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10 CFR 50.12

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U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555-0001

Peach Bottom Atomic Power Station, Units 2 and 3
Renewed Facility Operating License Nos. DPR-44 and DPR-56
NRC Docket Nos. 50-277 and 50-278

Subject: Response to Request for Additional Information
Request for Exemption from 10 CFR 50, Appendix R,
Section III.G, "Fire Protection of Safe Shutdown Capability"

References:

1. Letter from P. B. Cowan, Exelon Generation Company, LLC, to USNRC, "Request for Exemption from 10 CFR 50, Appendix R, Section III.G, 'Fire Protection of Safe Shutdown Capability'," dated October 5, 2007.

2. Letter from J. D. Hughey, U.S. Nuclear Regulatory Commission, to C. G. Pardee, Exelon Generation Company, LLC, "Peach Bottom Atomic Power Station, Units 2 and 3 - Request for Additional Information Regarding Request for Exemption from 10 CFR 50, Appendix R, Section III.G, 'Fire Protection of Safe Shutdown Capability' (TAC Nos. MD7029 and MD7030)," dated April 17, 2008.

In Reference 1, Exelon Generation Company, LLC (Exelon) submitted a request for exemption from the provisions of 10 CFR 50, Appendix R, Section III.G, "Fire Protection of Safe Shutdown Capability," for the use of operator manual actions for Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3, in lieu of the requirements specified in Section III.G.2.

In Reference 2, the NRC requested additional information in order to complete its evaluation of the exemption request. The attachment to this letter provides a restatement of the questions along with Exelon's response.

Exelon has determined that the information provided in response to the request for additional information does not impact the conclusions of the original exemption request as stated in Reference 1.

If you have any questions or require additional information, please contact Glenn Stewart at 610-765-5529.

Respectfully,

for Pamela B. Cowan

Pamela B. Cowan
Director, Licensing and Regulatory Affairs
Exelon Generation Company, LLC

Attachment: Response to Request for Additional Information

cc:	Regional Administrator - NRC Region I	w/attachment
	NRC Senior Resident Inspector - PBAPS	"
	NRC Project Manager, NRR - PBAPS	"
	S. T. Gray, State of Maryland	"
	R. R. Janati, Commonwealth of Pennsylvania	"

ATTACHMENT

RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
10 CFR 50, APPENDIX R, SECTION III.G.2 EXEMPTION REQUEST

In Reference 1, Exelon Generation Company, LLC (Exelon) submitted a request for exemption from the provisions of 10 CFR 50, Appendix R, Section III.G, “Fire Protection of Safe Shutdown Capability," for the use of operator manual actions for Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3, in lieu of the requirements specified in Section III.G.2.

In Reference 2, the NRC requested additional information in order to complete its evaluation of the exemption request. The questions are restated below along with Exelon's response.

RAI-01) Provide a cross-reference for all actions submitted in Attachment 2 of the exemption request with those listed in Table A-4, Revision 3. This cross-reference should include, the fire affected component number, its system, its name, and the fire area it is located in. For the component that is to be operated, include its number, its system, its name, the fire area it is located in, and a brief description of the action required to be taken at the component. Also, include the original approved description of the action, and any differences between the approved action and the submitted action (number, name, system designation, fire area, description of action).

Response

A cross-reference for the actions submitted in Attachment 2 of the exemption request (Reference 1) with those listed in Table A-4, Revision 3, of the PBAPS Fire Protection Program (FPP) is provided in the attached table. The first column of the table contains a cross-reference to the Revision 3 FPP Table A-4 as requested. The cross-reference column contains the component number that is contained in the first column of the Revision 3 FPP Table A-4. Note that there are a number of actions listed in the Revision 3 FPP Table A-4 that are not included in the exemption request. The source of the information used to create Revision 3 FPP Table A-4 considered all actions that were identified as "manual" which included cold shutdown items, repairs, and actions for alternate shutdown areas (such as the control room).

The second column describes the purpose of the action, which explains why the action is to be performed. The third column addresses the fire affected component and system. The fourth column lists the initiating fire area, which could also be called the originating fire area. This is the fire area(s) in which the postulated fire occurs that requires the operator manual action.

The fifth column describes the action to be taken by the operator. In several cases, the action from Revision 3 FPP Table A-4 is divided into separate tasks for clarity. Also, in several cases, an additional task from that listed in the Revision 3 FPP Table A-4 is specified. The additional task is listed when the task is performed in a different room from the main action. This was done to identify the areas in which the manual actions are performed. This is an enhancement to the level of detail provided in Revision 3 FPP Table A-4, and is not a new action that did not previously exist. The sixth column identifies the location(s) where the operator manual actions are performed. The room description, room number and fire area number are provided. The "Notes" column lists the applicable notes for that row. The notes are provided at the end of the table.

RAI-02) Attachment 1, Section II, asserts that the basis for the exemption request per 10 CFR 50.12(a)(2)(ii) is that the referenced manual actions have already been found acceptable by the NRC in a prior SER. Describe the specific special circumstances that justify why application of the regulation does not meet the underlying purpose of the rule. Alternatively, provide other bases for the special circumstances.

Response

The intent of 10 CFR 50, Appendix R, Section III.G.2, is to ensure that one train of systems necessary to achieve and maintain hot shutdown will remain available in the event of a fire. The manual actions discussed in the original exemption request (Reference 1) and the response to RAI-01 provide that assurance. If manual actions are not used to meet the underlying purpose of the rule, modifications to provide additional fire suppression systems, detection systems, or fire barriers would be required to achieve compliance. Such modifications represent an unwarranted burden on Exelon since they are not necessary to meet the underlying purpose of the rule. Therefore, the special circumstances for issuance of the exemption are satisfied in accordance with the requirements of 10 CFR 50.12(a)(2)(ii), since application of the rule is not necessary to achieve the underlying purpose of the rule.

REFERENCES

1. Letter from P. B. Cowan, Exelon Generation Company, LLC, to USNRC, "Request for Exemption from 10 CFR 50, Appendix R, Section III.G, 'Fire Protection of Safe Shutdown Capability'," dated October 5, 2007.

2. Letter from J. D. Hughey, U.S. Nuclear Regulatory Commission, to C. G. Pardee, Exelon Generation Company, LLC, "Peach Bottom Atomic Power Station, Units 2 and 3 - Request for Additional Information Regarding Request for Exemption from 10 CFR 50, Appendix R, Section III.G, 'Fire Protection of Safe Shutdown Capability' (TAC Nos. MD7029 and MD7030)," dated April 17, 2008.

Cross-Reference Between Peach Bottom Fire Protection Program, Revision 3, Table A-4 and Operator Manual Action Exemption Request, Attachment 2 (Reference 1)

Table A-4 Cross-Reference.	Purpose	Fire Affected Component Information	Initiating Fire Area	Actions	Action Location(s)	Notes
2AP35	Defeat 2A RHR pump (2AP35) trip signal generated by fire damage to Unit 3 RHR Logic	External wiring (located in the initiating fire areas) to the Unit 3 RHR logic in panel 30C33 (located in Rm 302, FA 25)	2, 57	Install U3 plug-in test switch 3-10A-J1B at Panel 30C33	Cable Spreading Room, Rm 302, FA 25	Note 1 Note 2
2BS456	Transfer 125 VDC Battery Charger 2BD003 from normal source (E224-T-B) to its alternate source (E234-T-B) due to fire damage	Loss of power (due to fire damage in initiating fire areas) to 125 VDC Battery Charger 2BD003 (located in Rm 226, FA 36)	2, 4, 6S, 57	1. Verify Breaker 52-6011 at E234-T-B is closed prior to operating switch 2BS456 2. Operate switch 2BS456 to restore power for Battery Charger 2BD003 from an alternate power source	1. E-23 Bus Room, Rm 263, FA 35 2. E-42 Bus Room, Rm 226, FA 36	Note 1 Note 4

Cross-Reference Between Peach Bottom Fire Protection Program, Revision 3, Table A-4 and Operator Manual Action Exemption Request, Attachment 2 (Reference 1)

Table A-4 Cross-Reference.	Purpose	Fire Affected Component Information	Initiating Fire Area	Actions	Action Location(s)	Notes
2DS456	Transfer 125 VDC Battery Charger 2DD003 from normal source (E424-W-A) to its alternate source (E234-T-B) due to fire damage	Loss of power (due to fire damage in initiating fire areas) to 125 VDC Battery Charger 2DD003 (located in Rm 226, FA 36)	2, 6S, 38, 57	1. Verify Breaker 52-6022 at E234-T-B is closed prior to operating switch 2DS456 2. Operate switch 2DS456 to restore power for Battery Charger 2DD003 from an alternate power source	1. E-23 Bus Room, Rm 263, FA 35 2. E-42 Bus Room, Rm 226, FA 36	Note 1 Note 4 Note 5
3BP35	Defeat 3B RHR pump (3BP35) trip signal generated by fire damage to Unit 2 RHR logic	External wiring (located in initiating fire areas) to the Unit 2 RHR logic in panel 20C32 (located in Rm 302, FA 25)	2, 57	Install U2 plug-in test switch into test jack 2-10A-J1A at panel 20C32	Cable Spreading Room, Rm 302, FA 25	Note 1 Note 2
30S546	Transfer instrument power supplies from normal source (panel 30Y050) to alternate power source (panel 20Y033) due to fire damage	Loss of power (due to fire in initiating fire area) to instrument power supply panel 30Y050 (located in Rm 302, FA 25)	13N	Operate key switch 30S546 to restore power to instrument panel from 20Y033	Cable Spreading Room, Rm 302, FA 25	

Cross-Reference Between Peach Bottom Fire Protection Program, Revision 3, Table A-4 and Operator Manual Action Exemption Request, Attachment 2 (Reference 1)

Table A-4 Cross-Reference.	Purpose	Fire Affected Component Information	Initiating Fire Area	Actions	Action Location(s)	Notes
3AS456	Transfer 125 VDC Battery Charger 3AD003 from its normal power source (E134-T-B) to its alternate power source (E124-T-B) due to fire damage	Loss of power (due to fire damage in initiating fire area) to 125 VDC Battery Charger 3AD003 (located in Rm 261, FA 32)	13N	1. Verify Breaker 52-5934 at E124-T-B is closed prior to operating switch 3AS456 2. Operate switch 3AS456 to restore power for Battery Charger 3AD003 from an alternate power source	1. E-12 Bus Room, Rm 227, FA 39 2. E-33 Bus Room, Rm 261, FA 32	Note 4
3CS456	Transfer 125 VDC Battery Charger 3CD003 from its normal power source (E334-R-B) to its alternate power source (E124-T-B) due to fire damage	Loss of power (due to fire damage in initiating fire areas) to 125 VDC Battery Charger 3CD003 (located in Rm 261, FA 32)	13N, 13S, 26, 57, 58	1. Verify Breaker 52-5911 at E124-T-B is closed prior to operating switch 3CS456 2. Operate switch 3CS456 to restore power for Battery Charger 3CD003 from an alternate power source	1. E-12 Bus Room, Rm 227, FA 39 2. E-33 Bus Room, Rm 261, FA 32	Note 1 Note 3 Note 4 Note 6

Cross-Reference Between Peach Bottom Fire Protection Program, Revision 3, Table A-4 and Operator Manual Action Exemption Request, Attachment 2 (Reference 1)

Table A-4 Cross-Reference.	Purpose	Fire Affected Component Information	Initiating Fire Area	Actions	Action Location(s)	Notes
MO3-10-89A	Manually operate MO-3-10-089A if electrical operating capability is lost due to fire damage	Loss of power (due to fire damage in the initiating fire area) to MO-3-10-089A, 3A RHR Heat Exchanger High Pressure Service Water Heat Outlet (located in Rm 156, FA 2)	13N	1. Open breaker 52-3623 at E134-W-A 2. Manually open MO-3-10-089A	1. U3 RBCCW Room, Rm 162, FA 2 2. U3 RHR Pump Room, Rm 156, FA 2	
MO-2486	Manually operate valve MO-2486 upon loss of electrical operating capability due to fire damage	Loss of power (due to fire damage in the initiating fire areas) to MO-2486, High Pressure Service Water Normal Discharge Valve (located in Rm 815, FA 54)	50, 54	1. Open breaker 52-5442 at E234-D-A 2. Manually open MO-2486	1. E2 Diesel Generator Room, Rm 817, FA 45 2. Cardox Room, Rm 815, FA 54	Note 7
MO-2486	Locally operate MO-2486 from the MCC if the fire has caused loss of remote operating capability	Loss of power (due to fire damage in the initiating fire areas) to MO-2486, High Pressure Service Water Normal Discharge Valve (located in Rm 815, FA 54)	4, 38, 57	1. Open breaker 52-5442 at E234-D-A 2. Open valve using contactor at MCC	1 and 2. E2 Diesel Generator Room, Rm 817, FA 45	Note 1

Cross-Reference Between Peach Bottom Fire Protection Program, Revision 3, Table A-4 and Operator Manual Action Exemption Request, Attachment 2 (Reference 1)

Table A-4 Cross-Reference.	Purpose	Fire Affected Component Information	Initiating Fire Area	Actions	Action Location(s)	Notes
MO-3486	Manually operate valve MO-3486 upon loss of electrical operating capability due to fire damage	Loss of power (due to fire damage in the initiating fire areas) to MO-3486, High Pressure Service Water Normal Discharge Valve (located in Rm 815, FA 54)	50, 54	1. Open breaker 52-5441 at E234-D-A 2. Manually open MO-3486	1. E2 Diesel Generator Room, Rm 817, FA 45 2. Cardox Room, Rm 815, FA 54	Note 7
MO-3486	Locally operate MO-3486 from the MCC if the fire has caused loss of remote operating capability	Loss of power (due to fire damage in the initiating fire areas) to MO-3486, High Pressure Service Water Normal Discharge Valve (located in Rm 815, FA 54)	57, 58	1. Open breaker 52-5441 at E234-D-A 2. Open valve using contactor at MCC	1 and 2. E2 Diesel Generator Room, Rm 817, FA 45	Note 1 Note 3
MO2-10-034A	Manually open valve MO-2-10-034A if electrical operating capability is lost due to fire damage	Loss of power (due to fire damage in the initiating fire areas) to MO-2-10-34A, RHR Loop A Full Flow Test Valve (located in Rm 1, FA 5)	4, 57	1. Open breaker 52-3832 at E324-R-B 2. Manually open MO-2-10-034A	1. U2 Reactor Bldg, Rm 212, FA 6S 2. U2 Torus Room, Rm 1, FA 5	Note 1

Cross-Reference Between Peach Bottom Fire Protection Program, Revision 3, Table A-4 and Operator Manual Action Exemption Request, Attachment 2 (Reference 1)

Table A-4 Cross-Reference.	Purpose	Fire Affected Component Information	Initiating Fire Area	Actions	Action Location(s)	Notes
MO2-10-039A	Manually open valve MO-2-10-039A if electrical operating capability is lost due to fire damage	Loss of power (due to fire damage in the initiating fire areas) to MO-2-10-039A, RHR Loop A Torus Header Valve (located in Rm 1, FA 5)	4, 57	1. Open breaker 52-3831 at E324-R-B 2. Manually open MO-2-10-039A	1. U2 Reactor Bldg, Rm 212, FA 6S 2. U2 Torus Room, Rm 1, FA 5	Note 1
MO3-10-034A	Manually open valve MO-3-10-034A if electrical operating capability is lost due to fire damage	Loss of power (due to fire damage in the initiating fire areas) to MO-3-10-34A, RHR Loop A Full Flow Test Valve (located in Rm 37, FA 12)	13N, 26	1. Open breaker 52-3832 at E334-R-B 2. Manually open MO-3-10-034A	1. U3 Reactor Bldg, Rm 257, FA 13S 2. U3 Torus Room, Rm 37, FA 12	
MO3-10-039A	Manually open valve MO-3-10-039A if electrical operating capability is lost due to fire damage	Loss of power (due to fire damage in the initiating fire areas) to MO-3-10-039A, RHR Loop A Torus Header Valve (located in Rm 37, FA 12)	13N, 26	1. Open breaker 52-3831 at E334-R-B 2. Manually open MO-3-10-039A	1. U3 Reactor Bldg, Rm 257, FA 13S 2. U3 Torus Room, Rm 37, FA 12	

Cross-Reference Between Peach Bottom Fire Protection Program, Revision 3, Table A-4 and Operator Manual Action Exemption Request, Attachment 2 (Reference 1)

Table A-4 Cross-Reference.	Purpose	Fire Affected Component Information	Initiating Fire Area	Actions	Action Location(s)	Notes
MO2-10-034B	Manually open valve MO-2-10-034B if electrical operating capability is lost due to fire damage	Loss of power (due to fire damage in the initiating fire area) to MO-2-10-034B, RHR Loop B Full Flow Test Valve (located in Rm 1, FA 5)	6S	1. Open breaker 52-3933 at E424-W-A 2. Manually open MO-2-10-34B	1. U2 RBCCW Room, Rm 105, FA 2 2. U2 Torus Room, Rm 1, FA 5	
MO2-10-039B	Manually open valve MO-2-10-039B if electrical operating capability is lost due to fire damage	Loss of power (due to fire damage in the initiating fire area) to MO-2-10-039B, RHR Loop B Torus Header Valve, (located in Rm 1, FA 5)	6S	1. Open breaker 52-3942 at E424-W-A 2. Manually open MO-2-10-39B	1. U2 RBCCW Room, Rm 105, FA 2 2. U2 Torus Room, Rm 1, FA 5	
MO2-10-89D	Manually open valve MO-2-10-089D if electrical operating capability is lost due to fire damage	Loss of power (due to fire damage in the initiating fire area) to MO-2-10-089D, 2D RHR Heat Exchanger High Pressure Service Water Outlet Valve (located in Rm 104, FA 2)	6S	1. Open breaker 52-3931 at E424-W-A 2. Manually open MO-2-10-89D	1. U2 RBCCW Room, Rm 105, FA 2 2. U2 RHR Pump Room, Rm 104, FA 2	

Cross-Reference Between Peach Bottom Fire Protection Program, Revision 3, Table A-4 and Operator Manual Action Exemption Request, Attachment 2 (Reference 1)

Table A-4 Cross-Reference.	Purpose	Fire Affected Component Information	Initiating Fire Area	Actions	Action Location(s)	Notes
MO3-10-034B	Manually open valve MO-3-10-034B if electrical operating capability is lost due to fire damage	Loss of power (due to fire damage in the initiating fire areas) to MO-3-10-034B, RHR Loop B Full Flow Test Valve (located in Rm 37, FA 12)	2, 57, 58	1. Open breaker 52-3933 at E434-R-B 2. Manually open MO-3-10-34B	1. U3 Reactor Bldg, Rm 250, FA 13N 2. U3 Torus Room, Rm 37, FA 12	Note 1 Note 3
MO3-10-039B	Manually open valve MO-3-10-039B if electrical operating capability is lost due to fire damage	Loss of power (due to fire damage in the initiating fire areas) to MO-3-10-039B, RHR Loop B Torus Header Valve (located in Rm 37, FA 12)	2, 57, 58	1. Open breaker 52-3942 at E434-R-B 2. Manually open MO-3-10-39B	1. U3 Reactor Bldg, Rm 250, FA 13N 2. U3 Torus Room, Rm 37, FA 12	Note 1 Note 3
MO3-10-89D	Manually operate MO-3-10-089D if electrical operating capability is lost due to fire damage	Loss of power (due to fire damage in the initiating fire area) to MO-3-10-089D, 3D RHR Heat Exchanger High Pressure Service Water Outlet Valve (located in Rm 159, FA 10)	58	1. Open breaker 52-3931 at E434-R-B 2. Manually open MO-3-10-089D	1. U3 Reactor Bldg, Rm 250, FA 13N 2. U3 RHR Pump Room, Rm 159, FA 10	Note 3

Cross-Reference Between Peach Bottom Fire Protection Program, Revision 3, Table A-4 and Operator Manual Action Exemption Request, Attachment 2 (Reference 1)

Table A-4 Cross-Reference.	Purpose	Fire Affected Component Information	Initiating Fire Area	Actions	Action Location(s)	Notes
MO2-10-25B	Manually operate MO-2-10-025B if electrical operating capability is lost due to fire damage	Loss of power (due to fire damage in the initiating fire area) to MO-2-10-025B, RHR Loop B Inboard Discharge Valve (located in Rm 204, FA 6N)	6S	1. Open breaker 52-25B02 at N210025B, LPCI Swing Bus B 2. Manually open MO-2-10-025B	1. U2 Reactor Bldg, Rm 205, FA 6N 2. U2 Reactor Bldg, Rm 204, FA 6N	
MO3-10-25A	Manually operate MO-3-10-025A if electrical operating capability is lost due to fire damage	Loss of power (due to fire damage in the initiating fire area) to MO-3-10-25A RHR Loop A Inboard Discharge Valve (located in Rm 248, FA 13S)	13N	1. Open breaker 52-25A02 at N310025A, LPCI Swing Bus A 2. Manually open valve MO-3-10-025A	1. U3 Reactor Bldg, Rm 257, FA 13S 2. U3 Reactor Bldg, Rm 248, FA 13S	
MO3-10-25B	Manually operate MO-3-10-025B if electrical operating capability is lost due to fire damage	Loss of power (due to fire damage in the initiating fire area) to MO-3-10-025B, RHR Loop B Inboard Discharge Valve (located in Rm 249, FA 13N)	13S	1. Open breaker 52-25B02 at N310025B LPCI Swing Bus B 2. Open MO-3-10-025B from MCC Contactor	1 and 2. U3 Reactor Bldg, Rm 250, FA 13N	

TABLE NOTES

Note 1: Fire Area 57 was originally part of Fire Area 2 and was subsequently made a separate Fire Area.

Note 2: This action has been slightly modified from that described in the original submittal to make the action simpler to perform, but the action location, timing and outcome are the same. The original action was to reach inside the logic cabinet and physically manipulate a relay. A plug-in switch was fabricated so the operator would not have to handle an energized relay. The outcome is the same (the relay is actuated).

Note 3: Fire Area 58 was originally part of Fire Area 2 and was subsequently made a separate Fire Area.

Note 4: When the T-300 Fire Guides were developed, an initial step of verification of the breaker position (closed) of the alternate power source was added. Appendix R permits the assumption that equipment that is not fire affected will be in its expected position. So verification of this breaker position is not required for Appendix R compliance. Operations determined that they wanted to add a step to verify the position of the breaker as a precaution. This extra step was added to this Table since the action is performed in a different fire area than the steps associated with operating the switch. It is important to show that all actions taken by the operators are not in the same fire area where the fire is postulated.

Note 5: Fire Area 2 was omitted from the table in Revision 3. Fire Area 2 is listed in the revision 0, 1 and 2 tables. Fire Area 2 (which subsequently was split into Fire Area 2, 57 and 58) fire guide has always contained the attachment to transfer 125 VDC battery charger 2DD003 from the normal to the backup source.

Note 6: Fire Area 4 no longer credits use of this manual action.

Note 7: The action to manually open MO-2486 and MO-3486 (physically open the valve at the valve itself) is performed in the same fire area as the initiating fire area. There is 150 minutes (2.5 hours) between the start of the event and when the valve is to be opened. A fire in the Cardox Room will be extinguished and the smoke vented from the area long before the action needs to be performed. The operators will not have any delay or need SCBA to perform this action.

General Note: Table A-4 Revision 3 was a summary of information that was in the Peach Bottom Cable/Raceway analysis. This program deleted a "zero" that padded many component numbers, and some hyphens. The component number provided in the above table matches the component nomenclature that is used in the post-fire shutdown fire guides, safe shutdown calculations and plant labels.