SUP)	103E1795/1	414
1711	T31-F735A	1	14500	6.0	C.5	SO VALVE	107E6043/0	414
1712	T31-F803A	1	14000	6.0	C.5	SO VALVE	107E6043/0	414
1713	T31-LT100A	1	16000	6.0	C.5	LEVEL TRANSMITTER	107E6043/0	414
1714	X-033A	1	14550	5.9	C.6	RHR A SHTDN CLG SUCT	795E880/3	414
1715	X-037	1	14450	5.9	C.8	RCIC STEAM SUPPLY	795E883/4	414
1716	X-066	N	13550	2.8	E.7	HNCW DW CLG RETURN	107E5176	420
1717	P24-F053	1	13550	2.7	E.5	MO GATE VALVE (DW ISO)	107E5176/0	420
1718	P24-F142	1	13550	2.8	E.6	MO GATE VALVE (DW ISO)	107E5176/0	420
1719	X-065	N	13550	2.7	E.5	HNCW DW CLG SUPPLY	107E5176	420
1720	D21-RE014	N	12300	2.8	F.3	AREA RAD DETECTOR	299X701-171/0	420
1721	P21-F075B	1	13550	2.5	E.3	MO GATE VALVE (ISO)	107E5112/0	420
1722	X-063	2	13550	2.4	E.3	RCW B RIP CLG SUPPLY	107E5112	420
1723	X-130B	2	13500	2.4	E.3	MAIN STEAM FLOW RATE	795E877	420
1724	X-143B	2	14700	2.4	E.3	REA WATER LEV & PRESS	795E877	420
1725	X-144B	2	12650	2.4	E.3	REA WATER LEV & PRESS	795E877	420

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1726	X-064	2	13550	2.5	E.4	RCW B RIP CLG RETURN	107E5112	420
1727	P21-F081B	1	13550	2.6	E.4	MO GATE VALVE (ISO)	107E5112/0	420
1728	E11-F005B	2	14500	2.1	D.6	MO GATE VALVE (INJ)	103E1797/1	421
1729	E11-F011B	3	14550	2.0	D.2	MO GATE VALVE (ISOL)	103E1797/1	421
1730	E11-F017B	2	14500	2.0	D.8	MO GLOBE VALVE (SPRAY)	103E1797/1	421
1731	E11-F018B	2	14500	2.2	D.8	MO GLOBE VALVE (SPRAY)	103E1797/1	421
1732	E22-F003B	2	14500	2.0	D.4	MO GATE VALVE (INJ)	107E6008/0	421
1733	T31-F735B	2	14500	2.0	D.5	SO VALVE	107E6043/0	421
1734	T31-F803B	2	14000	2.0	D.5	SO VALVE	107E6043/0	421
1735	T31-LT100B	2	16000	2.0	D.5	LEVEL TRANSMITTER	107E6043/0	421
1736	X-030A	2	14500	2.2	D.8	RHR B DRYWELL SPRAY	795E880/3	421
1737	X-031A	2	14500	2.1	D.3	HPCF B SUPPLY	795E876/4	421
1738	X-032A	2	14500	2.2	D.7	RHR B LPCF	795E880/3	421
1739	X-033B	2	14550	2.1	D.2	RHR B SHTDN CLG SUCT	795E880/3	421
1740	R43-P003B*	2	14400	1.2	E.2	DG(B) CONTROL PNL (B)	----?----	423
1741	P21-DPS033B	2	12300	1.5	F.0	DP SW (EMER DG B)	107E5112/0	423
1742	P21-DPS034B	2	12300	1.5	F.0	DP SW (EMER DG B)	107E5112/0	423
1743	R43-A104B*	2	12300	1.1	F.9	AIR STORAGE	FIG 9.5-8	423
1744	R43-A204B*	2	12300	1.1	E.7	AIR STORAGE	FIG 9.5-8	423
1745	R43-A401B*	2	12300	1.1	E.7	LUBE OIL SUPPLY TANK	H:87-1137	423
1746	R43-A501B*	2	17300	1.1	F.4	EXPANSION TANK	H:87-1137	423
1747	R43-B003B*	2	12300	1.9	E.7	JACKET WATER COOLER	FIG 9.5-7	423
1748	R43-C013B*	2	12300	1.1	E.4	FUEL OIL DRAIN UNIT	H:87-1137	423
1749	R43-C401B*	2	12300	1.1	E.9	DG B LUBE OIL PUMP	FIG 9.5-9	423
1750	R43-DPS091B*	2	12300	1.1	E.4	DIFF PRESS SWITCH	H:87-1137	423
1751	R43-J001B	2	12300	1.5	F.0	DIESEL GENERATOR	796E301	423
1752	R43-LIS191B*	2	12300	1.3	F.0	LEVEL IND SWITCH	H:87-1137	423
1753	R43-LS142B*	2	12300	1.3	F.0	LEVEL SWITCH	FIG 9.5-6	423
1754	C51-K002B	2	13500	3.7	E.8	SRNM PREAMPLIFIER	107E5074/0	424
1755	C51-K002F	2	13500	3.7	E.8	SRNM PREAMPLIFIER	107E5074/0	424
1756	X-100B	N	13500	3.7	E.8	INTERNAL PUMP POWER	795E882	424
1757	X-102B	2	16400	3.8	E.9	CONTROL & INSTRUMENT	795E898	424

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1758	X-102F	2	16400	3.7	E.8	CONTROL & INSTRUMENT	795E898	424
1759	X-103B	2	13500	3.9	E.9	COMPENSATION/INSTR LINE	107E6043/0	424
1760	X-105B	2	13500	3.8	E.8	NEUTRON DETECTOR	795E898	424
1761	DELETED							
1762	DELETED							
1763	DELETED							
1764	DELETED							
1765	DELETED							
1766	DELETED							
1767	DELETED							
1768	DELETED							
1769	DELETED							
1770	DELETED							
1771	DELETED							
1772	DELETED							
1773	DELETED							
1774	DELETED							
1775	DELETED							
1776	DELETED							
1777	DELETED							
1778	DELETED							
1779	DELETED							
1780	DELETED							
1781	DELETED							
1782	DELETED							
1783	DELETED							
1784	DELETED							
1785	DELETED							
1786	DELETED							
1787	DELETED							
1788	DELETED							
1789	DELETED							
1790	DELETED							



**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1791	DELETED							
1792	DELETED							
1793	DELETED							
1794	DELETED							
1795	H22-P039*	N	12300	5.2	E.6	CONT VESSEL PRESS LK TEST	----?----	430
1796	E11-F005C	3	14500	6.0	D.2	MO GATE VALVE (INJ)	103E1797/1	431
1797	E11-F011C	1	14550	5.9	D.6	MO GATE VALVE (ISOL)	103E1797/1	431
1798	E11-F017C	3	14500	5.9	D.8	MO GLOBE VALVE (SPRAY)	103E1797/1	431
1799	E11-F018C	3	14500	5.8	D.8	MO GLOBE VALVE (SPRAY)	103E1797/1	431
1800	E22-F003C	3	14500	6.0	D.4	MO GATE VALVE (INJ)	107E6008/0	431
1801	T31-F735C	3	14500	6.0	D.5	SO VALVE	107E6043/0	431
1802	X-030B	3	14500	5.8	D.8	RHR C DRYWELL SPRAY	795E880/3	431
1803	X-031B	3	14500	5.9	D.3	HPCF C SUPPLY	795E876/4	431
1804	X-032B	3	14500	5.9	D.2	RHR C LPCF	795E880/3	431
1805	X-033C	3	14550	5.8	D.7	RHR C SHTDN CLG SUCT	795E880/3	431
1806	P21-DPS033C	3	12300	6.5	F.0	DP SW (EMER DG C)	107E5112/0	432
1807	P21-DPS034C	3	12300	6.5	F.0	DP SW (EMER DG C)	107E5112/0	432
1808	R43-A104C*	3	12300	6.1	F.9	AIR STORAGE	FIG 9.5-8	432
1809	R43-A204C*	3	12300	6.1	F.7	AIR STORAGE	FIG 9.5-8	432
1810	R43-A401C*	3	12300	6.2	E.7	LUBE OIL SUPPLY TANK	H:87-1137	432
1811	R43-A501C*	3	17300	6.9	F.4	EXPANSION TANK	H:87-1137	432
1812	R43-C013C*	3	12300	6.1	E.4	FUEL OIL DRAIN UNIT	H:87-1137	432
1813	R43-C401C*	3	12300	6.1	E.9	DG C LUBE OIL PUMP	FIG 9.5-9	432
1814	R43-DPS091C*	3	12300	6.9	E.4	DIFF PRESS SWITCH	H:87-1137	432
1815	R43-J001C	3	12300	6.6	F.0	DIESEL GENERATOR	796E301	432
1816	R43-LIS191C*	3	12300	6.7	E.9	LEVEL IND SWITCH	H:87-1137	432
1817	R43-LS142C*	3	12300	6.2	F.4	LEVEL SWITCH	FIG 9.5-6	432
1818	X-177	N	15900	5.4	E.3	PCV & D/F LEAK	----?----	433
1819	X-130C	3	13500	5.6	E.2	MAIN STEAM FLOW RATE	795E877	433
1820	X-143C	3	14700	5.6	E.2	REA WATER LEV & PRESS	795E877	433
1821	X-144C	3	12650	5.6	E.2	REA WATER LEV & PRESS	795E877	433
1822	C51-K002C	3	13500	4.7	E.8	SRNM PREAMPLIFIER	107E5074/0	435

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1823	C51-K002G	3	13500	4.7	E.8	SRNM PREAMPLIFIER	107E5074/0	435
1824	C51-K002L	3	13500	4.7	E.8	SRNM PREAMPLIFIER	107E5074/0	435
1825	X-100C	N	13500	4.8	E.8	INTERNAL PUMP POWER	795E882	435
1826	X-100E	N	13500	4.2	E.8	INTERNAL PUMP POWER	795E882	435
1827	X-102C	3	16400	4.3	E.9	CONTROL & INSTRUMENT	795E898	435
1828	X-102G	3	13500	4.3	E.9	CONTROL & INSTRUMENT	795E898	435
1829	X-103C	3	16400	4.7	E.8	COMPENSATION/INSTR LINE	107E6043/0	435
1830	X-105C	3	13500	4.7	E.8	NEUTRON DETECTOR	795E898	435
1831	DELETED							
1832	DELETED							
1833	DELETED							
1834	DELETED							
1835	DELETED							
1836	DELETED							
1837	DELETED							
1838	DELETED							
1839	DELETED							
1840	DELETED							
1841	DELETED							
1842	DELETED							
1843	DELETED							
1844	DELETED							
1845	DELETED							
1846	DELETED							
1847	DELETED							
1848	DELETED							
1849	DELETED							
1850	DELETED							
1851	DELETED							
1852	DELETED							
1853	DELETED							
1854	DELETED							

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1855	DELETED							
1856	DELETED							
1857	DELETED							
1858	DELETED							
1859	DELETED							
1860	DELETED							
1861	DELETED							
1862	DELETED							
1863	DELETED							
1864	DELETED							
1865	B21-F001A	N	12300	4.3	A.2	MO GATE VALVE (FW)	103E1791/1	440
1866	B21-F001B	N	12300	3.7	A.2	MO GATE VALVE (FW)	103E1791/1	440
1867	B21-F003A	1	12300	4.3	A.9	AO CHECK VALVE	103E1791/1	440
1868	B21-F003B	2	12300	3.7	A.9	AO CHECK VALVE	103E1791/1	440
1869	B21-F007A	N	12300	3.5	B.0	MO GATE VALVE (CUWINJ)	103E1791/1	440
1870	B21-F007B	N	12300	4.5	B.0	MO GATE VALVE (CUWINJ)	103E1791/1	440
1871	B21-F009A	1	16300	4.2	B.0	NO GLOBE VALVE (MSIV)	103E1791/1	440
1872	B21-F009A	2	16300	4.2	B.0	NO GLOBE VALVE (MSIV)	103E1791/1	440
1873	B21-F009B	1	16300	4.6	B.0	NO GLOBE VALVE (MSIV)	103E1791/1	440
1874	B21-F009B	2	16300	4.6	B.0	NO GLOBE VALVE (MSIV)	103E1791/1	440
1875	B21-F009C	1	16300	3.4	B.0	NO GLOBE VALVE (MSIV)	103E1791/1	440
1876	B21-F009C	2	16300	3.4	B.0	NO GLOBE VALVE (MSIV)	103E1791/1	440
1877	B21-F009D	1	16300	3.8	B.0	NO GLOBE VALVE (MSIV)	103E1791/1	440
1878	B21-F009D	2	16300	3.8	B.0	NO GLOBE VALVE (MSIV)	103E1791/1	440
1879	B21-F012	2	12300	4.0	B.0	MO GLOBE VALVE (DR)	103E1791/1	440
1880	B21-F013	N	12300	4.0	B.0	MO GLOBE VALVE (DR)	103E1791/1	440
1881	B21-F014	N	12300	4.0	B.0	MO GLOBE VALVE (DR)	103E1791/1	440
1882	B21-F015	N	12300	4.0	B.0	AO GLOBE VALVE	103E1791/1	440
1883	B21-F016	N	16450	4.0	B.0	MO GLOBE VALVE (DR)	103E1791/1	440
1884	B21-F017	N	16450	4.0	B.0	AO GLOBE VALVE	103E1791/1	440
1885	B21-F516	1	12300	4.0	B.0	MO GLOBE VALVE	103E1791/1	440
1886	B21-POSA1O	1	16300	4.2	B.0	POSITION SWITCH	103E1791/1	440
1887	B21-POSA2O	1	16300	4.2	B.0	POSITION SWITCH	103E1791/1	440
1888	B21-POSA3O	1	16300	4.2	B.0	POSITION SWITCH	103E1791/1	440

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1889	B21-POSB1O	2	16300	4.6	B.0	POSITION SWITCH	103E1791/1	440
1890	B21-POSB2O	2	16300	4.6	B.0	POSITION SWITCH	103E1791/1	440
1891	B21-POSB3O	2	16300	4.6	B.0	POSITION SWITCH	103E1791/1	440
1892	B21-POSC1O	3	16300	3.4	B.0	POSITION SWITCH	103E1791/1	440
1893	B21-POSC2O	3	16300	3.4	B.0	POSITION SWITCH	103E1791/1	440
1894	B21-POSC3O	3	16300	3.4	B.0	POSITION SWITCH	103E1791/1	440
1895	B21-POSD1O	4	16300	3.8	B.0	POSITION SWITCH	103E1791/1	440
1896	B21-POSD2O	4	16300	3.8	B.0	POSITION SWITCH	103E1791/1	440
1897	B21-POSD3O	4	16300	3.8	B.0	POSITION SWITCH	103E1791/1	440
1898	B21-SS030	N	12300	4.0	B.0	TEMP SWITCH	103E1791/1	440
1899	B21-TE026	N	12300	4.2	A.5	TEMP ELEMENT	103E1791/1	440
1900	B21-TE030	N	12300	4.0	B.0	TEMP ELEMENT	103E1791/1	440
1901	B21-TE031	N	12300	4.0	B.0	TEMP ELEMENT	103E1791/1	440
1902	B21-TI030	N	12300	4.0	B.0	TEMP INDICATOR	103E1791/1	440
1903	D11-RE001A	1	17000	4.4	A.3	MSL DETECTOR	107E6071/0	440
1904	D11-RE001B	2	17000	3.6	A.3	MSL DETECTOR	107E6071/0	440
1905	D11-RE001C	3	17000	4.4	A.3	MSL DETECTOR	107E6071/0	440
1906	D11-RE001D	4	17000	3.6	A.3	MSL DETECTOR	107E6071/0	440
1907	E51-F004	1	12300	4.0	A.5	MO GATE VALVE (INJ)	103E1795/1	440
1908	E51-F005	1	12300	3.2	A.6	A0 CHECK VALVE	103E1795/1	440
1909	E51-F026	1	12300	3.2	A.6	AO GLOBE VALVE	103E1795/1	440
1910	X-010A	1	16300	4.2	B.2	MAIN STEAM SYSTEM	795E877	440
1911	X-010B	2	16300	4.5	B.2	MAIN STEAM SYSTEM	795E877	440
1912	X-010C	3	16300	3.5	B.2	MAIN STEAM SYSTEM	795E877	440
1913	X-010D	4	16300	3.8	B.2	MAIN STEAM SYSTEM	795E877	440
1914	X-011	1	13650	4.7	B.2	MAIN STEAM DRAIN	795E877	440
1915	X-012A	1	13810	4.3	B.2	FEEDWATER SYSTEM	795E877	440
1916	X-012B	2	13810	3.7	B.2	FEEDWATER SYSTEM	795E877	440
1917	D11-RAM011A	N	12300	2.8	A.4	PRE-AMP,SBGT SYS EXH.	107E6071/0	441
1918	D11-RAM011B	N	12300	2.8	A.4	PRE-AMP,SBGT SYS EXH.	107E6071/0	441
1919	D11-RE011A	N	12300	2.8	A.4	SBGT EXH. SCINT. DET.	107E6071/0	441
1920	D11-RE011B	N	12300	2.8	A.4	SBGT EXH. SCINT. DET.	107E6071/0	441
1921	D11-RSM011A	N	12300	2.7	A.1	SBGT GAS SAMPLER PNL	107E6071/0	441
1922	D11-RSM011B	N	12300	2.7	A.2	SBGT GAS SAMPLER PNL	107E6071/0	441

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1923	H21-P330	N	12300	2.8	A.4	D11,SBGT SMPL CONT PNL	107E6071/0	441
1924	H22-P031*	N	12300	2.7	A.1	SAMPLE HOLDING RACK, P91	NT-1006644	441
1925	H22-P032*	N	12300	2.7	A.4	PAS SAMPLING RACK, P91	NT-1006644	441
1926	H22-P033*	N	12300	2.8	A.4	PASS LOCAL CONTROL PNL	NT-1006644	441
1927	H22-P034*	N	12300	2.9	A.2	SBGT OG RAD MON SMPL RACK	----?----	441
1928	H22-P035*	N	12300	2.9	A.1	SBGT OG RAD MON GAS SMPL	----?----	441
1929	H22-P250	N	12300	2.8	A.4	D11,SBGT SMPL RACK	107E6071/0	441
1930	H22-P036*	N	12300	2.4	A.4	SBGT OG RAD MON GAS SMPL	----?----	442
1931	H22-P037*	N	12300	2.4	A.2	SBGT OG PARTI/IODINE SMPL	----?----	442
1932	H22-P038*	N	12300	2.4	A.2	SBGT OG PARTI/IODINE SMPL	----?----	442
1933	P91-A001*	N	12300	2.4	A.4	NITROGEN CYLINDER	NT-1006644	442
1934	G31-F003	1	14480	2.4	B.6	MO GATE VALVE (ISOL)	107E5051/0	443
1935	G31-F015	N	12300	2.5	B.6	MO GLOBE VALVE (FW)	107E5051/0	443
1936	G31-F016	N	14450	2.5	B.5	MO GATE VALVE (RX HD)	107E5051/0	443
1937	G31-F017	2	14450	2.5	B.6	MO GATE VALVE (ISOL)	107E5051/0	443
1938	G31-F022	N	12300	2.5	B.5	AO GLOBE VALVE	107E5051/0	443
1939	G31-F023	N	12300	2.5	B.5	MO GATE VALVE (LCWRET)	107E5051/0	443
1940	G31-F024	N	12300	2.5	B.5	MO GLOBE VALVE (PRET)	107E5051/0	443
1941	G31-F025	N	12300	2.5	B.6	MO GATE VALVE (PRET)	107E5051/0	443
1942	G31-F072	1	13500	2.3	B.6	AO VALVE	107E5051/0	443
1943	G31-POE019	N	12300	2.5	B.5	POSITION ELEMENT	107E5051/0	443
1944	G31-POI019	N	12300	2.5	B.5	POSITION ELEMENT	107E5051/0	443
1945	G31-PS018	N	12300	2.5	B.5	PRESS SWITCH	107E5051/0	443
1946	G31-PS021	N	12300	2.5	B.5	PRESS SWITCH	107E5051/0	443
1947	G31-PS118	N	12300	2.5	B.6	PRESS SWITCH	107E5051/0	443
1948	K17-F004	1	16400	2.6	B.6	MO VALVE - LCW ISOL	103E1634/0	443
1949	K17-F104	1	16400	2.6	B.6	MO VALVE - HCW ISOL	103E1634/0	443
1950	K17-F107	N	12300	2.5	B.5	SO VALVE	103E1634/0	443
1951	K17-FT005	N	16400	2.6	B.6	FLOW TRANSMITTER	103E1634/0	443

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1952	K17-FT105	N	12300	2.5	B.5	FLOW TRANSMITTER	103E1634/0	443
1953	K17-POS107*	N	12300	2.5	B.5	POSITION SWITCH	103E1634/0	443
1954	X-038	N	14450	2.6	B.6	RPV HEAD SPRAY	10P142-078	443
1955	X-050	N	14480	2.5	B.7	CUW PUMP SUCTION	10P142-078	443
1956	X-170	N	13500	2.5	B.7	REA WATER SAMPLING	----?----	443
1957	C41-F006A	1	12300	2.2	C.8	MO GLOBE VALVE (INJ)	107E6016/0	444
1958	C41-F006B	2	12300	2.2	C.8	MO GLOBE VALVE (INJ)	107E6016/0	444
1959	C51-K002D	4	13500	2.2	C.5	SRNM PREAMPLIFIER	107E5074/0	444
1960	C51-K002H	4	13500	2.2	C.5	SRNM PREAMPLIFIER	107E5074/0	444
1961	D23-RE005B	2	14700	2.1	C.7	GAMMA DETECTOR	107E5139/1	444
1962	T31-F735D	4	14500	2.1	C.5	SO VALVE	107E6043/0	444
1963	X-022	N	15250	2.2	C.8	STBY LIQ CONTROL SYS	NT-1006412	444
1964	X-060	N	13550	2.2	C.8	PURIF MU WTR SUPPLY	107E5111	444
1965	X-100D	N	13500	2.2	C.7	INTERNAL PUMP POWER	795E882	444
1966	X-102D	4	16100	2.1	C.7	CONTROL & INSTRUMENT	795E898	444
1967	X-105D	4	13500	2.2	C.5	NEUTRON DETECTOR	795E898	444
1968	X-130D	4	13500	2.3	C.2	MAIN STEAM FLOW RATE	795E877	444
1969	X-140B	N	13500	2.2	C.2	CUW FLOW RATE	10P142-078	444
1970	X-143D	4	14700	2.3	C.2	REA WATER LEV & PRESS	795E877	444
1971	X-144D	4	12650	2.3	C.2	REA WATER LEV & PRESS	795E877	444
1972	G31-F702B	N	13500	2.3	C.0	INSTR CHECK VALVE	107E5051/0	444
1973	G31-F703B	N	13500	2.3	C.0	INSTR CHECK VALVE	107E5051/0	444
1974	X-141B	4	13500	2.3	C.0	RCIC BREAK DETEC.LINE B&D	----?----	444
1975	X-161B	2	14700	2.3	C.0	CAMS SAMPLING	10R281-431	444
1976	D11-RAM041A	N	12300	1.2	B.4	PRE-AMP,STACK RAD MON A	107E6071/0	445
1977	D11-RAM041B	N	12300	1.2	B.4	PRE-AMP,STACK RAD MON B	107E6071/0	445
1978	G31-F262	N	12300	1.1	B.9	AO BALL VALVE	107E5051/0	445
1979	G31-F265	N	12300	1.1	B.9	AO GLOBE VALVE	107E5051/0	445
1980	H21-P001	N	12300	1.2	B.8	CUW/FPC CONTROL PNL	----?----	445
1981	H21-P310	N	12300	1.2	B.4	D11,TRITIUM CONT.PNL.	107E6071/0	445
1982	H22-P253	N	12300	1.2	B.4	D11,TRITIUM SMPL RACK	107E6071/0	445
1983	G31-A001*	N	12300	2.1	A.2	PRECOAT TANK	107E5051/0	446

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
1984	G31-C003*	N	12300	1.8	A.2	CUW PRECOAT PUMP	107E5051/0	446
1985	G31-F213	N	12300	1.8	A.2	AO BALL VALVE	107E5051/0	446
1986	G31-F214	N	12300	1.8	A.2	AO BALL VALVE	107E5051/0	446
1987	G31-F221	N	12300	1.8	A.2	AO BALL VALVE	107E5051/0	446
1988	G31-F232	N	12300	1.8	A.2	AO BALL VALVE	107E5051/0	446
1989	G31-F233	N	12300	1.8	A.2	AO BALL VALVE	107E5051/0	446
1990	G31-F234	N	12300	1.8	A.2	AO GLOBE VALVE	107E5051/0	446
1991	G31-F242	N	12300	1.8	A.2	AO GLOBE VALVE	107E5051/0	446
1992	G31-LS113	N	12300	2.1	A.1	LEVEL SWITCH	107E5051/0	446
1993	G31-LT113	N	12300	2.1	A.1	LEVEL TRANSMITTER	107E5051/0	446
1994	G31-M001A*	N	12300	2.1	A.1	CUW PRECOAT TNK MIXR MTR	107E5051/0	446
1995	P91-C008	N	12300	1.3	A.2	SAMPLE PUMP	NT-1006644	446
1996	B21-A003A	1	16300	3.0	C.5	ACCUMULATOR	103E1791/1	491
1997	B21-A003A	2	16300	3.0	C.5	ACCUMULATOR	103E1791/1	491
1998	B21-A003C	1	16300	5.0	C.5	ACCUMULATOR	103E1791/1	491
1999	B21-A003C	2	16300	5.0	C.5	ACCUMULATOR	103E1791/1	491
2000	B21-A003F	1	16300	3.0	C.5	ACCUMULATOR	103E1791/1	491
2001	B21-A003F	2	16300	3.0	C.5	ACCUMULATOR	103E1791/1	491
2002	B21-A003H	1	16300	5.0	C.5	ACCUMULATOR	103E1791/1	491
2003	B21-A003H	2	16300	5.0	C.5	ACCUMULATOR	103E1791/1	491
2004	B21-A003L	1	16300	3.0	C.5	ACCUMULATOR	103E1791/1	491
2005	B21-A003L	2	16300	3.0	C.5	ACCUMULATOR	103E1791/1	491
2006	B21-A003N	1	16300	5.0	C.5	ACCUMULATOR	103E1791/1	491
2007	B21-A003N	2	16300	5.0	C.5	ACCUMULATOR	103E1791/1	491
2008	B21-A003R	1	16300	3.0	C.5	ACCUMULATOR	103E1791/1	491
2009	B21-A003R	2	16300	3.0	C.5	ACCUMULATOR	103E1791/1	491
2010	B21-A003T	1	16300	5.0	C.5	ACCUMULATOR	103E1791/1	491
2011	B21-A003T	2	16300	5.0	C.5	ACCUMULATOR	103E1791/1	491
2012	B21-A004A	3	16300	3.0	C.5	ACCUMULATOR	103E1791/1	491
2013	B21-A004B	1	16300	3.0	C.5	ACCUMULATOR	103E1791/1	491
2014	B21-A004C	4	16300	5.0	C.5	ACCUMULATOR	103E1791/1	491
2015	B21-A004D	2	16300	5.0	C.5	ACCUMULATOR	103E1791/1	491
2016	B21-A004E	3	16300	3.0	C.5	ACCUMULATOR	103E1791/1	491
2017	B21-A004F	1	16300	3.0	C.5	ACCUMULATOR	103E1791/1	491

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2018	B21-A004G	4	16300	5.0	C.5	ACCUMULATOR	103E1791/1	491
2019	B21-A004H	2	16300	5.0	C.5	ACCUMULATOR	103E1791/1	491
2020	B21-A004J	1	16300	3.0	C.5	ACCUMULATOR	103E1791/1	491
2021	B21-A004K	2	16300	5.0	C.5	ACCUMULATOR	103E1791/1	491
2022	B21-A004L	3	16300	3.0	C.5	ACCUMULATOR	103E1791/1	491
2023	B21-A004M	3	16300	3.0	C.5	ACCUMULATOR	103E1791/1	491
2024	B21-A004N	4	16300	5.0	C.5	ACCUMULATOR	103E1791/1	491
2025	B21-A004P	4	16300	5.0	C.5	ACCUMULATOR	103E1791/1	491
2026	B21-A004R	2	16300	3.0	C.5	ACCUMULATOR	103E1791/1	491
2027	B21-A004S	1	16300	3.0	C.5	ACCUMULATOR	103E1791/1	491
2028	B21-A004T	2	16300	5.0	C.5	ACCUMULATOR	103E1791/1	491
2029	B21-A004U	2	16300	5.0	C.5	ACCUMULATOR	103E1791/1	491
2030	B21-F005A	N	12300	4.3	B.8	MAN OPER GATE VALVE	103E1791/1	491
2031	B21-F005B	N	12300	3.7	B.8	MAN OPER GATE VALVE	103E1791/1	491
2032	B21-F008A	1	16300	4.2	B.7	NO GLOBE VALVE (MSIV)	103E1791/1	491
2033	B21-F008A	2	16300	4.2	B.7	NO GLOBE VALVE (MSIV)	103E1791/1	491
2034	B21-F008B	1	16300	4.6	B.7	NO GLOBE VALVE (MSIV)	103E1791/1	491
2035	B21-F008B	2	16300	4.6	B.7	NO GLOBE VALVE (MSIV)	103E1791/1	491
2036	B21-F008C	1	16300	3.4	B.7	NO GLOBE VALVE (MSIV)	103E1791/1	491
2037	B21-F008C	2	16300	3.4	B.7	NO GLOBE VALVE (MSIV)	103E1791/1	491
2038	B21-F008D	1	16300	3.8	B.7	NO GLOBE VALVE (MSIV)	103E1791/1	491
2039	B21-F008D	2	16300	3.8	B.7	NO GLOBE VALVE (MSIV)	103E1791/1	491
2040	B21-F010A	1	16300	4.8	C.5	SRV/ADS VALVE	103E1791/1	491
2041	B21-F010A	2	16300	4.8	C.5	SRV/ADS VALVE	103E1791/1	491
2042	B21-F010A	3	16300	4.8	C.5	SRV/ADS VALVE	103E1791/1	491
2043	B21-F010B	3	16300	4.7	C.3	SAFETY RELIEF VALVE	103E1791/1	491
2044	B21-F010C	1	16300	4.6	C.2	SRV/ADS VALVE	103E1791/1	491
2045	B21-F010C	2	16300	4.6	C.2	SRV/ADS VALVE	103E1791/1	491
2046	B21-F010C	3	16300	4.6	C.2	SRV/ADS VALVE	103E1791/1	491
2047	B21-F010D	1	16300	4.4	C.2	SAFETY RELIEF VALVE	103E1791/1	491
2048	B21-F010E	2	16300	5.2	D.0	SAFETY RELIEF VALVE	103E1791/1	491
2049	B21-F010F	1	16300	5.2	C.9	SRV/ADS VALVE	103E1791/1	491
2050	B21-F010F	2	16300	5.2	C.9	SRV/ADS VALVE	103E1791/1	491
2051	B21-F010F	3	16300	5.2	C.9	SRV/ADS VALVE	103E1791/1	491



**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2052	B21-F010G	1	16300	5.2	C.7	SAFETY RELIEF VALVE	103E1791/1	491
2053	B21-F010H	1	16300	5.2	C.6	SRV/ADS VALVE	103E1791/1	491
2054	B21-F010H	2	16300	5.2	C.6	SRV/ADS VALVE	103E1791/1	491
2055	B21-F010H	3	16300	5.2	C.6	SRV/ADS VALVE	103E1791/1	491
2056	B21-F010J	2	16300	5.2	C.4	SAFETY RELIEF VALVE	103E1791/1	491
2057	B21-F010K	1	16300	2.8	D.0	SAFETY RELIEF VALVE	103E1791/1	491
2058	B21-F010L	1	16300	2.8	C.9	SRV/ADS VALVE	103E1791/1	491
2059	B21-F010L	2	16300	2.8	C.9	SRV/ADS VALVE	103E1791/1	491
2060	B21-F010L	3	16300	2.8	C.9	SRV/ADS VALVE	103E1791/1	491
2061	B21-F010M	3	16300	2.8	C.7	SAFETY RELIEF VALVE	103E1791/1	491
2062	B21-F010N	1	16300	2.8	C.6	SRV/ADS VALVE	103E1791/1	491
2063	B21-F010N	2	16300	2.8	C.6	SRV/ADS VALVE	103E1791/1	491
2064	B21-F010N	3	16300	2.8	C.6	SRV/ADS VALVE	103E1791/1	491
2065	B21-F010P	1	16300	2.8	C.4	SAFETY RELIEF VALVE	103E1791/1	491
2066	B21-F010R	1	16300	3.2	C.5	SRV/ADS VALVE	103E1791/1	491
2067	B21-F010R	2	16300	3.2	C.5	SRV/ADS VALVE	103E1791/1	491
2068	B21-F010R	3	16300	3.2	C.5	SRV/ADS VALVE	103E1791/1	491
2069	B21-F010S	2	16300	3.3	C.3	SAFETY RELIEF VALVE	103E1791/1	491
2070	B21-F010T	1	16300	3.4	C.2	SRV/ADS VALVE	103E1791/1	491
2071	B21-F010T	2	16300	3.4	C.2	SRV/ADS VALVE	103E1791/1	491
2072	B21-F010T	3	16300	3.4	C.2	SRV/ADS VALVE	103E1791/1	491
2073	B21-F010U	3	16300	3.6	C.2	SAFETY RELIEF VALVE	103E1791/1	491
2074	B21-F011	1	12300	4.0	C.0	MO GLOBE VALVE (DR)	103E1791/1	491
2075	B21-F018	1	12300	4.4	C.5	MO GLOBE VALVE (HDVT)	103E1791/1	491
2076	B21-F019	1	12300	4.4	C.5	MO GLOBE VALVE (HDVT)	103E1791/1	491
2077	B21-F020	1	12300	4.4	C.5	MO GLOBE VALVE (HDVT)	103E1791/1	491
2078	B21-POSA1I	1	16300	4.2	B.7	POSITION SWITCH	103E1791/1	491
2079	B21-POSA2I	1	16300	4.2	B.7	POSITION SWITCH	103E1791/1	491
2080	B21-POSA3I	1	16300	4.2	B.7	POSITION SWITCH	103E1791/1	491
2081	B21-POSB1I	2	16300	4.6	B.7	POSITION SWITCH	103E1791/1	491
2082	B21-POSB2I	2	16300	4.6	B.7	POSITION SWITCH	103E1791/1	491
2083	B21-POSB3I	2	16300	4.6	B.7	POSITION SWITCH	103E1791/1	491
2084	B21-POSC1I	3	16300	3.4	B.7	POSITION SWITCH	103E1791/1	491
2085	B21-POSC2I	3	16300	3.4	B.7	POSITION SWITCH	103E1791/1	491

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2086	B21-POSC3I	3	16300	3.4	B.7	POSITION SWITCH	103E1791/1	491
2087	B21-POSD1I	4	16300	3.8	B.7	POSITION SWITCH	103E1791/1	491
2088	B21-POSD2I	4	16300	3.8	B.7	POSITION SWITCH	103E1791/1	491
2089	B21-POSD3I	4	16300	3.8	B.7	POSITION SWITCH	103E1791/1	491
2090	B21-POT011A	3	16300	4.8	C.5	POSITION TRANSMITTER	103E1791/1	491
2091	B21-POT011B	3	16300	4.7	C.3	POSITION TRANSMITTER	103E1791/1	491
2092	B21-POT011C	2	16300	4.6	C.2	POSITION TRANSMITTER	103E1791/1	491
2093	B21-POT011D	1	16300	4.4	C.2	POSITION TRANSMITTER	103E1791/1	491
2094	B21-POT011E	2	16300	5.2	D.0	POSITION TRANSMITTER	103E1791/1	491
2095	B21-POT011F	1	16300	5.2	C.9	POSITION TRANSMITTER	103E1791/1	491
2096	B21-POT011G	1	16300	5.2	C.7	POSITION TRANSMITTER	103E1791/1	491
2097	B21-POT011H	3	16300	5.2	C.6	POSITION TRANSMITTER	103E1791/1	491
2098	B21-POT011J	2	16300	5.2	C.4	POSITION TRANSMITTER	103E1791/1	491
2099	B21-POT011K	1	16300	2.8	D.0	POSITION TRANSMITTER	103E1791/1	491
2100	B21-POT011L	3	16300	2.8	C.9	POSITION TRANSMITTER	103E1791/1	491
2101	B21-POT011M	3	16300	2.8	C.7	POSITION TRANSMITTER	103E1791/1	491
2102	B21-POT011N	2	16300	2.8	C.6	POSITION TRANSMITTER	103E1791/1	491
2103	B21-POT011P	1	16300	2.8	C.4	POSITION TRANSMITTER	103E1791/1	491
2104	B21-POT011R	2	16300	3.0	C.5	POSITION TRANSMITTER	103E1791/1	491
2105	B21-POT011S	2	16300	5.0	C.3	POSITION TRANSMITTER	103E1791/1	491
2106	B21-POT011T	1	16300	3.0	C.2	POSITION TRANSMITTER	103E1791/1	491
2107	B21-POT011U	3	16300	5.0	C.2	POSITION TRANSMITTER	103E1791/1	491
2108	B21-TE029A	N	16300	4.8	C.5	TEMP ELEMENT	103E1791/1	491
2109	B21-TE029B	N	16300	4.7	C.3	TEMP ELEMENT	103E1791/1	491
2110	B21-TE029C	N	16300	4.6	C.2	TEMP ELEMENT	103E1791/1	491
2111	B21-TE029D	N	16300	4.4	D.2	TEMP ELEMENT	103E1791/1	491
2112	B21-TE029E	N	16300	5.2	D.0	TEMP ELEMENT	103E1791/1	491
2113	B21-TE029F	N	16300	5.2	C.9	TEMP ELEMENT	103E1791/1	491
2114	B21-TE029G	N	16300	5.2	C.7	TEMP ELEMENT	103E1791/1	491
2115	B21-TE029H	N	16300	5.2	C.6	TEMP ELEMENT	103E1791/1	491
2116	B21-TE029J	N	16300	5.2	C.4	TEMP ELEMENT	103E1791/1	491
2117	B21-TE029K	N	16300	2.8	D.0	TEMP ELEMENT	103E1791/1	491
2118	B21-TE029L	N	16300	2.8	C.9	TEMP ELEMENT	103E1791/1	491
2119	B21-TE029M	N	16300	2.8	C.7	TEMP ELEMENT	103E1791/1	491

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2120	B21-TE029N	N	16300	2.8	C.6	TEMP ELEMENT	103E1791/1	491
2121	B21-TE029P	N	16300	2.8	C.4	TEMP ELEMENT	103E1791/1	491
2122	DELETED							
2123	DELETED							
2124	DELETED							
2125	DELETED							
2126	B21-TE032	N	12300	4.4	C.5	TEMP ELEMENT	103E1791/1	491
2127	DELETED							
2128	E11-F006B	2	14500	2.5	D.5	AO CHECK VALVE	103E1797/1	491
2129	E11-F006C	3	14500	5.5	D.1	AO CHECK VALVE	103E1797/1	491
2130	E11-F007B	2	14500	2.7	D.5	MAN OPER GATE VALVE	103E1797/1	491
2131	E11-F007C	3	14500	5.3	D.0	MAN OPER GATE VALVE	103E1797/1	491
2132	E11-F009A	1	14550	5.3	C.5	MAN OPER GATE VALVE	103E1797/1	491
2133	E11-F009B	2	14550	2.6	C.8	MAN OPER GATE VALVE	103E1797/1	491
2134	E11-F009C	3	14550	5.0	D.8	MAN OPER GATE VALVE	103E1797/1	491
2135	E11-F010A	1	14550	5.4	C.6	MO GATE VALVE (ISOL)	103E1797/1	491
2136	E11-F010B	2	14550	2.5	D.1	MO GATE VALVE (ISOL)	103E1797/1	491
2137	E11-F010C	3	14550	5.4	D.5	MO GATE VALVE (ISOL)	103E1797/1	491
2138	E11-F036B	2	14500	2.5	D.5	AO GLOBE VALVE	103E1797/1	491
2139	E11-F036C	3	14500	5.5	D.1	AO GLOBE VALVE	103E1797/1	491
2140	E22-F004B	2	14500	2.5	D.3	AO CHECK VALVE	107E6008/0	491
2141	E22-F004C	3	14500	5.5	D.3	AO CHECK VALVE	107E6008/0	491
2142	E22-F005B	2	14500	2.7	D.2	MAN OPER GATE VALVE	107E6008/0	491
2143	E22-F005C	3	14500	5.3	D.2	MAN OPER GATE VALVE	107E6008/0	491
2144	E22-F019B	2	14500	2.5	D.3	AO GLOBE VALVE	107E6008/0	491
2145	E22-F019C	3	14500	5.5	D.3	AO GLOBE VALVE	107E6008/0	491
2146	E31-FQ017	N	14000	2.9	E.1	DW COOLER DR FLOW INTEG.	103E1792/1	491
2147	E31-TE001	N	15000	4.0	E.0	DW AMB TEMP ELEMENT	103E1792/1	491
2148	E51-F035	1	14450	5.4	C.9	MO GATE VALVE (ST SUP)	103E1795/1	491
2149	E51-F048	1	14450	5.4	C.9	MO GLOBE VALVE (STBYP)	103E1795/1	491
2150	G31-F002	2	14480	2.8	B.9	MO GATE VALVE (ISOL)	107E5051/0	491
2151	G31-F071	2	13500	2.8	B.9	AO VALVE	107E5051/0	491
2152	G31-TE026*	N	13500	2.8	B.9	TEMP ELEMENT	107E5051/0	491

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2153	K17-F003	2	16400	2.8	B.8	MO VALVE - LCW ISOL	103E1634/0	491
2154	K17-F103	2	16400	2.8	B.8	MO VALVE - HCW ISOL	103E1634/0	491
2155	P21-F080A	2	13550	4.9	B.7	MO GATE VALVE (ISO)	107E5112/0	491
2156	P21-F080B	2	13550	2.8	E.2	MO GATE VALVE (ISO)	107E5112/0	491
2157	P24-F141	2	13550	3.1	E.3	MO GATE VALVE (DW ISO)	107E5176/0	491
2158	T41-B001A	N	15600	4.7	E.2	DW COOLING UNIT (A)	107E6015/0	491
2159	T41-B001B	N	15600	4.3	E.3	DW COOLING UNIT (B)	107E6015/0	491
2160	T41-B001C	N	15600	3.7	E.3	DW COOLING UNIT (C)	107E6015/0	491
2161	T41-B002A	1	15600	3.0	E.3	DW HNCW COOLING UNIT (A)	107E6015/0	491
2162	T41-B002B	2	15600	3.2	E.3	DW HNCW COOLING UNIT (B)	107E6015/0	491
2163	T41-C001A	N	12300	4.0	E.2	DWC FAN (A)	107E6015/0	491
2164	T41-C001B	N	12300	4.0	E.3	DWC FAN (B)	107E6015/0	491
2165	T41-C001C	N	12300	4.0	E.3	DWC FAN (C)	107E6015/0	491
2166	T41-TE001A*	N	15600	4.7	E.2	TEMP ELEMENT	107E6015/0	491
2167	T41-TE002A*	N	12300	4.0	E.2	TEMP ELEMENT	107E6015/0	491
2168	T41-TE003B*	N	15600	4.3	E.3	TEMP ELEMENT	107E6015/0	491
2169	T41-TE004B*	N	12300	4.0	E.3	TEMP ELEMENT	107E6015/0	491
2170	T41-TE005C*	N	15600	3.7	E.3	TEMP ELEMENT	107E6015/0	491
2171	T41-TE006C*	N	12300	4.0	E.3	TEMP ELEMENT	107E6015/0	491
2172	T41-TE007*	N	15600	3.0	E.3	TEMP ELEMENT	107E6015/0	491
2173	T41-TE008*	N	15600	3.2	E.3	TEMP ELEMENT	107E6015/0	491
2174	H22-P041*	N	18100	5.7	C.0	MSIV LEAK TEST INSTR RACK	10Q273-284	510
2175	R24 MCC SC110	N	18100	5.9	B.5	MCC SC110 - R/B	107E5072/0	510
2176	T31-F733B	1	18100	5.7	B.8	SO VALVE	107E6043/0	510
2177	T31-F801B	2	18100	5.7	B.8	SO VALVE	107E6043/0	510
2178	T31-PT055B	N	18100	5.7	B.8	PRESSURE TRANSMITTER	107E6043/0	510
2179	U41-F004A	1	20000	5.7	B.5	MO VALVE	107E5189/0	510
2180	U41-F101A	1	20000	5.7	B.8	MO VALVE	107E5189/0	510
2181	X-101E	N	19000	5.8	C.2	FMC RD POWER	103E1167	510
2182	U41-F003A	1	20000	5.2	A.6	MO VALVE	107E5189/0	510
2183	E31-F002	1	20100	5.2	B.4	DW FPM A/O SOL VALVE (OB)	103E1792/1	511

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2184	E31-F003	2	20100	5.2	B.4	DW FPM A/O SOL VALVE (IB)	103E1792/1	511
2185	P52-F276	1	19000	5.4	B.5	MO GLOBE VALVE (ISOL)	107E5108/1	511
2186	P54-F007A	1	19000	5.4	B.5	MO GLOBE VALVE	107E5128/0	511
2187	P54-PT002A	1	19000	5.4	B.5	PRESS TRANSMITTER	107E5128/0	511
2188	X-069	N	19000	5.3	B.6	STATION SERVICE AIR	107E5105	511
2189	X-070	1	19000	5.3	B.5	INSTRUMENT AIR	107E5108	511
2190	X-071A	1	19000	5.4	B.7	ADS ACCUMULATOR FEED	10Q225-331	511
2191	X-090	1	20100	5.3	B.6	COMPENSATION/INSTR LINE	107E6043/0	511
2192	X-142A	1	20100	5.2	B.5	REA WATER LEV & PRESS	795E877	511
2193	X-146A	1	19000	5.2	B.5	DRYWELL PRESSURE	107E6043/0	511
2194	X-160	?	20100	5.1	B.5	LDS MONITOR	----?----	511
2195	X-171	N	20100	5.1	B.5	DEW POINT METER	----?----	511
2196	P52-F257	N	18100	5.5	B.2	AO GLOBE VALVE	107E5108/1	512
2197	P52-F270	N	18100	5.5	B.2	AO GLOBE VALVE	107E5108/1	512
2198	P52-PS005*	N	18100	5.5	B.3	PRESS SW (N2 SUPPLY)	107E5108/1	512
2199	P52-PT005*	N	18100	5.5	B.3	PRESS XMTR (N2 SUPPLY)	107E5108/1	512
2200	P52-PT006*	N	18100	5.5	B.3	PRESS XMTR (TO PRI CONT)	107E5108/1	512
2201	T31-TE052G	N	18100	5.3	B.3	TEMP ELEMENT	107E6043/0	512
2202	U41-C203A	1	19700	6.5	A.6	DG(A) EMER SUPP FAN A	107E5189/0	514
2203	U41-C203E	1	19700	6.5	A.2	DG(A) EMER SUPP FAN E	107E5189/0	514
2204	U41-TIS054	1	18100	6.8	A.5	TEMP IND SW EMER EXH	107E5189/0	515
2205	R43-P001A*	1	19700	6.8	B.4	DG(A) CONTROL PNL (A)	----?----	516
2206	R43-P002A*	1	19700	6.3	B.4	DG(A) SCT PANEL	----?----	516
2207	T31-F733A	1	18100	6.0	C.5	SO VALVE	107E6043/0	518
2208	T31-POS070A	N	18100	5.9	C.5	POSITION SWITCH	107E6043/0	518
2209	X-102H	1	19000	5.9	C.8	CONTROL & INSTRUMENT	795E898	518
2210	X-104A	N	19000	5.8	C.4	FMCRD POSITION DISPLAY	103E1167	518
2211	X-104E	N	19000	5.8	C.7	FMCRD POSITION DISPLAY	103E1167	518
2212	D23-F001B	2	19000	2.2	D.8	SO VALVE	107E5139/1	520
2213	D23-F004B	2	19000	2.2	D.8	MO GLOBE VALVE	107E5139/1	520

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2214	D23-F005B	2	19000	2.2	D.8	MO GLOBE VALVE	107E5139/1	520
2215	D23-PT007B	2	19000	2.2	D.8	PRESS TRANSMITTER	107E5139/1	520
2216	X-101F	N	19000	2.2	D.7	FMC RD POWER	103E1167	520
2217	X-142B	2	20100	2.3	D.9	REA WATER LEV & PRESS	795E877	520
2218	X-146B	2	19000	2.3	D.9	DRYWELL PRESSURE	107E6043/0	520
2219	X-147	2	20100	2.2	D.8	REA WATER LEV WIDE RNG	795E877	520
2220	X-162B	2	19000	2.2	D.8	CAMS GAMMA DETECTOR	10R281-431	520
2221	R24 MCC SC111	N	18100	2.4	F.1	MCC SC111 - R/B	107E5072/0	520
2222	DELETED							
2223	DELETED							
2224	DELETED							
2225	DELETED							
2226	X-081	N	19000	2.8	E.5	DRYWELL PURGE EXHAUST	107E6043/0	521
2227	DELETED							
2228	T31-F004	2	19000	2.8	E.6	AO VALVE	107E6043/0	521
2229	T31-F005	2	19000	2.8	E.6	AO VALVE	107E6043/0	521
2230	T31-F008	1	19000	2.6	E.6	AO VALVE	107E6043/0	521
2231	T31-F009	1	19000	2.6	E.6	AO VALVE	107E6043/0	521
2232	T31-F010	2	19000	2.8	E.6	AO VALVE	107E6043/0	521
2233	U41-C206B	2	19700	1.5	F.3	DG(B) EMER SUPP FAN B	107E5189/0	522
2234	U41-C206F	2	19700	1.5	F.8	DG(B) EMER SUPP FAN F	107E5189/0	522
2235	U41-TIS058	2	19700	1.1	F.5	TEMP IND SW EMER EXH	107E5189/0	523
2236	R43-P001B*	2	19700	1.2	E.6	DG(B) CONTROL PNL (A)	----?----	524
2237	R43-P002B*	2	19700	1.8	E.6	DG(B) SCT PANEL	----?----	524
2238	T31-F801A	1	18100	2.0	D.5	SO VALVE	107E6043/0	528
2239	T31-POS070B	N	18100	2.1	D.1	POSITION SWITCH	107E6043/0	528
2240	X-102J	2	19000	2.2	D.3	CONTROL & INSTRUMENT	795E898	528
2241	X-104B	N	19000	2.2	D.5	FMC RD POSITION DISPLAY	103E1167	528
2242	X-104F	N	19000	2.1	D.2	FMC RD POSITION DISPLAY	103E1167	528
2243	D23-PT007A	1	19000	5.7	D.9	PRESS TRANSMITTER	107E5139/1	530
2244	D23-F001A	1	19000	5.7	D.9	SO VALVE	107E5139/1	530
2245	D23-F005A	1	19000	5.7	D.9	MO GLOBE VALVE	107E5139/1	530

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2246	D23-F004A	1	19000	5.7	D.9	MO GLOBE VALVE	107E5139/1	530
2247	DELETED							
2248	DELETED							
2249	DELETED							
2250	DELETED							
2251	X-142C	3	20100	5.7	D.8	REA WATER LEV & PRESS	795E877	530
2252	X-146C	3	19000	5.7	D.9	DRYWELL PRESSURE	107E6043/0	530
2253	X-162A	1	19000	5.7	D.8	CAMS GAMMA DETECTOR	10R281-431	530
2254	T31-TE052H	N	18100	5.3	E.5	TEMP ELEMENT	107E6043/0	531
2255	X-101G	N	19000	5.8	D.6	FMC RD POWER	103E1167	532
2256	X-104C	N	19000	5.8	D.3	FMC RD POSITION DISPLAY	103E1167	532
2257	X-104G	N	19000	5.8	D.5	FMC RD POSITION DISPLAY	103E1167	532
2258	X-110	3	20100	5.9	D.2	COMPENSATION/INSTR LINE	107E6043/0	532
2259	U41-C209G	3	19700	6.5	F.8	DG(C) EMER SUPP FAN G	107E5189/0	533
2260	U41-C209C	3	19700	6.5	F.3	DG(C) EMER SUPP FAN C	107E5189/0	533
2261	U41-TIS062	3	19700	6.8	F.5	TEMP IND SW EMER EXH	107E5189/0	534
2262	R43-P001C*	3	19700	6.3	E.6	DG(C) CONTROL PNL (A)	----?----	536
2263	R43-P002C*	3	19700	6.8	E.6	DG(C) SCT PANEL	----?----	536
2264	E31-TE020A	1	18100	4.0	A.5	MSL TUN AMB TEMP ELEM	103E1792/1	440
2265	E31-TE020B	2	18100	4.0	A.5	MSL TUN AMB TEMP ELEM	103E1792/1	440
2266	E31-TE020C	3	18100	4.0	A.5	MSL TUN AMB TEMP ELEM	103E1792/1	440
2267	E31-TE020D	4	18100	4.0	A.5	MSL TUN AMB TEMP ELEM	103E1792/1	440
2268	R10-C001C*	N	18100	1.2	B.8	RIP ASD OUTPUT XFMR	----?----	541
2269	R10-C001J*	N	18100	1.2	B.2	RIP ASD OUTPUT XFMR	----?----	541
2270	G41-FIS017	N	18100	2.8	B.3	FLOW INDICATING SWITCH	107E6042/0	542
2271	G41-FIS018	N	18100	2.8	B.3	FLOW IND SWITCH	107E6042/0	542
2272	G41-FIS021	N	18100	2.8	B.3	FLOW IND SWITCH	107E6042/0	542
2273	G41-FIS022	N	18100	2.8	B.3	FLOW IND SWITCH	107E6042/0	542
2274	G41-FIS023	N	18100	2.8	B.3	FLOW IND SWITCH	107E6042/0	542

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2275	G41-FIS024	N	18100	2.8	B.3	FLOW IND SWITCH	107E6042/0	542
2276	X-091	2	20100	2.2	C.5	COMPENSATION/INSTR LINE	107E6043/0	543
2277	X-101D	N	19000	2.2	C.2	FMC RD POWER	103E1167	543
2278	X-104D	N	19000	2.2	C.6	FMC RD POSITION DISPLAY	103E1167	543
2279	X-104H	N	19000	2.2	C.4	FMC RD POSITION DISPLAY	103E1167	543
2280	X-111	2	20100	2.2	C.8	COMPENSATION/INSTR LINE	107E6043/0	543
2281	X-146D	4	19000	2.2	C.5	DRYWELL PRESSURE	107E6043/0	543
2282	P54-F007B	2	19000	2.2	B.9	MO GLOBE VALVE	107E5128/0	543
2283	P54-F200	1	19000	2.4	B.9	MO GLOBE VALVE	107E5128/0	543
2284	P54-PT002B	2	19000	2.3	B.9	PRESS TRANSMITTER	107E5128/0	543
2285	P54-PT005	N	19000	2.4	B.9	PRESS TRANSMITTER	107E5128/0	543
2286	X-071B	2	19000	2.4	B.9	ADS ACCUMULATOR FEED	10Q225-331	543
2287	X-072	N	19000	2.4	B.8	RELIEF VLV ACCUM FEED	10Q225-331	543
2288	X-142D	4	20100	2.3	B.9	REA WATER LEV & PRESS	795E877	543
2289	G41-F013	N	18100	2.8	A.3	MO GATE VALVE (ISOL)	107E6042/0	544
2290	G41-B001A	N	18100	2.5	A.2	HEAT EXCHANGER	107E6042/0	545
2291	G41-B001B	N	18100	2.5	A.4	HEAT EXCHANGER	107E6042/0	545
2292	G41-TE014A	N	18100	2.3	A.2	TEMP ELEMENT	107E6042/0	545
2293	G41-TE014B	N	18100	2.3	A.4	TEMP ELEMENT	107E6042/0	545
2294	G41-C001A	N	18100	1.5	A.2	FPC PUMP A	107E6042/0	546
2295	G41-C001B	N	18100	1.5	A.4	FPC PUMP B	107E6042/0	546
2296	G41-F005A	N	18100	1.8	A.3	MO GATE VALVE (ISOL)	107E6042/0	546
2297	G41-F005B	N	18100	1.8	A.3	MO GATE VALVE (ISOL)	107E6042/0	546
2298	G41-F021A	1	18100	1.8	A.3	MO GLOBE VALVE	107E6042/0	546
2299	G41-F021B	2	18100	1.8	A.3	MO GLOBE VALVE	107E6042/0	546
2300	G41-TE002	N	18100	1.4	A.3	TEMP ELEMENT	107E6042/0	546
2301	H23-P027*	N	18100	1.9	B.2	I/O DEVICE	----?----	547
2302	H23-P028*	N	18100	1.9	B.3	I/O DEVICE	----?----	547
2303	U41-D109	1	18100	1.4	A.7	FPC PUMP (A) ROOM HVH	107E5189/0	547
2304	U41-D110	2	18100	1.8	A.7	FPC PUMP (B) ROOM HVH	107E5189/0	547
2305	G41-FT006A	N	18100	2.1	A.7	FLOW TRANSMITTER	107E6042/0	547



**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2306	G41-FT006B	N	18100	2.1	A.7	FLOW TRANSMITTER	107E6042/0	547
2307	G41-PT003A	N	18100	2.1	A.7	PRESS TRANSMITTER	107E6042/0	547
2308	G41-PT003B	N	18100	2.1	A.7	PRESS TRANSMITTER	107E6042/0	547
2309	H22-P042*	N	18100	2.1	A.7	FPC CU SYS INST RACK	10Q273-284	547
2310	B21-TE012A	1	23000	4.0	C.3	TEMP ELEMENT	103E1791/1	591
2311	B21-TE012C	2	23000	3.5	D.5	TEMP ELEMENT	103E1791/1	591
2312	B21-TE013A	1	23000	4.0	C.3	TEMP ELEMENT	103E1791/1	591
2313	B21-TE013C	2	23000	3.5	D.5	TEMP ELEMENT	103E1791/1	591
2314	B21-TE019A	1	18100	5.0	C.0	TEMP ELEMENT	103E1791/1	591
2315	B21-TE019B	2	18100	3.0	E.0	TEMP ELEMENT	103E1791/1	591
2316	E31-TE002	N	18500	4.0	E.0	DW AMB TEMP ELEMENT	103E1792/1	591
2317	E31-TE003	N	22000	4.0	E.0	DW AMB TEMP ELEMENT	103E1792/1	591
2318	T31-TE051D	N	18100	3.5	C.8	TEMP ELEMENT	107E6043/0	591
2319	T31-TE051E	N	18100	3.3	C.2	TEMP ELEMENT	107E6043/0	591
2320	T31-TE051F	N	18100	3.5	C.0	TEMP ELEMENT	107E6043/0	591
2321	T31-TE051G	N	18100	4.5	C.0	TEMP ELEMENT	107E6043/0	591
2322	T31-TE051H	N	18100	4.7	C.2	TEMP ELEMENT	107E6043/0	591
2323	T31-TE052A	N	18100	4.8	C.5	TEMP ELEMENT	107E6043/0	591
2324	T31-TE052B	N	18100	3.2	C.9	TEMP ELEMENT	107E6043/0	591
2325	T31-TE052C	N	18100	4.2	D.9	TEMP ELEMENT	107E6043/0	591
2326	T31-TE052D	N	18100	4.8	C.5	TEMP ELEMENT	107E6043/0	591
2327	T31-TE052E	N	18100	3.2	C.9	TEMP ELEMENT	107E6043/0	591
2328	T31-TE052F	N	18100	4.2	D.9	TEMP ELEMENT	107E6043/0	591
2329	R43-A005A*	1	23500	6.5	A.2	FUEL OIL DAY TANK	FIG 9.5-6	610
2330	R43-LS395A*	1	23500	6.8	B.0	LEVEL SWITCH	FIG 9.5-6	612
2331	U41-B202B	1	27200	6.8	A.8	COOL COIL ELEC EQ (A)	107E5189/0	612
2332	U41-B202A	1	27200	6.5	A.8	COOL COIL ELEC EQ (A)	107E5189/0	612
2333	U41-F005A	1	27200	6.4	A.5	MO VALVE	107E5189/0	613
2334	P54-A001A	1	23500	6.2	B.2	N2 STORAGE BOTTLE	107E5128/0	613
2335	P54-A001C	1	23500	6.2	B.2	N2 STORAGE BOTTLE	107E5128/0	613
2336	P54-A001E	1	23500	6.2	B.2	N2 STORAGE BOTTLE	107E5128/0	613
2337	P54-A001G	1	23500	6.2	B.2	N2 STORAGE BOTTLE	107E5128/0	613
2338	P54-A001J	1	23500	6.2	B.2	N2 STORAGE BOTTLE	107E5128/0	613
2339	P54-A001L	1	23500	6.2	B.2	N2 STORAGE BOTTLE	107E5128/0	613

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2340	P54-A001N	1	23500	6.2	B.2	N2 STORAGE BOTTLE	107E5128/0	613
2341	P54-A001Q	1	23500	6.2	B.2	N2 STORAGE BOTTLE	107E5128/0	613
2342	P54-A001S	1	23500	6.2	B.2	N2 STORAGE BOTTLE	107E5128/0	613
2343	P54-A001U	1	23500	6.2	B.2	N2 STORAGE BOTTLE	107E5128/0	613
2344	P54-F003A	1	23500	6.2	B.2	MO GLOBE VALVE	107E5128/0	613
2345	P54-F012A	1	23500	6.2	B.2	MO GLOBE VALVE	107E5128/0	613
2346	P54-PIS001A	1	23500	6.2	B.2	PRESS IND SWITCH	107E5128/0	613
2347	U41-C202A	1	23500	6.4	B.2	DG(A) HVAC EXH FAN A	107E5189/0	613
2348	U41-C202E	1	23500	6.4	B.5	DG(A) HVAC EXH FAN E	107E5189/0	613
2348	U41-C210A	N	23500	6.4	B.5	SREE HVAC Smoke Removal Fan A	107E5189/0	613
2349	U41-F006A	1	23500	6.4	B.5	MO VALVE	107E5189/0	613
2350	R24 MCC A310	N	23500	6.3	C.0	MCC A310 - R/B	107E5072/0	613
2351	R43-C201A*	1	23500	6.6	B.8	DG AIR COMPRESSOR A	FIG 9.5-8	613
2352	R43-C202A*	1	23500	6.9	B.8	DG AIR COMPRESSOR A	FIG 9.5-8	613
2353	D21-RE007	N	23500	5.2	B.0	AREA RAD DETECTOR	299X701-171/0	615
2354	T31-SSA051	N	23500	5.3	C.3	SELECT SWITCH	107E6043/0	615
2355	T31-SSA053	N	23500	5.3	C.3	SELECT SWITCH	107E6043/0	615
2356	T31-TI051	N	23500	5.3	C.4	TEMP INDICATOR	107E6043/0	615
2357	T31-TI053	N	23500	5.3	C.3	TEMP INDICATOR	107E6043/0	615
2358	T31-TT051	N	23500	5.3	C.3	TEMP TRANSMITTER	107E6043/0	615
2359	T31-TT053	N	23500	5.3	C.3	TEMP TRANSMITTER	107E6043/0	615
2360	U41-C103	N	23500	5.4	C.1	PCV PURGE SUPPLY FAN	107E5189/0	615
2361	U41-F004C	3	29000	5.8	B.8	MO VALVE	107E5189/0	616
2362	U41-F101C	3	29000	5.8	B.8	MO VALVE	107E5189/0	616
2363	T31-F731	1	23500	5.8	C.8	SO VALVE	107E6043/0	616
2364	T31-PT054	N	23500	5.8	C.8	PRESSURE TRANSMITTER	107E6043/0	616
2365	D21-RE013	N	23500	5.8	D.0	AREA RAD DETECTOR	299X701-171/0	616
2366	T31-PT055A	N	23500	5.5	D.5	PRESSURE TRANSMITTER	107E6043/0	617
2367	U41-D134A	N	23500	5.3	D.8	ISI ROOM FCU A	107E5189/0	617
2368	R43-A005B*	2	23500	1.5	F.8	FUEL OIL DAY TANK	FIG 9.5-6	620
2369	D11-D302	N	23500	2.7	F.4	FILTER DEVICE	107E6071/0	621
2370	D23-C001B	2	23500	2.7	F.4	ACCIDENT SMPL. PUMP	107E5139/1	621

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2371	D23-C002B	2	23500	2.7	F.4	NORM SMPL.BOOSTER PUMP	107E5139/1	621
2372	D23-C003B	2	23500	2.7	F.4	ACC. SMPL.BOOSTER PUMP	107E5139/1	621
2373	D23-C004B	2	23500	2.7	F.4	NORM. SMPL. PUMP	107E5139/1	621
2374	D23-D010B	2	23500	2.7	F.4	STEAM SEPARATOR	107E5139/1	621
2375	D23-D012B	2	23500	2.7	F.4	DEHUMIDIFIER	107E5139/1	621
2376	D23-D022B	2	23500	2.7	F.4	DRAIN MEAS VESSEL	107E5139/1	621
2377	D23-F105B	2	23500	2.7	F.4	SO VALVE	107E5139/1	621
2378	D23-F108B	2	23500	2.7	F.4	SO VALVE	107E5139/1	621
2379	D23-F118B	2	23500	2.7	F.4	SO VALVE	107E5139/1	621
2380	D23-F121B	2	23500	2.7	F.4	SO VALVE	107E5139/1	621
2381	D23-F123B	2	23500	2.7	F.4	SO VALVE	107E5139/1	621
2382	D23-F127B	2	23500	2.7	F.4	SO VALVE	107E5139/1	621
2383	D23-F130B	2	23500	2.7	F.4	SO VALVE	107E5139/1	621
2384	D23-F132B	2	23500	2.7	F.4	SO VALVE	107E5139/1	621
2385	D23-F190B	2	23500	2.7	F.4	SO VALVE	107E5139/1	621
2386	D23-F191B	2	23500	2.7	F.4	SO VALVE	107E5139/1	621
2387	D23-F193B	2	23500	2.7	F.4	SO VALVE	107E5139/1	621
2388	D23-F195B	2	23500	2.7	F.4	SO VALVE	107E5139/1	621
2389	D23-F197B	2	23500	2.7	F.4	SO VALVE	107E5139/1	621
2390	D23-F201B	2	23500	2.7	F.4	AO VALVE	107E5139/1	621
2391	D23-F202B	2	23500	2.7	F.4	AO VALVE	107E5139/1	621
2392	D23-F510B	2	23500	2.7	F.4	AO VALVE	107E5139/1	621
2393	D23-F513B	2	23500	2.7	F.4	AO VALVE	107E5139/1	621
2394	D23-F515B	2	23500	2.7	F.4	AO VALVE	107E5139/1	621
2395	D23-FIT019B	2	23500	2.7	F.4	FLOW IND TRANSMITTER	107E5139/1	621
2396	D23-H2AM001B	2	23500	2.7	F.4	HYDROGEN ANALYZER	107E5139/1	621
2397	D23-H2E001B	2	23500	2.7	F.4	HYDROGEN ANAL ELEM	107E5139/1	621
2398	D23-LIT031B	2	23500	2.7	F.4	LEVEL IND TRANS	107E5139/1	621
2399	D23-O2AM003B	2	23500	2.7	F.4	OXYGEN ANALYZER	107E5139/1	621
2400	D23-O2E003B	2	23500	2.7	F.4	OXYGEN ANAL ELEM	107E5139/1	621
2401	D23-PIS017B	2	23500	2.7	F.4	PRESS IND SWITCH	107E5139/1	621
2402	D23-PIT021B	2	23500	2.7	F.4	PRESS IND TRANSMITTER	107E5139/1	621
2403	D23-PS024B	2	23500	2.7	F.4	PRESS SWITCH	107E5139/1	621

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2404	D23-PS026B	2	23500	2.7	F.4	PRESS SWITCH	107E5139/1	621
2405	D23-PS027B	2	23500	2.7	F.4	PRESS SWITCH	107E5139/1	621
2406	D23-SC033B	2	23500	2.7	F.4	STEAM CONDENSER	107E5139/1	621
2407	D23-TE020B	2	23500	2.7	F.4	TEMP ELEMENT	107E5139/1	621
2408	D23-TS016B	2	23500	2.7	F.4	TEMP SWITCH	107E5139/1	621
2409	H22-P053B*	2	23500	2.7	F.4	D23, CAMS RACK B	107E5139/1	621
2410	H22-P054B*	2	23500	2.7	F.4	D23, CAMS CALIB RACK B	107E5139/1	621
2411	U41-F003B	2	23500	2.7	F.4	MO VALVE	107E5189/0	621
2412	D21-RE008	N	23500	2.8	F.1	AREA RAD DETECTOR	299X701-171/0	622
2413	C41-C001A	1	23500	2.4	E.2	SLC INJECTION PUMP A	107E6016/0	622
2414	C41-C001B	2	23500	2.2	E.2	SLC INJECTION PUMP B	107E6016/0	622
2415	C41-A001	N	23500	2.3	D.6	SLC STORAGE TANK	107E6016/0	622
2416	C41-A002	N	23500	2.1	D.2	SLC TEST TANK	107E6016/0	622
2417	C41-B001	N	23500	2.3	D.6	SLC MIXING HEATER	107E6016/0	622
2418	C41-B002	N	23500	2.3	D.6	SLC OPERATING HEATER	107E6016/0	622
2419	C41-F001A	1	23500	2.5	E.0	MO GLOBE VALVE (SUCTION)	107E6016/0	622
2420	C41-F001B	2	23500	2.2	E.0	MO GLOBE VALVE (SUCTION)	107E6016/0	622
2421	C41-F010	N	23500	2.1	D.2	MAN OPER GLOBE VALVE	107E6016/0	622
2422	C41-F012	N	23500	2.1	D.2	MAN OPER GATE VALVE	107E6016/0	622
2423	C41-LE001	N	23500	2.3	D.6	LEVEL SENSOR	107E6016/0	622
2424	C41-LI001	N	23500	2.3	D.6	LEVEL INDICATOR	107E6016/0	622
2425	C41-LT001	N	23500	2.3	D.6	LEVEL TRANSMITTER	107E6016/0	622
2426	C41-PT005	N	23500	2.1	D.2	PRESS TRANSMITTER	107E6016/0	622
2427	C41-TE002	N	23500	2.3	D.6	TEMP ELEMENT	107E6016/0	622
2428	C41-TE003	N	23500	2.3	D.6	TEMP ELEMENT	107E6016/0	622
2429	C41-TE006	N	23500	2.3	D.6	TEMP ELEMENT	107E6016/0	622
2430	C41-TIS002	N	23500	2.3	D.6	TEMP SWITCH	107E6016/0	622
2431	C41-TIS003	N	23500	2.3	D.6	TEMP SWITCH	107E6016/0	622
2432	C41-TIS006	N	23500	2.3	D.6	TEMP SWITCH	107E6016/0	622
2433	U41-C104	N	23500	2.3	E.7	PCV PURGE EXHAUST FAN	107E5189/0	623
2434	R43-LS395B*	2	23500	1.3	E.9	LEVEL SWITCH	FIG 9.5-6	624
2435	U41-B204B	2	27200	1.2	F.2	COOL COIL,ELEC EQ (B)	107E5189/0	663
2436	U41-B204F	2	27200	1.5	F.2	COOL COIL,ELEC EQ (B)	107E5189/0	663
2437	U41-F005B	2	27200	1.6	F.3	MO VALVE	107E5189/0	663

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2438	U41-C205F	2	23500	1.8	E.7	DG(B) HVAC EXH FAN F	107E5189/0	625
2438 a	U41-C211B	N	23500	1.8	E.7	SREE HVAC Smoke Removal Fan B	107E5189/0	625
2439	U41-F006B	2	23500	1.6	E.5	MO VALVE	107E5189/0	625
2440	R43-C201B*	2	23500	1.1	E.2	DG AIR COMPRESSOR B	FIG 9.5-8	625
2441	R43-C202B*	2	23500	1.3	E.2	DG AIR COMPRESSOR B	FIG 9.5-8	625
2442	U41-C205B	2	23500	1.8	E.4	DG(B) HVAC EXH FAN B	107E5189/0	625
2443	R24 MCC B310	N	23500	1.8	D.5	MCC B310 - R/B	107E5072/0	625
2444	R43-A005C*	3	23500	6.5	F.8	FUEL OIL DAY TANK	FIG 9.5-6	630
2445	R43-LS395C*	3	23500	6.7	E.9	LEVEL SWITCH	FIG 9.5-6	632
2446	U41-B206G	3	27200	6.8	F.2	COOL COIL,ELEC EQ (C)	107E5189/0	673
2447	U41-B206C	3	27200	6.5	F.2	COOL COIL,ELEC EQ (C)	107E5189/0	673
2448	H22-P044A*	1	23500	6.3	F.1	CAMS GAS CYL RACK A	107E5139/1	633
2449	U41-F005C	3	27200	6.4	F.3	MO VALVE	107E5189/0	673
2449 a	U41-C212C	N	23500	6.3	E.5	SREE HVAC Smoke Removal Fan C	107E5189/0	633
2450	R24 MCC C310	N	23500	6.3	E.5	MCC C310 - R/B	107E5072/0	633
2451	R43-C201C*	3	23500	6.6	E.2	DG AIR COMPRESSOR C	FIG 9.5-8	633
2452	R43-C202C*	3	23500	6.6	E.4	DG AIR COMPRESSOR C	FIG 9.5-8	633
2453	R10-C001E*	N	23500	6.3	D.5	RIP ASD OUTPUT XFMR	----?----	638
2454	R10-C001B*	N	23500	6.3	C.7	RIP ASD OUTPUT XFMR	----?----	638
2455	U41-D134B	N	23500	5.5	E.4	ISI ROOM FCU B	107E5189/0	639
2456	P54-A001B	2	23500	1.8	A.4	N2 STORAGE BOTTLE	107E5128/0	640
2457	P54-A001D	2	23500	1.8	A.4	N2 STORAGE BOTTLE	107E5128/0	640
2458	P54-A001F	2	23500	1.8	A.4	N2 STORAGE BOTTLE	107E5128/0	640
2459	P54-A001H	2	23500	1.8	A.4	N2 STORAGE BOTTLE	107E5128/0	640
2460	P54-A001K	2	23500	1.8	A.4	N2 STORAGE BOTTLE	107E5128/0	640
2461	P54-A001M	2	23500	1.8	A.4	N2 STORAGE BOTTLE	107E5128/0	640
2462	P54-A001P	2	23500	1.8	A.4	N2 STORAGE BOTTLE	107E5128/0	640
2463	P54-A001R	2	23500	1.8	A.4	N2 STORAGE BOTTLE	107E5128/0	640
2464	P54-A001T	2	23500	1.8	A.4	N2 STORAGE BOTTLE	107E5128/0	640
2465	P54-A001V	2	23500	1.8	A.4	N2 STORAGE BOTTLE	107E5128/0	640
2466	P54-F003B	2	23500	1.8	A.6	MO GLOBE VALVE	107E5128/0	640
2467	P54-F012B	2	23500	1.8	A.6	MO GLOBE VALVE	107E5128/0	640
2468	P54-F203	N	23500	1.8	A.6	MO GLOBE VALVE	107E5128/0	640

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2469	P54-PIS001B	2	23500	1.8	A.6	PRESS IND SWITCH	107E5128/0	640
2470	P54-PT004	N	23500	1.8	A.6	PRESS TRANSMITTER	107E5128/0	640
2471	DELETED							
2472	DELETED							
2473	DELETED							
2474	H22-P044B*	2	23500	1.7	B.8	CAMS GAS CYL RACK B	107E5139/1	640
2475	DELETED							
2475	DELETED a							
2476	DELETED							
2477	H23-P029*	N	23500	1.9	C.3	I/O DEVICE	----?----	640
2478	H23-P030*	N	23500	1.9	C.5	I/O DEVICE	----?----	640
2479	H23-P031*	N	23500	1.9	C.7	I/O DEVICE	----?----	640
2480	D11-F053	N	23500	2.4	C.9	SOLENOID VALVE	107E6071/0	641
2481	D11-F054	N	23500	2.4	C.9	SOLENOID VALVE	107E6071/0	641
2482	D11-RE002A	N	23500	2.5	C.1	SBGTS ION CHAMBER	107E6071/0	641
2483	D11-RE002B	N	23500	2.5	C.1	SBGTS ION CHAMBER	107E6071/0	641
2484	H22-P043B	2	23500	2.2	C.5	SBGT INSTR RACK	10Q273-285	641
2485	P54-DPS003	N	23500	2.0	C.5	DIFF PRESS SWITCH	107E5128/0	641
2486	T22-B001B	2	23500	2.2	C.7	DRYER HEATER B	107E6046/1	641
2487	T22-C001B	2	23500	2.2	C.1	EXHAUST FAN B	107E6046/1	641
2488	T22-C002B	3	23500	2.2	C.7	COOLING FAN B	107E6046/1	641
2489	T22-C003B*	2	23500	2.2	C.6	PREHTR & FAN B - FLTR	107E6046/1	641
2490	T22-C004B*	2	23500	2.2	C.6	AFTRHTR & FAN B - FLTR	107E6046/1	641
2491	T22-D003B	2	23500	2.2	C.6	PRE HEPA FILTER B	107E6046/1	641
2492	T22-D004B	2	23500	2.2	C.2	POST HEPA FILTER B	107E6046/1	641
2493	T22-DOO2B*	2	23500	2.2	C.7	PRE FILTER TRAIN	107E6046/1	641
2494	T22-DPI003B	2	23500	2.2	C.7	DIFF PRESS INDICATOR	107E6046/1	641
2495	T22-DPI007B	2	23500	2.2	C.7	DIFF PRESS INDICATOR	107E6046/1	641
2496	T22-DPI008B	2	23500	2.2	C.6	DIFF PRESS INDICATOR	107E6046/1	641
2497	T22-DPI012B	2	23500	2.2	C.6	DIFF PRESS INDICATOR	107E6046/1	641
2498	T22-DPI017B	2	23500	2.2	C.2	DIFF PRESS INDICATOR	107E6046/1	641
2499	T22-DPT003B	2	23500	2.2	C.7	DIFF PRESS XMTR	107E6046/1	641
2500	T22-DPT007B	2	23500	2.2	C.7	DIFF PRESS XMTR	107E6046/1	641
2501	T22-DPT008B	2	23500	2.2	C.6	DIFF PRESS XMTR	107E6046/1	641

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2502	T22-DPT012B	2	23500	2.2	C.6	DIFF PRESS XMTR	107E6046/1	641
2503	T22-DPT017B	2	23500	2.2	C.2	DIFF PRESS XMTR	107E6046/1	641
2504	T22-F002B	2	23500	2.2	C.9	MO BUTTERFLY VALVE	107E6046/1	641
2505	T22-F002C	3	23500	2.2	B.8	MO BUTTERFLY VALVE	107E6046/1	641
2506	T22-F004B	2	23500	2.2	C.1	MO BUTTERFLY VALVE	107E6046/1	641
2507	T22-F005B	2	23500	2.3	C.7	MO VALVE	107E6046/1	641
2508	T22-F020	3	23500	2.2	B.8	AO VALVE	107E6046/1	641
2509	T22-F022	2	23500	2.2	C.9	AO VALVE	107E6046/1	641
2510	T22-F511B	2	23500	2.3	C.1	MAN OPER VALVE	107E6046/1	641
2511	T22-FT018B	2	23500	2.2	C.9	FLOW TRANSMITTER	107E6046/1	641
2512	T22-FT018C	3	23500	2.2	B.8	FLOW TRANSMITTER	107E6046/1	641
2513	T22-LS004B	2	23500	2.2	C.7	LEVEL SWITCH	107E6046/1	641
2514	T22-LS019B	2	23500	2.2	C.1	LEVEL SWITCH	107E6046/1	641
2515	T22-ME011B	2	23500	2.2	C.6	MOISTURE ELEMENT	107E6046/1	641
2516	T22-ME012B	2	23500	2.2	C.6	MOISTURE ELEMENT	107E6046/1	641
2517	T22-MT011B	2	23500	2.2	C.6	MOISTURE TRANSMITTER	107E6046/1	641
2518	T22-MT012B	2	23500	2.2	C.6	MOISTURE TRANSMITTER	107E6046/1	641
2519	T22-POE001B	2	23500	2.2	C.9	POSITION ELEMENT	107E6046/1	641
2520	T22-POE001C	3	23500	2.2	B.8	POSITION ELEMENT	107E6046/1	641
2521	T22-TE002B	2	23500	2.2	C.7	TEMP ELEMENT	107E6046/1	641
2522	T22-TE010B	2	23500	2.2	C.6	TEMP ELEMENT	107E6046/1	641
2523	T22-TE013B	2	23500	2.2	C.6	TEMP ELEMENT	107E6046/1	641
2524	T22-TE014B	2	23500	2.2	C.3	TEMP ELEMENT	107E6046/1	641
2525	T22-TE016B	2	23500	2.2	C.2	TEMP ELEMENT	107E6046/1	641
2526	T22-TS005B	2	23500	2.2	C.7	TEMP SWITCH	107E6046/1	641
2527	T22-TS009B	2	23500	2.2	C.6	TEMP SWITCH	107E6046/1	641
2528	T22-TS013B	2	23500	2.2	C.6	TEMP SWITCH	107E6046/1	641
2529	T22-TS015B	2	23500	2.2	C.2	TEMP ELEMENT	107E6046/1	641
2530	U41-D112	2	23500	2.5	C.9	SGTS ROOM HVH (B)	107E5189/0	641
2531	H22-P043A	3	23500	2.4	B.5	SBGT INSTR RACK	10Q273-285	642
2532	T22-B001C	3	23500	2.2	B.6	DRYER HEATER C	107E6046/1	642
2533	T22-C001C	3	23500	2.2	B.2	EXHAUST FAN C	107E6046/1	642
2534	T22-C002C	2	23500	2.2	B.6	COOLING FAN C	107E6046/1	642
2535	T22-C003C*	3	23500	2.2	B.5	PREHTR & FAN C - FLTR	107E6046/1	642

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2536	T22-C004C*	3	23500	2.2	B.5	AFTRHTR & FAN C - FLTR	107E6046/1	642
2537	T22-D002C*	3	23500	2.2	B.6	PRE FILTER TRAIN	107E6046/1	642
2538	T22-D003C	3	23500	2.2	B.5	PRE HEPA FILTER C	107E6046/1	642
2539	T22-D004C	3	23500	2.2	B.3	POST HEPA FILTER C	107E6046/1	642
2540	T22-DPI003C	3	23500	2.2	B.5	DIFF PRESS INDICATOR	107E6046/1	642
2541	T22-DPI007C	3	23500	2.2	B.6	DIFF PRESS INDICATOR	107E6046/1	642
2542	T22-DPI008C	3	23500	2.2	B.5	DIFF PRESS INDICATOR	107E6046/1	642
2543	T22-DPI012C	3	23500	2.2	B.5	DIFF PRESS INDICATOR	107E6046/1	642
2544	T22-DPI017C	3	23500	2.2	B.3	DIFF PRESS INDICATOR	107E6046/1	642
2545	T22-DPT003C	3	23500	2.2	B.5	DIFF PRESS XMTR	107E6046/1	642
2546	T22-DPT007C	3	23500	2.2	B.6	DIFF PRESS XMTR	107E6046/1	642
2547	T22-DPT008C	3	23500	2.2	B.5	DIFF PRESS XMTR	107E6046/1	642
2548	T22-DPT012C	3	23500	2.2	B.5	DIFF PRESS XMTR	107E6046/1	642
2549	T22-DPT017C	3	23500	2.2	B.3	DIFF PRESS XMTR	107E6046/1	642
2550	T22-F004C	3	23500	2.2	B.2	MO BUTTERFLY VALVE	107E6046/1	642
2551	T22-F005C	3	23500	2.3	B.3	MO VALVE	107E6046/1	642
2552	T22-F511C	3	23500	2.3	B.2	MAN OPER VALVE	107E6046/1	642
2553	T22-LS004C	3	23500	2.2	B.6	LEVEL SWITCH	107E6046/1	642
2554	T22-LS019C	3	23500	2.2	B.2	LEVEL SWITCH	107E6046/1	642
2555	T22-ME011C	3	23500	2.2	B.5	MOISTURE ELEMENT	107E6046/1	642
2556	T22-ME012C	3	23500	2.2	B.5	MOISTURE ELEMENT	107E6046/1	642
2557	T22-MT011C	3	23500	2.2	B.5	MOISTURE TRANSMITTER	107E6046/1	642
2558	T22-MT012C	3	23500	2.2	B.5	MOISTURE TRANSMITTER	107E6046/1	642
2559	T22-TE002C	3	23500	2.2	B.6	TEMP ELEMENT	107E6046/1	642
2560	T22-TE010C	3	23500	2.2	B.5	TEMP ELEMENT	107E6046/1	642
2561	T22-TE013C	3	23500	2.2	B.5	TEMP ELEMENT	107E6046/1	642
2562	T22-TE014C	3	23500	2.2	B.4	TEMP ELEMENT	107E6046/1	642
2563	T22-TE016C	3	23500	2.2	B.3	TEMP ELEMENT	107E6046/1	642
2564	T22-TS005C	3	23500	2.2	B.6	TEMP SWITCH	107E6046/1	642
2565	T22-TS009C	3	23500	2.2	B.5	TEMP SWITCH	107E6046/1	642
2566	T22-TS013C	3	23500	2.2	B.5	TEMP SWITCH	107E6046/1	642
2567	T22-TS015C	3	23500	2.2	B.3	TEMP ELEMENT	107E6046/1	642
2568	U41-D111	3	23500	2.2	B.2	SGTS ROOM HVH (A)	107E5189/0	642
2569	R24 MCC SB110	N	23500	2.8	C.5	MCC SB110 - R/B	107E5072/0	643



**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2570	R24 MCC SB111	N	23500	2.8	C.5	MCC SB111 - R/B	107E5072/0	643
2571	U41-D114	2	27500	2.7	C.7	CAMS (B) ROOM HVH	107E5189/0	643
2572	U41-F004B	2	29000	2.8	B.5	MO VALVE	107E5189/0	643
2573	U41-F101B	2	29000	2.8	B.8	MO VALVE	107E5189/0	643
2574	U41-DPIS013	N	27500	2.8	A.7	DIFF PESS IND SENSOR	107E5189/0	643
2575	U41-F002A	1	27500	2.8	A.7	AO VLV - R/A EXH ISO (A)	107E5189/0	643
2576	U41-F002B	2	27500	2.8	A.9	AO VLV - R/A EXH ISO (B)	107E5189/0	643
2577	U41-C201A	1	27600	6.5	B.2	DG(A) HVAC SUPP FAN A	107E5189/0	653
2578	U41-C201E	1	27600	6.8	B.2	DG(A) HVAC SUPP FAN E	107E5189/0	653
2579	U41-TE052	1	27600	6.7	B.3	TEMP ELEMENT	107E5189/0	653
2580	P25-F022A	1	27600	6.7	A.8	TCV; DG A RM CLG	107E5182/0	653
2581	H21-P009-02	N	27600	6.5	D.0	REMOTE COMM CABNET (C11)	103E1167	654
2582	H21-P009-04	N	27600	6.5	D.0	REMOTE COMM CABNET (C11)	103E1167	654
2583	H21-P009-06	N	27600	6.5	D.0	REMOTE COMM CABNET (C11)	103E1167	654
2584	H21-P009-08	N	27600	6.5	D.0	REMOTE COMM CABNET (C11)	103E1167	654
2585	H21-P009-10	N	27600	6.5	D.0	REMOTE COMM CABNET (C11)	103E1167	654
2586	H21-P009-12	N	27600	6.5	D.0	REMOTE COMM CABNET (C11)	103E1167	654
2587	H21-P009-14	N	27600	6.5	D.0	REMOTE COMM CABNET (C11)	103E1167	654
2588	H21-P009-16	N	27600	6.5	D.0	REMOTE COMM CABNET (C11)	103E1167	654
2589	H21-P009-18	N	27600	6.5	D.0	REMOTE COMM CABNET (C11)	103E1167	654
2590	H21-P009-20	N	27600	6.5	D.0	REMOTE COMM CABNET (C11)	103E1167	654
2591	H21-P009-22	N	27600	6.5	D.0	REMOTE COMM CABNET (C11)	103E1167	654
2592	H21-P009-24	N	27600	6.5	D.0	REMOTE COMM CABNET (C11)	103E1167	654
2593	H21-P009-26	N	27600	6.5	D.0	REMOTE COMM CABNET (C11)	103E1167	654
2594	H21-P010-02	N1	27600	6.5	D.0	BREAK CTRL CABNET (C11)	103E1167	654

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2595	H21-P010-04	N2	27600	6.5	D.0	BREAK CTRL CABINET (C11)	103E1167	654
2596	H21-P010-06	N3	27600	6.5	D.0	BREAK CTRL CABINET (C11)	103E1167	654
2597	H21-P011-02	N1	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2598	H21-P011-04	N1	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2599	H21-P011-06	N2	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2600	H21-P011-08	N2	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2601	H21-P011-10	N3	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2602	H21-P011-12	N3	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2603	H21-P011-14	N1	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2604	H21-P011-16	N1	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2605	H21-P011-18	N2	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2606	H21-P011-20	N2	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2607	H21-P011-22	N3	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2608	H21-P011-24	N3	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2609	H21-P011-26	N1	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2610	H21-P011-28	N1	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2611	H21-P011-30	N2	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2612	H21-P011-32	N2	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2613	H21-P011-34	N3	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2614	H21-P011-36	N3	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2615	H21-P011-38	N1	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2616	H21-P011-40	N1	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2617	H21-P011-42	N2	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2618	H21-P011-44	N2	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2619	H21-P011-46	N3	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2620	H21-P011-48	N3	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2621	H21-P011-50	N1	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2622	H21-P011-52	N2	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2623	H21-P011-54	N3	27600	6.5	D.0	FINE MOTION DR CAB (C11)	103E1167	654
2624	H21-P012-02	N1	27600	6.5	D.0	FMC RD DISTR CAB (C11)	103E1167	654
2625	H21-P012-04	N1	27600	6.5	D.0	FMC RD DISTR CAB (C11)	103E1167	654
2626	H21-P012-06	N2	27600	6.5	D.0	FMC RD DISTR CAB (C11)	103E1167	654
2627	H21-P012-08	N2	27600	6.5	D.0	FMC RD DISTR CAB (C11)	103E1167	654
2628	H21-P012-10	N3	27600	6.5	D.0	FMC RD DISTR CAB (C11)	103E1167	654
2629	H21-P012-12	N3	27600	6.5	D.0	FMC RD DISTR CAB (C11)	103E1167	654
2630	H21-P013-02*	N	27600	6.5	D.0	FMC RD SCRAM TIME CAB	103E1167	654
2631	H21-P013-04*	N	27600	6.5	D.0	FMC RD SCRAM TIME CAB	103E1167	654
2632	H21-P013-06*	N	27600	6.5	D.0	FMC RD SCRAM TIME CAB	103E1167	654
2633	R23 P/C EA10B	N	27600	6.5	D.0	P/C EA10 - LO VOLT SWTGR	107E5072/0	654
2634	H22-P010	N	27200	5.5	B.9	E31,AIR PARTI SMPL PNL	107E5015/A	657
2635	H22-P011	N	27200	5.5	B.9	E31,IODINE/NOBEL GAS PNL	107E5015/A	657
2636	D23-F195A	1	26900	5.3	D.9	SO VALVE	107E5139/1	659
2637	D23-C001A	1	26900	5.3	D.9	ACCIDENT SMPL. PUMP	107E5139/1	659
2638	D23-O2E003A	1	26900	5.3	D.9	OXYGEN ANAL ELEM	107E5139/1	659
2639	D23-F105A	1	26900	5.3	D.9	SO VALVE	107E5139/1	659
2640	D23-TS016A	1	26900	5.3	D.9	TEMP SWITCH	107E5139/1	659
2641	D23-O2AM003A	1	26900	5.3	D.9	OXYGEN ANALYZER	107E5139/1	659
2642	D23-TE020A	1	26900	5.3	D.9	TEMP ELEMENT	107E5139/1	659
2643	D23-F108A	1	26900	5.3	D.9	SO VALVE	107E5139/1	659

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2644	D23-SC033A	1	26900	5.3	D.9	STEAM CONDENSER	107E5139/1	659
2645	D23-LIT031A	1	26900	5.3	D.9	LEVEL IND TRANS	107E5139/1	659
2646	D23-F118A	1	26900	5.3	D.9	SO VALVE	107E5139/1	659
2647	D23-H2E001A	1	26900	5.3	D.9	HYDROGEN ANAL ELEM	107E5139/1	659
2648	D23-F121A	1	26900	5.3	D.9	SO VALVE	107E5139/1	659
2649	D23-PS027A	1	26900	5.3	D.9	PRESS SWITCH	107E5139/1	659
2650	D23-H2AM001A	1	26900	5.3	D.9	HYDROGEN ANALYZER	107E5139/1	659
2651	D23-PS026A	1	26900	5.3	D.9	PRESS SWITCH	107E5139/1	659
2652	D23-F123A	1	26900	5.3	D.9	SO VALVE	107E5139/1	659
2653	D23-PS024A	1	26900	5.3	D.9	PRESS SWITCH	107E5139/1	659
2654	D23-FIT019A	1	26900	5.3	D.9	FLOW IND TRANSMITTER	107E5139/1	659
2655	D23-PIT021A	1	26900	5.3	D.9	PRESS IND TRANSMITTER	107E5139/1	659
2656	D23-F127A	1	26900	5.3	D.9	SO VALVE	107E5139/1	659
2657	D23-PIS017A	1	26900	5.3	D.9	PRESS IND SWITCH	107E5139/1	659
2658	D23-F515A	1	26900	5.3	D.9	AO VALVE	107E5139/1	659
2659	D23-C002A	1	27200	5.3	D.9	NORM SMPL.BOOSTER PUMP	107E5139/1	659
2660	D23-F130A	1	26900	5.3	D.9	SO VALVE	107E5139/1	659
2661	D23-C004A	1	26900	5.3	D.9	NORM. SMPL. PUMP	107E5139/1	659
2662	D23-F513A	1	26900	5.3	D.9	AO VALVE	107E5139/1	659
2663	D23-D012A	1	26900	5.3	D.9	DEHUMIDIFIER	107E5139/1	659
2664	D23-F132A	1	26900	5.3	D.9	SO VALVE	107E5139/1	659
2665	D23-F510A	1	26900	5.3	D.9	AO VALVE	107E5139/1	659
2666	D23-F190A	1	26900	5.3	D.9	SO VALVE	107E5139/1	659
2667	D23-F202A	1	26900	5.3	D.9	AO VALVE	107E5139/1	659
2668	D23-C003A	1	26900	5.3	D.9	ACC. SMPL.BOOSTER PUMP	107E5139/1	659
2669	D23-F191A	1	26900	5.3	D.9	SO VALVE	107E5139/1	659
2670	D23-D022A	1	26900	5.3	D.9	DRAIN MEAS VESSEL	107E5139/1	659
2671	D23-F201A	1	26900	5.3	D.9	AO VALVE	107E5139/1	659
2672	D23-F193A	1	26900	5.3	D.9	SO VALVE	107E5139/1	659
2673	D23-D010A	1	26900	5.3	D.9	STEAM SEPARATOR	107E5139/1	659
2674	D23-F197A	1	26900	5.3	D.9	SO VALVE	107E5139/1	659
2675	H22-P053A*	1	26900	5.3	D.9	D23, CAMS RACK A	107E5139/1	659
2676	H22-P054A*	1	26900	5.2	D.7	D23, CAMS CALIB RACK A	107E5139/1	659

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2677	U41-D113	1	27200	5.3	D.7	CAMS (A) ROOM HVH	107E5189/0	659
2678	U41-C204B	2	27600	1.4	E.8	DG(B) HVAC SUPP FAN B	107E5189/0	663
2679	U41-C204F	2	27600	1.2	E.8	DG(B) HVAC SUPP FAN F	107E5189/0	663
2680	U41-TE056	2	27600	1.4	E.8	TEMP ELEMENT	107E5189/0	663
2681	P25-F022B	2	27600	1.2	F.3	TCV; DG B RM CLG	107E5182/0	663
2682	U41-C207C	3	27600	6.8	E.8	DG(C) HVAC SUPP FAN C	107E5189/0	673
2683	U41-C207G	3	27600	6.5	E.8	DG(C) HVAC SUPP FAN G	107E5189/0	673
2684	U41-TE060	3	27600	6.7	E.8	TEMP ELEMENT	107E5189/0	673
2685	P25-F022C	3	27600	6.7	F.3	TCV; DG C RM CLG	107E5182/0	673
2686	DELETED							
2687	DELETED							
2688	DELETED							
2689	DELETED							
2690	DELETED							
2691	H21-P009-01	N	27600	1.5	D.0	REMOTE COMM CABNET (C11)	103E1167	681
2692	H21-P009-03	N	27600	1.5	D.0	REMOTE COMM CABNET (C11)	103E1167	681
2693	H21-P009-05	N	27600	1.5	D.0	REMOTE COMM CABNET (C11)	103E1167	681
2694	H21-P009-07	N	27600	1.5	D.0	REMOTE COMM CABNET (C11)	103E1167	681
2695	H21-P009-09	N	27600	1.5	D.0	REMOTE COMM CABNET (C11)	103E1167	681
2696	H21-P009-11	N	27600	1.5	D.0	REMOTE COMM CABNET (C11)	103E1167	681
2697	H21-P009-13	N	27600	1.5	D.0	REMOTE COMM CABNET (C11)	103E1167	681
2698	H21-P009-15	N	27600	1.5	D.0	REMOTE COMM CABNET (C11)	103E1167	681
2699	H21-P009-17	N	27600	1.5	D.0	REMOTE COMM CABNET (C11)	103E1167	681
2700	H21-P009-19	N	27600	1.5	D.0	REMOTE COMM CABNET (C11)	103E1167	681
2701	H21-P009-21	N	27600	1.5	D.0	REMOTE COMM CABNET (C11)	103E1167	681
2702	H21-P009-23	N	27600	1.5	D.0	REMOTE COMM CABNET (C11)	103E1167	681

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2703	H21-P009-25	N	27600	1.5	D.0	REMOTE COMM CABNET (C11)	103E1167	681
2704	H21-P010-01	N1	27600	1.5	D.0	BREAK CTRL CABNET (C11)	103E1167	681
2705	H21-P010-03	N2	27600	1.5	D.0	BREAK CTRL CABNET (C11)	103E1167	681
2706	H21-P010-05	N3	27600	1.5	D.0	BREAK CTRL CABNET (C11)	103E1167	681
2707	H21-P011-01	N1	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2708	H21-P011-03	N1	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2709	H21-P011-05	N2	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2710	H21-P011-07	N2	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2711	H21-P011-09	N3	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2712	H21-P011-11	N3	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2713	H21-P011-13	N1	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2714	H21-P011-15	N1	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2715	H21-P011-17	N2	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2716	H21-P011-19	N2	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2717	H21-P011-21	N3	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2718	H21-P011-23	N3	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2719	H21-P011-25	N1	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2720	H21-P011-27	N1	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2721	H21-P011-29	N2	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2722	H21-P011-31	N2	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2723	H21-P011-33	N3	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2724	H21-P011-35	N3	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2725	H21-P011-37	N1	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2726	H21-P011-39	N1	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2727	H21-P011-41	N2	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2728	H21-P011-43	N2	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2729	H21-P011-45	N3	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2730	H21-P011-47	N3	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2731	H21-P011-49	N1	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2732	H21-P011-51	N2	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2733	H21-P011-53	N3	27600	1.5	D.0	FINE MOTION DR CAB (C11)	103E1167	681
2734	H21-P012-01	N1	27600	1.5	D.0	FMC RD DISTR CAB (C11)	103E1167	681
2735	H21-P012-03	N1	27600	1.5	D.0	FMC RD DISTR CAB (C11)	103E1167	681
2736	H21-P012-05	N2	27600	1.5	D.0	FMC RD DISTR CAB (C11)	103E1167	681
2737	H21-P012-07	N2	27600	1.5	D.0	FMC RD DISTR CAB (C11)	103E1167	681
2738	H21-P012-09	N3	27600	1.5	D.0	FMC RD DISTR CAB (C11)	103E1167	681
2739	H21-P012-11	N3	27600	1.5	D.0	FMC RD DISTR CAB (C11)	103E1167	681
2740	H21-P013-01*	N	27600	1.5	D.0	FMC RD SCRAM TIME CAB	103E1167	681
2741	H21-P013-03*	N	27600	1.5	D.0	FMC RD SCRAM TIME CAB	103E1167	681
2742	H21-P013-05*	N	27600	1.5	D.0	FMC RD SCRAM TIME CAB	103E1167	681
2743	R23 P/C EA10A	N	27600	1.5	D.0	P/C EA10 - LO VOLT SWTGR	107E5072/0	681
2744	R23 P/C EA10C	N	27600	1.5	D.0	P/C EA10 - LO VOLT SWTGR	107E5072/0	681
2745	U41-D121A-1	N	26000	4.7	A.1	R/A MS TUNNEL HVH A	107E5189/0	685
2746	U41-D121A-2	N	26000	4.7	A.1	R/A MS TUNNEL HVH A	107E5189/0	685
2747	U41-D121B-1	N	26000	4.4	A.1	R/A MS TUNNEL HVH B	107E5189/0	685
2748	U41-D121B-2	N	26000	4.4	A.1	R/A MS TUNNEL HVH B	107E5189/0	685
2749	E31-TE035A	N	26000	4.7	A.5	MSL TUN DIFF TEMP ELEM	103E1792/1	690

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2750	E31-TE036A	N	26000	4.7	A.5	MSL TUN DIFF TEMP ELEM	103E1792/1	690
2751	T31-TE051A	N	23500	4.5	C.8	TEMP ELEMENT	107E6043/0	691
2752	T31-TE051B	N	23500	3.5	D.2	TEMP ELEMENT	107E6043/0	691
2753	T31-TE051C	N	23500	4.5	D.2	TEMP ELEMENT	107E6043/0	691
2754	T31-TE051J	N	27200	4.1	D.1	TEMP ELEMENT	107E6043/0	691
2755	T31-TE051K	N	27200	3.9	C.9	TEMP ELEMENT	107E6043/0	691
2756	E31-TE004	N	26000	4.0	E.0	DW AMB TEMP ELEMENT	103E1792/1	693
2757	P11-FQT106A	N	31700	6.2	A.7	FLOW XMTR (MUWP)	107E111/1	710
2758	P21-A001A	1	31700	6.8	A.6	RCW SURGE TANK (A)	107E5112/0	710
2759	P21-F018A	1	31700	6.8	A.6	MO GLOBE VALVE	107E5112/0	710
2760	P21-F019A	N	31700	6.8	A.7	AO GLOBE VALVE	107E5112/0	710
2761	P21-LT013A	1	31700	6.8	A.7	LVL XMTR (SURGE TK A)	107E5112/0	710
2762	P21-LT014A	1	31700	6.8	A.7	LVL XMTR (SURGE TK A)	107E5112/0	710
2763	P21-LT014D	1	31700	6.8	A.7	LVL XMTR (SURGE TK A)	107E5112/0	710
2764	P21-LT014G	1	31700	6.8	A.7	LVL XMTR (SURGE TK A)	107E5112/0	710
2765	U41-F001A	1	31700	6.1	A.4	AO VLV - R/A SUP ISO VLV	107E5189/0	710
2766	U41-F001B	2	31700	6.3	A.4	AO VLV - R/A SUP ISO VLV	107E5189/0	710
2767	U41-B301A	N	31700	6.6	B.1	COOLING COIL,RIP A	107E5189/0	715
2768	U41-B301B	N	31700	6.6	B.3	COOLING COIL,RIP A	107E5189/0	715
2769	U41-C301A	N	31700	6.6	B.1	RIP ZONE (A) SUPP FAN A	107E5189/0	715
2770	U41-C301B	N	31700	6.6	B.3	RIP ZONE (A) SUPP FAN B	107E5189/0	715
2771	U41-TE071A	N	31700	6.6	B.2	TEMP ELEMENT	107E5189/0	715
2772	U41-TE071B	N	31700	6.6	B.2	TEMP ELEMENT	107E5189/0	715
2773	U41-TE071C	N	31700	6.6	B.2	TEMP ELEMENT	107E5189/0	715
2774	H23-P032*	N	31700	6.2	E.4	I/O DEVICE	----?----	715
2775	H23-P033*	N	31700	6.2	E.5	I/O DEVICE	----?----	715
2776	H23-P034*	N	31700	6.2	E.7	I/O DEVICE	----?----	715
2777	P11-FQT106C	N	31700	6.2	E.3	FLOW XMTR (MUWP)	107E111/1	715
2778	P21-A001C	3	31700	6.7	E.5	RCW SURGE TANK (C)	107E5112/0	715
2779	P21-F018C	3	31700	6.8	E.5	MO GLOBE VALVE	107E5112/0	715
2780	P21-F019C	N	31700	6.8	E.5	AO GLOBE VALVE	107E5112/0	715
2781	P21-LT013C	3	31700	6.8	E.5	LVL XMTR (SURGE TK C)	107E5112/0	715
2782	P21-LT014C	3	31700	6.8	E.5	LVL XMTR (SURGE TK C)	107E5112/0	715
2783	P21-LT014F	3	31700	6.8	E.5	LVL XMTR (SURGE TK C)	107E5112/0	715



**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2784	P21-LT014J	3	31700	6.8	E.5	LVL XMTR (SURGE TK C)	107E5112/0	715
2785	R24 MCC SA110	N	31700	6.3	D.3	MCC SA110 - R/B	107E5072/0	715
2786	R24 MCC SA111	N	31700	6.3	D.3	MCC SA111 - R/B	107E5072/0	715
2787	D11-RE022A	1	31700	5.1	C.9	FUEL HANDLING AREA EXH.	107E6071/0	716
2788	D21-RE002	N	31700	5.2	C.8	AREA RAD DETECTOR	299X701-171/0	716
2789	U41-F003C	3	33000	5.2	A.5	MO VALVE	107E5189/0	716
2790	D21-RE006	N	31700	2.7	F.4	AREA RAD DETECTOR	299X701-171/0	721
2791	D11-RE022B	2	31700	2.8	E.8	FUEL HANDLING AREA EXH.	107E6071/0	721
2792	U41-D123-1	N	31700	1.7	E.8	REFUEL MACH CR HVH	107E5189/0	722
2793	U41-D123-2	N	31700	1.7	E.8	REFUEL MACH CR HVH	107E5189/0	722
2794	U41-TE015	N	31700	1.7	E.8	TEMP ELEMENT	107E5189/0	722
2795	U41-D131C	N	31700	1.5	E.1	RIP/FMCRD CP RM FCU C	107E5189/0	723
2796	U41-C208C	3	31700	6.6	F.5	DG(C) HVAC EXH FAN C	107E5189/0	730
2797	U41-C208G	3	31700	6.6	F.3	DG(C) HVAC EXH FAN G	107E5189/0	730
2798	U41-F006C	3	31700	6.6	F.5	MO VALVE	107E5189/0	730
2799	D11-RE022C	3	31700	5.1	E.8	FUEL HANDLING AREA EXH.	107E6071/0	733
2800	D21-RE003	N	31700	5.1	F.0	AREA RAD DETECTOR	299X701-171/0	733
2801	D21-RE004	N	31700	5.1	F.0	AREA RAD DETECTOR	299X701-171/0	733
2802	G41-LS001	N	31700	5.1	F.5	LEVEL SWITCH	107E6042/0	733
2803	G41-TE015	N	31700	5.1	F.5	TEMP ELEMENT	107E6042/0	733
2804	P11-FQT106B	N	31700	1.7	A.7	FLOW XMTR (MUWP)	107E111/1	740
2805	P21-A001B	2	31700	1.2	A.6	RCW SURGE TANK (B)	107E5112/0	740
2806	P21-F018B	2	31700	1.2	A.6	MO GLOBE VALVE	107E5112/0	740
2807	P21-F019B	N	31700	1.2	A.6	AO GLOBE VALVE	107E5112/0	740
2808	P21-LT013B	2	31700	1.3	A.6	LVL XMTR (SURGE TK B)	107E5112/0	740
2809	P21-LT014B	2	31700	1.3	A.6	LVL XMTR (SURGE TK B)	107E5112/0	740
2810	P21-LT014E	2	31700	1.3	A.6	LVL XMTR (SURGE TK B)	107E5112/0	740
2811	P21-LT014H	2	31700	1.3	A.6	LVL XMTR (SURGE TK B)	107E5112/0	740
2812	U41-B302A	N	31700	1.4	B.1	COOLING COIL,RIP B	107E5189/0	740
2813	U41-B302B	N	31700	1.4	B.3	COOLING COIL,RIP B	107E5189/0	740
2814	U41-C302A	N	31700	1.4	B.1	RIP ZONE (B) SUPP FAN A	107E5189/0	740
2815	U41-C302B	N	31700	1.4	B.3	RIP ZONE (B) SUPP FAN B	107E5189/0	740

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2816	U41-TE072A	N	31700	1.4	B.2	TEMP ELEMENT	107E5189/0	740
2817	U41-TE072B	N	31700	1.4	B.2	TEMP ELEMENT	107E5189/0	740
2818	U41-TE072C	N	31700	1.4	B.2	TEMP ELEMENT	107E5189/0	740
2819	D11-D304	N	31700	1.1	B.8	FILTER DEVICE	107E6071/0	740
2820	D11-D305	N	31700	1.1	B.8	FILTER DEVICE	107E6071/0	740
2821	D11-RE041A	N	31700	1.1	B.8	STACK RAD MON SCIN DET.	107E6071/0	740
2822	D11-RE041B	N	31700	1.1	B.8	STACK RAD MON SCIN DET.	107E6071/0	740
2823	D11-RE042	N	31700	1.1	B.8	STACK RAD MON Ge DET.	107E6071/0	740
2824	D11-RE043A	N	31700	1.1	B.8	STACK RAD ION CHAMBER	107E6071/0	740
2825	D11-RE043B	N	31700	1.1	B.8	STACK RAD ION CHAMBER	107E6071/0	740
2826	D11-RSM041A	N	31700	1.1	B.8	STACK GAS SAMPLER	107E6071/0	740
2827	D11-RSM041B	N	31700	1.1	B.8	STACK GAS SAMPLER	107E6071/0	740
2828	D11-RSM042	N	31700	1.1	B.8	STACK GAS SAMPLER	107E6071/0	740
2829	D11-SV301	N	31700	1.1	B.8	SOLENOID VALVE	107E6071/0	740
2830	D11-SV302	N	31700	1.1	B.8	SOLENOID VALVE	107E6071/0	740
2831	H21-P301	N	31700	1.1	B.8	D11,STACK RAD SIG CONV.	107E6071/0	740
2832	H21-P331	N	31700	1.1	B.8	D11,CONTROL SAMPL PNL.	107E6071/0	740
2833	H22-P251	N	31700	1.1	B.8	D11,STACK RAD SMPL RACK	107E6071/0	740
2834	H22-P252	N	31700	1.1	B.8	D11,STACK RAD SMPL RACK	107E6071/0	740
2835	D11-RE022D	4	31700	2.8	D.0	FUEL HANDLING AREA EXH.	107E6071/0	742
2836	D21-RE001	N	31700	2.2	D.0	AREA RAD DETECTOR	299X701-171/0	742
2837	D21-RE005	N	31700	2.2	D.0	AREA RAD DETECTOR	299X701-171/0	742
2838	G41-FO38	N	32700	3.3	D.6	MO GATE VALVE	107E6042/0	743
2839	G41-LT020A	N	31700	4.7	D.8	LEVEL TRANSMITTER	107E6042/0	743
2840	G41-LT020B	N	31700	3.3	D.8	LEVEL TRANSMITTER	107E6042/0	743
2841	P11-FQT104	N	31700	3.2	C.5	FLOW XMTR (MUWP)	107E111/1	743
2842	D11-D041	N	38200	1.5	C.5	SAMPLING PROBE	107E6071/0	840
2843	D11-RE003A	1	38200	1.5	C.5	REA BLDG EX DETECTOR	107E6071/0	840
2844	D11-RE003B	2	38200	1.5	C.5	REA BLDG EX DETECTOR	107E6071/0	840

**Table 9A.6-2 Fire Hazard Analysis  
Equipment Database Sorted by Room — Reactor Building (Continued)**

Item No.	MPL No	Elect Div.	Elev. Location	Location Number Coord.	Location Alpha Coord.	Description	System Drawing	Room No.
2845	D11-RE003C	3	38200	1.5	C.5	REA BLDG EX DETECTOR	107E6071/0	840
2846	D11-RE003D	4	38200	1.5	C.5	REA BLDG EX DETECTOR	107E6071/0	840
2847	U41-FT008	N	38200	1.5	C.5	FLOW TRANS	107E5189/0	840

**Table 9A.6-3 Fire Hazard Analysis Equipment Data Base — Sorted by Room — Control Building**

ITEM NO.	MPL NO.	ELECT DIV.	ELEV. LOCATION	LOCATION NUMBER COORD.	LOCATION ALPHA COORD.	DESCRIPTION	SYSTEM DRAWING	ROOM NO.
1	P21-C001A	1	-8200	3.70	K.6	RCW PUMP A	107E5112/0	111
2	P21-C001D	1	-8200	4.20	K.6	RCW PUMP D	107E5112/0	111
3	P21-F072A	1	-8200	3.80	K.2	AO BUTTERFLY VALVE	107E5112/0	111
4	P21-F072D	1	-8200	3.80	K.2	AO BUTTERFLY VALVE	107E5112/0	111
5	P21-F074A	1	-8200	3.80	K.2	MO GATE VALVE	107E5112/0	111
6	P21-F082A	1	-8200	3.80	K.2	MO GATE VALVE	107E5112/0	111
7	P21-F084A	1	-8200	3.80	K.2	MAN OPER GATE VALVE	107E5112/0	111
8	P21-F171A	N	-8200	3.80	K.2	MAN OPER GATE VALVE	107E5112/0	111
9	P21-F172A	N	-8200	3.80	K.2	MAN OPER GATE VALVE	107E5112/0	111
10	P21-FT042A	1	-8200	3.80	K.2	FLOW XMTR (C/B SUPPLY)	107E5112/0	111
11	P21-A002A	1	-8200	4.70	J.5	RCW CHEM ADD TANK A	107E5112/0	111
12	P21-F006A	1	-8200	4.80	K.8	AO BUTTERFLY VALVE	107E5112/0	111
13	P21-F010A	1	-8200	4.80	K.8	AO BUTTERFLY VALVE	107E5112/0	111
14	P21-FT006A	1	-8200	4.80	K.8	FLOW XMTR (RCW SUPPLY)	107E5112/0	111
15	P21-PT004A	1	-8200	4.80	K.8	PRESS XMTR (RCW SUPPLY)	107E5112/0	111
16	P21-TE005A	1	-8200	4.80	K.8	TEMP ELEM (RCW SUPPLY)	107E5112/0	111
17	P21-B001A	1	-8200	4.70	J.9	RCW/RSW HX A	107E5112/0	111
18	P21-B001D	1	-8200	4.70	K.2	RCW/RSW HX D	107E5112/0	111
19	P21-B001G	1	-8200	4.70	K.5	RCW/RSW HX G	107E5112/0	111
20	P21-E/P105A	1	-8200	4.50	K.5	E/P CONVERT (TCV-RCW)	107E5112/0	111
21	P21-F004A	1	-8200	4.60	J.9	MO GATE VALVE	107E5112/0	111
22	P21-F004D	1	-8200	4.60	K.2	MO GATE VALVE	107E5112/0	111
23	P21-F004G	1	-8200	4.60	K.5	MO GATE VALVE	107E5112/0	111
24	K17-C001AC	1	-8200	4.80	K.8	C/B RSW/RCW RM-SUMP A	107E5112/0	111
25	K17-LS401A	1	-8200	4.80	K.8	LEVEL SWITCH	107E5112/0	111
26	K17-LS401E	1	-8200	4.80	K.8	LEVEL SWITCH	107E5112/0	111
27	K17-LS401I	1	-8200	4.80	K.8	LEVEL SWITCH	107E5112/0	111
28	K17-LS401M	1	-8200	4.80	K.8	LEVEL SWITCH	107E5112/0	111
29	K17-LS402A	1	-8200	4.80	K.8	LEVEL SWITCH	107E5112/0	111
30	K17-LS402E	1	-8200	4.80	K.8	LEVEL SWITCH	107E5112/0	111
31	K17-LS402I	1	-8200	4.80	K.8	LEVEL SWITCH	107E5112/0	111
32	K17-LS402M	1	-8200	4.80	K.8	LEVEL SWITCH	107E5112/0	111
33	K17-LS403A	1	-8200	4.80	K.8	LEVEL SWITCH	107E5112/0	111

**Table 9A.6-3 Fire Hazard Analysis Equipment Data Base — Sorted by Room —  
Control Building (Continued)**

ITEM NO.	MPL NO.	ELECT DIV.	ELEV. LOCATION	LOCATION NUMBER COORD.	LOCATION ALPHA COORD.	DESCRIPTION	SYSTEM DRAWING	ROOM NO.
34	P21-C001B	2	-8200	1.90	K.6	RCW PUMP B	107E5112/0	121
35	P21-C001E	2	-8200	2.20	K.6	RCW PUMP E	107E5112/0	121
36	P21-E/P105B	2	-8200	2.50	K.5	E/P CONVERT (TCV-RCW)	107E5112/0	121
37	P21-F072B	2	-8200	1.90	K.2	AO BUTTERFLY VALVE	107E5112/0	121
38	P21-F072E	2	-8200	1.90	K.2	AO BUTTERFLY VALVE	107E5112/0	121
39	P21-F074B	2	-8200	1.90	K.2	MO GATE VALVE	107E5112/0	121
40	P21-F082B	2	-8200	1.90	K.2	MO GATE VALVE	107E5112/0	121
41	P21-F084B	2	-8200	1.90	K.2	MAN OPER GATE VALVE	107E5112/0	121
42	P21-F171B	N	-8200	1.90	K.2	MAN OPER GATE VALVE	107E5112/0	121
43	P21-F172B	N	-8200	1.90	K.2	MAN OPER GATE VALVE	107E5112/0	121
44	P21-FT042B	2	-8200	1.90	K.2	FLOW XMTR (C/B SUPPLY)	107E5112/0	121
45	P21-A002B	2	-8200	2.80	J.5	RCW CHEM ADD TANK B	107E5112/0	121
46	P21-F006B	2	-8200	2.80	K.8	AO BUTTERFLY VALVE	107E5112/0	121
47	P21-F010B	2	-8200	2.80	K.8	AO BUTTERFLY VALVE	107E5112/0	121
48	P21-FT006B	2	-8200	2.80	K.8	FLOW XMTR (RCW SUPPLY)	107E5112/0	121
49	P21-PT004B	2	-8200	2.80	K.8	PRESS XMTR (RCW SUPPLY)	107E5112/0	121
50	P21-TE005B	2	-8200	2.80	K.8	TEMP ELEM (RCW SUPPLY)	107E5112/0	121
51	P21-B001B	2	-8200	2.80	J.9	RCW/RSW HX B	107E5112/0	121
52	P21-B001E	2	-8200	2.80	K.2	RCW/RSW HX E	107E5112/0	121
53	P21-B001H	2	-8200	2.80	K.5	RCW/RSW HX H	107E5112/0	121
54	P21-F004B	2	-8200	2.70	J.9	MO GATE VALVE	107E5112/0	121
55	P21-F004E	2	-8200	2.70	K.2	MO GATE VALVE	107E5112/0	121
56	P21-F004H	2	-8200	2.70	K.5	MO GATE VALVE	107E5112/0	121
57	K17-C002BC	2	-8200	2.80	K.8	C/B RSW/RCW RM-SUMP B	107E5112/0	121
58	K17-LS001B	2	-8200	2.80	K.8	LEVEL SWITCH	107E5112/0	121
59	K17-LS001F	2	-8200	2.80	K.8	LEVEL SWITCH	107E5112/0	121
60	K17-LS001J	2	-8200	2.80	K.8	LEVEL SWITCH	107E5112/0	121
61	K17-LS001N	2	-8200	2.80	K.8	LEVEL SWITCH	107E5112/0	121
62	K17-LS002B	2	-8200	2.80	K.8	LEVEL SWITCH	107E5112/0	121
63	K17-LS002F	2	-8200	2.80	K.8	LEVEL SWITCH	107E5112/0	121
64	K17-LS002J	2	-8200	2.80	K.8	LEVEL SWITCH	107E5112/0	121
65	K17-LS002N	2	-8200	2.80	K.8	LEVEL SWITCH	107E5112/0	121
66	K17-LS003B	2	-8200	2.80	K.8	LEVEL SWITCH	107E5112/0	121
67	P21-C001C	3	-8200	5.30	K.6	RCW PUMP C	107E5112/0	131

**Table 9A.6-3 Fire Hazard Analysis Equipment Data Base — Sorted by Room — Control Building (Continued)**

ITEM NO.	MPL NO.	ELECT DIV.	ELEV. LOCATION	LOCATION NUMBER COORD.	LOCATION ALPHA COORD.	DESCRIPTION	SYSTEM DRAWING	ROOM NO.
68	P21-C001F	3	-8200	5.70	K.6	RCW PUMP F	107E5112/0	131
69	P21-E/P105C	3	-8200	5.90	K.5	E/P CONVERT (TCV-RCW)	107E5112/0	131
70	P21-F072C	3	-8200	5.40	K.2	AO BUTTERFLY VALVE	107E5112/0	131
71	P21-F072F	3	-8200	5.40	K.2	AO BUTTERFLY VALVE	107E5112/0	131
72	P21-F074C	3	-8200	5.40	K.2	MO GATE VALVE	107E5112/0	131
73	P21-F082C	3	-8200	5.40	K.2	MO GATE VALVE	107E5112/0	131
74	P21-F084C	3	-8200	5.40	K.2	MAN OPER GATE VALVE	107E5112/0	131
75	P21-F171C	N	-8200	5.40	K.2	MAN OPER GATE VALVE	107E5112/0	131
76	P21-F172C	N	-8200	5.40	K.2	MAN OPER GATE VALVE	107E5112/0	131
77	P21-FT042C	3	-8200	5.40	K.2	FLOW XMTR (C/B SUPPLY)	107E5112/0	131
78	P21-F006C	3	-8200	6.30	K.8	AO BUTTERFLY VALVE	107E5112/0	131
79	P21-F010C	3	-8200	6.30	K.8	AO BUTTERFLY VALVE	107E5112/0	131
80	P21-FT006C	3	-8200	6.30	K.8	FLOW XMTR (RCW SUPPLY)	107E5112/0	131
81	P21-PT004C	3	-8200	6.30	K.8	PRESS XMTR (RCW SUPPLY)	107E5112/0	131
82	P21-TE005C	3	-8200	6.30	K.8	TEMP ELEM (RCW SUPPLY)	107E5112/0	131
83	P21-B001C	3	-8200	6.20	J.9	RCW/RSW HX C	107E5112/0	131
84	P21-B001F	3	-8200	6.20	K.2	RCW/RSW HX F	107E5112/0	131
85	P21-B001J	3	-8200	6.20	K.5	RCW/RSW HX J	107E5112/0	131
86	P21-F004C	3	-8200	6.10	J.9	MO GATE VALVE	107E5112/0	131
87	P21-F004F	3	-8200	6.10	K.2	MO GATE VALVE	107E5112/0	131
88	P21-F004J	3	-8200	6.10	K.5	MO GATE VALVE	107E5112/0	131
89	P21-F025A	1	-2150	4.70	J.5	MO GLOBE VALVE	107E5112/0	217
90	P21-F025B	2	-2150	2.80	J.5	MO GLOBE VALVE	107E5112/0	227
91	P21-F025E	2	-2150	2.80	J.5	MO GLOBE VALVE	107E5112/0	227
92	P21-F025C	3	-2150	6.30	J.5	MO GLOBE VALVE	107E5112/0	237
93	P21-F025F	3	-2150	6.30	J.5	MO GLOBE VALVE	107E5112/0	237
94	R24 MCC A320	N	3500	3.80	K.6	MCC A320 - C/B	107E5072/0	311
95	R24 MCC SA120	N	3500	3.90	K.6	MCC SA120 - C/B	107E5072/0	311
96	R42 DCMCC N1	N	3500	3.80	K.6	250 VDC MCC N1	107E5075/0	311
97	R42-P001	N	3500	3.30	K.4	250 VDC CNTL DIST BD	107E5075/0	311
98	R42-P003	N	3500	3.80	K.4	250 VDC NORM CHARGER	107E5075/0	311
99	R42-P004	N	3500	3.80	K.2	250 VDC STBY CHARGER	107E5075/0	311

**Table 9A.6-3 Fire Hazard Analysis Equipment Data Base — Sorted by Room — Control Building (Continued)**

ITEM NO.	MPL NO.	ELECT DIV.	ELEV. LOCATION	LOCATION NUMBER COORD.	LOCATION ALPHA COORD.	DESCRIPTION	SYSTEM DRAWING	ROOM NO.
100	R46-CVCF AN21	N	3500	3.10	K.2	VITAL ND 120 VAC DIST-C/B	107E5076/0	311
101	R46-CVCF BN21	N	3500	3.10	K.5	VITAL ND 120 VAC DIST-C/B	107E5076/0	311
102	R46-CVCF CN21	N	3500	3.10	K.4	VITAL ND 120 VAC DIST-C/B	107E5076/0	311
103	R46-P002A	N	3500	3.20	J.6	COMPUTER CVCF PANEL	107E5076/0	311
104	R46-P002B	N	3500	3.70	J.6	COMPUTER CVCF PANEL	107E5076/0	311
105	P24-F222*	N	3500	3.70	K.7	TCV; NORM ELEC EQ RM	107E5176/0	311
106	U41-D133A	N	3500	3.60	K.8	NDIV ELEC EQ ZONE FCU	107E5189/0	311
107	K17-C002CC	3	-8200	6.30	K.8	C/B RSW/RCW RM - SUMP C	107E5189/0	311
108	K17-LS401C	3	-8200	6.30	K.8	LEVEL SWITCH	107E5189/0	131
109	K17-LS401G	3	-8200	6.30	K.8	LEVEL SWITCH	107E5189/0	131
110	K17-LS401K	3	-8200	6.30	K.8	LEVEL SWITCH	107E5189/0	131
111	K17-LS401O	3	-8200	6.30	K.8	LEVEL SWITCH	107E5189/0	131
112	K17-LS402C	3	-8200	6.30	K.8	LEVEL SWITCH	107E5189/0	131
113	K17-LS402G	3	-8200	6.30	K.8	LEVEL SWITCH	107E5189/0	131
114	K17-LS402K	3	-8200	6.30	K.8	LEVEL SWITCH	107E5189/0	131
115	K17-LS402O	3	-8200	6.30	K.8	LEVEL SWITCH	107E5189/0	131
116	K17-LS403C	3	-8200	6.30	K.8	LEVEL SWITCH	107E5189/0	131
117	R24 MCC C320	N	3500	5.40	K.6	MCC C320 - C/B	107E5072/0	317
118	R24 MCC E120	1	3500	5.40	K.6	MCC E120 - C/B	107E5072/0	317
119	R42-P005A	1	3500	5.80	J.8	BATT BUS - D1 125VDC	107E5075/0	317
120	R42-P006A	1	3500	5.80	J.9	125 VDC NORM CHARGER	107E5075/0	317
121	R42-P007A	1	3500	5.70	K.1	125 VDC CNTR DIST BD	107E5075/0	317
122	R42-P008A	1	3500	5.90	K.6	125 VDC STBY CHARGER	107E5075/0	317
123	R42-P021A*	1	3500	5.70	K.2	DC/DC CONVERTER - C/B	107E5075/0	317
124	R46-CVCF A21	1	3500	5.90	K.3	VITAL D1 120 VAC DIST-C/B	107E5076/0	317
125	R46-J002A1	1	3500	5.50	K.1	VITAL DIST PNL A1	107E5076/0	317
126	R46-J002A2	N	3500	5.20	K.3	VITAL DIST PNL (NON-1E)	107E5076/0	317
127	R46-P001A	1	3500	5.50	K.3	VITAL CVCF A10 - C/B	107E5076/0	317
128	R46-P011A	N	3500	5.20	K.3	VITAL CVCF AN10	107E5076/0	317
129	R47-POO1*	N	3500	5.40	K.7	120 VAC CNTL DIST BD -ND	112D4885/0	319

**Table 9A.6-3 Fire Hazard Analysis Equipment Data Base — Sorted by Room — Control Building (Continued)**

ITEM NO.	MPL NO.	ELECT DIV.	ELEV. LOCATION	LOCATION NUMBER COORD.	LOCATION ALPHA COORD.	DESCRIPTION	SYSTEM DRAWING	ROOM NO.
130	R24 MCC B320	N	3500	1.80	K.6	MCC B320 - C/B	107E5072/0	323
131	R24 MCC F120	2	3500	1.80	K.5	MCC F120 - C/B	107E5072/0	323
132	R42-P005B	2	3500	2.00	J.9	BATT BUS - D2 125VDC	107E5075/0	323
133	R42-P006B	2	3500	2.00	K.1	125 VDC NORM CHARGER	107E5075/0	323
134	R42-P007B	2	3500	1.90	K.3	125 VDC CNTR DIST BD	107E5075/0	323
135	R42-P008B	3	3500	2.40	K.1	125 VDC STBY CHARGER	107E5075/0	323
136	R42-P021B*	2	3500	2.40	J.9	DC/DC CONVERTER - C/B	107E5075/0	323
137	R46-CVCF A22	2	3500	1.80	K.3	VITAL D2 120 VAC DIST-C/B	107E5076/0	323
138	R46-J002B1	2	3500	2.30	K.4	VITAL DIST PNL B1	107E5076/0	323
139	R46-J002B2	N	3500	1.70	K.3	VITAL DIST PNL (NON-1E)	107E5076/0	323
140	R46-P001B	2	3500	2.30	K.4	VITAL CVCF B10 - C/B	107E5076/0	323
141	R46-P011B	N	3500	1.70	K.3	VITAL CVCF BN10	107E5076/0	323
142	R24 MCC G120	3	3500	6.10	K.4	MCC G120 - C/B	107E5072/0	331
143	R42-P005C	3	3500	6.30	K.1	BATT BUS - D3 125VDC	107E5075/0	331
144	R42-P006C	3	3500	6.30	J.9	125 VDC NORM CHARGER	107E5075/0	331
145	R42-P007C	3	3500	6.20	J.7	125 VDC CNTR DIST BD	107E5075/0	331
146	R42-P021C*	3	3500	6.20	J.8	DC/DC CONVERTER - C/B	107E5075/0	331
147	R46-CVCF A23	3	3500	6.40	K.4	VITAL D3 120 VAC DIST-C/B	107E5076/0	331
148	R46-J002C1	3	3500	6.30	K.4	VITAL DIST PNL C1	107E5076/0	331
149	R46-P001C	3	3500	6.40	K.4	VITAL CVCF C10 - C/B	107E5076/0	331
150	R42-P005D	4	3500	2.70	K.1	BATT BUS - D4 125VDC	107E5075/0	342
151	R42-P006D	4	3500	2.70	J.9	125 VDC NORM CHARGER	107E5075/0	342
152	R42-P007D	4	3500	2.70	J.7	125 VDC CNTR DIST BD	107E5075/0	342
153	R42-P021D*	4	3500	2.70	J.8	DC/DC CONVERTER - C/B	107E5075/0	342
154	R46-CVCF A24	4	3500	2.90	K.4	VITAL D4 120 VAC DIST-C/B	107E5076/0	342
155	R46-J002D1	4	3500	2.80	K.4	VITAL DIST PNL D1	107E5076/0	342
156	R46-P001D	4	3500	2.80	K.4	VITAL CVCF D10 - C/B	107E5076/0	342
157	P13-LT001A	1	7900	1.20	J.5	COND STOR TANK LEVEL	107E6014/0	491
158	P13-LT001B	2	7900	1.20	J.5	COND STOR TANK LEVEL	107E6014/0	491
159	P13-LT001C	3	7900	1.20	J.5	COND STOR TANK LEVEL	107E6014/0	491
160	P13-LT001D	4	7900	1.20	J.5	COND STOR TANK LEVEL	107E6014/0	491
161	H12-P003B*	2	7900	1.70	J.5	DIV 2 CONTROL PNLS	----?----	495
162	H12-P003D*	4	7900	2.80	K.0	DIV 4 CONTROL PNLS	----?----	495



**Table 9A.6-3 Fire Hazard Analysis Equipment Data Base — Sorted by Room — Control Building (Continued)**

ITEM NO.	MPL NO.	ELECT DIV.	ELEV. LOCATION	LOCATION NUMBER COORD.	LOCATION ALPHA COORD.	DESCRIPTION	SYSTEM DRAWING	ROOM NO.
163	H12-P004B	N	7900	2.20	K.0	NON DIV CONT.PNLS	----?----	495
164	H12-P001*	1234N	7900	3.70	K.0	MAIN CONTROL PANEL	----?----	496
165	H12-P002*	1234N	7900	3.20	K.0	? ? PANEL	----?----	496
166	H12-P003A*	1	7900	5.50	K.0	DIV 1 CONTROL PNLS	----?----	497
167	H12-P004A	N	7900	5.80	K.0	NON DIV CONT.PNLS	----?----	497
168	H12-P003C*	3	7900	6.30	J.5	DIV 3 CONTROL PNLS	----?----	497
169	DELETED							
170	DELETED							
171	DELETED							
172	DELETED							
173	DELETED							
174	DELETED							
175	B21-PT028A	1	12300	2.10	K.9	PRESS TRANSMITTER	795E877	506
176	B21-PT028B	2	12300	2.10	K.9	PRESS TRANSMITTER	795E877	506
177	B21-PT028C	3	12300	2.10	K.9	PRESS TRANSMITTER	795E877	506
178	B21-PT028D	4	12300	2.10	K.9	PRESS TRANSMITTER	795E877	506
179	B21-PT301A	1	12300	2.10	K.9	PRESS TRANSMITTER	795E877	506
180	B21-PT301B	2	12300	2.10	K.9	PRESS TRANSMITTER	795E877	506
181	B21-PT301C	3	12300	2.10	K.9	PRESS TRANSMITTER	795E877	506
182	B21-PT301D	4	12300	2.10	K.9	PRESS TRANSMITTER	795E877	506
183	P25-F016A	1	12300	5.20	K.6	TCV: C/B ELEC RM A	107E5182/0	511
184	U41-B603A	1	12300	5.20	K.5	ESS EQUIP RM COOL COIL	107E5189/0	511
185	U41-B603E	1	12300	5.20	K.5	ESS EQUIP RM COOL COIL	107E5189/0	511
186	U41-C604A	1	12300	5.20	K.1	EM ELEC (A) SUPP FAN A	107E5189/0	511
187	U41-C604E	1	12300	5.20	K.2	EM ELEC (A) SUPP FAN E	107E5189/0	511
188	U41-TE112A	1	12300	5.40	K.5	TEMP ELEMENT	107E5189/0	511
189	U41-TE113A	1	12300	5.40	K.5	TEMP ELEMENT	107E5189/0	511
190	P25-F016C	3	12300	6.10	K.6	TCV: C/B ELEC RM C	107E5182/0	531
191	U41-B605C	3	12300	5.80	K.5	ESS EQUIP RM COOL COIL	107E5189/0	531
192	U41-B605G	3	12300	5.80	K.5	ESS EQUIP RM COOL COIL	107E5189/0	531
193	U41-C608C	3	12300	6.00	K.1	EM ELEC (C) SUPP FAN C	107E5189/0	531
194	U41-C608G	3	12300	6.00	K.2	EM ELEC (C) SUPP FAN G	107E5189/0	531
195	U41-TE112C	3	12300	6.10	K.5	TEMP ELEMENT	107E5189/0	531
196	U41-TE113C	3	12300	6.10	K.5	TEMP ELEMENT	107E5189/0	531

**Table 9A.6-3 Fire Hazard Analysis Equipment Data Base — Sorted by Room — Control Building (Continued)**

ITEM NO.	MPL NO.	ELECT DIV.	ELEV. LOCATION	LOCATION NUMBER COORD.	LOCATION ALPHA COORD.	DESCRIPTION	SYSTEM DRAWING	ROOM NO.
197	P25-C001C	3	12300	6.00	J.2	HECW PUMP C	107E5182/0	534
198	P25-C001F	3	12300	6.70	J.2	HECW PUMP F	107E5182/0	534
199	P25-D001C	3	12300	6.00	J.2	HECW CHILLER C	107E5182/0	534
200	P25-D001G	3	12300	6.70	J.2	HECW CHILLER F	107E5182/0	534
201	P25-DPT007C	3	12300	5.70	J.6	DP XMTR (FLO CONT C/F)	107E5182/0	534
202	P25-F005C	3	12300	6.90	J.2	TCV: MCR CLG	107E5182/0	534
203	P25-F012C	3	12300	5.70	J.4	PCV: HECW UNITS C/F	107E5182/0	534
204	P25-FIS003C	3	12300	6.00	J.2	FLOW IND SWITCH C	107E5182/0	534
205	P25-FIS003F	3	12300	6.70	J.2	FLOW IND SWITCH F	107E5182/0	534
206	P25-TE005C	3	12300	6.00	J.2	TEMP ELEM (UNIT C/F)	107E5182/0	534
207	U41-C623C	3	12300	6.20	J.1	MCR RECIRC SUPP FAN C	107E5189/0	534
208	U41-C623G	3	12300	6.20	J.1	MCR RECIRC SUPP FAN G	107E5189/0	534
209	H11-P001*	N	12300	4.00	K.0	COMPUTER PANELS	----?----	591
210	P25-A002	N	12300	5.30	J.5	CHEMICAL FEED TANK	107E5182/0	593
211	P25-DPT007A	1	12300	5.30	J.2	DP XMTR (FLO CONT A/D)	107E5182/0	593
212	P25-TE005A	1	12300	5.30	J.2	TEMP ELEM (UNIT A/D)	107E5182/0	593
213	P25-C001A	1	17150	5.30	J.4	HECW PUMP A	107E5182/0	612
213a	P25-C001D	1	17150	5.30	J.4	HECW PUMP D	107E5182/0	612
214	P25-D001A	1	17150	5.30	J.4	HECW CHILLER A	107E5182/0	612
214a	P25-D001D	1	17150	5.30	J.4	HECW CHILLER D	107E5182/0	612
215	P25-F012A	1	17150	5.50	J.2	PCV: HECW UNIT A	107E5182/0	612
216	P25-FIS003A	1	17150	5.30	J.2	FLOW IND SWITCH A	107E5182/0	612
216a	P25-FIS003D	1	17150	5.30	J.2	FLOW IND SWITCH D	107E5182/0	612
217	U41-C605A	1	17150	5.20	K.5	EM ELEC (A) EXH FAN A	107E5189/0	613
218	U41-C605E	1	17150	5.20	K.6	EM ELEC (A) EXH FAN E	107E5189/0	613
219	DELETED							
220	U41-C622C	3	17150	5.70	K.5	MCR HVAC EXH FAN C	107E5189/0	614
221	U41-C622G	3	17150	5.70	K.6	MCR HVAC EXH FAN G	107E5189/0	614
222	U41-DPI106C	3	17150	5.70	K.5	DIFF PRESS INDICATOR	107E5189/0	614
223	U41-DPI107C	3	17150	5.70	K.5	DIFF PRESS INDICATOR	107E5189/0	614
224	U41-DPI108C	3	17150	5.70	K.5	DIFF PRESS INDICATOR	107E5189/0	614
225	U41-DPI109C	3	17150	5.70	K.5	DIFF PRESS INDICATOR	107E5189/0	614
226	U41-F009C	3	17150	5.70	K.5	MO VALVE	107E5189/0	615
227	U41-F009F	2	17150	5.70	K.6	MO VALVE	107E5189/0	615

**Table 9A.6-3 Fire Hazard Analysis Equipment Data Base — Sorted by Room — Control Building (Continued)**

ITEM NO.	MPL NO.	ELECT DIV.	ELEV. LOCATION	LOCATION NUMBER COORD.	LOCATION ALPHA COORD.	DESCRIPTION	SYSTEM DRAWING	ROOM NO.
228	U41-F010C	3	17150	5.70	K.5	MO VALVE	107E5189/0	614
229	U41-F010F	2	17150	5.70	K.6	MO VALVE	107E5189/0	614
230	DELETED							
231	U41-POT105C	3	17150	5.70	K.5	POSITION TRANSMITTER	107E5189/0	614
232	U41-POT105G	3	17150	5.70	K.6	POSITION TRANSMITTER	107E5189/0	614
233	U41-B601C	3	17150	6.80	J.3	MCR COOLING COIL	107E5189/0	615
234	U41-B601E	3	17150	6.80	J.3	MCR COOLING COIL	107E5189/0	615
235	U41-B601G	3	17150	6.80	J.3	MCR COOLING COIL	107E5189/0	615
236	U41-C621C	3	17150	6.70	J.5	MCR HVAC SUPP FAN C	107E5189/0	615
237	U41-C621G	3	17150	6.70	J.6	MCR HVAC SUPP FAN G	107E5189/0	615
238	U41-DPI101C	3	17150	6.80	J.3	DIFF PRESS INDICATOR	107E5189/0	615
239	U41-F007C	3	17150	6.80	J.1	MO VALVE	107E5189/0	615
240	U41-F007F	2	17150	6.90	J.1	MO VALVE	107E5189/0	615
241	U41-F008C	3	17150	6.80	J.1	MO VALVE	107E5189/0	615
242	U41-F011C	3	17150	6.60	J.1	MO VALVE	107E5189/0	615
243	U41-F008F	2	17150	6.90	J.1	MO VALVE	107E5189/0	615
244	U41-ME104C	3	17150	6.60	J.1	MOISTURE ELEMENT	107E5189/0	615
245	U41-TE103C	3	17150	6.60	J.1	TEMP ELEMENT	107E5189/0	615
246	U41-DPI111A	1	17150	5.20	K.8	DIFF PRESS INDICATOR	107E5189/0	619
247	U41-F104A	1	17150	5.20	K.8	MO VALVE	107E5189/0	619
248	U41-TE110A	1	17150	5.20	L.1	TEMP ELEMENT	107E5189/0	619
249	U41-F010F	2	17150	2.70	K.7	MO VALVE	107E5189/0	620
250	U41-POT105F	2	17150	2.70	K.7	POSITION TRANSMITTER	107E5189/0	620
251	U41-C601B	2	17150	1.30	J.5	MCR HVAC SUPP FAN B	107E5189/0	621
252	U41-C601F	2	17150	1.30	J.6	MCR HVAC SUPP FAN F	107E5189/0	621
253	P25-F005B	2	17150	1.10	J.2	TCV: MCR CLG	107E5182/0	621
254	U41-B601B	2	17150	1.10	J.3	MCR COOLING COIL	107E5189/0	621
255	U41-B601D	2	17150	1.10	J.3	MCR COOLING COIL	107E5189/0	621
256	U41-B601F	2	17150	1.10	J.3	MCR COOLING COIL	107E5189/0	621
257	U41-C603B	2	17150	1.80	J.1	MCR RECIRC SUPP FAN B	107E5189/0	621
258	U41-C603F	2	17150	1.80	J.1	MCR RECIRC SUPP FAN F	107E5189/0	621
259	U41-DPI101B	2	17150	1.10	J.3	DIFF PRESS INDICATOR	107E5189/0	621
260	U41-DPI106B	2	17150	1.80	J.1	DIFF PRESS INDICATOR	107E5189/0	621
261	U41-DPI107B	2	17150	1.80	J.1	DIFF PRESS INDICATOR	107E5189/0	621

**Table 9A.6-3 Fire Hazard Analysis Equipment Data Base — Sorted by Room —  
Control Building (Continued)**

ITEM NO.	MPL NO.	ELECT DIV.	ELEV. LOCATION	LOCATION NUMBER COORD.	LOCATION ALPHA COORD.	DESCRIPTION	SYSTEM DRAWING	ROOM NO.
262	U41-DPI108B	2	17150	1.80	J.1	DIFF PRESS INDICATOR	107E5189/0	621
263	U41-DPI109B	2	17150	1.80	J.1	DIFF PRESS INDICATOR	107E5189/0	621
264	U41-F007B	2	17150	1.10	J.1	MO VALVE	107E5189/0	621
265	U41-F007G	3	17150	1.10	J.1	MO VALVE	107E5189/0	621
266	U41-F008B	2	17150	1.10	J.1	MO VALVE	107E5189/0	621
267	U41-F008G	3	17150	1.10	J.1	MO VALVE	107E5189/0	621
268	U41-F009B	2	17150	1.80	J.1	MO VALVE	107E5189/0	621
269	U41-F009G	3	17150	1.80	J.1	MO VALVE	107E5189/0	621
270	U41-F011B	2	17150	1.50	J.1	MO VALVE	107E5189/0	621
271	U41-ME104B	2	17150	1.50	J.1	MOISTURE ELEMENT	107E5189/0	621
272	U41-TE103B	2	17150	1.50	J.1	TEMP ELEMENT	107E5189/0	621
273	P25-C001B	2	17150	2.80	J.4	HECW PUMP B	107E5182/0	623
274	P25-C001E	2	17150	2.80	J.8	HECW PUMP E	107E5182/0	623
275	P25-D001B	2	17150	2.80	J.4	HECW CHILLER B	107E5182/0	623
276	P25-D001E	2	17150	2.80	J.8	HECW CHILLER E	107E5182/0	623
277	P25-DPT007B	2	17150	2.30	J.2	DP XMTR (FLO CONT B/E)	107E5182/0	623
278	P25-F012B	2	17150	2.50	J.2	PCV: HECW UNITS B/E	107E5182/0	623
279	P25-FIS003B	2	17150	2.80	J.4	FLOW IND SWITCH B	107E5182/0	623
280	P25-FIS003E	2	17150	2.80	J.8	FLOW IND SWITCH E	107E5182/0	623
281	P25-TE005B	2	17150	2.80	J.4	TEMP ELEM (UNIT B/E)	107E5182/0	623
282	P25-F016B	2	17150	1.70	K.8	TCV: C/B ELEC RM B	107E5182/0	624
283	U41-B604B	2	17150	1.70	K.8	ESS EQUIP RM COOL COIL	107E5189/0	624
284	U41-B604F	2	17150	1.70	K.8	ESS EQUIP RM COOL COIL	107E5189/0	624
285	U41-C606B	2	17150	1.80	K.5	EM ELEC (B) SUPP FAN B	107E5189/0	624
286	U41-C606F	2	17150	1.80	K.6	EM ELEC (B) SUPP FAN F	107E5189/0	624
287	U41-DPI111B	2	17150	1.60	K.8	DIFF PRESS INDICATOR	107E5189/0	624
288	U41-F104B	2	17150	1.60	K.8	MO VALVE	107E5189/0	624
289	U41-TE110B	2	17150	1.60	L.1	TEMP ELEMENT	107E5189/0	624
290	U41-TE112B	2	17150	2.00	K.6	TEMP ELEMENT	107E5189/0	624
291	U41-C607B	2	17150	2.20	K.5	EM ELEC (B) EXH FAN B	107E5189/0	625
292	U41-C607F	2	17150	2.20	K.6	EM ELEC (B) EXH FAN F	107E5189/0	625
293	DELETED							
294	U41-TE113B	2	17150	2.20	K.5	TEMP ELEMENT	107E5189/0	625
295	U41-C602B	2	17150	2.70	K.5	MCR HVAC EXH FAN B	107E5189/0	626

**Table 9A.6-3 Fire Hazard Analysis Equipment Data Base — Sorted by Room — Control Building (Continued)**

ITEM NO.	MPL NO.	ELECT DIV.	ELEV. LOCATION	LOCATION NUMBER COORD.	LOCATION ALPHA COORD.	DESCRIPTION	SYSTEM DRAWING	ROOM NO.
296	U41-C602F	2	17150	2.70	K.6	MCR HVAC EXH FAN F	107E5189/0	626
297	U41-F010B	2	17150	2.70	K.5	MO VALVE	107E5189/0	626
297a	U41-F010G	3	17150	2.70	K.5	MO VALVE	107E5189/0	626
298	DELETED							
299	U41-POT105B	2	17150	2.70	K.5	POSITION TRANSMITTER	107E5189/0	626
300	U41-C609C	3	17150	6.20	K.5	EM ELEC (C) EXH FAN C	107E5189/0	631
301	U41-C609G	3	17150	6.20	K.6	EM ELEC (C) EXH FAN G	107E5189/0	631
302	DELETED							
303	U41-DPI111C	3	17150	5.80	K.8	DIFF PRESS INDICATOR	107E5189/0	653
304	U41-F104C	3	17150	5.80	K.8	MO VALVE	107E5189/0	653
305	U41-TE110C	3	17150	5.90	L.1	TEMP ELEMENT	107E5189/0	653

**Table 9A.6-4 Fire Hazard Analysis  
Equipment Database—Sorted by Room—Turbine Building**

<b>MPL No.</b>	<b>Elec Div.</b>	<b>Elev. Loc.</b>	<b>Loc No. Coord</b>	<b>Loc Alpha Coord</b>	<b>Description</b>	<b>Room No.</b>
K11*	N	2300	7.8	B.2	LCW SUMP (A)	110
K11*	N	2300	7.8	B.8	HCW SUMP (A)	110
K11*	N	2300	7.2	B.2	SD SUMP (A)	110
P52*	N	6300	10.4	C.7	INSTRUMENT AIR COMPRESSOR (A)	111
P52*	N	6300	10.4	D.3	INSTRUMENT AIR COMPRESSOR (B)	111
P52*	N	6300	10.4	C.4	INSTRUMENT AIR RECEIVER TANK	111
P52*	N	6300	10.5	B.3	INSTRUMENT AIR DRYER PACKAGE UNIT (A)	111
P52*	N	6300	10.5	B.7	INSTRUMENT AIR DRYER PACKAGE UNIT (B)	111
P51*	N	6300	10.4	E.0	STATION AIR COMPRESSOR (A)	111
P51*	N	6300	10.4	E.5	STATION AIR COMPRESSOR (B)	111
P51*	N	6300	10.5	D.7	STATION AIR RECEIVER TANK	111
U41*	N	6300	10.5	E.9	IA & SA ROOM L/C	111
N62*	N	2300	2.3	C.2	OG CHARCOAL ABSORBER	112
N62*	N	2300	2.3	C.5	OG CHARCOAL ABSORBER	112
N62*	N	2300	2.7	C.2	OG CHARCOAL ABSORBER	112
N62*	N	2300	2.7	C.5	OG CHARCOAL ABSORBER	112
N22*	N	2300	7.5	G.7	HEATER DRAIN PUMP (A)	113
N22*	N	2300	7.5	G.4	HEATER DRAIN PUMP (B)	113
N22*	N	2300	7.5	F.7	HEATER DRAIN PUMP (C)	113
N22*	N	2300	7.5	F.4	HEATER DRAIN PUMP (D)	113
N61*	N	2300	4.0	F.5	CONDENSER (A)	120
N61*	N	2300	4.0	E.5	CONDENSER (B)	120
N61*	N	2300	4.0	D.5	CONDENSER (C)	120
N22*	N	2300	2.3	F.0	1ST FEEDWATER HEATER DRAIN COOLER (A)	120
N22*	N	2300	3.8	E.6	1ST FEEDWATER HEATER DRAIN COOLER (B)	120
N22*	N	2300	2.3	D.7	1ST FEEDWATER HEATER DRAIN COOLER (C)	120

**Table 9A.6-4 Fire Hazard Analysis  
Equipment Database—Sorted by Room—Turbine Building (Continued)**

MPL No.	Elec Div.	Elev. Loc.	Loc No. Coord	Loc Alpha Coord	Description	Room No.
B21-PT301A	1	1500	TBD	TBD	PRESSURE TRANSMITTER	120
B21-PT301B	2	1500	TBD	TBD	PRESSURE TRANSMITTER	120
B21-PT301C	3	1500	TBD	TBD	PRESSURE TRANSMITTER	120
B21-PT301D	4	1500	TBD	TBD	PRESSURE TRANSMITTER	120
N71*	N	2300	3.2	B.9	CW SUMP	121
N21*	N	2300	8.5	H.6	CONDENSATE WATER RECOVERY TANK	131
N21*	N	2300	6.4	A.4	CONDENSATE BOOSTER PUMP (A)	132
N21*	N	2300	5.5	A.4	CONDENSATE BOOSTER PUMP (B)	132
N21*	N	2300	4.9	A.4	CONDENSATE BOOSTER PUMP (C)	132
N21*	N	2300	3.9	A.4	CONDENSATE BOOSTER PUMP (D)	132
N21*	N	2300	7.7	E.8	CONDENSATE PUMP (A)	140
N21*	N	2300	7.7	E.5	CONDENSATE PUMP (B)	140
N21*	N	2300	7.7	E.2	CONDENSATE PUMP (C)	140
N21*	N	2300	7.7	D.8	CONDENSATE PUMP (D)	140
N21*	N	2300	7.8	D.5	COND WATER COLLECTING PUMP	140
K11*	N	2300	3.6	G.8	LCW SUMP (B)	142
K11*	N	2300	3.2	G.8	HCW SUMP (B)	142
K11*	N	2300	3.2	G.3	SD SUMP (B)	142
K21*	N	2300	7.4	C.2	CF BACKWASH TRANSFER TANK	143
K21*	N	2300	7.2	C.8	CF BACKWASH TRANSFER PUMP (A)	144
K21*	N	2300	7.6	C.8	CF BACKWASH TRANSFER PUMP (B)	144
N27*	N	2300	6.4	B.2	DRAIN STRAINER	1X1
N27*	N	2300	6.5	B.5	RESIN STORAGE TANK	1X1
N27*	N	2300	6.5	B.8	RESIN STORAGE TANK	1X1
H22*	N	2300	5.8	B.4	LOCAL RACK	1X2
H22*	N	2300	5.8	B.6	LOCAL RACK	1X2
H22*	N	2300	4.2	B.2	LOCAL RACK	1X2
H22*	N	2300	4.5	B.1	LOCAL RACK	1X2
H22*	N	2300	4.8	B.4	LOCAL RACK	1X2
H22*	N	2300	4.8	B.6	LOCAL RACK	1X2

**Table 9A.6-4 Fire Hazard Analysis  
Equipment Database—Sorted by Room—Turbine Building (Continued)**

MPL No.	Elec Div.	Elev. Loc.	Loc No. Coord	Loc Alpha Coord	Description	Room No.
H22*	N	2300	4.5	B.8	LOCAL RACK	1X2
H22*	N	2300	4.2	C.1	LOCAL RACK	1X2
C81*	N	2300	6.8	B.4	CD RECIRCULATION PUMP	1X3
H21*	N	2300	5.3	B.1	LOCAL PANEL	1X3
H21*	N	2300	5.4	B.1	LOCAL PANEL	1X3
H21*	N	2300	5.6	B.1	LOCAL PANEL	1X3
H21*	N	2300	5.8	B.1	LOCAL PANEL	1X3
N34*	N	6300	3.6	H.3	OIL STORAGE TANK (A)	1Y1
N34*	N	6300	3.6	H.7	OIL STORAGE TANK (B)	1Y1
N34*	N	6300	3.8	H.5	OIL TRANSFER PUMP	1Y1
H22*	N	6300	3.8	H.6	LOCAL RACK	1Y1
P51*	N	6300	10.4	G.9	BREATHING AIR EQUIPMENT AREA	1Y2
R24*	N	6300	8.7	B.4	MCC SA130	1Y3
R24*	N	6300	8.7	C.1	MCC SA131	1Y3
R24*	N	6300	8.7	D.6	MCC SA132	1Y3
R24*	N	6300	8.7	E.1	MCC SA133	1Y3
R24*	N	6300	8.7	E.5	MCC SB130	1Y3
R24*	N	6300	7.1	C.6	MCC SB131	1Y3
R24*	N	6300	7.6	C.6	MCC SB132	1Y3
R24*	N	6300	7.4	D.4	MCC SB133	1Y3
R24*	N	6300	8.7	G.2	MCC SC130	1Y3
R24*	N	6300	8.7	G.6	MCC SC132	1Y3
H22*	N	6300	4.2	B.8	LOCAL RACK	1Y4
H22*	N	6300	4.5	B.8	LOCAL RACK	1Y4
R22*	N	12300	10.2	H.5	M/C A1	210
R22*	N	12300	10.5	H.5	M/C C1	210
R22*	N	12300	10.2	G.3	M/C B1	210
R22*	N	12300	10.6	G.3	M/C D1	210
R22*	N	12300	10.9	H.4	M/C A2-4-5	210
R22*	N	12300	9.4	H.4	M/C B2-4-5	210



**Table 9A.6-4 Fire Hazard Analysis  
Equipment Database—Sorted by Room—Turbine Building (Continued)**

MPL No.	Elec Div.	Elev. Loc.	Loc No. Coord	Loc Alpha Coord	Description	Room No.
R22*	N	12300	9.6	H.4	M/C C2-4-5	210
N62*	N	12300	2.7	B.9	OG FILTER	211
N62*	N	12300	2.3	B.8	GUARD BED	211
N21*	N	12300	6.6	H.5	RFP (A)	213
N21*	N	12300	6.6	G.5	RFP (B)	213
R22*	N	12300	6.6	H.5	RFP MOTOR (A)	213
R22*	N	12300	6.6	G.5	RFP MOTOR (B)	213
U41*	N	12300	7.2	G.2	CONDENSER ROOM L/C (A)	213
U41*	N	12300	7.7	G.2	CONDENSER ROOM L/C (B)	213
R22*	N	12300	7.7	J.5	RFP ASD (A)	214
R22*	N	12300	4.2	J.5	RFP ASD (B)	214
R22*	N	6300	7.7	J.5	RFP ASD (C)	214-2
R22*	N	6300	4.2	J.5	RFP ASD (D)	214-2
N21*	N	12300	3.6	H.5	RFP (C)	215
N21*	N	12300	3.6	G.5	RFP (D)	215
R22*	N	12300	3.6	H.5	RFP MOTOR (C)	215
R22*	N	12300	3.6	G.5	RFP MOTOR (D)	215
E31-TE021A	1	14750	5.5	K.8	MSL TEMPERATURE SENSOR	219
E31-TE021B	2	14750	5.8	K.8	MSL TEMPERATURE SENSOR	219
E31-TE021C	3	14750	6.2	K.8	MSL TEMPERATURE SENSOR	219
E31-TE021D	4	14750	6.4	K.8	MSL TEMPERATURE SENSOR	219
E31-TE022A	1	15100	5.5	K.8	TEMPERATURE ELEMENT	219
E31-TE022B	2	15100	5.8	K.8	TEMPERATURE ELEMENT	219
E31-TE022C	3	15100	6.2	K.8	TEMPERATURE ELEMENT	219
E31-TE022D	4	15100	6.4	K.8	TEMPERATURE ELEMENT	219
E31-TE023A	1	15450	5.5	K.8	TEMPERATURE ELEMENT	219
E31-TE023B	2	15450	5.8	K.8	TEMPERATURE ELEMENT	219
E31-TE023C	3	15450	6.2	K.8	TEMPERATURE ELEMENT	219
E31-TE023D	4	15450	6.4	K.8	TEMPERATURE ELEMENT	219
E31-TE024A	1	15800	5.5	K.8	TEMPERATURE ELEMENT	219

**Table 9A.6-4 Fire Hazard Analysis  
Equipment Database—Sorted by Room—Turbine Building (Continued)**

MPL No.	Elec Div.	Elev. Loc.	Loc No. Coord	Loc Alpha Coord	Description	Room No.
E31-TE024B	2	15800	5.8	K.8	TEMPERATURE ELEMENT	219
E31-TE024C	3	15800	6.2	K.8	TEMPERATURE ELEMENT	219
E31-TE024D	4	15800	6.4	K.8	TEMPERATURE ELEMENT	219
E31-TE025A	1	16150	5.5	K.8	TEMPERATURE ELEMENT	219
E31-TE025B	2	16150	5.8	K.8	TEMPERATURE ELEMENT	219
E31-TE025C	3	16150	6.2	K.8	TEMPERATURE ELEMENT	219
E31-TE025D	4	16150	6.4	K.8	TEMPERATURE ELEMENT	219
E31-TE026A	1	16500	5.5	K.8	TEMPERATURE ELEMENT	219
E31-TE026B	2	16500	5.8	K.8	TEMPERATURE ELEMENT	219
E31-TE026C	3	16500	6.2	K.8	TEMPERATURE ELEMENT	219
E31-TE026D	4	16500	6.4	K.8	TEMPERATURE ELEMENT	219
E31-TE027A	1	16850	5.5	K.8	TEMPERATURE ELEMENT	219
E31-TE027B	2	16850	5.8	K.8	TEMPERATURE ELEMENT	219
E31-TE027C	3	16850	6.2	K.8	TEMPERATURE ELEMENT	219
E31-TE027D	4	16850	6.4	K.8	TEMPERATURE ELEMENT	219
E31-TE028A	1	17100	5.5	K.8	TEMPERATURE ELEMENT	219
E31-TE028B	2	17100	5.8	K.8	TEMPERATURE ELEMENT	219
E31-TE028C	3	17100	6.2	K.8	TEMPERATURE ELEMENT	219
E31-TE028D	4	17100	6.4	K.8	TEMPERATURE ELEMENT	219
E31-TE029A	1	17450	5.5	K.8	TEMPERATURE ELEMENT	219
E31-TE029B	2	17450	5.8	K.8	TEMPERATURE ELEMENT	219
E31-TE029C	3	17450	6.2	K.8	TEMPERATURE ELEMENT	219
E31-TE029D	4	17450	6.4	K.8	TEMPERATURE ELEMENT	219
N26*	N	6300	5.5	C.0	BACKWASH AIR TANK	221
N26*	N	6300	5.5	B.6	PRE-AIR FILTER VESSEL	221
N26*	N	6300	5.9	B.7	AIR FILTER VESSEL	221
H22*	N	6300	5.9	B.4	LOCAL RACK	221
H22*	N	6300	5.9	B.6	LOCAL RACK	221
H22*	N	6300	4.0	B.6	LOCAL RACK	221
H22*	N	6300	4.4	B.1	LOCAL RACK	221

**Table 9A.6-4 Fire Hazard Analysis  
Equipment Database—Sorted by Room—Turbine Building (Continued)**

MPL No.	Elec Div.	Elev. Loc.	Loc No. Coord	Loc Alpha Coord	Description	Room No.
H22*	N	6300	4.6	B.1	LOCAL RACK	221
H22*	N	6300	4.9	B.2	LOCAL RACK	221
H22*	N	6300	4.9	B.4	LOCAL RACK	221
H22*	N	6300	3.0	B.5	LOCAL RACK	221
P22*	N	2300	7.4	J.0	TCW PUMP (A)	224
P22*	N	2300	7.7	J.0	TCW PUMP (B)	224
P22*	N	2300	6.3	J.0	TCW PUMP (C)	224
P22*	N	2300	5.9	H.5	TCW HEAT EXCHANGER (A)	224
P22*	N	2300	5.9	H.8	TCW HEAT EXCHANGER (B)	224
P22*	N	2300	5.9	J.4	TCW HEAT EXCHANGER (C)	224
K11*	N	2300	7.1	H.4	NRD SUMP	224
N34*	N	6300	7.5	H.3	OIL PURIFICATION UNIT	230
N34*	N	6300	7.8	H.3	OIL FLUSHING FILTER UNIT	230
N32*	N	6300	4.2	H.5	EHC HYDRAULIC POWER UNIT	232
H22*	N	6300	4.7	H.5	LOCAL RACK	232
C71-PS002A	1	8000	TBD	TBD	PRESSURE SWITCH	232
C71-PS002B	2	8000	TBD	TBD	PRESSURE SWITCH	232
C71-PS002C	3	8000	TBD	TBD	PRESSURE SWITCH	232
C71-PS002D	4	8000	TBD	TBD	PRESSURE SWITCH	232
R24*	N	12300	8.7	B.5	MCC A330	240
R24*	N	12300	8.7	C.2	MCC A331	240
R24*	N	12300	8.7	D.9	MCC B330	240
R24*	N	12300	8.7	E.4	MCC B331	240
R24*	N	12300	8.7	E.6	MCC C330	240
R24*	N	12300	8.7	F.5	MCC C331	240
R24*	N	12300	8.7	F.9	MCC C332	240
N26*	N	12300	7.3	B.7	CF FILTER VESSEL (A)	241
N26*	N	12300	7.6	B.7	CF FILTER VESSEL (B)	241
N26*	N	12300	7.6	B.3	CF FILTER VESSEL (C)	241
P62*	N	6300	10.5	A.5	BOILER (HB)	247

**Table 9A.6-4 Fire Hazard Analysis  
Equipment Database—Sorted by Room—Turbine Building (Continued)**

MPL No.	Elec Div.	Elev. Loc.	Loc No. Coord	Loc Alpha Coord	Description	Room No.
P62*	N	6300	9.5	B.0	BOILER (HB)	247
P24*	N	6300	9.3	C.5	HNCW CHILLER (A)	248
P24*	N	6300	9.3	D.5	HNCW CHILLER (B)	248
P24*	N	6300	9.3	E.5	HNCW CHILLER (C)	248
P24*	N	6300	9.3	F.5	HNCW CHILLER (D)	248
P24*	N	6300	9.3	G.5	HNCW CHILLER (E)	248
P24*	N	6300	9.4	C.9	HNCW PUMP (A)	248
P24*	N	6300	9.4	D.9	HNCW PUMP (B)	248
P24*	N	6300	9.4	E..9	HNCW PUMP (C)	248
P24*	N	6300	9.4	F.9	HNCW PUMP (D)	248
P24*	N	6300	9.4	G.9	HNCW PUMP (E)	248
N22*	N	12300	7.6	F.5	HIGH PRESSURE DRAIN TANK	2X3
H22*	N	12300	7.4	F.3	LOCAL RACK	2X3
N62*	N	12300	3.4	B.6	OG PREHEATER (A)	2X4
N62*	N	12300	3.4	C.6	OG PREHEATER (B)	2X4
N62*	N	12300	3.7	B.6	OG RECOMBINER (A)	2X4
N62*	N	12300	3.7	C.6	OG RECOMBINER (B)	2X4
N62*	N	12300	3.6	B.3	OG CONDENSER (A)	2X4
N62*	N	12300	3.6	C.4	OG CONDENSER (B)	2X4
N62*	N	12300	3.7	B.8	OG COOLER CONDENSER (A)	2X4
N62*	N	12300	3.7	C.1	OG COOLER CONDENSER (B)	2X4
R22*	N	12300	9.2	E.3	M/C CTG1	2X5
R22*	N	12300	9.5	E.2	M/C CTG2	2X5
R22*	N	12300	9.5	E.7	M/C CTG3	2X5
R23*	N	12300	9.2	E.9	P/C CTG-1	2X5
R24*	N	12300	9.4	F.3	CTG MCC	2X5
C95*	N	12300	5.5	B.9	CF/CD CONTROL PANEL	2X6
C95*	N	12300	5.5	C.1	CF/CD CONTROL PANEL	2X6
H22*	N	12300	6.2	A.3	LOCAL RACK	2X7
H22*	N	12300	6.6	A.2	LOCAL RACK	2X7

**Table 9A.6-4 Fire Hazard Analysis  
Equipment Database—Sorted by Room—Turbine Building (Continued)**

MPL No.	Elec Div.	Elev. Loc.	Loc No. Coord	Loc Alpha Coord	Description	Room No.
H22*	N	12300	6.8	A.2	LOCAL RACK	2X7
H22*	N	12300	6.8	A.4	LOCAL RACK	2X7
R22*	N	12300	9.5	D.0	CTG AUXILIARY EQUIPMENT AREA	2X8
R23*	N	19700	9.2	A.4	P/C SA10	310
R23*	N	19700	9.5	A.4	P/C SB10	310
R23*	N	19700	9.2	B.0	P/C SC10	310
R23*	N	19700	9.5	B.0	P/C SD10	310
R23*	N	19700	9.2	D.6	P/C SA12	310
R23*	N	19700	9.2	B.7	P/C SB12	310
R23*	N	19700	9.5	B.7	P/C SC13	310
R23*	N	19700	9.8	B.7	P/C SD13	310
R42*	N	19700	9.2	H.4	125VDC CHG/PC/DB (A)	310
R42*	N	19700	9.4	H.4	125VDC CHG/PC/DB (B)	310
R42*	N	19700	9.7	H.4	125VDC CHG/PC/DB (C)	310
R42*	N	19700	9.6	F.2	250VDC CHG/PC/DB (A1)	310
R42*	N	19700	9.6	E.4	250VDC CHG/PC/DB (B1)	310
R42*	N	19700	9.8	F.2	250VDC CHG/PC/DB (A2)	310
R42*	N	19700	9.8	E.4	250VDC CHG/PC/DB (B2)	310
R23*	N	19700	9.2	C.3	PIP P/C A30	310
R23*	N	19700	9.2	D.0	PIP P/C A31	310
R23*	N	19700	9.5	C.3	PIP P/C A34	310
R23*	N	19700	9.5	D.0	PIP P/C B31	310
R23*	N	19700	9.8	D.0	PIP P/C B35	310
R23*	N	19700	9.8	C.3	PIP P/C C31	310
R23*	N	19700	9.5	D.6	PIP P/C B30	310
R23*	N	19700	9.8	D.6	PIP P/C C32	310
R23*	N	19700	9.8	B.0	PIP P/C C30	310
N21*	N	12300	6.7	C.6	STEAM EJECTOR UNIT (A)	311
N21*	N	12300	6.7	C.3	STEAM EJECTOR UNIT (B)	311
U41*	N	19700	8.6	H.9	MS TUNNEL L/C	313

**Table 9A.6-4 Fire Hazard Analysis  
Equipment Database—Sorted by Room—Turbine Building (Continued)**

MPL No.	Elec Div.	Elev. Loc.	Loc No. Coord	Loc Alpha Coord	Description	Room No.
U41*	N	19700	8.6	J.6	MS TUNNEL L/C	313
N33*	N	12300	7.3	D.6	GLAND STEAM CONDENSER	314
N33*	N	12300	7.2	E.6	GLAND STEAM EXHAUSTER (A)	314
N33*	N	12300	7.4	E.6	GLAND STEAM EXHAUSTER (B)	314
N21*	N	2300	3.6	B.4	MECHANICAL VACUUM PUMP (A)	315
N21*	N	2300	2.5	B.4	MECHANICAL VACUUM PUMP (B)	315
N21*	N	19700	7.3	H.3	6TH FEEDWATER HEATER (A)	316
N21*	N	19700	7.7	H.3	5TH FEEDWATER HEATER (A)	316
N37*	N	19700	7.8	F.5	TURBINE BYPASS VALVE	316
H22*	N	19700	7.4	H.3	LOCAL RACK	316
H22*	N	19700	7.6	H.5	LOCAL RACK	316
R40*	N	12300	10.5	B.9	COMBUSTION TURBINE GENERATOR	317
R40*	N	12300	10.6	E.2	DIESEL GENERATOR	317
N62*	N	19700	2.4	B.8	OG EXTRACTOR (A)	31X-1
N62*	N	19700	2.4	C.3	OG EXTRACTOR (B)	31X-1
R22*	?	19700	7.2	D.8	SAFETY-RELATED CP SWITCHGEAR (A)	31X-2
R22*	?	19700	7.4	D.8	SAFETY-RELATED CP SWITCHGEAR (B)	31X-2
R22*	?	19700	7.2	E.4	SAFETY-RELATED CP SWITCHGEAR (C)	31X-2
R22*	?	19700	7.4	E.4	SAFETY-RELATED CP SWITCHGEAR (D)	31X-2
U41*	N	19700	2.4	A.7	OFF GAS CHARCOAL BED L/C	320
U41*	N	19700	7.9	A.1	IPB COOLING UNIT ROOM L/C	320
U41*	N	19700	5.2	B.5	SCR PANEL ROOM L/C	320
U41*	N	19700	5.5	C.5	IPB/Z L/C	320
U41*	N	19700	6.4	A.5	IPB COOLING UNIT	320
N43*	N	19700	3.5	C.5	STATOR COIL COOLING UNIT	320
H21*	N	19700	3.1	C.8	STATOR COIL COOLING CTRL PANEL	320
H21*	N	19700	3.7	B.2	GENERATOR OIL & GAS CTRL PANEL	320
H21*	N	19700	3.7	B.3	GENERATOR OIL & GAS CTRL PANEL	320
H21*	N	19700	6.4	A.9	PT & SA PANEL	320
H21*	N	19700	4.0	B.9	VT PANEL	320

**Table 9A.6-4 Fire Hazard Analysis  
Equipment Database—Sorted by Room—Turbine Building (Continued)**

MPL No.	Elec Div.	Elev. Loc.	Loc No. Coord	Loc Alpha Coord	Description	Room No.
H21*	N	19700	4.0	B.5	NGR PANEL	320
R22*	N	19700	6.4	B.8	GENERATOR CIRCUIT BREAKER	320
N21*	N	19700	4.1	F.6	4TH FEEDWATER HEATER (A)	321
N21*	N	19700	4.1	E.6	4TH FEEDWATER HEATER (B)	321
N21*	N	19700	4.1	D.6	4TH FEEDWATER HEATER (C)	321
N21*	N	19700	4.3	F.4	3RD FEEDWATER HEATER (A)	321
N21*	N	19700	4.3	E.4	3RD FEEDWATER HEATER (B)	321
N21*	N	19700	4.3	D.4	3RD FEEDWATER HEATER (C)	321
N21*	N	19700	2.3	F.2	1ST FEEDWATER HEATER DRAIN TANK (A)	321
N21*	N	19700	2.3	D.9	1ST FEEDWATER HEATER DRAIN TANK (B)	321
N21*	N	19700	2.4	C.9	1ST FEEDWATER HEATER DRAIN TANK (C)	321
N21*	N	24400	4.2	F.4	1ST FEEDWATER HEATER (A)	321
N21*	N	24400	4.2	E.4	1ST FEEDWATER HEATER (B)	321
N21*	N	24400	4.2	D.4	1ST FEEDWATER HEATER (C)	321
N21*	N	24400	4.1	F.6	2ND FEEDWATER HEATER (A)	321
N21*	N	24400	4.1	E.6	2ND FEEDWATER HEATER (B)	321
N21*	N	24400	4.1	D.6	2ND FEEDWATER HEATER (C)	321
N22*	N	24400	3.7	E.3	MOISTURE SEPARATOR DRAIN TANK	321
N22*	N	24400	3.7	E.7	MOISTURE SEPARATOR DRAIN TANK	321
N22*	N	24400	6.3	E.3	MOISTURE SEPARATOR DRAIN TANK	321
N22*	N	24400	6.3	E.7	MOISTURE SEPARATOR DRAIN TANK	321
N22*	N	24400	3.5	D.3	MSR 1ST STAGE HEATER DRAIN TANK	321
N22*	N	24400	3.7	F.6	MSR 1ST STAGE HEATER DRAIN TANK	321
N22*	N	24400	6.5	D.3	MSR 1ST STAGE HEATER DRAIN TANK	321
N22*	N	24400	6.3	F.6	MSR 1ST STAGE HEATER DRAIN TANK	321
N22*	N	24400	3.7	D.3	MSR 2ND STAGE HEATER DRAIN TANK	321
N22*	N	24400	3.6	F.2	MSR 2ND STAGE HEATER DRAIN TANK	321
N22*	N	24400	6.3	D.3	MSR 2ND STAGE HEATER DRAIN TANK	321
N22*	N	24400	6.4	F.2	MSR 2ND STAGE HEATER DRAIN TANK	321
N34*	N	19700	7.3	H.5	MAIN TURBINE LUBE OIL TANK	330

**Table 9A.6-4 Fire Hazard Analysis  
Equipment Database—Sorted by Room—Turbine Building (Continued)**

MPL No.	Elec Div.	Elev. Loc.	Loc No. Coord	Loc Alpha Coord	Description	Room No.
N34*	N	19700	7.3	J.4	MAIN FLUSHING PUMP	330
N21*	N	19700	3.3	H.3	6TH FEEDWATER HEATER (B)	331
N21*	N	19700	3.7	H.3	5TH FEEDWATER HEATER (B)	331
H22*	N	19700	3.4	H.5	LOCAL RACK	331
H22*	N	19700	3.6	H.6	LOCAL RACK	331
B21-PT028A	1	17000	3.6	K.0	PRESSURE TRANSMITTER	333
B21-PT028B	2	17000	3.8	K.0	PRESSURE TRANSMITTER	333
B21-PT028C	3	17000	4.2	K.0	PRESSURE TRANSMITTER	333
B21-PT028D	4	17000	4.4	K.0	PRESSURE TRANSMITTER	333
N31*	N	19700	4.0	H.5	MAIN STOP VALVE	334
N31*	N	19700	4.0	H.5	MAIN CONTROL VALVE	334
C71-PoS001	1	22000	3.6	H.6	POSITION SWITCH	334
C71-PoS001	2	22000	3.8	H.6	POSITION SWITCH	334
C71-PoS001	3	22000	4.2	H.6	POSITION SWITCH	334
C71-PoS001	4	22000	4.4	H.6	POSITION SWITCH	334
C71-PoS004	1	22000	3.6	H.7	POSITION SWITCH	334
C71-PoS004	2	22000	3.8	H.7	POSITION SWITCH	334
C71-PoS004	3	22000	4.2	H.7	POSITION SWITCH	334
C71-PoS004	4	22000	4.4	H.7	POSITION SWITCH	334
N42*	N	19700	3.7	B.8	GENERATOR HYDROGEN GAS DRYER	340
R24*	N	19700	8.7	B.7	MCC SC132	340
R24*	N	19700	8.7	C.2	MCC SC133	340
R24*	N	19700	8.7	C.5	MCC SD130	340
R24*	N	19700	8.7	D.4	MCC SD131	340
R24*	N	19700	8.7	D.9	MCC SD132	340
R24*	N	19700	8.7	E.4	MCC SD133	340
N26*	N	19700	7.3	B.2	CF MODULE TANK	342
C95*	N	12300	6.3	B.8	CONDENSATE DEMINERALIZER (A)	344
C95*	N	12300	6.6	B.8	CONDENSATE DEMINERALIZER (B)	344
C95*	N	12300	6.9	B.8	CONDENSATE DEMINERALIZER (C)	344



**Table 9A.6-4 Fire Hazard Analysis  
Equipment Database—Sorted by Room—Turbine Building (Continued)**

MPL No.	Elec Div.	Elev. Loc.	Loc No. Coord	Loc Alpha Coord	Description	Room No.
C95*	N	12300	6.3	B.2	CONDENSATE DEMINERALIZER (D)	344
C95*	N	12300	6.6	B.2	CONDENSATE DEMINERALIZER (E)	344
C95*	N	12300	6.9	B.2	CONDENSATE DEMINERALIZER (F)	344
N44*	N	19700	3.3	B.6	GENERATOR OIL SEAL UNIT	3X2
H22*	N	19700	3.1	B.5	LOCAL RACK	3X2
H22*	N	19700	3.1	B.6	LOCAL RACK	3X2
H22*	N	19700	3.4	B.4	LOCAL RACK	3X2
H22*	N	19700	3.4	B.5	LOCAL RACK	3X2
H21*	N	19700	5.2	A.5	EXCITER RECTIFIER PANEL	3X3
H21*	N	19700	5.6	A.5	EXCITER CTRL PANEL	3X3
R42*	N	19700	9.8	F.7	250VDC BATTERY (A1)	3X4
R42*	N	19700	9.8	G.0	250VDC BATTERY (B1)	3X4
R42*	N	19700	9.4	F.7	SINK	3X4
R42*	N	19700	9.8	G.4	250VDC BATTERY (A2)	3X5
R42*	N	19700	9.8	G.8	250VDC BATTERY (B2)	3X5
R42*	N	19700	9.4	G.4	SINK	3X5
R42*	N	19700	9.7	F.6	125VDC BATTERY (A)	3X6
R42*	N	19700	9.4	F.9	SINK	3X6
R42*	N	19700	9.7	G.3	125VDC BATTERY (B)	3X7
R42*	N	19700	9.4	G.3	SINK	3X7
R42*	N	19700	9.7	G.7	125VDC BATTERY (C)	3X8
R42*	N	19700	9.4	G.6	SINK	3X8
U41*	N	19700	10.5	F.7	ELECTRICAL EQUIPMENT AREA	3X9
U41*	N	38300	8.8	D.3	R/B SUPPLY FAN (A)	411
U41*	N	38300	8.8	D.7	R/B SUPPLY FAN (B)	411
U41*	N	38300	8.8	E.4	R/B SUPPLY FAN (C)	411
P22*	N	47200	7.7	E.8	HNCW, TCW SURGE TANK	411
U41*	N	27800	9.5	E.5	R/B EXHAUST FAN (A)	412
U41*	N	27800	9.5	F.5	R/B EXHAUST FAN (B)	412
U41*	N	27800	9.5	G.5	R/B EXHAUST FAN (C)	412

**Table 9A.6-4 Fire Hazard Analysis  
Equipment Database—Sorted by Room—Turbine Building (Continued)**

MPL No.	Elec Div.	Elev. Loc.	Loc No. Coord	Loc Alpha Coord	Description	Room No.
U41*	N	27800	9.1	E.5	R/B EXHAUST FAN FILTER (A)	412
U41*	N	27800	9.1	F.5	R/B EXHAUST FAN FILTER (B)	412
U41*	N	27800	9.1	G.5	R/B EXHAUST FAN FILTER (C)	412
H22*	N	27800	3.8	G.2	LOCAL RACK	413
H22*	N	27800	2.1	G.9	LOCAL RACK	413
H22*	N	27800	2.1	H.9	LOCAL RACK	413
U41*	N	27800	3.9	C.6	MSR ROOM L/C	420
N41*	N	27800	4.0	C.4	GENERATOR	421
N35*	N	27800	6.5	E.5	MOISTURE SEPARATOR / REHEATER (A)	423
N35*	N	27800	3.6	E.5	MOISTURE SEPARATOR / REHEATER (B)	423
N31*	N	27800	4.0	F.5	LOW PRESSURE TURBINE (A)	423
N31*	N	27800	4.0	E.5	LOW PRESSURE TURBINE (B)	423
N31*	N	27800	4.0	D.5	LOW PRESSURE TURBINE (C)	423
N31*	N	27800	6.9	G.3	COMBINED INTERMEDIATE VALVE	431
N31*	N	27800	3.1	G.3	COMBINED INTERMEDIATE VALVE	431
N34*	N	27800	3.9	H.6	MIST SEPARATOR	431
C71-PT003A	1	27800	TBD	TBD	PRESSURE TRANSMITTER	431
C71-PT003B	2	27800	TBD	TBD	PRESSURE TRANSMITTER	431
C71-PT003C	3	27800	TBD	TBD	PRESSURE TRANSMITTER	431
C71-PT003D	4	27800	TBD	TBD	PRESSURE TRANSMITTER	431
N31*	N	27800	4.0	G.5	HIGH PRESSURE TURBINE	432
U41*	N	27800	6.1	C.6	MSR ROOM L/C	441
H22*	N	27800	6.9	C.6	LOCAL RACK	441
U41*	N	38300	8.2	A.3	R/B T/B SUPPLY ROOM L/C	443
U41*	N	38300	8.8	A.6	T/B EXHAUST FAN (A)	443
U41*	N	38300	8.8	B.5	T/B EXHAUST FAN (B)	443
U41*	N	38300	8.8	C.5	T/B EXHAUST FAN (C)	443
U41*	N	38300	8.5	F.3	R/B T/B EXHAUST ROOM L/C	445
U41*	N	38300	8.7	G.3	T/B SUPPLY FAN (A)	445
U41*	N	38300	8.7	H.3	T/B SUPPLY FAN (B)	445

**Table 9A.6-4 Fire Hazard Analysis  
Equipment Database—Sorted by Room—Turbine Building (Continued)**

MPL No.	Elec Div.	Elev. Loc.	Loc No. Coord	Loc Alpha Coord	Description	Room No.
U41*	N	38300	8.7	J.3	T/B SUPPLY FAN (C)	445
N33*	N	27800	8.5	D.5	GLAND STEAM GENERATOR	4X1
H22*	N	27800	8.8	D.3	LOCAL RACK	4X1
H22*	N	27800	8.8	D.6	LOCAL RACK	4X1
N33*	N	27800	8.9	C.3	GLAND STEAM GENERATOR FEEDWATER PUMP (A)	4X2
N33*	N	27800	8.9	C.5	GLAND STEAM GENERATOR FEEDWATER PUMP (B)	4X2
U41*	N	27800	8.0	F.5	T/B EQUIPMENT COMPARTMENT EXHAUST FAN	4X3
H22*	N	27800	8.4	E.1	LOCAL RACK	4X3
H22*	N	27800	8.7	E.1	LOCAL RACK	4X3
U41*	N	27800	9.2	B.5	ELECTRIC BOILER ROOM ROOF EXHAUSTER	4X4
U41*	N	27800	9.2	A.5	ELECTRIC BOILER ROOM ROOF EXHAUSTER	4X4
U41*	N	27800	10.3	B.3	COMBUSTION TURBINE GENERATOR ROOM ROOF EXHAUSTER	4X4
U41*	N	27800	10.3	B.7	COMBUSTION TURBINE GENERATOR ROOM ROOF EXHAUSTER	4X4
U41*	N	27800	10.3	C.3	COMBUSTION TURBINE GENERATOR ROOM ROOF EXHAUSTER	4X4
U41*	N	27800	10.3	C.7	COMBUSTION TURBINE GENERATOR ROOM ROOF EXHAUSTER	4X4
U41*	N	27800	10.3	D.3	COMBUSTION TURBINE GENERATOR ROOM ROOF EXHAUSTER	4X4
U41*	N	27800	10.3	D.7	COMBUSTION TURBINE GENERATOR ROOM ROOF EXHAUSTER	4X4
U41*	N	27800	10.7	B.3	COMBUSTION TURBINE GENERATOR ROOM ROOF EXHAUSTER	4X4
U41*	N	27800	10.7	B.7	COMBUSTION TURBINE GENERATOR ROOM ROOF EXHAUSTER	4X4
U41*	N	27800	10.7	C.3	COMBUSTION TURBINE GENERATOR ROOM ROOF EXHAUSTER	4X4

**Table 9A.6-4 Fire Hazard Analysis  
Equipment Database—Sorted by Room—Turbine Building (Continued)**

<b>MPL No.</b>	<b>Elec Div.</b>	<b>Elev. Loc.</b>	<b>Loc No. Coord</b>	<b>Loc Alpha Coord</b>	<b>Description</b>	<b>Room No.</b>
U41*	N	27800	10.7	C.7	COMBUSTION TURBINE GENERATOR ROOM ROOF EXHAUSTER	4X4
U41*	N	27800	10.7	D.3	COMBUSTION TURBINE GENERATOR ROOM ROOF EXHAUSTER	4X4
U41*	N	27800	10.7	D.7	COMBUSTION TURBINE GENERATOR ROOM ROOF EXHAUSTER	4X4