

SAFETY EVALUATION BY THE
OFFICE OF NUCLEAR MATERIAL SAFETY AND SAFEGUARDS
RELATED TO AMENDMENT NO. 299 TO RENEWED
FACILITY OPERATING LICENSE NO. DPR-16
HOLTEC DECOMMISSIONING INTERNATIONAL, LLC.
OYSTER CREEK NUCLEAR GENERATING STATION
DOCKET NO. 50-219

1.0 INTRODUCTION

By letter dated February 14, 2018 (Agencywide Documents Access and Management System [ADAMS] Accession No. Main Library [ML] ML18045A084) Exelon Generation Company, LLC (Exelon), licensee at the time, submitted certification to the U.S. Nuclear Regulatory Commission (NRC or the Commission) indicating its intention to permanently cease power operations at Oyster Creek Nuclear Generating Station (Oyster Creek), pursuant to Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.82(a)(1)(i). By letter dated September 25, 2018 (ADAMS Accession No. ML18268A258), Exelon certified to the NRC that as of September 17, 2018, operations had ceased at Oyster Creek, and that pursuant to 10 CFR 50.82(a)(1)(ii), all fuel had been removed from the reactor vessel. Effective July 1, 2019, Oyster Creek Renewed Facility Operating License (RFOL) No. DPR-16, and the general license for the Oyster Creek Independent Spent Fuel Storage Installation (ISFSI) was transferred from Exelon to Oyster Creek Environmental Protection, LLC (OCEP) as the licensed owner and to Holtec Decommissioning International, LLC (HDI) as the licensed decommissioning operator.

By application dated November 16, 2017 (ADAMS Accession No. ML17320A411), as supplemented by letter dated March 29, 2018 (ADAMS Accession No. ML18088A317), Exelon requested changes to RFOL No. DPR-16 and the associated technical specifications (TS) for Oyster Creek. Specifically, Exelon requested an amendment to revise the Oyster Creek RFOL and the associated TS to Permanently Defueled Technical Specifications (PDTS) consistent with the permanent cessation of operations and permanent removal of fuel from the reactor vessel. By letter dated October 26, 2018 (ADAMS Accession No. ML18227A338), the NRC issued an amendment to Oyster Creek TSs and associated license conditions approving the PDTS to reflect the permanently defueled condition.

By letter dated March 16, 2021 (ADAMS Accession No. ML21075A337), HDI submitted a license amendment request, for approval of the proposed amendment to the RFOL DPR-16 for Oyster Creek, to revise the 10 CFR Part 50 license and associated TS to reflect removal of all spent nuclear fuel from the spent fuel pool (SFP) and its transfer to dry cask storage within a site controlled Independent Spent Fuel Storage Installation (ISFSI). The proposed changes include recognition of the approved HDI Decommissioning Quality Assurance Plan (DQAP) and relocation of specific existing TS Administrative Controls from PDTS to the Defueled Safety Analysis Report (DSAR). These changes will comport with the requirements for a facility configuration with all spent nuclear fuel in dry storage within the ISFSI, an activity that was completed as of May 21, 2021 (ADAMS Accession No. ML21160A065).

2.0 REGULATORY EVALUATION

This safety evaluation assesses the acceptability of the proposed Oyster Creek ISFSI-Only PDTS. These PDTS would replace the current Oyster Creek PDTS after all of the Oyster Creek spent fuel has been transferred from the SFP to the ISFSI. The regulatory requirements and

associated guidance on which the NRC based its acceptance and evaluation of the Oyster Creek ISFSI-Only PDS follows.

The NRC's regulatory requirements related to the content of technical specifications are located in 10 CFR 50.36, "Technical specifications." In promulgating these requirements, the Commission placed emphasis on those matters related to the prevention of accidents and the mitigation of accident consequences. Specifically, the Commission noted that applicants were expected to incorporate into their TS "those items that are directly related to maintaining the integrity of the physical barriers designed to contain radioactivity" (33 FR 18610; December 17, 1968). Pursuant to 10 CFR 50.36, TS are required to include items in the following five categories: (1) safety limits, limiting safety system settings, and limiting control settings; (2) limiting conditions for operation (LCOs); (3) surveillance requirements (SRs); (4) design features; and (5) administrative controls. However, the rule does not specify the particular requirements to be included in a plant's technical specifications.

On July 22, 1993, the Commission published a Final Policy Statement on Technical Specifications Improvements for Nuclear Power Reactors (58 FR 39132). The Policy Statement discussed the scope and purpose of TS for nuclear power plants and included guidance criteria to be used in determining which of the LCOs and associated surveillances should be included in the TS. The Policy Statement established four criteria to define the scope of equipment and parameters to be included in the improved standard technical specifications. These criteria were developed for licenses authorizing operation and focused on instrumentation to detect degradation of the reactor coolant system pressure boundary, as well as on equipment or process variables that affect the integrity of fission product barriers during design-basis accidents (DBAs) or transients. The fourth criterion refers to the use of operating experience and probabilistic risk assessment to identify, and include in the TS, those structures, systems, and components (SSCs) shown to be significant to public health and safety. These criteria, codified by a revision to 10 CFR 50.36 (60 FR 36953; July 19, 1995), are the source of the TS requirements for facilities licensed under Part 50, "Domestic Licensing of Production and Utilization Facilities," of 10 CFR. A general discussion of these considerations is provided below.

Criterion 1 at 10 CFR 50.36(c)(2)(ii)(A) states that TS LCOs must be established for "installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary." Since the Oyster Creek facility no longer has fuel in the reactor and is no longer licensed to operate, this criterion is not applicable.

Criterion 2 at 10 CFR 50.36(c)(2)(ii)(B) states that TS LCOs must be established for a "process variable, design feature, or operating restriction that is an initial condition of a DBA or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier." The purpose of this criterion is to capture those process variables that have initial values assumed in the DBA and transient analyses, and which are monitored and controlled during power operation. Since the Oyster Creek facility no longer has fuel in the reactor vessel and is no longer licensed to operate, this criterion is not applicable.

Criterion 3 at 10 CFR 50.36(c)(2)(ii)(C) states that TS LCOs must be established for "structures, systems, or components that are part of the primary success path and which functions or actuates to mitigate a DBA or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier." The intent of this criterion is to capture into the TS those structures, systems, and components that are part of the primary success

path of a safety sequence analysis. The primary success path of a safety sequence analysis consists of combinations and sequences of equipment needed to operate (including consideration of the single failure criterion), so that the plant response to DBAs and transients limits the consequences of these events to within the appropriate acceptance criteria. Since fuel will have been removed from the reactor vessel and spent fuel pool at the Oyster Creek facility prior to implementation of this amendment, this criterion is not applicable.

Criterion 4 at 10 CFR 50.36(c)(2)(ii)(D) states that TS LCOs must be established for structures, systems, and components which operating experience or probabilistic risk assessment has shown to be significant to public health and safety. The intent of this criterion is that risk insights and operating experience be factored into the establishment of appropriate TS LCOs. Since fuel will have been removed from the reactor vessel and spent fuel pool at the Oyster Creek facility prior to implementation of this amendment, this criterion is not applicable.

10 CFR 50.36(c)(5), "Administrative controls," states that administrative controls "are the provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner." Therefore, the particular administrative controls to be included in the TS are the provisions that the Commission deems essential for the safe operation of the facility that are not already covered by other regulations. Accordingly, the NRC staff has determined (see discussion of NRC Administrative Letter (AL) 95-06, "Relocation of Technical Specification Administrative Controls Related to Quality Assurance" and AL 96-04 "Effective Adoption of Improved Standard Technical Specifications" (ADAMS Accession Nos. ML031110271 and ML031110087, respectively)), that administrative control requirements that are not specifically identified under Section 50.36(c)(5), and are not otherwise necessary to obviate the possibility of an abnormal situation or an event giving rise to an immediate threat to the public health and safety, may be relocated to more appropriate documents (e.g., the Quality Assurance (QA) Program, Licensee-Controlled Procedures, Physical Security Plan (PSP), Final Safety Analysis Report (FSAR), or Emergency Plan (EP)), which are subject to their own regulatory controls, such as 10 CFR 50.54(a) for QA programs and 10 CFR 50.59, "Changes, tests, and experiments." Similarly, while the required content of TS administrative controls is specified in 10 CFR 50.36(c)(5), the particular details of these controls may be relocated to other licensee-controlled documents, where the 10 CFR 50.59 and Appendix B to 10 CFR Part 50 change evaluation process ensures that adequate regulatory controls are in place.

10 CFR 50.36(c)(6), "Decommissioning," applies to nuclear power reactor facilities (like Oyster Creek) that have submitted the certifications required by 10 CFR 50.82(a)(1). For such facilities, TS involving safety limits, limiting safety system settings, and limiting control system settings; limiting conditions for operation; surveillance requirements; design features; and administrative controls are to be developed on a case-by-case basis.

The regulations in 10 CFR Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," establish requirements for NRC-approved QA plans; a QA program change control process is established in 10 CFR 50.54(a). NRC AL 95-06 provides guidance to licensees requesting amendments that relocate administrative controls to NRC-approved QA program descriptions, where subsequent changes are controlled pursuant to 10 CFR 50.54(a). NRC AL 95-06 provides specific guidance in the areas of: (1) independent safety engineering groups, (2) reviews and audits, (3) procedure review process, and (4) records and record retention. Some of the TS relocations requested by HDI as part of the establishment of ISFSI-Only TS for Oyster Creek are specifically discussed in NRC AL 95-06,

while others are similar in nature to those discussed in the AL. Relocations not specifically discussed in NRC AL 95-06 are evaluated with respect to the appropriateness of the relocation.

In addition, NRC AL 95-06 states that for the procedure review process, relocation should be to a QA plan that contains a commitment to process procedures and procedure changes in accordance with an accepted technical standard. The NRC staff determined that relocation of site-specific TS requirements regarding the establishment, implementation and maintenance of procedures to the QA plan remains acceptable because the change control process of 10 CFR 50.54(a) will govern any future changes to these requirements, as described in NRC AL 95-06.

The DSAR (former FSAR) is also an appropriate candidate for relocation of administrative controls due to the controls imposed by 10 CFR 50.59 and requirements to review changes, tests, and experiments. NRC AL 96-04 states that although parts of the existing technical specifications can be moved to the QA program, or to similar licensee-controlled documents for which there is an applicable regulatory process for future changes, most of the relocated requirements are placed in the FSAR so that future changes can be made in accordance with 10 CFR 50.59. Some licensees have attempted to incorporate those requirements into plant procedures, rather than into the FSAR, by committing to apply §50.59 to future changes. As described in NRC AL 96-04, the staff believes that for consistency and clarity, licensees should incorporate the details of the relocated technical specification requirements for which §50.59 is needed to control future changes, directly in the FSAR or in the Bases for the improved standard technical specifications.

3.0 TECHNICAL EVALUATION

The NRC staff has reviewed the licensee's regulatory and technical analyses in support of its proposed ISFSI-Only TS changes, as described in the application dated March 16, 2021.

3.1 Background

Oyster Creek has been shut down since September 17, 2018. Exelon submitted certifications for permanent cessation of reactor operations at Oyster Creek and permanent removal of fuel from the Oyster Creek reactor vessel on September 25, 2018. HDI is authorized to possess and store irradiated nuclear fuel at the permanently shutdown and defueled Oyster Creek facility. After the Oyster Creek reactor was shut down, all fuel assemblies were removed from the reactor vessel and placed in the Oyster Creek SFP. On May 21, 2021, the licensee completed transferring the remaining fuel from the Oyster Creek SFP to the onsite ISFSI. After all the irradiated fuel has been transferred from the SFP to the Oyster Creek ISFSI, many of the requirements in the current PDTS are inapplicable or are no longer appropriate.

In its application dated March 16, 2021, HDI requested that the NRC review and approve the proposed ISFSI-Only PDTS for Oyster Creek. The proposed amendment would modify the Oyster Creek RFOL and PDTS to reflect the condition of all irradiated fuel being in dry storage within the onsite ISFSI at Oyster Creek, using casks certified for use under a general license issued in accordance with 10 CFR 72.210. The amendment would also revise the Oyster Creek PDTS to eliminate operational requirements, as well as certain design requirements involving storage of spent fuel, that will no longer be applicable following the transfer of the last spent fuel assembly from the SFP to the ISFSI.

The proposed changes to the RFOL and PDTS also involve relocating administrative requirements from PDTS Section 6, "Administrative Controls," to the Oyster Creek DSAR, and subsequently controlling them in accordance with 10 CFR 50.54(a), 10 CFR 50.71(e), and 10 CFR 50.59, as applicable. This relocation is being proposed pursuant to the criteria contained in 10 CFR 50.36 and in accordance with the recommendations contained in NRC AL 95-06 and 96-04.

The existing PDTS contain LCOs that provide for appropriate functional capability of equipment required for safe storage and management of irradiated fuel located in the SFP. As such, the existing PDTS provide a level of control in excess of that needed for safe storage and management of irradiated fuel with all fuel stored in an ISFSI. The majority of the existing PDTS are only applicable when irradiated fuel assemblies are within the SFP. Once all spent fuel assemblies have been transferred to the Oyster Creek ISFSI, all remaining LCOs (and associated SRs) will no longer be applicable and are being proposed for deletion by the licensee.

In addition, after all spent fuel assemblies have been transferred to the ISFSI, there are no longer any structures, systems, or components (SSCs) at Oyster Creek that are required to be relied upon for accident mitigation. Therefore, with no fuel stored in the SFP, none of the SSCs at Oyster Creek meet the definition of a safety-related SSC as stated in 10 CFR 50.2, "Definitions." Since there are no accident scenarios that apply to the condition with all spent fuel stored in dry casks within an ISFSI, no analyzed accidents associated with the storage of fuel remain applicable to Oyster Creek once all the spent fuel is stored in dry casks. In addition, the NRC approved spent fuel storage casks and canisters to be used for spent fuel storage are subject to their own Certificate of Compliance and Cask Technical Specifications. In a permanently defueled condition with all spent fuel in storage within an ISFSI, the scope of equipment and parameters that need be included in the Oyster Creek PDTS is limited to a description of the design features and high radiation area administrative controls.

3.2 Renewed Facility Operating License Changes

License Condition 2.C.(2)

The licensee proposed to change the wording in this license condition to correctly describe the incorporation in the license of the ISFSI-only PDTS. The current wording was placed in the license condition to support the implementation of the PDTS and is proposed to be revised to correctly describe how changes to the PDTS are being incorporated into the license.

The licensee also proposed to remove reference to Appendix B (Environmental Technical Specifications) because the National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service issued an updated Biological Opinion on the incidental take of sea turtles for Oyster Creek on May 29, 2020 (ADAMS Accession No. ML20153A227). NOAA stated that while the incidental take of sea turtles occurred while Oyster Creek was operational, no additional take of any sea turtles is anticipated during the shutdown and decommissioning period. As such, no incidental take statement is provided with this opinion. Therefore, there are no reasonable and prudent measures or terms and conditions.

The proposed change to revise the license condition wording associated with incorporation of the PDTS into the license is administrative in nature. In addition, the staff agrees that the proposed change to remove Appendix B "Environmental Technical Specifications" from the

license is appropriate as Appendix B is no longer applicable. On this basis, the NRC staff finds the revision of this license condition acceptable.

License Condition 2.C.(8)

The licensee proposed to delete this license condition regarding mitigation strategies for large fires and explosions in its entirety, as it is no longer applicable. The license condition incorporated the requirements for mitigation strategies found in Attachment 2, Section B.5.b of the Interim Compensatory Measures (ICM) Order EA-02-026, dated October 16, 2002 (ADAMS Accession No. ML020500556). Attachment 2 of ICM Order EA-02-026 contains Safeguards Information and will not be released to the public. NRC letter dated November 28, 2011 (ADAMS Accession No. ML111220447) partially rescinded Order EA-02-026 but indicated that Interim Compensatory Measure (ICM) B.1.a remained in effect at Oyster Creek. This ICM action involved operator training for specific security-initiated events that were not covered by regulations or license amendments.

By letter dated March 6, 2019 (ADAMS Accession No. ML19065A183, non-publicly available) Exelon requested rescission of ICM B.1.a to EA-02-026, and EA-02-137. ICM B.1.a. was the remaining portion of EA-02-026 action applicable to Oyster Creek. NRC review of this request is documented in letter dated August 8, 2019 (ADAMS Accession No. ML19183A343). NRC review was performed and the ICM B.1.a. action and EA-02-137 in its entirety were rescinded.

However, the NRC rescission review credited the protective measures identified in License Condition 2.c.(8) as a basis to support rescission of the order and continued protection for nuclear fuel located in the SFP. By letter dated September 25, 2018 (ADAMS Accession No. ML18268A258), Exelon certified cessation of power operation and fuel was permanently removed from the reactor. After fuel is removed from the SFP and stored in dry casks in an ISFSI, the mitigating strategies in License Condition 2.C.(8) will no longer perform a required fuel protection function. Therefore, the NRC staff finds the deletion of the license condition regarding mitigation strategies for large fires and explosions acceptable.

License Condition 2.C.(9)

The licensee proposed to delete this license condition in its entirety. The license condition incorporated the requirements found in EA-06-137, "Order Requiring Compliance with Key Radiological Protection Mitigation Strategies," dated June 20, 2006 (ADAMS Accession No. ML061600076). The order required implementation of a certain key radiological protection strategy for the purpose of allaying the effects of a loss of coolant accident for the reactor vessel. Oyster Creek has been certified permanent shutdown and defueled the reactor per 10 CFR 50.82(a)(1)(i) and (ii). Therefore, the effects of a loss of coolant accident in the reactor vessel are precluded and Order EA-06-137 no longer provides a fuel protective function.

By letter dated March 6, 2019 (ADAMS Accession No. ML19065A183), Exelon requested rescission of NRC Order EA-06-137. By letter dated August 8, 2019 (ADAMS Accession No. ML19183A343), NRC approved rescission of EA-06-137 in its entirety for Oyster Creek. License Condition 2.C.(9) no longer provides the nuclear fuel and vessel protection. On this basis, NRC staff finds the deletion of the radiological protection strategy against loss of coolant accident for the reactor vessel license condition acceptable.

License Condition 2.C.(16)

The licensee proposed to delete this license condition in its entirety. This license condition involves management of license renewal application (LRA) commitments. The purpose of these LRA commitments was to ensure that the aging effects of equipment important to the safe operation of the reactor are managed so that the functionality of SSCs are maintained during the facility's period of extended operation. In letter dated March 9, 2009 (ADAMS Accession No. ML090720894), Exelon documented that it had completed implementation of commitments that were required by April 2009 for Oyster Creek and entering the period of extended operation.

For a permanently shutdown facility where all spent fuel has been located within the ISFSI, most of the equipment subject to aging management programs are no longer in use and functionality does not need to be maintained. However, during decommissioning some equipment, such as for equipment related to the fire protection system to address fire events that could result in radiological hazards per the requirements of 10 CFR 50.48(f), may be required beyond the permanent cessation of operations and therefore may be subject to an aging management program.

Prior to cessation of operations, Oyster Creek LRA commitments for aging management were incorporated into Appendix A, "Defueled Safety Analysis Report Supplement (Aging Management)", of the DSAR, which is updated in accordance with 10 CFR 50.71(e). Changes to these license renewal commitments continue to be evaluated and controlled pursuant to the change review requirement criteria identified 10 CFR 50.59 and 10 CFR 50.71(e). On this basis, the NRC staff finds the deletion of the aging management license condition acceptable.

License Condition 2.C.(17)

The licensee proposed to delete this license condition in its entirety. This license condition is related to implementation of the Incidental Take Statement associated with certain sea turtles in the Biological Opinion issued by NOAA National Marine Fisheries Service in November 21, 2011 (ADAMS Accession No. ML12006A217). An updated Biological Opinion was issued for Oyster Creek on May 29, 2020 to account for the facility no longer utilizing the environment for Power Reactor canal flows and "therefore there are no reasonable and prudent measures or terms and conditions," given that it has permanently shutdown. On this basis, the NRC staff finds the deletion of the Incidental Take Statement license condition acceptable.

License Condition 2.F

The licensee proposed to delete in its entirety, as no longer applicable, the license condition to follow Section 170 of the Atomic Energy Act of 1954. The requirement for the licensee to maintain public liability has been codified by 10 CFR 140 which applies to the owner of Oyster Creek, as exempted, to a reduced amount by the NRC staff (ADAMS Accession No. ML18229A006). On this basis, the NRC staff finds the deletion of license condition acceptable.

3.3 Technical Specification Changes

Cover Page and Table of Content

The licensee has proposed to revise the title sheet for Appendix A of the license, which is currently titled "Appendix A to Provisional Operating License DPR-16 Technical Specifications

and Bases.” The new title proposed is “Appendix A Renewed Facility License DPR-16 ISFSI Only Technical Specifications.” The proposed change reflects a plant condition where the reactor is permanently defueled and shutdown, and all fuel has been removed from and permanently prevented from being stored in the spent fuel pool. The licensee also proposed updates to the table of contents to reflect content changes as discussed in this safety evaluation. These are administrative changes that more correctly labels Appendix A on the cover sheet and updates the table of contents; therefore, the NRC staff finds this revision acceptable.

Definitions

The licensee has proposed to delete in its entirety, as no longer needed, the “Definitions” section from the PDTS. The purpose of the definitions is to provide uniform interpretation of frequently used terms in the PDTS. After transfer of the spent fuel from the SFP to the ISFSI is complete, the PDTS sections that reference the frequently used terms will be eliminated or relocated. Therefore, the definitions will no longer be needed. The NRC staff finds that since the terms would no longer be needed after the spent fuel has been removed from the SFP and transferred to the ISFSI, this change is administrative in nature and will not impact the continued safe storage and maintenance of spent fuel in the ISFSI. The NRC staff therefore finds it acceptable to delete the Definitions section of the Oyster Creek PDTS in its entirety.

Sections 3/4.0

The licensee has proposed to delete Section 3/4.0, “Limiting Conditions for Operation and Surveillance Requirements,” which contains limiting conditions for operation (LCO) that provide for appropriate functional capability of plant equipment required for the safe maintenance and storage of fuel assemblies in the SFP, and SRs and their bases, which establishes the standards and periodicity used to implement SRs for plant systems, from the PDTS. After the transfer of spent fuel from the SFP to the ISFSI, there will no longer be any applicable LCOs or SRs in the PDTS, and the applicable TS bases sections will also be removed. The NRC staff finds that since Oyster Creek will no longer store spent fuel in the SFP after all the fuel is transferred to the ISFSI, this section of the PDTS may be deleted in its entirety with no impact on the requirements for spent fuel safety and storage in the ISFSI-only configuration, and the proposed deletion is therefore acceptable.

Sections 3/4.1

The licensee has proposed to delete Section 3/4.1, “Spent Fuel Storage” and its basis in its entirety. The requirements in this section are related to assuring the functional capability of equipment required for safe storage and maintenance of spent fuel stored in the SFP. These requirements do not apply when there are no fuel assemblies stored in the SFP. The NRC staff finds that since Oyster Creek will no longer store spent fuel in the SFP after all the fuel is transferred to the ISFSI, this section of the PDTS may be deleted in its entirety with no impact on the requirements for spent fuel safety and storage in the ISFSI-only configuration, and the proposed deletion is therefore acceptable.

Sections 3/4.2

The licensee has proposed to delete Section 3/4.2, “Radioactive Liquid Storage” and its basis in its entirety. The requirements in this section are related to outdoor tanks used to store

radioactive liquids. The licensee stated that there will be no outdoor tanks used to store radioactive liquids that can have 10 curies present. After all the fuel is transferred to the ISFSI, remaining liquids will be processed with licensee-controlled procedures that are in place imposing controls from regulations including 10 CFR 50.59, Appendix B to 10 CFR Part 50, and the requirements to assure radioactive effluents are maintained "as low as reasonably achievable" in accordance with Appendix I to 10 CFR Part 50, and within the dose limits to the public specified in 10 CFR Part 20. Procedure changes are subject to the change control process in 10 CFR 50.59 which provides adequate control and has no impact on continued safe storage of spent fuel in the ISFSI. Effluents that can be released to the environment are monitored and controlled in accordance with the Offsite Dose Control Manual (ODCM). On this basis, the NRC staff finds the proposed deletion acceptable.

Section 5.1

The licensee has proposed modify Section 5.1 "Site," of the PDTS, which described the Oyster Creek site location, to reflect the condition of permanent removal of spent fuel from the SFP. Section 5.1 would be revised to remove the site exclusion area description because it is based on requirements regarding dose analyses of reactor accidents that cannot happen when the reactor is permanently defueled. The removal of the description of the exclusion area boundary does not alter any regulatory requirements related to licensee authority over the site location and does not have an impact on continued safe storage and maintenance of irradiated fuel in the ISFSI. The NRC staff finds that the removal or change of this design feature descriptions will have no impact on the requirements for spent fuel safety and storage in the ISFSI-only configuration, and the proposed modification is therefore acceptable.

Section 5.2

The licensee has proposed modify Section 5.2 "Spent Fuel Storage," of the PDTS, which describes design features associated with spent fuel storage in the SFP, to reflect the condition of permanent removal of spent fuel from the SFP. A new design feature will be added stating that spent fuel shall not be stored in the SFP. This new design feature documents the premise on which the proposed amendment is based (i.e., that spent fuel will no longer be stored in the SFP). The NRC staff finds that the removal or change of these design feature descriptions will have no impact on the requirements for spent fuel safety and storage in the ISFSI-only configuration, and the proposed deletion is therefore acceptable.

Section 6.0

Section 6.0 "Administrative Controls," of the PDTS establishes the requirements associated with personnel, administrative programs, reporting, and PDTS basis control. This licensee has proposed to delete or relocate this section of the PDTS to licensee-controlled documents. Therefore, all of the sections in PDTS Section 6.0, with the exception of Section 6.13, "High Radiation Area," are being deleted in their entirety, with the pertinent information relocated to the HDI DQAP and HDI DSAR. Relocating TS administrative controls to a QA program or DSAR is consistent with NRC AL 95-06 and 96-04 and any future changes are controlled in accordance with CFR 50.54(a), 10 CFR 50.71(e), and 10 CFR 50.59, as applicable.

Specifically, the licensee proposed to eliminate Section 6.1, "Responsibility," which provides a description of requirements for the plant manager and the shift manager. The responsibilities of the plant manager will be deleted from the PDTS as it is redundant to details already approved

in the HDI DQAP Section 1 Organization. The shift manager responsibilities are being eliminated. With removal of all of the spent fuel from the SFP, this function will be provided by the Security Operating Supervisor (SOS) whose responsibilities are described by both the ISFSI-only Security Plan and the ISFSI-Only Emergency Plan. Since this change is administrative in nature and consistent with the level of responsibilities when all of the spent fuel is stored in the ISFSI, the NRC staff finds it acceptable.

The licensee proposed to delete the requirements in Section 6.2, "Organization," which provides a description of, and requirements for, onsite and offsite organizations and facility staffing, includes lines of authority and staff responsibilities, and specifies requirements for fuel handling operations and supervision. These requirements are already described in HDI DQAP Section 1 "Organization," and Chapter 5 of the DSAR. Section 6.2.1.d provides requirements for organizational freedom of the Certified Fuel Handler (CFH) trainers, and the health physics and QA personnel. HDI proposed to eliminate the portion of Section 6.2.1.d pertaining to CFH trainers, since is no longer a required position because all fuel has been removed from the reactor and SFP.

Section 6.2.2, "Facility Staff," establishes the requirements for personnel required at the station to assure safe facility operation and the safety of the nuclear fuel. This section provided for adequate staff to ensure the safe storage and movement of fuel, including an individual qualified in radiation protection procedures and designation of fire responsibilities. The HDI DQAP and DSAR address the necessary organizational requirements for Oyster Creek after all spent fuel has been transferred to ISFSI. Following the transfer of all spent fuel to the ISFSI, and the new provision in Section 5.2 of the PPTS prohibiting storage of fuel in the SFP, there will no longer be a need for CFHs or the other specified personnel requirements in this section.

After implementation of the Oyster Creek ISFSI-Only PPTS, storage of spent fuel in the SFP will be prohibited; accordingly, there will no longer be a need for many of the personnel described in Section 6.2, or the associated training programs. Relocating the remaining responsibilities to the DQAP and DSAR is consistent with NRC AL 95-06 and 96-04. Therefore, the proposed deletions and relocations to the DQAP and DSAR of the PPTS Section 6.2 requirements will have no impact on safe storage and maintenance of spent fuel in the ISFSI and are therefore acceptable to the NRC staff.

Section 6.3, "Facility Staff Qualifications," establishes the minimum requirements for staff qualification. American National Standards Institute (ANSI) Standard ANSI/ANS-3.1-1978, "Qualification and Training of Personnel for Nuclear Power Plants," referenced in Section 6.3, contains the minimum requirements associated with facility staff qualifications. The licensee proposed to eliminate this section entirely from the PPTS because the qualification requirements are already described in DSAR Section 5.0 "Qualification of Plant Personnel." The licensee proposed to delete PPTS 6.3.2 and add this qualification requirement to the DSAR section 5.1.3. The last sentence of 6.3.2 will not be retained as it pertains to training controls which are already specified by the DQAP section 2.7 "Personnel Training and Qualifications." Relocating the remaining responsibilities to the DQAP and DSAR is consistent with NRC AL 95-06 and 96-04. Therefore, the proposed deletions and relocations to the DQAP and DSAR of the PPTS Section 6.3 requirements will have no impact on safe storage and maintenance of spent fuel in the ISFSI and are therefore acceptable to the NRC staff.

Section 6.8 "Procedures," addresses procedure requirements to ensure quality assurance requirements for operation of nuclear power plants. The licensee proposed to relocate the

requirements of this section to the DSAR administrative controls section, except for 1) 6.8.1.a which specifies procedures applicable to the safe storage of nuclear fuel as recommended in Appendix A, "Typical Procedures for Pressurized Water Reactors and Boiling Water Reactors," to Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)," Revision 2, dated February 1978 (ADAMS Accession No. ML003739995), and 2) Section 6.8.3.b, which is associated with fuel assemblies to be placed in a specified portion of the spent fuel racks. These two subsections will be eliminated as they are no longer applicable.

Section 6.8.4 specifies administrative requirements for the program to control radioactive effluents and for maintaining doses to the public to within the specified limits. The licensee proposed to delete this section from the PDTs and relocate the requirements in the DSAR, except for 1) references to 6.8.4.7.a since after all spent fuel is transferred to the ISFSI and contained within dry storage casks, there will no longer be a requirement to monitor for noble gases released from the facility, 2) references to iodine-131 and iodine-133 in 6.8.4.7.b will not be relocated to the DSAR due to the radioactive decay and short half-lives and time since permanent cessation of reactor operation. This proposed change is consistent with changes to the ODCM implemented under 10 CFR 50.59. In addition, references to "gaseous" effluents and monitoring will be revised to "airborne" effluents and monitoring will be incorporated based on conditions applicable to post fuel removal from spent fuel pool to dry casks located in the ISFSI. This editorial change does not alter monitoring requirements previously identified and is strictly an administrative change.

The remaining requirements for a Radioactive Effluent Controls Program will be maintained in accordance with 10 CFR 50.54(a). Since the intent of this section is to ensure that the Radioactive Effluent Controls Program continues to meet the requirements of 40 CFR 190 "Environmental Radiation Protection Standards for Nuclear Power Operations," 10 CFR 20 "Standards for Protection Against Radiation," 10 CFR 50.36a "Technical Specifications on Effluents from Nuclear Power Reactors," and 10 CFR 50, Appendix I "Numerical Guides for Design Objectives and Limiting Conditions for Operation to Meet the Criterion 'As Low as is Reasonably Achievable' for Radioactive Material in Light-Water-Cooled Nuclear Power Reactor Effluents," and because these requirements will be maintained in the DSAR, the relocated requirements will continue to be subject to regulatory controls. Therefore, the proposed deletions and relocations of the requirements in this section are acceptable to the NRC staff.

Section 6.9, "Reporting Requirements," provides a description and requirements for reports that are to be submitted in accordance with 10 CFR 50.36a. The licensee proposed to delete this section from the PDTs and relocate the requirements for the Annual Radiological Effluent Release Report and the Annual Radiological Environmental Operating Report to the DSAR. After these administrative controls are incorporated into the DSAR, any future changes will be controlled in accordance with 10 CFR 50.54(a). The relocation of administrative controls for reporting requirements to the DSAR is consistent with NRC AL 95-06 and 96-04, will have no impact on safe storage and maintenance of spent fuel in the ISFSI, and is therefore acceptable.

Section 6.10, "Record Retention," establishes the requirements for maintaining records. The licensee proposed to delete the record retention requirements from the PDTs and continue to maintain records as described in the DQAP Section 17 "Quality Assurance Records" and its Appendix B. These requirements are already located in the DQAP so there will be no reduction in the overall record retention requirements. The location of these requirements in the DQAP is consistent with NRC AL 95-06. Therefore, the proposed deletion is acceptable to the NRC staff.

Section 6.19, "Offsite Dose Calculation Manual," specifies how to document, review, and approve changes to the ODCM. The licensee proposed to delete these requirements from the PDTS and relocate them to the DSAR. After the administrative controls are incorporated into the DSAR, any future changes will be controlled in accordance with 10 CFR 50.54(a). This will provide adequate control for the facility with all spent fuel located within the ISFSI. The relocation of these administrative requirements to the DSAR is consistent with NRC AL 95-06 and 96-04 and will have no impact on the safe storage and maintenance of spent fuel in the ISFSI. Because the intent of this section is to ensure that the ODCM continues to meet the requirements of 40 CFR 190, 10 CFR 20, 10 CFR 50.36(a), and 10 CFR 50, Appendix I, and because this requirement will be maintained in the DSAR, the relocated requirements will continue to be subject to regulatory controls. Therefore, the proposed relocation of the requirements in this section are acceptable to the NRC staff.

Section 6.21, "Technical Specification Bases Control Program," establishes the requirements to update and maintain the basis for the Oyster Creek TS. All of the bases in the existing PDTS are being eliminated with the proposed changes to the corresponding sections. Because the TS bases will be deleted, there will no longer be a need for a TS bases control program. The removal of this section will not reduce the effectiveness of the Oyster Creek ISFSI-Only PDTS. Therefore, the proposed deletion of these requirements is acceptable.

3.4 Conclusion

Based on the NRC staff's review of the Oyster Creek ISFSI-Only proposed amendment to the PDTS, as described above, the NRC staff concludes that the requirements of 10 CFR 50.36 are addressed in a satisfactory manner, considering the permanently shutdown and defueled status of the facility, and the proposed transfer of all remaining spent fuel from the Oyster Creek SFP to the ISFSI by Summer 2021.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment to the Oyster Creek 10 CFR Part 50 RFOL and PDTS includes changes to requirements with respect to installation or use of a facility component located within the protected area, changes to surveillance requirements, and changes to recordkeeping, reporting, or administrative procedures or requirements. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, which was published in the Federal Register on April 20, 2021 (86 FR 20526), and there have been no public comments on this finding. Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22 (c)(9) and 10 CFR 51.22(c)(10)(ii). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

5.0 STATE CONSULTATION

On April 28, 2021 (ADAMS Accession No. ML21119A142), the NRC staff notified the New Jersey State official, New Jersey Department of Environmental Protection, regarding the proposed changes to the Oyster Creek license and PDTS to reflect the transfer of all spent fuel into dry cask storage at the onsite ISFSI, and the NRC staff's intent to approve the Oyster Creek

ISFSI-only license changes and PDTS revisions via license amendment. The New Jersey State official reviewed the license amendment request and had no comments (ADAMS Accession No. ML21132A318).

6.0 CONCLUSION

Based on review of the licensee's application dated March 16, 2021, and the proposed changes to the Oyster Creek RFOL and PDTS to reflect the removal of all spent nuclear fuel from the Oyster Creek SFP and transfer to dry cask storage in an onsite ISFSI, the NRC staff finds that the proposed changes meet the standards in 10 CFR 50.36. Further, the changes proposed by this license amendment request will delete requirements that will no longer be applicable following the transfer of all spent nuclear fuel to the Oyster Creek ISFSI, as well as relocate administrative controls to licensee-controlled programs in a manner consistent with NRC ALs 95-06 and 96-04. On the basis of its review, the NRC staff concludes that the licensee's request adequately addresses the applicable regulatory safety requirements for a permanently shutdown nuclear power facility with all spent nuclear fuel transferred to dry cask storage in an ISFSI. Therefore, the NRC staff concludes that the licensee's proposed Oyster Creek ISFSI-Only PDTS are acceptable.

The NRC staff also concludes, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Zahira Cruz Perez, NMSS

Dated: June 25, 2021