(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

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—With the exception of the walls common with the elevator and stair torchwood sump area, the Instrument Rack Room, Division 1 (Rm 118), 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, watertight, 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:

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

(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:

Type	Location/Actuation
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, watertight, 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:

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

(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:

Type	Location/Actuation
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:

(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

Safety-Related	Provides Core Cooling
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:

Fire Loading	Total Heat of combustion (MJ)
15.25 m of divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m^2, NCLL (727 MJ/m^2 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.

(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

Safety-Related	Provides Core Cooling
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 fire 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:

Fire Loading	Total Heat of combustion (MJ)
15.25 m of divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m^2, NCLL (727 MJ/m^2 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.

(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

Safety-Related	Provides Core Cooling
Yes, 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 the RCIC room forms a barrier between the adjacent division 1 fire area, F1101and 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:

Fire Loading	Total Heat of combustion (MJ)
17 m of divisional cable trays containing 14 kg/m of XLPE-FR cable insulation	727 MJ/m^2, NCLL (727 MJ/m^2 maximum average) applies.
51.1 liters of Class III B lube oil.	1.84×10^3

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

(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^2 NCLL (727 MJ/m^2 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:

Type	Location/Actuation
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

Safety-Related	Provides Core Cooling
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 backwash tank room (Rm 144) 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

(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

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

Safety-Related	Provides Core Cooling
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).

(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

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 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:

Fire Loading	Total Heat of combustion (MJ)
None	727 MJ/m^2, NCLL (727 MJ/m^2 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.

(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

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 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.

(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

Safety-Related	Provides Core Cooling
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:

Fire Loading	Total Heat of combustion (MJ)
None	727 MJ/m^2, NCLL (727 MJ/m^2 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:

Type	Location/Actuation
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	Provides Core Cooling
Yes, D1,D2	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:

Fire Loading	Total Heat of combustion (MJ)
None	727 MJ/m^2, NCLL (727 MJ/m^2 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:

Type	Location/Actuation
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

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 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:

Fire Loading	Total Heat of combustion (MJ)
Cable Tray	727 MJ/m^2, NCLL (727 MJ/m^2 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:

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

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

Safety-Related	Provides Core Cooling
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.

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

Safety-Related	Provides Core Cooling
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

(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

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—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-hour fire-rated doors.

(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

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—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-hour 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:

Fire Loading	Total Heat of combustion (MJ)
Cable Tray	1454 MJ/m^2, NCLL (1454 MJ/m^2 maximum average) applies.

(6) Detection Provided—Class A supervised POC in the room and manual alarm pull station at Col. 5.4-B.1.

(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 F1101and 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^2, NCLL (727 MJ/m^2 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.

9A.4.1.4.7 ECCS Valve C Room (Rm No. 431)

(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—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:

Fire Loading	Total Heat of combustion (MJ)
None	727 MJ/m^2, NCLL (727 MJ/m^2 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:

Type	Location/Actuation
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

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—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), the Flammability Control System room (Rm 436) 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 and the Flammability Control System room (Rm 436) through a 3 h fire-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:

Fire Loading	Total Heat of combustion (MJ)
Cable Tray	727 MJ/m^2, NCLL (727 MJ/m^2 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:

Type	Location/Actuation
Ordinary hazard deluge sprinkler having a water density of 6.1 L/min/m^2 and a coverage of 9.3 m^2 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:

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

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 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:

Fire Loading	Total Heat of combustion (MJ)
Cable Tray	727 MJ/m^2, NCLL (727 MJ/m^2 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:

Type	Location/Actuation
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.

(b) 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

Safety-Related	Provides Core Cooling
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

(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 Flammability Control System Room (Div. 3) (Rm No. 436)

(1) Fire Area—F4320

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

Safety-Related	Provides Core Cooling
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 floor and interior and exterior walls are fire barriers and are of 3 h fire-resistive concrete construction. The ceiling is formed by the bottom of the spent fuel storage pool (F4301) and is a 3 h fire barrier. Personnel access is provided via a 3 h fire-resistive door from corridor C (Rm 430A).

(5) Combustibles Present:

Fire Loading	Total Heat of combustion (MJ)
Cable Tray	727 MJ/m^2, NCLL (727 MJ/m^2 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:

Type	Location/Actuation
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

(4) Qualifications of Fire Barriers—The walls common with the Flammability Control System Room (Rm 425), 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:

Fire Loading	Total Heat of combustion (MJ)
Cable Tray	727 MJ/m^2, NCLL (727 MJ/m^2 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:

Type	Location/Actuation
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.

(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.4.1.4.28 E and I Electrical Penetration Room (Rm No. 435)

(1) Fire Area—F4301

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

Safety-Related	Provides Core Cooling
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 fireresistive 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:

Fire Loading	Total Heat of combustion (MJ)
Cable Tray	1454 MJ/m^2, NCLL (1454 MJ/m^2 maximum average) applies.

(6) Detection Provided—Class A supervised POC in the room and manual alarm pull stations at Col. 5.9-F.2.

9A.4.1.5 Building—Reactor Bldg El 18100 mm

9A.4.1.5.1 Corridor A (Rm No. 510)

(1) Fire Area—F4101

(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 common with the steam tunnel (Rm 440), stairwell (Rm 195), 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:

Fire Loading	Total Heat of combustion (MJ)
Cable Tray	727 MJ/m^2, NCLL (727 MJ/m^2 maximum average) applies.

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

(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

Safety-Related	Provides Core Cooling
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:

Fire Loading	Total Heat of combustion (MJ)
Cable Tray	727 MJ/m^2, NCLL (727 MJ/m^2 maximum average) applies.

(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

Safety-Related	Provides Core Cooling
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 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:

Fire Loading	Total Heat of combustion (MJ)
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.

(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

Safety-Related	Provides Core Cooling
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

(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^2, NCLL (727 MJ/m^2 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.

(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 fireresistive 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:

Fire Loading	Total Heat of combustion (MJ)
Cable Tray	727 MJ/m^2, NCLL (727 MJ/m^2 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:

Type	Location/Actuation
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.

(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

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 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:

Fire Loading	Total Heat of Combustion (MJ)
Cable Tray	727 MJ/m^2, NCLL (727 MJ/m^2 maximum average) applies.

(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

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 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:

Fire Loading	Total Heat of Combustion (MJ)
Cable Tray	1454 MJ/m^2, NCLL (1454 MJ/m^2 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:

Type	Location/Actuation
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

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:

Fire Loading	Total Heat of Combustion (MJ)
Cable Tray	1454 MJ/m^2, NCLL (1454 MJ/m^2 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:

Type	Location/Actuation
Ordinary hazard wet pipe sprinklers, having a water density of 6.1 L/min/m^2 and a coverage of 9 m^2 per head	Hatch Area/Manual
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.

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 El 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

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 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:

Fire Loading	Total Heat of Combustion (MJ)
None	727 MJ/m^2, NCLL (727 MJ/m^2 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:

Type	Location/Actuation
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.

(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

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 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 FMRCD 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 fireresistive 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:

Fire Loading	Total Heat of Combustion (MJ)
Cable Tray	727 MJ/m^2, NCLL (727 MJ/m^2 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.

(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

Safety-Related	Provides Core Cooling
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

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

Safety-Related	Provides Core Cooling
No	No

(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^2 NCLL (727 MJ/m^2 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
Standpipe and hose reel	6.2-B.0, 6.6-D.0 &6.5-E.8 El 23500/Manual
ABC hand extinguishers	6.2-B.0, 6.6-D.0 &6.5-E.8 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 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.

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

Safety-Related	Provides Core Cooling
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 room 710 via two 5 psid, 3-hour fire-rated doors and 730 via 3 h fire-rated doors.

(5) Combustibles Present:

Fire Loading	Total Heat of Combustion (MJ)
Cable Tray	727 MJ/m^2, NCLL (727 MJ/m^2 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.

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

Safety-Related	Provides Core Cooling
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^2 NCLL (727 MJ/m^2 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:

Type	Location/Actuation
Standpipe and hose reel	Col. 6.6-C.0/Manual
ABC hand extinguishers	Col. 6.3-E.9/Manual

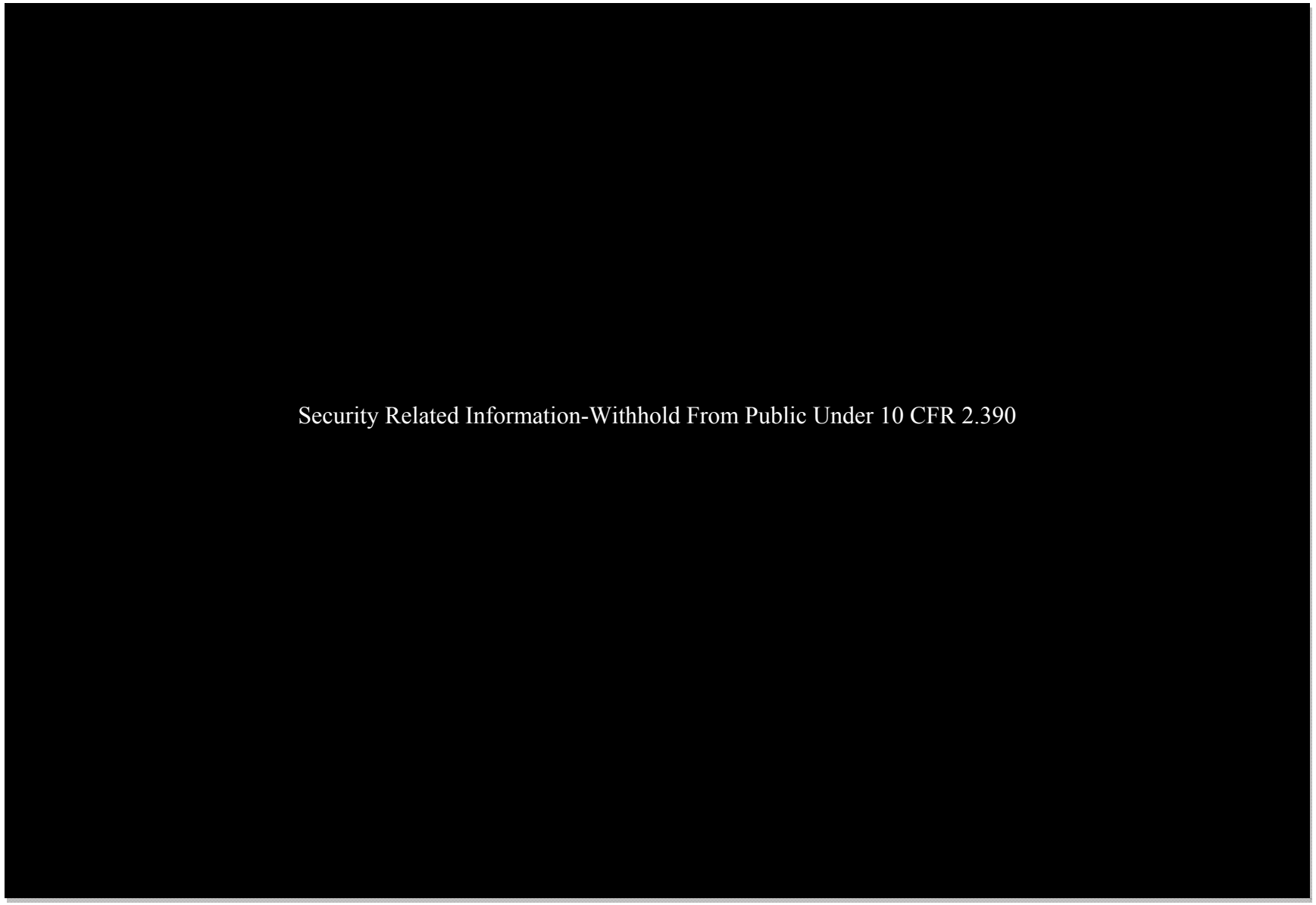
(8) Fire Protection Design Criteria Employed:

(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.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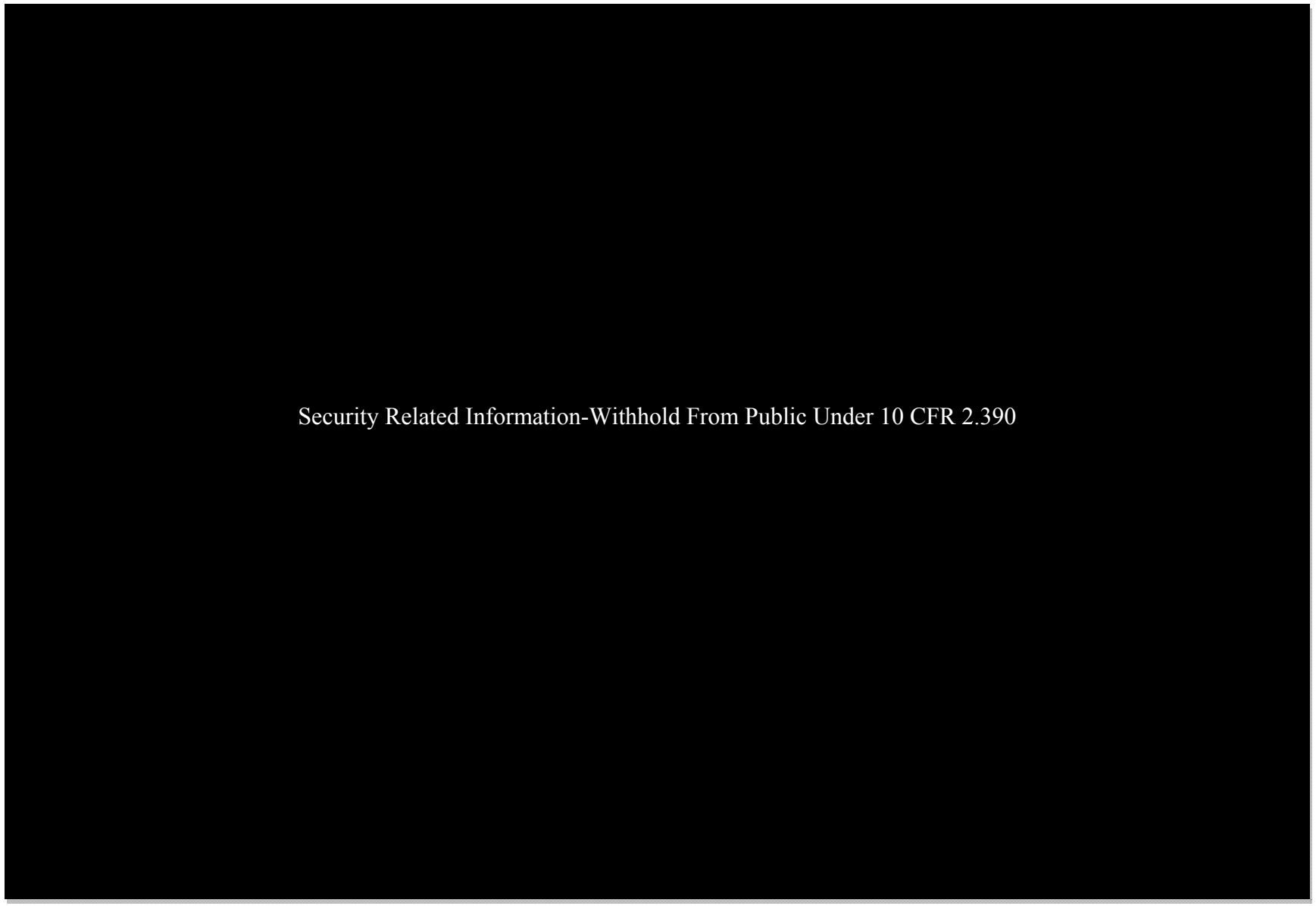
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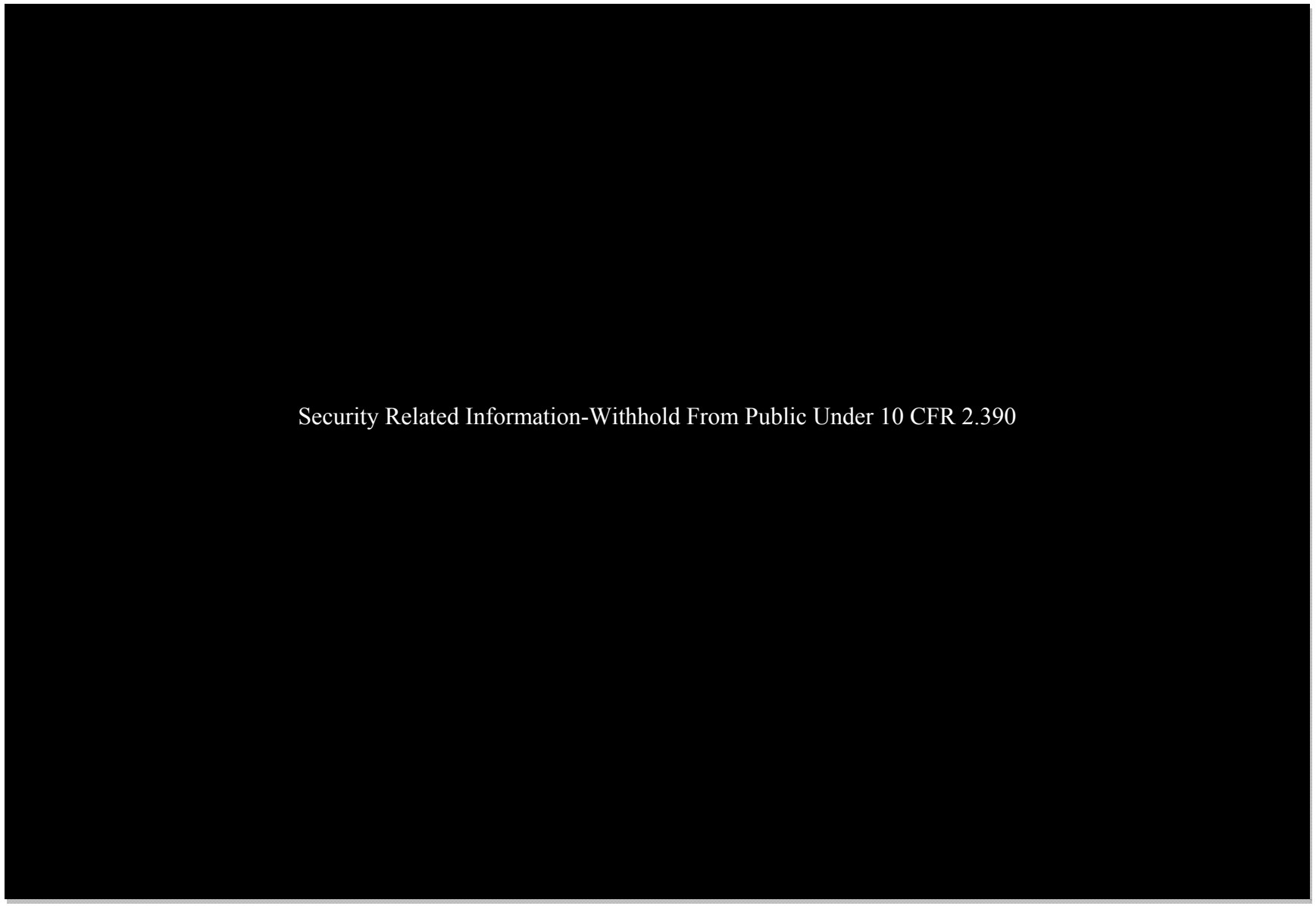
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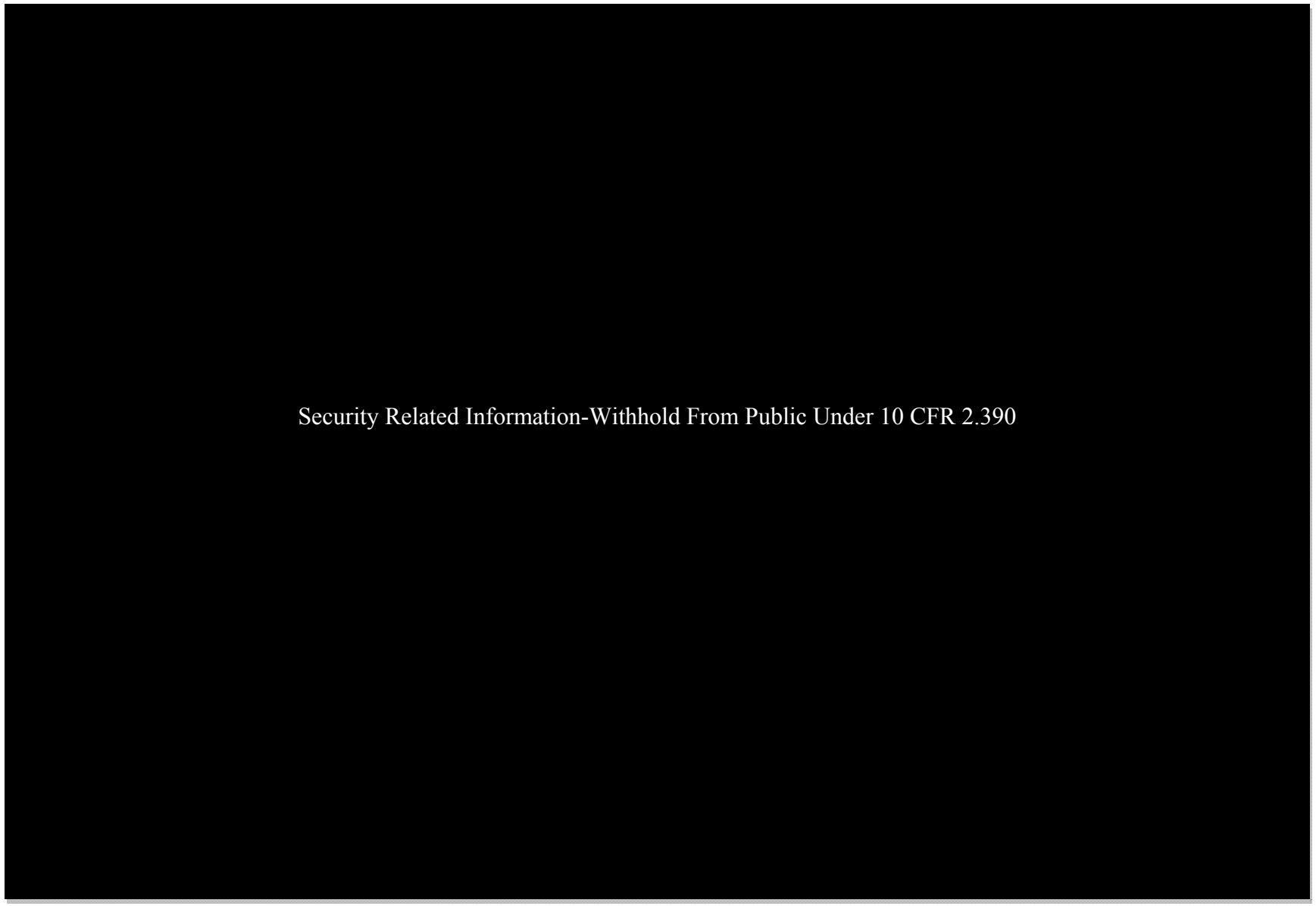
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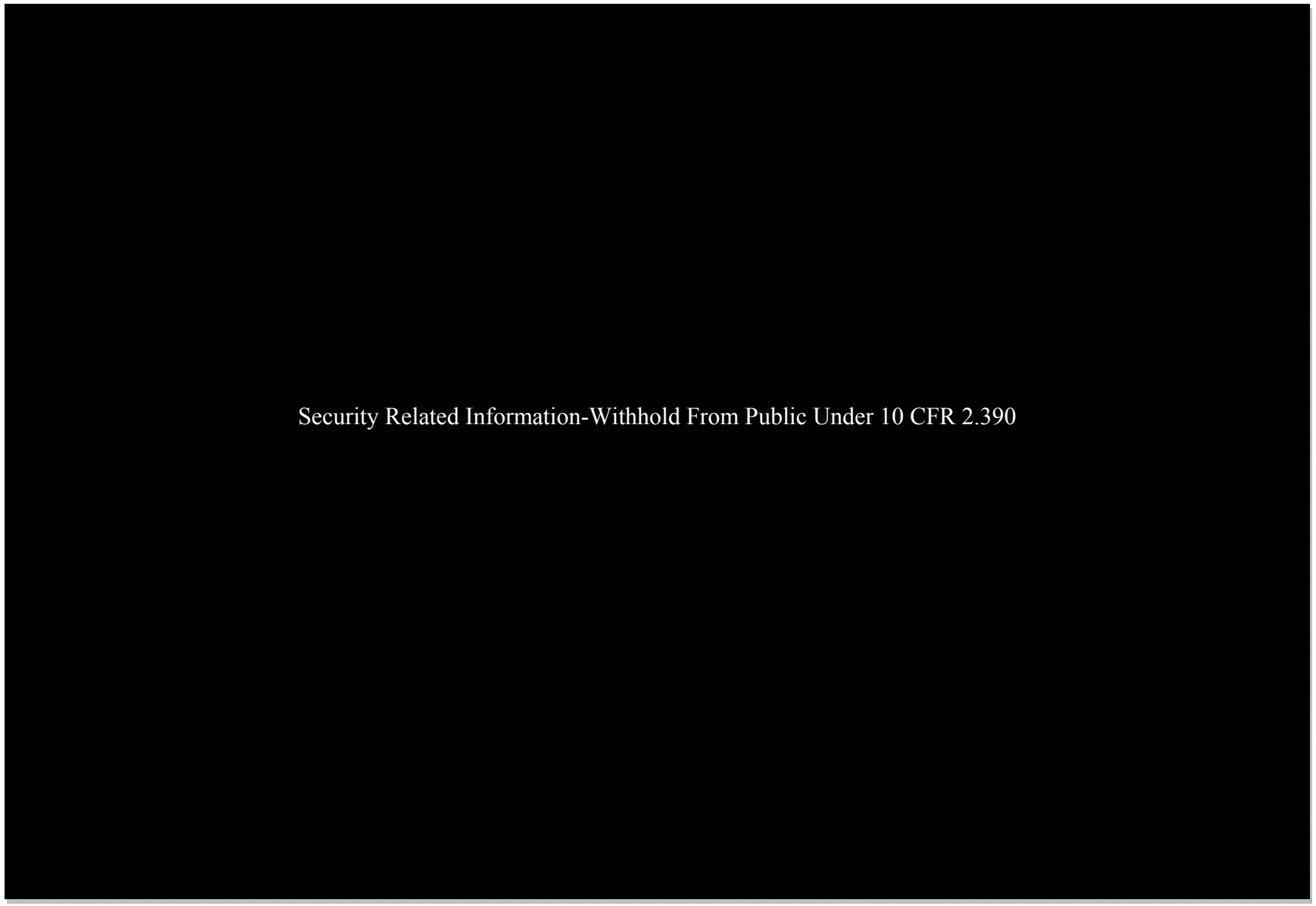
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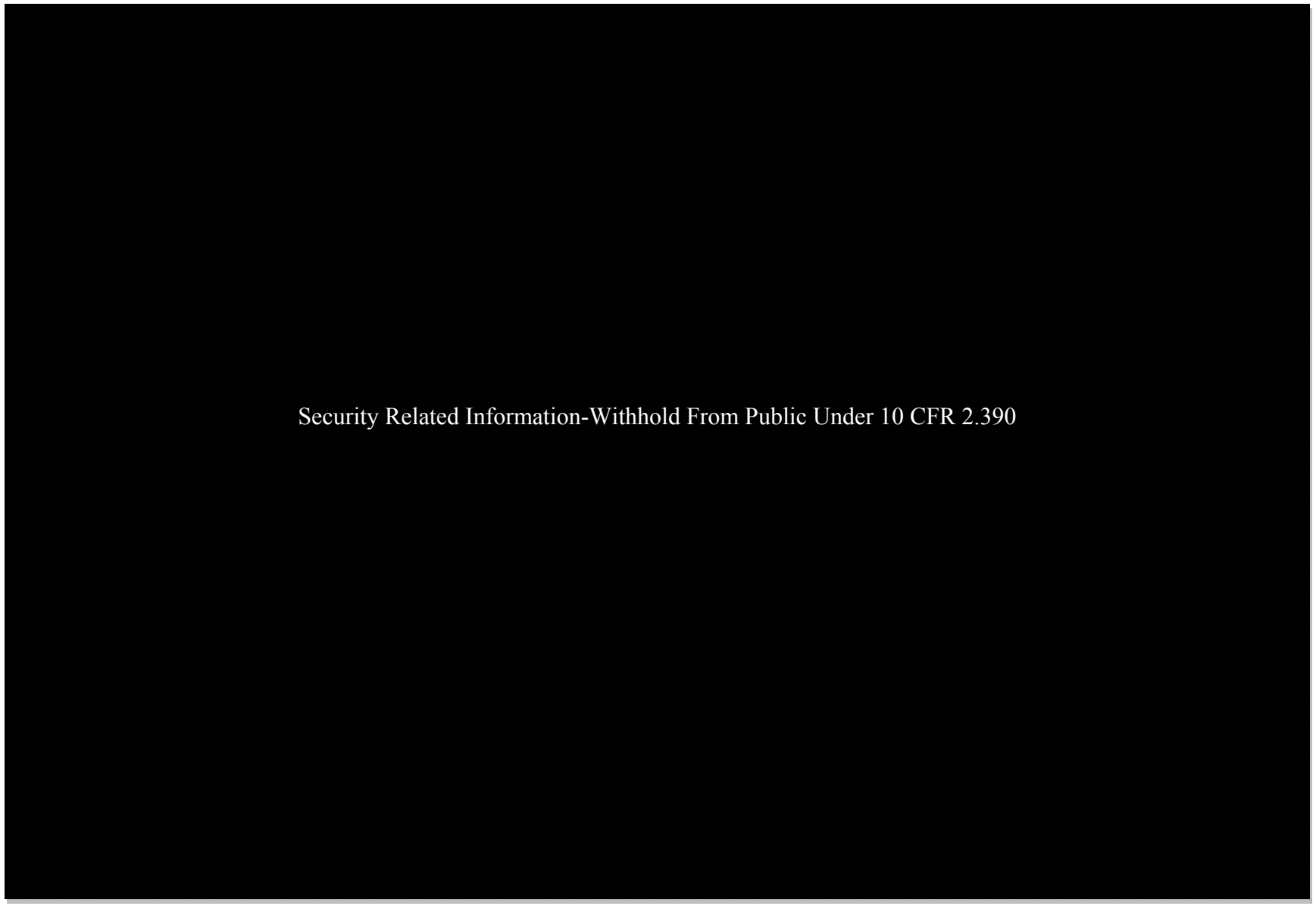
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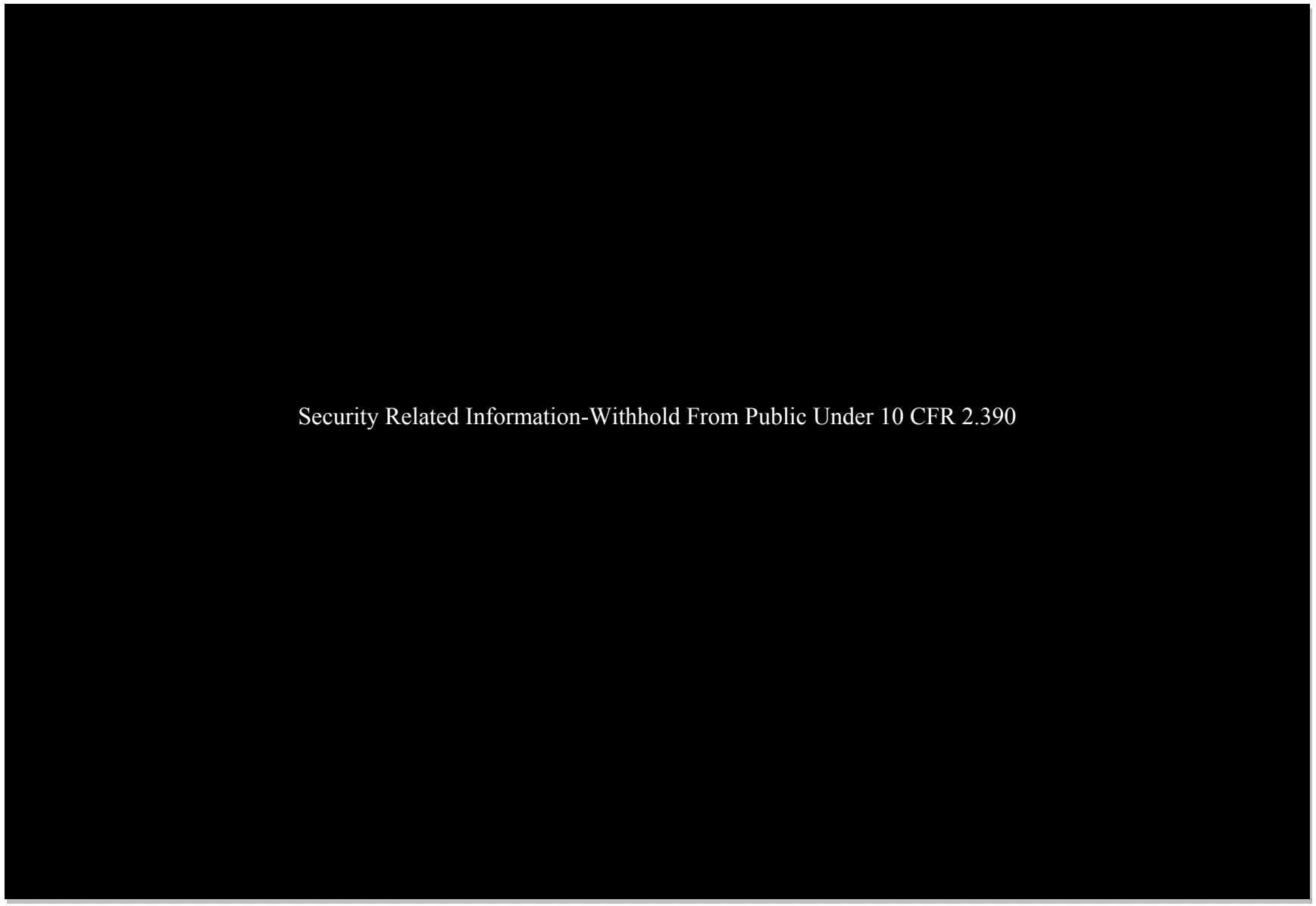
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