

August 18, 2000

Mr. James A. Hutton
Director-Licensing
PECO Energy Company
Nuclear Group Headquarters
Correspondence Control
P.O. Box 160
Kennett Square, PA 19348

SUBJECT: PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3, RE:
EXEMPTION FROM 10 CFR PART 50, APPENDIX R, SECTION III.F, FIRE
DETECTION REQUIREMENTS (TAC NOS. MA4498 AND MA4499)

Dear Mr. Hutton:

The Commission has approved, in part, the requested exemption from the requirements of Title 10 of the *Code of Federal Regulations*, Part 50, Appendix R, Section III.F, "Automatic Fire Detection." This action is in response to your application dated December 31, 1998, as supplemented on January 14 and April 14, 2000, to be exempt with respect to specific fire zones in Fire Areas 50, 6S, and 13N at the Peach Bottom Atomic Power Station, Units 2 and 3, from the requirement to have automatic fire detection systems. The requested exemption, except for Fire Zone 50-78B (Room 429) and Fire Zone 50-99 (Room 222), is granted. For Fire Zones 50-78B (Room 429) and 50-99 (Room 222), the staff concludes that automatic detection systems are necessary to satisfy the underlying purpose of the rule. The exemption request for these two areas is denied.

A copy of the exemption has been forwarded to the Office of the Federal Register for publication.

Sincerely,

/RA/

John P. Boska, Project Manager, Section 2
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-277 and 50-278

Enclosure: Exemption

cc w/encl: See next page

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)	
)	
PECO ENERGY COMPANY,)	Docket Nos. 50-277 and 50-278
et al.)	
)	
(Peach Bottom Atomic Power Station,)	
Units 2 and 3))	

EXEMPTION

I.

PECO Energy Company (PECO or the licensee) holds, along with other co-licensees, Facility Operating Licenses Nos. DPR-44 and DPR-56, which authorize operation of the Peach Bottom Atomic Power Station, Units 2 and 3 (Peach Bottom or the facilities). The facilities consist of two boiling water reactors located at the licensee's site in York County, Pennsylvania. The licenses provide, among other things, that the licensee is subject to all rules, regulations, and orders of the U.S. Nuclear Regulatory Commission (NRC or the Commission) now or hereafter in effect.

II.

Section III.F of Appendix R to Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50 requires that automatic fire detection systems (capable of operating with or without offsite power) be installed in all areas of the plant that contain or present an exposure fire hazard to safety-related or safe shutdown systems or components. By letter dated December 31, 1998, as supplemented on January 14 and April 14, 2000, the licensee requested an exemption from Section III.F of Appendix R regarding the provisions for an

automatic fire detection capability in 8 fire zones in fire area 50 (the common area between both turbine buildings), 2 fire zones within fire area 6S (a portion of the Unit 2 reactor building), and 2 fire zones within fire area 13N (a portion of the Unit 3 reactor building). Specifically, these fire zones are (A) the Condenser Bays Fire Zones 50-78W and 50-78V; (B) Equipment hatchway and adjoining equipment rooms, Fire Zone 50-78B; (C) Main Turbine Lube Oil Storage Tank Rooms, Fire Zones 50-88 and 50-89; (D) Reactor Feedwater Turbine Area Corridors, Fire Zone 50-78A; (E) Steam Jet Air Ejector Room, Fire Zone 50-78EE; (F) Feedwater Heater Room, Fire Zone 50-99; and (G) Reactor Water Cleanup System Equipment, Fire Zones 6S-42, 6S-5M, 13N-36, and 13N-13M.

The Commission, pursuant to 10 CFR 50.12(a)(1), may grant exemptions from the requirements of 10 CFR Part 50 that are authorized by law, will not present an undue risk to public health and safety, and are consistent with the common defense and security. The Commission, however, pursuant to 10 CFR 50.12(a)(2), will not consider granting an exemption unless special circumstances are present. Under 10 CFR 50.12(a)(2)(ii), special circumstances are present when application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule. The underlying purpose of the rule is to reasonably assure the capability to achieve and maintain safe shutdown in the event of a fire.

III.

The staff has completed its evaluation of PECO's request for an exemption as follows.

Background

A. Fire Zone 50-78W in the Unit 2 Turbine Building consists of three rooms: the Condenser Pit (Room 22 on Elevation 102'-0"), the Moisture Separator Area (Room 138 on Elevation 116'-0"), and the Unit 2 Piping Area (Room 223 on Elevation 135'-0"). Fire

Zone 50-78V in the Unit 3 Turbine Building consists of two rooms: the Moisture Separator Area (Room 181 on Elevation 116'-0") and the Unit 3 Pipe Area (Room 272 on Elevation 135'-0").

The primary fire hazards associated with these areas include turbine lubricating oil lines and cables.

Rooms 22, 138, 181, 223, and 272 are fully protected by an automatic wet pipe sprinkler system. This system is, in general, designed and installed in accordance with NFPA 13 and meets the sprinkler spray density for Ordinary Hazard Group 1 and Extra Hazard Group 1 classification. The combustible loading in the area, as described in the licensee's Fire Protection Program manual, is low consisting primarily of cable insulation.

The following table summarizes the post-fire safe shutdown functions in these rooms:

Summary of Fire Zone 50-78W

ROOM	POST-FIRE SAFE SHUTDOWN FUNCTION
Unit 2 Condenser Pit (Room 22)	Unit 2 Condensate Storage Tank Level Indication.
Unit 2 Moisture Separator Area (Room 138)	No post-fire safe shutdown equipment or components located in this room.
Unit 2 Piping Area (Room 223)	Unit 2 Condensate Storage Tank Level Indication. Unit 2 Drywell Pressure Indication. Control cables for 343-SU Offsite Power to 4Kv Switchgear. Unit 2 Reactor Water Clean Up High/Low Pressure Interface cables
Unit 3 Moisture Separator Area (Room 181)	Control cables for SU-25 Offsite Power to 4Kv Switchgear. Control cables for 343-SU Offsite Power to 4Kv Switchgear. Unit 3 Condensate Storage Tank Level Indication.
Unit 3 Pipe Area (Room 272)	Unit 3 Condensate Storage Tank Level Indication. Unit 3 Reactor Water Cleanup High/Low Pressure Interface cables. Unit 3 High Pressure Service Water. Unit 3 High Pressure Coolant Injection. Unit 3 Reactor Core Isolation Cooling.

B. Fire Zone 50-78B is located on several elevations of the Unit 2 and 3 Turbine Building common areas. Fire Zone 50-78B has seven rooms associated with it. These rooms are the General Storage and Hydrogen Seal Equipment Area (Rooms 185, 135, and 184 on Elevation 116'-0"), the Laydown Area (Room 185 on Elevation 116'-0"), the Generator Equipment Areas (Rooms 229 and 274 on Elevation 135'-0"), the Laydown Area which surrounds the open hatch (Room 228 on Elevation 135'-0") and the Laydown Area (Room 429 on Elevation 165'-0"). The primary fire hazards associated with these areas include turbine lubricating oil lines, cables and the hydrogen seal oil units and equipment.

All these rooms/areas directly interact with the open main equipment hatch which extends from the 116'-0" elevation to the ceiling/roof deck on the 234'-0" elevation of the Turbine Building. Turbine Building Rooms 135, 184, 185, 228, 229, and 274 were originally protected by a full area manual pre-action sprinkler system. As part of the commitments in the individual plant examination of external events submittal, the sprinkler system was changed to an automatic wet pipe sprinkler system in 1999. The automatic wet pipe sprinkler system is, in general, designed and installed in accordance with NFPA 13 and meets the sprinkler spray density for Ordinary Hazard Group 1 and Extra Hazard Group 1 classification. There is no sprinkler protection or detection provided for Room 429. The combustible loading in the area, as described in the licensee's Fire Protection Program manual, is low consisting primarily of cable insulation and lube oil.

The following table summarizes the post-fire safe shutdown functions in these rooms:

Summary of Fire Zone 50-78B

ROOM	POST-FIRE SAFE SHUTDOWN FUNCTION
General Storage and Hydrogen Seal Equipment Area (Room 135)	Control cables for SU-25 offsite power to 4Kv switchgear. Control cables for 343-SU offsite power to 4Kv switchgear Control cables for Sluice Gates for "A" Essential Service Water (ESW) pump, Unit 2 High Pressure Service Water Control cables for Unit 2 High Pressure Service Water (HPSW) valve Unit 2 HPSW Indication
(Room 184)	Cables for Unit 3 HPSW pumps Unit 3 HPSW cross tie valve MO-3344 (control) Unit 3 HPSW Indication
(Room 185)	Control cables for SU-25 offsite power to 4Kv switchgear. Control cables for 343-SU offsite power to 4Kv switchgear Power and control cables for sluice gates for the A&B ESW pumps and Unit 2 and Unit 3 HPSW Pumps Control cables for Unit 2 HPSW valve ESW indication. Power cables for "A and B" ESW pumps Power cables for 2A, 2B, 2C, 2D, 3A, and 3C HPSW pumps (The power cables for the 2B and 3C pumps are encapsulated)
Laydown Area which surrounds the open hatch (Room 228)	Control cables for SU-25 offsite power to 4Kv switchgear. Control cables for 343-SU offsite power to 4Kv switchgear Control cables for Sluice Gates for "A" Essential Service Water (ESW) pump, Unit 2 High Pressure Service Water Control cables for Unit 2 and 3 HPSW valve Unit 2 and Unit 3 HPSW Indication Unit 2 and Unit 3 reactor coolant pressure and level indication. Unit 2 and Unit 3 Torus Temperature indication.
Generator Equipment Areas (Rooms 229 and 274)	No post-fire safe shutdown equipment or components located in these rooms.
Laydown Area (Room 429)	Unit 2 reactor coolant pressure and level indication. Control cables for 343-SU offsite power to 4Kv switchgear

C. Fire Zones 50-88 and 50-89 are the Unit 2 and 3 Main Turbine Lube Oil Storage Tank Rooms (Rooms 139 and 179). Rooms 139 and 179 are fully protected by an automatic wet pipe sprinkler system. This system is, in general, designed and installed in accordance with NFPA 13 and meets the sprinkler spray density for Ordinary Hazard Group 1 and Extra Hazard Group 1 classification. The combustible loading in the area, as described in the licensee's Fire Protection Program manual, is high consisting primarily of lube oil and cable insulation.

The following table summarizes the post-fire safe shutdown functions in these rooms:

Summary of Fire Zones 50-88 and 50-89

ROOM	POST-FIRE SAFE SHUTDOWN FUNCTION
Unit 2 Main Turbine Lube Oil Storage Tank Room (Room 139)	No post-fire safe shutdown equipment or components located in this room
Unit 3 Main Turbine Lube Oil Storage Tank Room (Room 179)	Control cables for SU-25 offsite power to 4Kv switchgear Control cables for 343-SU offsite power to 4Kv switchgear

D. Fire Zone 50-78A (Rooms 414 and 457) is located on elevation 165'-0" of the Unit 2 and 3 Turbine Building. This fire zone is the Feedwater/Turbine Area access corridor. Rooms 414 and 457 are fully protected by an automatic wet pipe sprinkler system. This sprinkler system has design density values in the range of Ordinary Hazard Group 2 to Extra Hazard Group 1 which are appropriate for these areas. The combustible loading in the area, as described in the licensee's Fire Protection Program manual, is low consisting of cable insulation, lube oil, Thermo-Lag 330-1, cotton cloth, rubber, wood, and polycarbonate.

The following table summarizes the post-fire safe shutdown functions in these rooms:

Summary of Fire Zone 50-78A

ROOM	POST-FIRE SAFE SHUTDOWN FUNCTION
Unit 2 Feedwater Turbine Area Access Corridor (Room 414)	Unit 2 Reactor coolant pressure and level indication. Unit 2 Reactor Water Cleanup High/Low Pressure Interface cables.
Unit 3 Feedwater Turbine Area Access Corridor (Room 457)	Unit 3 Reactor Water Cleanup High/Low Pressure Interface cables. Unit 3 High Pressure Coolant Injection. Unit 3 Reactor Core Isolation Cooling.

E. Fire Zone 50-78EE (Room 177) is located on elevation 135'-0" of the Unit 3 Turbine Building. This fire zone is the Unit 3 Air Ejector Gland Seal Condenser Room and is a locked high radiation area. This room is not protected by an automatic sprinkler system or by a fire detection system and the area is not continually occupied. The combustible loading in the area, as described in the licensee's Fire Protection Program manual, is low consisting of cable insulation. Cables for the Unit 3 Condensate Storage Tank Level Indication are located in this area.

The following table summarizes the post-fire safe shutdown functions in this room:

Summary of Fire Zone 50-78EE

ROOM	POST-FIRE SAFE SHUTDOWN FUNCTION
Unit 3 Steam Jet Air Ejector Room (Room 177)	Unit 3 Condensate Storage Tank Level indication cables.

F. Fire Zone 50-99 (Room 222) is located on elevation 116'-0" of the Unit 3 Turbine Building. This fire zone is a locked high radiation area which contains the C3 and C4 Feedwater Heaters. This room is not protected by an automatic sprinkler system or by a fire detection system. The combustible loading in the area, as described in the licensee's Fire Protection Program manual, is low consisting of cable insulation in three open vertical cable

trays. The control cables for 343-SU offsite power to 4Kv switchgear are routed through this area.

The following table summarizes the post-fire safe shutdown functions in this room:

Summary of Fire Zone 50-99

ROOM	POST-FIRE SAFE SHUTDOWN FUNCTION
Unit 2 Feedwater Heaters (Room 222)	Control cables for 343-SU Offsite Power to 4kv Switchgear

G. Fire Zones 6S-5M (Room 410) and 13N-13M (Room 452) are the Reactor Water Cleanup Backwash Tank Transfer Pump Rooms; Fire Zones 6S-42 (Room 408) and 13N-36 (Room 449) are the Reactor Water Cleanup Non-regenerative Heat Exchanger rooms. Rooms 410 and 452 are located on elevation 165'-0" of the Units 2 and 3 Reactor Buildings, respectively. The combustible loading in the area, as described in the licensee's Fire Protection Program manual, is low consisting of cable insulation and plastic polycarbonate. These rooms are not protected by an automatic sprinkler system or by a fire detection system. Cables associated with the Reactor Water Cleanup High/Low Pressure Interface valves are located in these rooms. Fire Zones 6S-42 (Room 408) and 13N-36 (Room 449) are located on elevation 165'-0" of the Units 2 and 3 Reactor Buildings, respectively. These rooms are not protected by an automatic fire suppression or detection system. The combustible loading in the area, as described in the licensee's Fire Protection Program manual, is low consisting of cable insulation. Cables associated with the Reactor Water Cleanup High/Low Pressure Interface valves are located within these rooms.

The following table summarizes the post-fire safe shutdown functions in these rooms:

Summary of Fire Zones 6S-5M, 6S-42, 13N-13M, 13N-36

ROOM	POST-FIRE SAFE SHUTDOWN FUNCTION
Reactor Water Cleanup (RWCU) Backwash Tank Transfer Pumps (Room 410)	Unit 2 Reactor Water Cleanup (RWCU) High/Low Pressure Interface Valves Cables
RWCU Non-Regenerative Heat Exchanger (Room 408)	Unit 2 RWCU High/Low Pressure Interface Valve CV2-12-55 Controller I/P2-12-110
RWCU Backwash Tank Transfer Pumps (Room 452)	Unit 3 Reactor Water Cleanup (RWCU) High/Low Pressure Interface Valves Cables
RWCU Non-Regenerative Heat Exchanger (Room 449)	Unit 3 RWCU High/Low Pressure Interface Valve CV3-12-55 Controller I/P3-12-110

Evaluation

A. Fire Zone 50-78W does not meet the technical requirements of Section III.F of Appendix R because an automatic fire detection system is not provided for the Condenser Pit (Room 22 on Elevation 102'-0"), the Moisture Separator Area (Room 138 on Elevation 116'-0") and the Unit 2 Piping Area (Room 223 on Elevation 135'-0"). If a fire were to occur involving either the turbine lubricating oil and/or the cables that are in any of these rooms, the fire is expected to actuate the sprinkler heads located in the area of the fire. The alarm check valve associated with this wet pipe sprinkler system would open and send an alarm to the control room. Thus, the actuation of the sprinkler system would indirectly detect the fire. In the case of a rapidly developing fire such as one involving lubricating oil, the potential exists that the post-fire safe shutdown circuits could be damaged. According to the licensee's Fire Protection Program manual, the redundant safe shutdown function for Fire Area 50 is located outside of Fire Area 50 and those functions for Room 223 are located in a room outside of this fire area. Based on the passive fire protection features separating the redundant post-fire safe shutdown functions, the fire hazards associated with the areas of concern (Rooms 22, 138 and 223) and

the installed sprinkler system and its alarm functions, there is reasonable assurance that a fire in Fire Zone 50-78W will be promptly detected and controlled by the sprinkler system and that the safe shutdown capability will be preserved. Passive fire protection features used in the plant include: 1) fire resistant floors, walls and ceilings (typically reinforced concrete or masonry), 2) fire resistant seals at penetrations in fire barriers, 3) fire resistant doors, 4) fire breaks in vertical cable trays, and 5) the use of flame retardant electrical cables. Therefore, the addition of an automatic fire detection system in Fire Zone 50-78W would not result in a significant increase in the level of fire protection for this fire zone and is not necessary to achieve the underlying purpose of Section III.F of Appendix R to 10 CFR Part 50. Fire Zone 50-78V does not meet the technical requirements of Section III.F of Appendix R because an automatic fire detection system is not provided for the Moisture Separator Area (Room 181 on Elevation 116'-0") and the Unit 3 Pipe Area (Room 272 on Elevation 135'-0"). If a fire were to occur involving either the turbine lubricating oil and/or the cables that are in any of these rooms, the fire is expected to actuate the sprinkler heads located in the area of the fire. The alarm check valve associated with this wet pipe sprinkler system would open and send an alarm to the control room. Thus, the actuation of the sprinkler system would indirectly detect the fire. In the case of a rapidly developing fire such as one involving lubricating oil, the potential exists that the post-fire safe shutdown circuits could be damaged before the sprinklers could actuate. The redundant safe shutdown functions for Rooms 181 and 272 are located outside of the affected fire area. Based on the passive fire protection features separating the redundant post-fire safe shutdown functions, the fire hazards associated with the areas of concern (Rooms 181 and 272) and the installed sprinkler system and its alarm functions, there is reasonable assurance that a fire in Fire Zone 50-78V will be promptly detected and controlled by the sprinkler system and that the safe shutdown capability will be preserved. Therefore, the addition of an automatic fire detection system in Fire Zone 50-78V would not result in a

significant increase in the level of fire protection for this fire zone and is not necessary to achieve the underlying purpose of Section III.F of Appendix R to 10 CFR Part 50.

B. Fire Zone 50-78B does not meet the technical requirements of Section III.F of Appendix R because an automatic fire detection system is not provided for the General Storage and Hydrogen Seal Equipment Area (Rooms 135, 184, and 185 on Elevation 116'-0"), the Laydown Area (Room 185 on Elevation 116'-0"), the Generator Equipment Areas (Rooms 229 and 274 on Elevation 135'-0"), the Laydown Area which surrounds the open hatch (Room 228 on Elevation 135'-0") and the Laydown Area (Room 429 on Elevation 165'-0"). If a fire were to occur involving either the turbine lubricating oil, hydrogen seal oil and/or the cables that are in Rooms 135, 184, 185, 228, 229 or 274, the fire is expected to actuate the sprinkler heads located in the area of the fire. The alarm check valve associated with this wet pipe sprinkler system would open and send an alarm to the control room. Thus, the actuation of the sprinkler system would indirectly detect the fire. In the case of a rapidly developing fire such as one involving lubricating oil, the potential exists that the post-fire safe shutdown circuits could be damaged before the sprinklers could actuate. The redundant safe shutdown functions for Rooms 135, 184, 185, and 228 are located outside of the affected fire area. Based on the passive fire protection features separating the redundant post-fire safe shutdown functions, the fire hazards associated with the areas of concern (Rooms 135,184,185, and 228) and the installed sprinkler system and its alarm functions in Rooms 135, 184, 185, 228, 229 and 274, there is reasonable assurance that a fire in Fire Zone 50-78B will be promptly detected and controlled by the sprinkler system and that the safe shutdown capability will be preserved. Therefore, the addition of an automatic fire detection system in these rooms would not result in a significant increase in the level of fire protection for these rooms and is not necessary to achieve the underlying purpose of Section III.F of Appendix R to 10 CFR Part 50.

The Laydown Area (Room 429) is not provided with automatic sprinkler protection or automatic fire detection. This room contains several turbine bearing oil lift pumps, motor control centers and a maintenance office. This is a significant fire hazard that warrants some fire protection system to provide reasonable assurance of safety. The circuits in this room are associated with offsite power and the Unit 2 reactor pressure and level indication. Therefore, the staff concludes that automatic detection should be provided in this room to provide prompt notification to the control room of a fire in this area during its incipient stages to allow a rapid response from the plant fire brigade to a fire in this room. Therefore, the request for exemption from the requirements specified in Section III.F of Appendix R is denied for Room 429.

C. Fire Zones 50-88 and 50-89 are in the Unit 2 and 3 Main Turbine Lube Oil Storage Tank Rooms (Rooms 139 and 179). These Fire Zones do not meet the technical requirements of Section III.F of Appendix R because an automatic fire detection system is not provided for these zones. If a fire were to occur involving turbine lubricating oil, the fire is expected to actuate the sprinkler heads located in the area of the fire. The alarm check valve associated with this wet pipe sprinkler system would open and send an alarm to the control room. Thus, the actuation of the sprinkler system would indirectly detect the fire. In the case of a rapidly developing fire such as one involving lubricating oil, the potential exists that the post-fire safe shutdown circuits in Room 179 could be damaged before the sprinklers actuate. The redundant safe shutdown functions for Room 179 are located outside of this fire area. Based on the passive fire protection features separating the redundant post-fire safe shutdown functions, the fire hazards associated with the areas of concern (Room 179) and the installed sprinkler system and its alarm functions, there is reasonable assurance that a fire in Fire Zone 50-89 will be promptly detected and controlled by the sprinkler system and that the safe shutdown capability will be preserved. Therefore, the addition of an automatic fire detection system in Fire Zone 50-89 would not result in a significant increase in the level of fire protection

for this fire zone and is not necessary to achieve the underlying purpose of Section III.F of Appendix R to 10 CFR Part 50. Fire Zone 50-88 (Room 139) contains no fire protection safe shutdown equipment.

D. Fire Zone 50-78A (Rooms 414 and 457) does not meet the technical requirements of Section III.F of Appendix R because an automatic fire detection system is not provided for the Feedwater/Turbine Area access corridor. The area has an automatic water suppression system. If a fire were to occur, the heat from the fire would activate the sprinkler system. The alarm check valve associated with this wet pipe sprinkler system would open and send an alarm to the control room. Thus, the actuation of the sprinkler system would indirectly detect the fire. The redundant safe shutdown functions for Rooms 414 and 457 would be unaffected by a fire in these rooms because of the passive fire protection features separating the redundant post-fire safe shutdown functions. Based on the non-severe fire hazards associated with the areas of concern (Rooms 414 and 457) and the installed sprinkler system and its alarm functions, there is reasonable assurance that a fire in Fire Zone 50-78A will be promptly detected and controlled by the sprinkler system. Thus, the addition of an automatic fire detection system in Fire Zone 50-78A would not result in a significant increase in the level of fire protection for this fire zone and is not necessary to achieve the underlying purpose of Section III.F of Appendix R to 10 CFR Part 50.

E. Fire Zone 50-78EE (Room 177) does not meet the technical requirements of Section III.F of Appendix R because an automatic fire detection system is not provided for the Unit 3 Air Ejector Gland Seal Condenser Room. This room is a locked high radiation area. Cables for the Unit 3 Condensate Storage Tank Level Indication are located in this area. The area has a low combustible material loading and is not a high personnel traffic area. The access door to the room is louvered and a fire detection system is in the corridor outside of the room. A redundant shutdown train is available for any equipment affected by a fire in this room.

Since the zone is a locked high radiation area and receives minimal personnel traffic, and has a low combustible loading, likelihood of a fire in this area is low. In the unlikely event of a fire in this area, any shutdown features located in the room have a redundant function outside the zone, such that the ability to achieve safe shutdown would not be adversely affected by a fire in this zone. There are also automatic fire detection systems located in adjacent areas. This provides an adequate level of safety and meets the underlying purpose of Section III.F of Appendix R to 10 CFR Part 50 in these fire zones.

F. Fire Zone 50-99 (Room 222) does not meet the technical requirements of Section III.F of Appendix R because an automatic fire detection system is not provided for the C3 and C4 Feedwater Heaters. This fire zone is a locked high radiation area. The control cables for the 343-SU offsite power to 4Kv switchgear are routed through this area. This area contains three open vertical cable trays. The fire hazard associated with the vertical cable trays warrants some type of fire protection system to provide reasonable assurance of safety. Therefore, the staff concludes that automatic detection should be provided in this area to provide prompt notification to the control room of a fire in this area during its incipient stages to allow a rapid response from the plant fire brigade. Thus, the request for exemption from the requirements specified in Section III.F of Appendix R to 10 CFR Part 50 is denied for Fire Zone 50-99.

G. Fire Zones 6S-5M (Room 410) and 13N-13M (Room 452) do not meet the technical requirements of Section III.F of Appendix R to 10 CFR Part 50 because an automatic fire detection system is not provided for the Reactor Water Cleanup Backwash Tank Transfer Pump Rooms. Cables associated with the Reactor Water Cleanup High/Low Pressure Interface valves are located within these rooms. The area has a low combustible material loading and is not a high personnel traffic area. There is automatic smoke/heat detection throughout the 165' elevation of each reactor building at the ceiling level. A redundant shutdown train is available for any equipment affected by a fire in this room. Since the zone is

a locked high radiation area and receives minimal personnel traffic, and has a low combustible loading, likelihood of a fire in this area is low. In the unlikely event of a fire in this area, any shutdown features located in the room have a redundant function outside the zone, such that the ability to achieve safe shutdown would not be adversely affected by a fire in this zone. There are also automatic fire detection systems located in adjacent areas. This provides an adequate level of safety and meets the underlying purpose of Section III.F of Appendix R to 10 CFR Part 50 in these fire zones.

Fire Zones 6S-42 (Room 408) and 13N-36 (Room 449) do not meet the technical requirements of Section III.F of Appendix R to 10 CFR Part 50 because an automatic fire detection system is not provided for the Non-regenerative Heat Exchanger Rooms. Cables associated with the Reactor Water Cleanup High/Low Pressure Interface valves are located within these rooms. The area has a low combustible material loading and is not a high personnel traffic area. There is automatic smoke/heat detection throughout the 165' elevation of each reactor building at the ceiling level. A redundant shutdown train is available for any equipment affected by a fire in this room. Since the zone is a locked high radiation area and receives minimal personnel traffic, and has a low combustible loading, likelihood of a fire in this area is low. In the unlikely event of a fire in this area, any shutdown features located in the room have a redundant function outside the zone, such that the ability to achieve safe shutdown would not be adversely affected by a fire in this zone. There are also automatic fire detection systems located in adjacent areas. This provides an adequate level of safety and meets the underlying purpose of Section III.F of Appendix R to 10 CFR Part 50 in these fire zones.

Conclusion

The staff, having considered the information provided by the licensee, believes that the exemption request, except to the extent noted below, meets the special circumstances of

10 CFR 50.12(a)(2)(ii) and should be granted. The staff finds that the existing automatic suppression systems in Fire Zones 50-78W, 50-78V, 50-78B (except for Room 429), 50-88, 50-89, and 50-78A, in combination with the passive plant fire protection features that separate required post-fire safe shutdown functions, provide an adequate level of fire safety and for these fire zones, the underlying purpose of Section III.F of Appendix R to 10 CFR Part 50 is met. The staff also finds that no fire detection system is needed in Fire Zones 50-78EE, 6S-5M, 13N-13M, 6S-42, and 13N-36, since the zones are locked high radiation areas and receive minimal personnel traffic, have a low combustible loading, and any shutdown features located in the rooms have a redundant function outside the zone; thus, the ability to achieve safe shutdown would not be adversely affected by a fire in these zones. There are also automatic fire detection systems located in adjacent fire areas. Therefore, the staff concludes that for these fire zones there is an adequate level of fire safety, and the underlying purpose of Section III. F of Appendix R to 10 CFR Part 50 is met.

For Room 429 (Fire Zone 50-78B), and Room 222 (Fire Zone 50-99), the staff concludes that the underlying purpose of Section III.F of Appendix R to 10 CFR Part 50 would not be satisfied without automatic detection systems.

IV.

For the fire zones discussed herein, except Room 429 (Fire Zone 50-78B) and Room 222 (Fire Zone 50-99), the Commission has determined that, pursuant to 10 CFR 50.12, this exemption is authorized by law, will not present an undue risk to the public health and safety, and is consistent with the common defense and security. Further, the Commission has determined, pursuant to 10 CFR 50.12(a), that special circumstances of 10 CFR 50.12(a)(2)(ii) are applicable in that application of the regulation is not necessary to achieve the underlying purpose of Section III.F of Appendix R to 10 CFR Part 50. Therefore, the Commission hereby grants the exemption from Section III.F of Appendix R to 10 CFR Part 50 for Fire

Zones 50-78A, 50-78B (except Room 429), 50-78V, 50-78W, 50-78EE, 50-88, 50-89, 6S-42, 6S-5M, 13N-36, and 13N-13M. As stated above, the requested exemption for Room 429 (Fire Zone 50-78B) and Room 222 (Fire Zone 50-99) is denied.

Pursuant to 10 CFR 51.32, the Commission has determined that the granting of this exemption will have no significant impact on the quality of the human environment (65 FR 46750).

This exemption is effective upon issuance.

Dated at Rockville, Maryland, this 18th day of August, 2000.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

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