[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[Docket No. 50-219; NRC-2018-0167]

Exelon Generation Company, LLC; Oyster Creek Nuclear Generating Station

Request for Exemptions Regarding Emergency Planning Requirements

AGENCY: Nuclear Regulatory Commission.

ACTION: Exemption; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) has issued exemptions in response to a request from Exelon Generation Company, LLC (Exelon or the licensee) regarding certain emergency planning (EP) requirements. The exemptions eliminate the requirements to maintain an offsite radiological emergency preparedness plan and reduce the scope of onsite EP activities at the Oyster Creek Nuclear Generating Station (Oyster Creek), based on the reduced risks of accidents that could result in an offsite radiological release at a decommissioning nuclear power reactor.

DATES: The exemption was issued on October 16, 2018.

ADDRESSES: Please refer to Docket ID **NRC-2018-0167** when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to http://www.regulations.gov and search for Docket ID **NRC-2018-0167**. Address questions about NRC dockets to

Jennifer Borges; telephone: 301-287-9127; e-mail: Jennifer.Borges@nrc.gov. For technical questions, contact the individual listed in the **FOR FURTHER INFORMATION CONTACT** section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public Documents collection at http://www.nrc.gov/reading-rm/adams.html. To begin the search, select "Begin Web-based ADAMS Search." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. The ADAMS accession number for each document referenced (if it is available in ADAMS) is provided the first time that it is mentioned in this document. In addition, for the convenience of the reader, the ADAMS accession numbers are provided in a table in the "Availability of Documents" section of this document.
- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

FOR FURTHER INFORMATION CONTACT: John G. Lamb, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001; telephone: 301-415-3100; e-mail: John.Lamb@nrc.gov.

SUPPLEMENTARY INFORMATION: The text of the exemption is attached.

I. Availability of Documents

The documents identified in the following table are available for public inspection through ADAMS, a public Web page, or by using one of the methods discussed in the **ADDRESSES** section of this document.

Title	Date	ADAMS Accession No. or Public Web Page
Exelon Generation Company, LLC, letter to U.S. Nuclear Regulatory Commission, "Certification of Permanent Cessation of Power Operations for Oyster Creek Nuclear Generating Station."	February 14, 2018	ML18045A084
Exelon Generation Company, LLC, letter to U.S. Nuclear Regulatory Commission, "Request for Exemptions from Portions of 10 CFR 50.47 and 10 CFR Part 50, Appendix E."	August 22, 2017	ML17234A082
Exelon Generation Company, LLC, letter to U.S. Nuclear Regulatory Commission, "Response to Request for Additional Information (RAI) Regarding Request for Exemption from Portions of 10 CFR 50.47 and 10 CFR Part 50, Appendix E."	December 6, 2017	ML17340A708
Exelon Generation Company, LLC, letter to U.S. Nuclear Regulatory Commission, "Supplement to Request for Exemption from Portions of 10 CFR 50.47 and 10 CFR Part 50, Appendix E."	January 23, 2018	ML18023A138
Exelon Generation Company, LLC, letter to U.S. Nuclear Regulatory Commission, "Supplement to Request for Exemption from Portions of 10 CFR 50.47 and 10 CFR Part 50, Appendix E."	March 8, 2018	ML18067A087

Title	Date	ADAMS Accession No. or Public Web Page
Exelon Generation Company, LLC, letter to U.S. Nuclear Regulatory Commission, "Response to Request for Additional Information (RAI) Related to Exemption Request from Portions of 10 CFR 50.47 and 10 CFR Part 50, Appendix E."	March 19, 2018	ML18078A146
U.S. Nuclear Regulatory Commission, NUREG/CR-6451, "A Safety and Regulatory Assessment of Generic BWR and PWR Permanently Shutdown Nuclear Power Plants."	August 1997	ML082260098
U.S. Nuclear Regulatory Commission, NUREG-1738, "Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants."	February 2001	ML010430066
Federal Emergency Management Agency Comprehensive Preparedness Guide 101, "Developing and Maintaining Emergency Operations Plans," Version 2.0.	November 2010	http://www.fema.gov/pdf/about/divisions/npd/CPG_101_V2.pdf
U.S. Nuclear Regulatory Commission, NUREG-2161, "Consequence Study of a Beyond- Design-Basis Earthquake Affecting the Spent Fuel Pool for a U.S. Mark I Boiling Water Reactor."	September 2014	ML14255A365
U.S. Nuclear Regulatory Commission, COMSECY-13-0030, "Staff Evaluation and Recommendation for Japan Lessons-Learned Tier 3 Issue on Expedited Transfer of Spent Fuel."	November 12, 2013	ML13329A918
U.S. Nuclear Regulatory Commission, SECY-18-0062, "Request by the Exelon Generation Company, LLC for Exemptions from Certain Emergency Planning Requirements for the Oyster Creek Nuclear Generating Station."	May 31, 2018	ML18030B359
U.S. Nuclear Regulatory Commission, "Staff Requirements - SECY-18-0062, Request by the Exelon Generation Company, LLC for Exemptions from Certain Emergency Planning Requirements for the Oyster Creek Nuclear Generating Station."	July 17, 2018	ML18198A449

Title	Date	ADAMS Accession No. or Public Web Page
U.S. Nuclear Regulatory Commission, letter to Exelon Generation Company, LLC “Oyster Creek Nuclear Generating Station - Exemptions from Certain Emergency Planning Requirements and Related Safety Evaluation.”	October 16, 2018	ML18220A980

Dated at Rockville, Maryland, this 17th day of October, 2018.

For the Nuclear Regulatory Commission.

/RA/

John G. Lamb, Senior Project Manager,
Special Projects and Process Branch,
Division of Operating Reactor Licensing,
Office of Nuclear Reactor Regulation.

Attachment – Exemption

NUCLEAR REGULATORY COMMISSION

Docket No. 50-219

Exelon Generation Company, LLC

Oyster Creek Nuclear Generating Station

Exemption

I. Background.

Exelon Generation Company, LLC (Exelon or the licensee) is the holder of Renewed Facility Operating License No. DPR-16 for Oyster Creek Nuclear Generating Station (Oyster Creek). The license provides, among other things, that the facility is subject to all rules, regulations, and orders of the U.S. Nuclear Regulatory Commission (NRC) now or hereafter in effect. The facility consists of a boiling-water reactor (BWR) located in Ocean County, New Jersey.

By letter dated February 14, 2018 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML18045A084), Exelon submitted a certification to the NRC that it would permanently cease power operations at Oyster Creek no later than October 31, 2018. On September 17, 2018, Exelon permanently ceased power operations at Oyster Creek. By letter dated September 25, 2018 (ADAMS Accession No. ML18268A258), Exelon certified the permanent removal of fuel from the Oyster Creek reactor vessel.

In accordance with § 50.82(a)(2) of Title 10 of the *Code of Federal Regulations* (10 CFR), the license for a power reactor facility no longer authorizes operation of the reactor or emplacement or retention of fuel into the reactor vessel upon the docketing of

the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel. The facility is still authorized to possess and store irradiated (i.e., spent) nuclear fuel. Spent fuel is currently stored onsite in the Oyster Creek spent fuel pool (SFP) and a dry cask independent spent fuel storage installation (ISFSI) at the Oyster Creek facility.

During normal power reactor operations, the forced flow of water through the reactor coolant system removes heat generated by the reactor. The reactor coolant system, operating at high temperatures and pressures, transfers this heat through the steam generator tubes converting non-radioactive feedwater to steam, which then flows to the main turbine generator to produce electricity. Many of the accident scenarios postulated in the updated safety analysis reports (USARs) for operating power reactors involve failures or malfunctions of systems, which could affect the fuel in the reactor core and, in the most severe postulated accidents, would involve the release of large quantities of fission products. With the permanent cessation of operations at Oyster Creek and the permanent removal of the fuel from the reactor vessel, such accidents are no longer possible. The reactor, reactor coolant system, and supporting systems are no longer in operation and have no function related to the storage of the spent fuel. Therefore, emergency planning (EP) provisions for postulated accidents involving failure or malfunction of the reactor, reactor coolant system, or supporting systems are no longer applicable.

The EP requirements of 10 CFR 50.47, “Emergency plans,” and Appendix E to 10 CFR Part 50, “Emergency Planning and Preparedness for Production and Utilization Facilities,” continue to apply to nuclear power reactors that have permanently ceased operation and have permanently removed all fuel from the reactor vessel. There are no explicit regulatory provisions distinguishing EP requirements for a power reactor that is

permanently shut down and defueled from those for a reactor that is authorized to operate. To reduce or eliminate EP requirements that are no longer necessary due to the decommissioning status of the facility, Exelon must obtain exemptions from those EP regulations. Only then can Exelon modify the Oyster Creek emergency plan to reflect the reduced risk associated with the permanently shutdown and defueled condition of Oyster Creek.

II. Request/Action.

By letter dated August 22, 2017 (ADAMS Accession No. ML17234A082), Exelon requested exemptions from certain EP requirements of 10 CFR Part 50 for Oyster Creek. Specifically, Exelon requested exemptions from certain planning standards in 10 CFR 50.47(b) regarding onsite and offsite radiological emergency preparedness plans for nuclear power reactors, from certain requirements in 10 CFR 50.47(c)(2) for establishment of plume exposure and ingestion pathway emergency planning zones for nuclear power reactors; and from certain requirements in 10 CFR Part 50, Appendix E, Section IV, which establishes the elements that make up the content of emergency plans. In letters dated December 6, 2017, and January 23, March 8, and March 19, 2018 (ADAMS Accession Nos. ML17340A708, ML18023A138, ML18067A087, and ML18078A146, respectively), Exelon provided supplemental information and responses to the NRC staff's requests for additional information concerning the proposed exemptions.

The information provided by Exelon included justifications for each exemption requested. The exemptions requested by Exelon would eliminate the requirements to maintain formal offsite radiological emergency preparedness plans reviewed by the

Federal Emergency Management Agency (FEMA) under the requirements of 44 CFR Part 350 and would reduce the scope of onsite EP activities at Oyster Creek. The licensee stated that the application of all of the standards and requirements in 10 CFR 50.47(b), 10 CFR 50.47(c), and 10 CFR Part 50, Appendix E is not needed for adequate emergency response capability, based on the substantially lower onsite and offsite radiological consequences of accidents still possible at the permanently shutdown and defueled facility, as compared to an operating facility. If offsite protective actions were needed for a highly unlikely beyond-design-basis accident that could challenge the safe storage of spent fuel at Oyster Creek, provisions exist for offsite agencies to take protective actions using a comprehensive emergency management plan (CEMP) under the National Preparedness System to protect the health and safety of the public. A CEMP in this context, also referred to as an emergency operations plan, is addressed in FEMA's Comprehensive Preparedness Guide 101, "Developing and Maintaining Emergency Operations Plans," which is publicly available at http://www.fema.gov/pdf/about/divisions/npd/CPG_101_V2.pdf. Comprehensive Preparedness Guide 101 is the foundation for State, territorial, Tribal, and local EP in the United States. It promotes a common understanding of the fundamentals of risk-informed planning and decision-making and helps planners at all levels of government in their efforts to develop and maintain viable, all-hazards, all-threats emergency plans. An emergency operations plan is flexible enough for use in all emergencies. It describes how people and property will be protected; details who is responsible for carrying out specific actions; identifies the personnel, equipment, facilities, supplies and other resources available; and outlines how all actions will be coordinated. A CEMP is often referred to as a synonym for "all-hazards planning."

III. Discussion.

In accordance with 10 CFR 50.12, “Specific exemptions,” the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 50 when: (1) the exemptions are authorized by law, will not present an undue risk to public health and safety, and are consistent with the common defense and security; and (2) any of the special circumstances listed in 10 CFR 50.12(a)(2) are present. These special circumstances include, among other things, that the 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.

As noted previously, the EP regulations contained in 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50 apply to both operating and shutdown power reactors. The NRC has consistently acknowledged that the risk of an offsite radiological release at a power reactor that has permanently ceased operations and permanently removed fuel from the reactor vessel is significantly lower, and the types of possible accidents are significantly fewer, than at an operating power reactor. However, the EP regulations do not recognize that once a power reactor permanently ceases operation, the risk of a large radiological release from credible emergency accident scenarios is significantly reduced. The reduced risk for any significant offsite radiological release is based on two factors. One factor is the elimination of accidents applicable only to an operating power reactor, resulting in fewer credible accident scenarios. The second factor is the reduced short-lived radionuclide inventory and decay heat production due to radioactive decay. Due to the permanently defueled status of the reactor, no new spent fuel will be added to the SFP and the radionuclides in the current spent fuel will continue to decay as the

spent fuel ages. The irradiated fuel will produce less heat due to radioactive decay, increasing the available time to mitigate a loss of water inventory from the SFP. The NRC's NUREG/CR-6451, "A Safety and Regulatory Assessment of Generic BWR [Boiling Water Reactor] and PWR [Pressurized Water Reactor] Permanently Shutdown Nuclear Power Plants," dated August 1997 (ADAMS Accession No. ML082260098), and the NRC's NUREG-1738, "Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants," dated February 2001 (ADAMS Accession No. ML010430066), confirmed that for permanently shutdown and defueled power reactors that are bounded by the assumptions and conditions in the report, the risk of offsite radiological release is significantly less than for an operating power reactor.

In the past, EP exemptions similar to those requested for Oyster Creek, have been granted to permanently shutdown and defueled power reactor licensees. However, the exemptions did not relieve the licensees of all EP requirements. Rather, the exemptions allowed the licensees to modify their emergency plans commensurate with the credible site-specific risks that were consistent with a permanently shutdown and defueled status. Specifically, the NRC's approval of these prior exemptions was based on the licensee's demonstration that: (1) the radiological consequences of design-basis accidents would not exceed the limits of the U.S. Environmental Protection Agency's (EPA) early phase Protective Action Guides (PAGs) of one roentgen equivalent man (rem) at the exclusion area boundary; and (2) in the highly unlikely event of a beyond-design-basis accident resulting in a loss of all modes of heat transfer from the fuel stored in the SFP, there is sufficient time to initiate appropriate mitigating actions, and if needed, for offsite authorities to implement offsite protective actions using a CEMP approach to protect the health and safety of the public.

With respect to design-basis accidents at Oyster Creek, the licensee provided an analysis demonstrating that 12 months (365 days) following permanent cessation of power operations, the radiological consequences of the only remaining design-basis accident with potential for offsite radiological release (the fuel handling accident in the Auxiliary Building, where the SFP is located) will not exceed the limits of the EPA PAGs at the exclusion area boundary.

With respect to beyond-design-basis accidents at Oyster Creek, the licensee analyzed a drain down of the SFP water that would effectively impede any decay heat removal. The analysis demonstrates that at 12 months (365 days) after permanent cessation of power operations, there would be 10 hours after the assemblies have been uncovered until the limiting fuel assembly (for decay heat and adiabatic heatup analysis) reaches 900 degrees Celsius (°C), the temperature used to assess the potential onset of fission product release. The analysis conservatively assumed that the heat up time starts when the SFP has been completely drained, although it is likely that site personnel will start to respond to an incident when drain down starts. The analysis also does not consider the period of time from the initiating event causing loss of SFP water inventory until cooling is lost.

The NRC reviewed the licensee's justification for the requested exemptions against the criteria in 10 CFR 50.12(a) and determined, as described below, that the criteria in 10 CFR 50.12(a) will be met, and that the exemptions should be granted 365 days after Oyster Creek has permanently defueled. An assessment of the Exelon EP exemptions is described in SECY-18-0062, "Request by the Exelon Generation Company, LLC for Exemptions from Certain Emergency Planning Requirements for the Oyster Creek Nuclear Generating Station," dated May 31, 2018 (ADAMS Accession No. ML18030B340). The Commission approved the NRC staff's recommendation to grant

the exemptions in the staff requirements memorandum to SECY-18-0062, dated July 17, 2018 (ADAMS Accession No. ML18198A449). Descriptions of the specific exemptions requested by Exelon and the NRC staff's basis for granting each exemption are provided in SECY-18-0062. The NRC staff's detailed review and technical basis for the approval of the specific EP exemptions requested by Exelon, are provided in the NRC staff's safety evaluation associated with this exemption (ADAMS Accession No. ML18220A980).

A. The Exemption is Authorized by Law.

The licensee has proposed exemptions from certain EP requirements in 10 CFR 50.47(b), 10 CFR 50.47(c)(2), and 10 CFR 50, Appendix E, Section IV, that would allow Exelon to revise the Oyster Creek Emergency Plan to reflect the permanently shutdown and defueled condition of the facility. As stated above, in accordance with 10 CFR 50.12, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 50. The NRC staff has determined that granting of the licensee's proposed exemptions will not result in a violation of the Atomic Energy Act of 1954, as amended, or the NRC's regulations. Therefore, the exemptions are authorized by law.

B. The Exemption Presents no Undue Risk to Public Health and Safety.

As stated previously, Exelon provided an analysis that show that the radiological consequences of design-basis accidents will not exceed the limits of the EPA early phase PAGs at the exclusion area boundary. Therefore, formal offsite radiological emergency preparedness plans required under 10 CFR Part 50 will no longer be needed for protection of the public beyond the exclusion area boundary, based on the

radiological consequences of design-basis accidents still possible at Oyster Creek 365 days after the plant has permanently ceased power operations.

Although highly unlikely, there is one postulated beyond-design-basis accident that might result in significant offsite radiological releases. However, NUREG-1738 confirms that the risk of beyond-design-basis accidents is greatly reduced at permanently shutdown and defueled reactors. The NRC staff's analyses in NUREG-1738 conclude that the event sequences important to risk at permanently shutdown and defueled power reactors are limited to large earthquakes and cask drop events. For EP assessments, this is an important difference relative to operating power reactors, where typically a large number of different sequences make significant contributions to risk. As described in NUREG-1738, relaxation of offsite EP requirements in 10 CFR Part 50 beyond a few months after shutdown resulted in only a small change in risk. The report further concludes that the change in risk due to relaxation of offsite EP requirements is small because the overall risk is low, and because even under current EP requirements for operating power reactors, EP was judged to have marginal impact on evacuation effectiveness for the severe earthquakes that dominate SFP risk. All other sequences including cask drops (for which offsite radiological emergency preparedness plans are expected to be more effective) are too low in likelihood to have a significant impact on risk.

Therefore, granting exemptions to eliminate the requirements of 10 CFR Part 50 to maintain offsite radiological emergency preparedness plans and to reduce the scope of onsite EP activities will not present an undue risk to the public health and safety.

C. The Exemption is Consistent with the Common Defense and Security.

The requested exemptions only involve EP requirements under 10 CFR Part 50 and will allow Exelon to revise the Oyster Creek Emergency Plan to reflect the permanently shutdown and defueled condition of the facility. Physical security measures at Oyster Creek are not affected by the requested EP exemptions. The discontinuation of formal offsite radiological emergency preparedness plans and the reduction in scope of the onsite EP activities at Oyster Creek will not adversely affect Exelon's ability to physically secure the site or protect special nuclear material. Therefore, the proposed exemptions are consistent with common defense and security.

D. Special Circumstances.

Special circumstances, in accordance with 10 CFR 50.12(a)(2)(ii), are present whenever application of the regulation in the particular circumstances is not necessary to achieve the underlying purpose of the rule. The underlying purpose of 10 CFR 50.47(b), 10 CFR 50.47(c)(2), and 10 CFR Part 50, Appendix E, Section IV, is to provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency, to establish plume exposure and ingestion pathway emergency planning zones for nuclear power plants, and to ensure that licensees maintain effective offsite and onsite radiological emergency preparedness plans. The standards and requirements in these regulations were developed by considering the risks associated with operation of a power reactor at its licensed full-power level. These risks include the potential for a reactor accident with offsite radiological dose consequences.

As discussed previously in Section III, because Oyster Creek will be permanently shut down and defueled, there will no longer be a risk of a significant offsite radiological

release from a design-basis accident exceeding EPA early phase PAG at the exclusion area boundary and the risk of a significant offsite radiological release from a beyond-design-basis accident is greatly reduced when compared to an operating power reactor. The NRC staff has confirmed the reduced risks at Oyster Creek by comparing the generic risk assumptions in the analyses in NUREG-1738 to site-specific conditions at Oyster Creek and determined that the risk values in NUREG-1738 bound the risks presented at Oyster Creek. As indicated by the results of the research conducted for NUREG-1738, and more recently for NUREG-2161, "Consequence Study of a Beyond-Design-Basis Earthquake Affecting the Spent Fuel Pool for a U.S. Mark I Boiling Water Reactor," dated September 2014 (ADAMS Accession No. ML14255A365), while other consequences can be extensive, accidents from SFPs with significant decay time have little potential to cause offsite early fatalities, even if the formal offsite radiological EP requirements were relaxed. The licensee's analysis of a beyond-design-basis accident involving a complete loss of SFP water inventory, based on an adiabatic heatup analysis of the limiting fuel assembly for decay heat, shows that within 12 months (365 days) after permanent cessation of power operations, the time for the limiting fuel assembly to reach 900 °C is at least 10 hours after the assemblies have been uncovered assuming a loss of all cooling means.

The only analyzed beyond-design-basis accident scenario that progresses to a condition where a significant offsite release might occur, involves the highly unlikely event where the SFP drains in such a way that all modes of cooling or heat transfer are assumed to be unavailable, which is referred to as an adiabatic heatup of the spent fuel. The licensee's analysis of this beyond-design-basis accident shows that within 12 months (365 days) after permanent cessation of power operations, at least 10 hours would be available between the time that all cooling means are lost to the fuel (at which

time adiabatic heatup is conservatively assumed to begin), until the fuel cladding reaches a temperature of 1652 degrees Fahrenheit (900 °C), which is the temperature associated with rapid cladding oxidation and the potential for a significant radiological release. This analysis conservatively does not include the period of time from the initiating event causing a loss of SFP water inventory until all cooling means are lost.

The NRC staff has verified Exelon's analyses and its calculations. The analyses provide reasonable assurance that in granting the requested exemptions to Exelon, there is no design-basis accident that will result in an offsite radiological release exceeding the EPA early phase PAGs at the exclusion area boundary. In the highly unlikely event of a beyond-design-basis accident affecting the SFP that results in a complete loss of heat removal via all modes of heat transfer, there will be over 10 hours available before an offsite release might occur and, therefore, at least 10 hours to initiate appropriate mitigating actions to restore a means of heat removal to the spent fuel. If a radiological release were projected to occur under this highly unlikely scenario, a minimum of 10 hours is considered sufficient time for offsite authorities to implement protective actions using a CEMP approach to protect the health and safety of the public.

Exemptions from the offsite EP requirements in 10 CFR Part 50 have previously been approved by the NRC when the site-specific analyses show that at least 10 hours is available following a loss of SFP coolant inventory accident with no air cooling (or other methods of removing decay heat) until cladding of the hottest fuel assembly reaches the rapid oxidation temperature. The NRC staff concluded in its previously granted exemptions, as it does with Exelon's requested EP exemptions, that if a minimum of 10 hours is available to initiate mitigative actions consistent with plant conditions, or if needed, for offsite authorities to implement protective actions using a CEMP approach, then formal offsite radiological emergency preparedness plans,

required under 10 CFR Part 50, are not necessary at permanently shutdown and defueled facilities.

Additionally, Oyster Creek committed to maintaining SFP makeup strategies in its letters to the NRC dated March 8 and 19, 2018. The multiple strategies for providing makeup to the SFP include: using existing plant systems for inventory makeup; an internal strategy that relies on the fire protection system with redundant pumps (one diesel-driven and electric motor-driven); and onsite diesel fire truck that can take suction from the Barnegat Bay. These strategies will continue to be required as condition 2.C.(8), "Mitigation Strategy License Condition," of renewed facility operating license DPR-16 for Oyster Creek. Considering the very low probability of beyond-design-basis accidents affecting the SFP, these diverse strategies provide multiple methods to obtain additional makeup or spray to the SFP before the onset of any postulated offsite radiological release.

For all of the reasons stated above, the NRC staff finds that the licensee's requested exemptions meet the underlying purpose of all of the standards in 10 CFR 50.47(b), and requirements in 10 CFR 50.47(c)(2) and 10 CFR Part 50, Appendix E, and satisfy the special circumstances provision in 10 CFR 50.12(a)(2)(ii) in view of the greatly reduced risk of offsite radiological consequences associated with the permanently shutdown and defueled state of the Oyster Creek facility 12 months (365 days) after permanent cessation of power operations.

The NRC staff has concluded that the exemptions being granted by this action will maintain an acceptable level of emergency preparedness at Oyster Creek and, if needed, that there is reasonable assurance that adequate offsite protective measures can and will be taken by State and local government agencies using a CEMP approach in the unlikely event of a radiological emergency at Oyster Creek. Since the underlying

purposes of the rules, as exempted, would continue to be achieved, even with the elimination of the requirements under 10 CFR Part 50 to maintain formal offsite radiological emergency preparedness plans and the reduction in the scope of the onsite emergency planning activities at Oyster Creek, the special circumstances required by 10 CFR 50.12(a)(2)(ii) exist.

E. Environmental Considerations.

In accordance with 10 CFR 51.31(a), the Commission has determined that the granting of this exemption will not have a significant effect on the quality of the human environment as discussed in the NRC staff's Finding of No Significant Impact and associated Environmental Assessment published in the *Federal Register* on August 13, 2018 (83 FR 40092).

IV. Conclusions.

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12, Exelon's request for exemptions from certain EP requirements in 10 CFR 50.47(b), 10 CFR 50.47(c)(2), and 10 CFR Part 50, Appendix E, Section IV, and as summarized in Enclosure 2 to SECY-18-0062, are authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security. Also, special circumstances are present. Therefore, the Commission hereby grants Exelon's exemptions from certain EP requirements in 10 CFR 50.47(b), 10 CFR 50.47(c)(2), and 10 CFR Part 50, Appendix E, Section IV, as discussed and evaluated in detail in the NRC staff's safety evaluation associated with this exemption. The

exemptions are effective as of 12 months (365 days) after permanent cessation of power operations.

Dated at Rockville, Maryland, this 16th day of October, 2018.

For the Nuclear Regulatory Commission.

/RA/

Kathryn M. Brock, Deputy Director,
Division of Operating Reactor Licensing,
Office of Nuclear Reactor Regulation.