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Environmental Assessment for the License Amendment for the Oyster Creek License Termination Plan in Lacey and Ocean Townships, New Jersey

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Environmental Center of Expertise
Division of Rulemaking, Environmental, and Financial Support
Office of Nuclear Material Safety and Safeguards

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ABBREVIATIONS AND ACRONYMS

ac	acre(s)
ACHP	Advisory Council on Historic Preservation
ALARA	as low as reasonably achievable
AMSL	above mean sea level
APE	area of potential effects
BiOp	Biological Opinion
BGEPA	Bald and Golden Eagle Protection Act of 1940
BMPs	best management practices
BWR	boiling water reactor
cm	centimeters(s)
CFR	*Code of Federal Regulations*
DOE	U.S. Department of Energy
EA	environmental assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ER	environmental report
ESA	U.S. Endangered Species Act
FE	federally endangered
FPT	proposed for Federal listing as threatened
FT	federally threatened;
ft	feet/foot
FWS	U.S. Fish and Wildlife Service
GEIS	generic environmental impact statement
gpm	gallons per minute
GTCC	Greater than Class C
ha	hectare(s)
HDI	Holtec Decommissioning International, LLC
in.	inch(es)
IPaC	Information for Planning and Consultation
ISFSI	independent spent fuel storage installation
km	kilometer(s)
kph	kilometer(s) per hour
LLRW	low-level radioactive waste
lpm	liters per minute
LTP	License Termination Plan

m	meter(s)
MBTA	Migratory Bird Treaty Act
mi	mile(s)
MOA	Memorandum of Agreement
mph	miles per hour
MW	megawatt(s)
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act of 1969
NHPA	National Historic Preservation Act of 1966
NJDEP	New Jersey Department of Environmental Protection
NJPDES	New Jersey Pollution Discharge Elimination System
NLEB	Northern Long-eared Bat
NMFS	National Marine Fisheries Service
NO_x	nitrogen oxides
NRC	U.S. Nuclear Regulatory Commission
NRHP	National Register of Historic Places
OCNGS	Oyster Creek Nuclear Generating Station
piC/L	picocuries per liter
PM	particulate matter
PSDAR	Post-Shutdown Decommissioning Activities Report
rem	roentgen equivalent man
REMP	Radiological Environmental Monitoring Program
SAV	submerged aquatic vegetation
SEIS	supplemental environmental impact statement
SER	Safety Evaluation Report
SHPO	State Historic Preservation Officer
SW	service water
VOC	volatile organic compounds

1 INTRODUCTION

By letter dated August 1, 2024, Holtec Decommissioning International, LLC (HDI) submitted an application to the U.S. Nuclear Regulatory Commission (NRC) requesting a license amendment to approve the License Termination Plan (LTP) for the Oyster Creek Nuclear Generation Station (OCNGS) located in Lacey and Ocean Townships, New Jersey (HDI 2024). HDI's request, if granted, would add a condition to the license reflecting the NRC's approval of the LTP and establishing criteria for determining when changes to the LTP require prior NRC approval.

Submittal of the LTP is one of the final steps in NRC's nuclear power reactor decommissioning process, which involves the safe removal of a facility from service and the reduction of residual radioactivity to a level that permits NRC license termination. Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.82, "Termination of license," provides the requirements for terminating power reactor licenses. Those requirements specify what must be included in a licensee's LTP when submitted to the NRC for review and approval. The LTP describes the process the licensee will use to meet the requirements for terminating the license and releasing the site for unrestricted use.

The NRC will terminate the license if it determines that the site meets the performance-based criteria for unrestricted site release, in accordance with 10 CFR 20.1402, "Radiological criteria for unrestricted use," and that the facility has been dismantled in accordance with the approved LTP. The portion of the site associated with the OCNGS independent spent fuel storage installation (ISFSI) will remain under the NRC's regulatory jurisdiction. Although the terminology "license termination" is used throughout this environmental assessment (EA), the 10 CFR 50, "Domestic Licensing of Production and Utilization Facilities," license will continue in effect for the OCNGS ISFSI only. The OCNGS license will be considered terminated in all other aspects and will only apply to the site occupied by the OCNGS ISFSI.

The NRC staff has prepared this EA to evaluate and document the potential environmental impacts resulting from the NRC's approval of HDI's license amendment request and the subsequent implementation of the LTP. The NRC staff also is performing a detailed safety analysis of HDI's license amendment request. The results of the safety analysis will be documented in a separate Safety Evaluation Report (SER). The NRC decision whether to approve the license amendment request will be based on the results of the NRC staff's reviews documented in this EA and the SER.

1.1 Background

OCNGS is a single unit boiling water reactor (BWR) facility located in Lacey and Ocean Townships in Ocean County, New Jersey (HDI 2025a) (Figure 1-1). It was licensed to generate 1,930 megawatts (MW) thermal. The NRC issued the initial construction permit in 1964, with commercial operation beginning in 1969. The renewed facility operating license for OCNGS allowed operation until April 9, 2029.

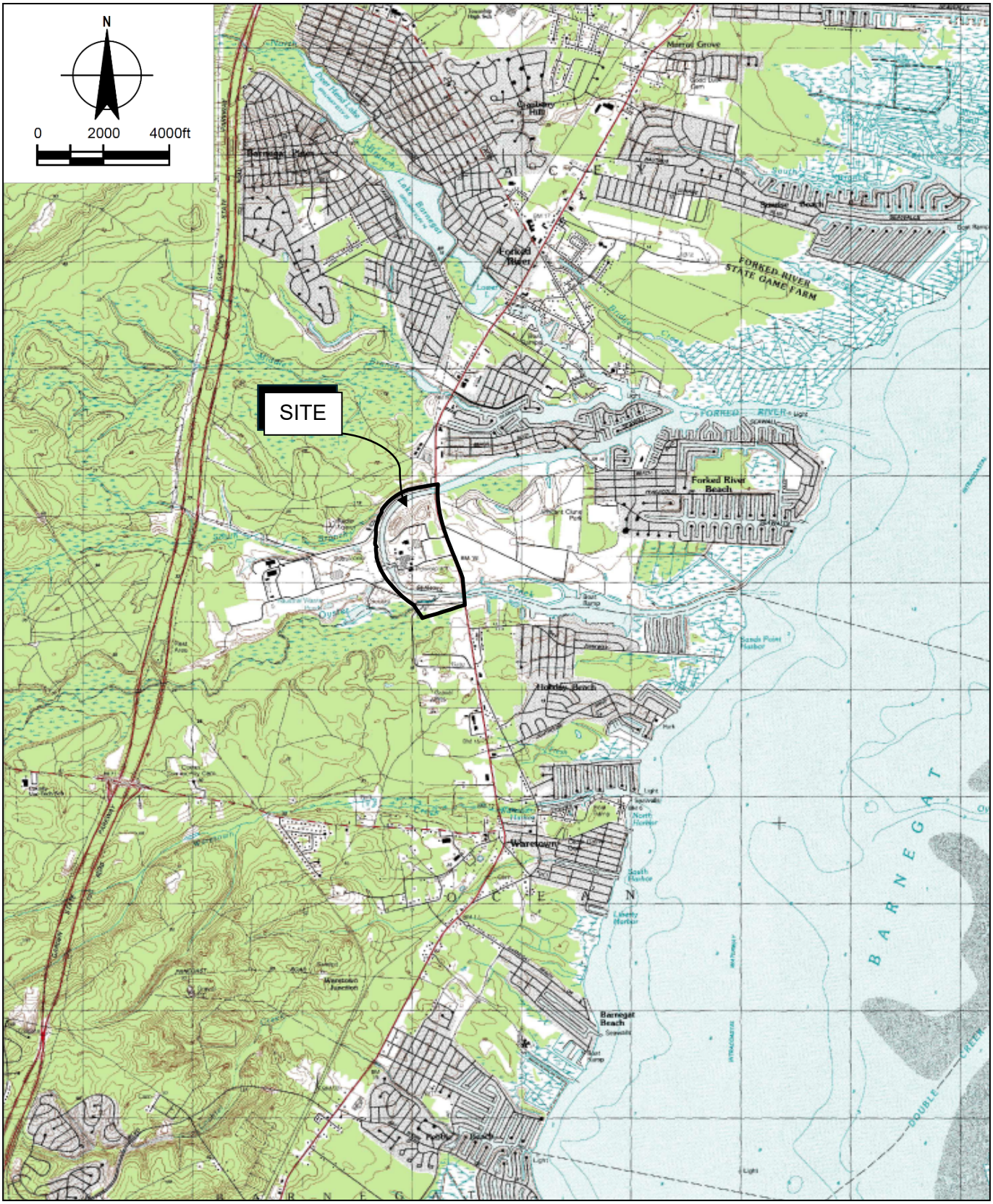

Figure 1-1 Oyster Creek Nuclear Generating Station Site Location Map (HDI 2025a)

By letter dated January 7, 2011, Exelon Generation Company, LLC (Exelon) announced its plan to retire OCNGS no later than December 31, 2018 (Exelon 2011). A February 14, 2018, supplement to the January 7 letter certified that operations would cease no later than October 31, 2018 (Exelon 2018a). Exelon permanently shut down OCNGS on September 17, 2018. By letter dated September 25, 2018, Exelon certified to the NRC that it had permanently removed fuel from the reactor vessel (Exelon 2018b). On May 21, 2018, Exelon submitted a SAFSTOR Post-Shutdown Decommissioning Activities Report (PSDAR) to initiate decommissioning of OCNGS under the SAFSTOR method (Exelon 2018c).[1]

By letter dated August 31, 2018, Exelon submitted to the NRC an application for transfer of the OCNGS facility licenses to Oyster Creek Environmental Protection, LLC as owner and HDI as operator (Exelon 2018d). This transfer was completed on July 1, 2019 (Exelon 2019).

On September 28, 2018, HDI submitted a Revised PSDAR to address the acceleration of decommissioning activities, and changes to the decommissioning schedule and cost estimates (HDI 2018). The Revised PSDAR established the decommissioning method as DECON.[2]

The initial phase of decommissioning has already begun. A detailed summary of completed decommissioning activities can be found in in Section 3.2 of HDI's LTP, Revision 2, incorporated here by reference (HDI 2025a). Active and planned decommissioning activities as of the time of the OCNGS LTP Revision 2 submittal can be found in detail in Section 3.3 of the LTP, incorporated here by reference (HDI 2025a). Note that several buildings are included in both sections, as decommissioning work progresses. The full schedule of demolition as proposed can be found in Section 3.4 of the LTP, incorporated here by reference (HDI 2025a).

1.2 Proposed Action

The proposed action is the review and subsequent approval, if appropriate, of the OCNGS LTP for decommissioning the site and releasing the land for unrestricted use. In its license amendment request, HDI requested an amendment to the OCNGS license to add license conditions that (1) reflect the NRC staff's approval of the LTP and (2) provide criteria for when NRC approval is needed for subsequent LTP changes. If the NRC approves the LTP, approval will be issued in the form of an amendment to the OCNGS license that adds the requested license conditions.

1.3 Purpose and Need

The purpose and need for the proposed action is to allow completion of decommissioning of OCNGS by HDI and subsequent release of the majority of the OCNGS site for unrestricted release. A portion of the site required for operation of the ISFSI would remain under the 10 CFR 50 license until the spent fuel is shipped off-site and the ISFSI can be decommissioned. The NRC regulation at 10 CFR 50.82 sets forth the process for the licensee to decommission its nuclear power plant, including submission of the LTP. The NRC will approve the LTP, provided that the LTP meets the criteria in 10 CFR 50.82(a)(10).

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1 SAFSTOR is a nuclear decommissioning method in which a nuclear power plant/facility governed by the NRC, is "placed and maintained in a condition that allows the facility to be safely stored and subsequently decontaminated (deferred decontamination) to levels that permit release for unrestricted use."

2 A facility is said to be in DECON when active decommissioning (e.g., dismantlement and decontamination) work is underway.

1.4 Environmental Scope

To fulfill its obligations under the National Environmental Policy Act of 1969 (NEPA), the NRC must evaluate the radiological and non-radiological environmental impacts associated with approval of the LTP and subsequent termination of the license. These evaluations involve an assessment of the impacts of remaining decommissioning and site restoration activities documented in the LTP and license termination activities.

The NRC previously evaluated the potential environmental impacts of nuclear reactor decommissioning in NUREG–0586, Supplement 1, *Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities* (GEIS) (NRC 2002). The NRC staff uses the GEIS to evaluate environmental impacts that would occur during the decommissioning of nuclear power reactors. The GEIS is considered "generic" in that it evaluates environmental impacts from decommissioning activities common to nuclear power reactor facilities. The GEIS addresses the decommissioning of nuclear power reactors licensed by the NRC, including pressurized-water reactors, BWRs, and stations with multiple reactor units. The generic analysis was based, in part, on experience with reactors that had already undergone or were undergoing decommissioning.

OCNGS, which is a 1,930 MW thermal BWR designed by General Electric, was not evaluated in the GEIS; however, the GEIS did evaluate Millstone, Unit 1, which was a 2,011 MW thermal BWR designed by General Electric. Both facilities are BWRs designed by General Electric, and they are similar in design and construction. Because the power level of Millstone Unit 1 was higher than that of OCNGS, it was an larger facility overall, meaning it had a larger footprint, required a larger volume of water intake, and generally imposed greater environmental effects. Therefore, the environmental impacts of decommissioning Millstone Unit 1 evaluated in the GEIS would bound the environmental impacts of OCNGS decommissioning because of OCNGS's smaller power level, footprint, and water intake. Thus, the GEIS is applicable to the OCNGS decommissioning.

The scope of the GEIS is based on decommissioning activities from the time that a licensee certifies it has permanently ceased power operations until the license is terminated. In the GEIS, the NRC staff concluded that the environmental impacts of decommissioning, including license termination activities, can be determined generically for all nuclear power plants and will have SMALL impacts in all but five environmental resource areas, which should be evaluated on a site-specific basis in site-specific EAs, such as this EA for the OCNGS LTP (NRC 2002).

Additionally, the GEIS did not address the affected environment, nonradioactive waste management, and contamination of groundwater from decommissioning activities. Therefore, this EA describes the affected environment at OCNGS and evaluates the potential nonradioactive waste management impacts and groundwater impacts.

2 ALTERNATIVES

As an alternative to the proposed action, the NRC staff considered only the “no-action alternative.” Under the no-action alternative, the NRC would not approve the LTP or the license amendment request because regulatory requirements have not been met. Consequently, the OCNGS license would not be terminated; decommissioning, on-site maintenance, and operations activities involving the storage of spent nuclear fuel would continue; and the OCNGS site would not be released for unrestricted use.

If the NRC was unable to approve the LTP because the regulatory requirements had not been met, then HDI would have to take the necessary actions to ensure the regulations are met. HDI would need to take additional action to prepare an LTP that meets the requirements in 10 CFR 50.82(a)(10), and the updated LTP would then need to be submitted to the NRC for approval prior to license termination. Under this scenario, until HDI resubmits the LTP, activities at the OCNGS would likely continue and the environmental impacts would neither increase nor decrease as a result of the additional time required for the LTP resubmission. As such, the no-action alternative is not evaluated in further detail in this EA.

3 AFFECTED ENVIRONMENT AND ENVIRONMENTAL IMPACTS

3.1 Land Use

3.1.1 Affected Environment

The OCNGS site occupies 152 acres (ac) (61.5 hectares [ha]) in the state of New Jersey located mostly in Lacey Township in Ocean County about 2 mi (3.2 km) inland from the shore of Barnegat Bay (HDI 2025a). The site is approximately 9 mi (14.5 km) south of Toms River, New Jersey, and about 50 mi (80.5 km) east of Philadelphia, Pennsylvania. The Intake Canal flows from Barnegat Bay along the north and northwest sides of the site, and the Discharge Canal flows along the southwest and south sides of the site back east to Barnegat Bay.

Topography in the region consists of relatively level landscapes associated with the coastal plains. The site elevation ranges from approximately 0 to 15 feet (ft) (0 to 4.6 meters [m]) above mean sea level (AMSL) immediately adjacent to the Intake and Discharge Canals to more than 30 ft (9.1 m) AMSL in the northwest portion of the station property (HDI 2025a). The ground is comparatively flat except for steep slopes constructed along the Intake and Discharge Canals. The terrain surrounding the site is relatively flat along the shoreline and gently rolling inland.

3.1.2 Impacts

In the environmental report (ER), HDI stated that decommissioning activities would occur within on-site areas previously disturbed during plant construction and operation. There would be no additional off-site land needed to complete decommissioning.

As part of decommissioning, HDI plans to fill or regrade to create or restore an acceptable grade for all disturbed areas (e.g., excavations, building basements, etc.). Land disturbances that exceed 5,000 ft^2 (464.5 m^2) in area are authorized by the Ocean County Soil Conservation District Sediment Control Act. HDI has obtained a Soil Erosion and Sediment Control Plan for decommissioning soil disturbances (HDI 2025a).

The GEIS concluded that for facilities having only on-site land-use changes resulting from removal of large components, dismantlement of structures, and packaging and storing of low-level waste, the impacts on land use are not detectable or destabilizing (NRC 2002). The GEIS did not make a generic conclusion for off-site land use, instead concluding that such impacts would need to be considered in a site-specific analysis.

Decommissioning activities would be conducted entirely on land previously disturbed during construction and operation of OCNGS and would not include any off-site land. The NRC staff do not expect any land use impacts beyond the scope considered in the GEIS. Therefore, the NRC staff concludes that the proposed action is bound by the GEIS and would have no significant impact on land use.

3.2 Geology and Soils

3.2.1 Affected Environment

The GEIS did not include geology as a resource area because power plants can be located in various geologic settings; any power plant would have had its site-specific geologic conditions

evaluated as part of the licensing application. Therefore, although this resource area was not evaluated in the GEIS, it is included in this EA to characterize the site's affected environment.

The OCNGS site is within the Coastal Plain Physiographic Province (HDI 2025b). Elevation of the site ranges from sea level at the intake and discharge canals to over 30 ft (9.1 m) AMSL in the northwest part of the site (HDI 2025a). Generally, the site is flat and mostly ranges from 10 to 23 ft (3.0 to 7.0 m) AMSL (HDI 2025b). The site slopes slightly to the north and south towards South Branch of the Forked River or Oyster Creek.

Regional stratigraphy includes sand, gravel, clay, and marl dipping gently to the southeast. The OCNGS region is underlain by three stratigraphic units — the Cape May, Cohansey, and Kirkwood Formations, which are from the Pleistocene, Miocene, and Miocene Ages, respectively (Figure 3-1).

The Cape May Formation is poorly compacted and consists mostly of medium-to-fine sand with trace silt and coarse sand. The formation has an average thickness of 40 ft (12.2 m) regionally and ranges from 0 to 21.5 ft (0 to 6.6 m) thick at OCNGS due to excavation disturbances during site development. This excavated Cape May material was commonly used as surficial fill across the site, ranging from 0 to 53 ft (0 to 16.2 m) thick, with the maximum thickness near the Reactor Building (Figure 3-2) (HDI 2025b). Underlying the Cape May Formation is the Upper Clay, which is a hard organic clay with dense fine-grained sand and silt lenses. The Upper Clay is 15 to 18 ft (4.6 to 5.5 m) thick at the OCNGS site, where it is not impacted by excavation, and likely becomes thinner to the west (HDI 2025b).

Below the Upper Clay is the Cohansey Formation with an average regional thickness of 60 ft (18.3 m) and depths reaching approximately 100 ft (30.5 m) below the ground surface at the OCNGS site (HDI 2025b). The Cohansey Formation is a redder, medium-to-fine sand formation with pockets of coarse sand and lenticular beds of clay found in some areas. The Lower Clay underlies the Cohansey Formation. The Lower Clay is a dense medium-grained to fine-grained sand with some silt and hard organic clay inclusions. The Lower Clay is estimated to be 10 to 20 ft (3.0 to 6.1 m) thick at the OCNGS site (HDI 2025b).

Under the Lower Clay is the Kirkwood Formation, which is about 150 ft (45.7 m) thick and extends to depths of more than 500 ft (152.4 m) below the ground surface based on water supply wells in the OCNGS area. The Kirkwood Formation is a densely compacted formation consisting of micaceous ilmenite, lignite, and fine-grained quartz sand with some gravel and trace silt (HDI 2025b).

There is minimal seismic activity in the region, with no historic earthquakes causing significant damage in the area during operations at the site (HDI 2025a). The final Environmental Statement from the original OCNGS licensing action stated the same conclusion, asserting "the geology and seismic history of the region predicts insignificant ground motion during the life of the station" (AEC 1974). The highest magnitude earthquake in Ocean County since 1938 was a 2.9 magnitude earthquake in Berkeley Township in 1980 (NJDEP 2025).

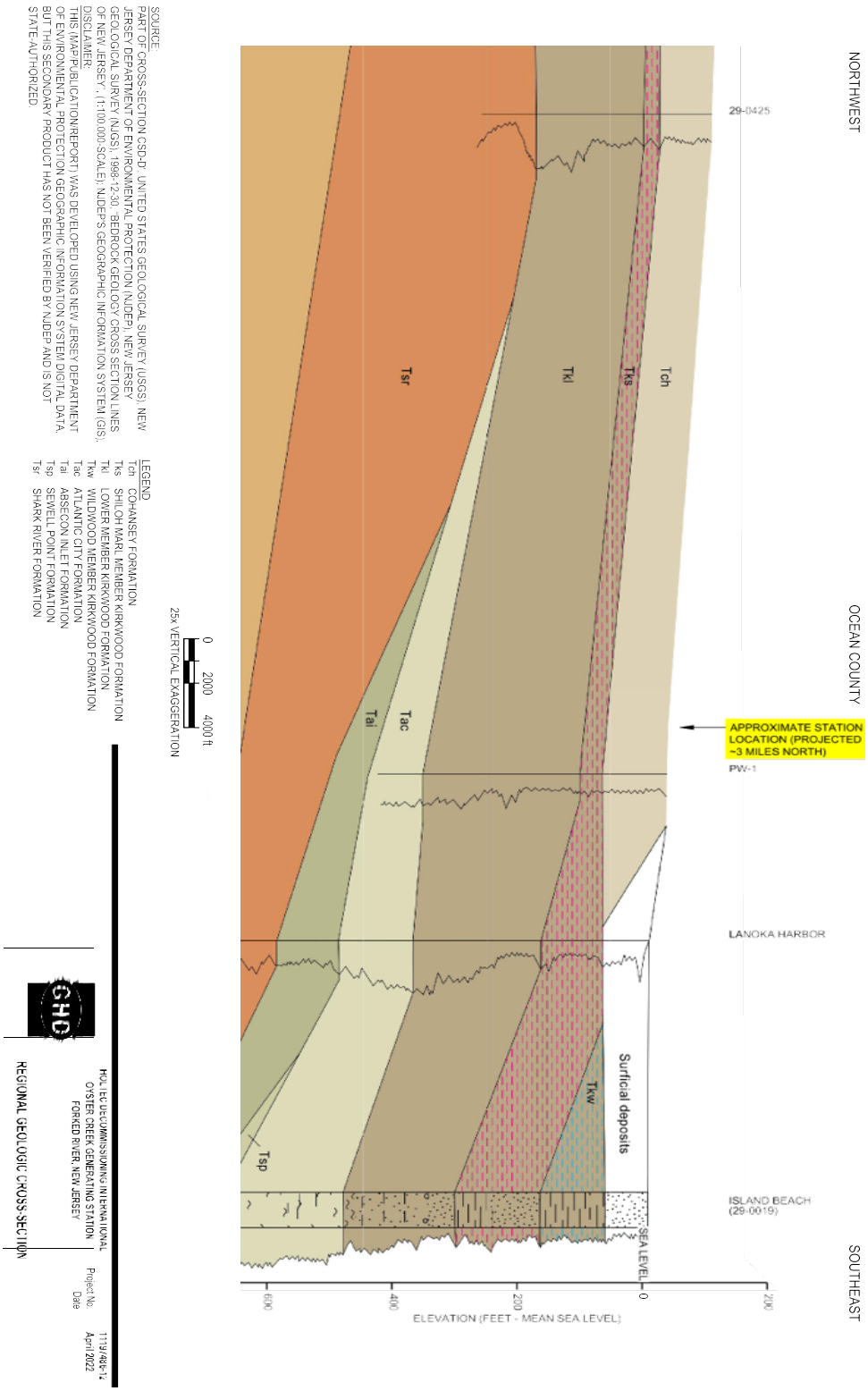

Figure 3-1 Regional Cross Section (HDI 2025b)

Source: Cross section is a portion of U.S. Geological Survey's CSD-D' (NJDEP 1998)

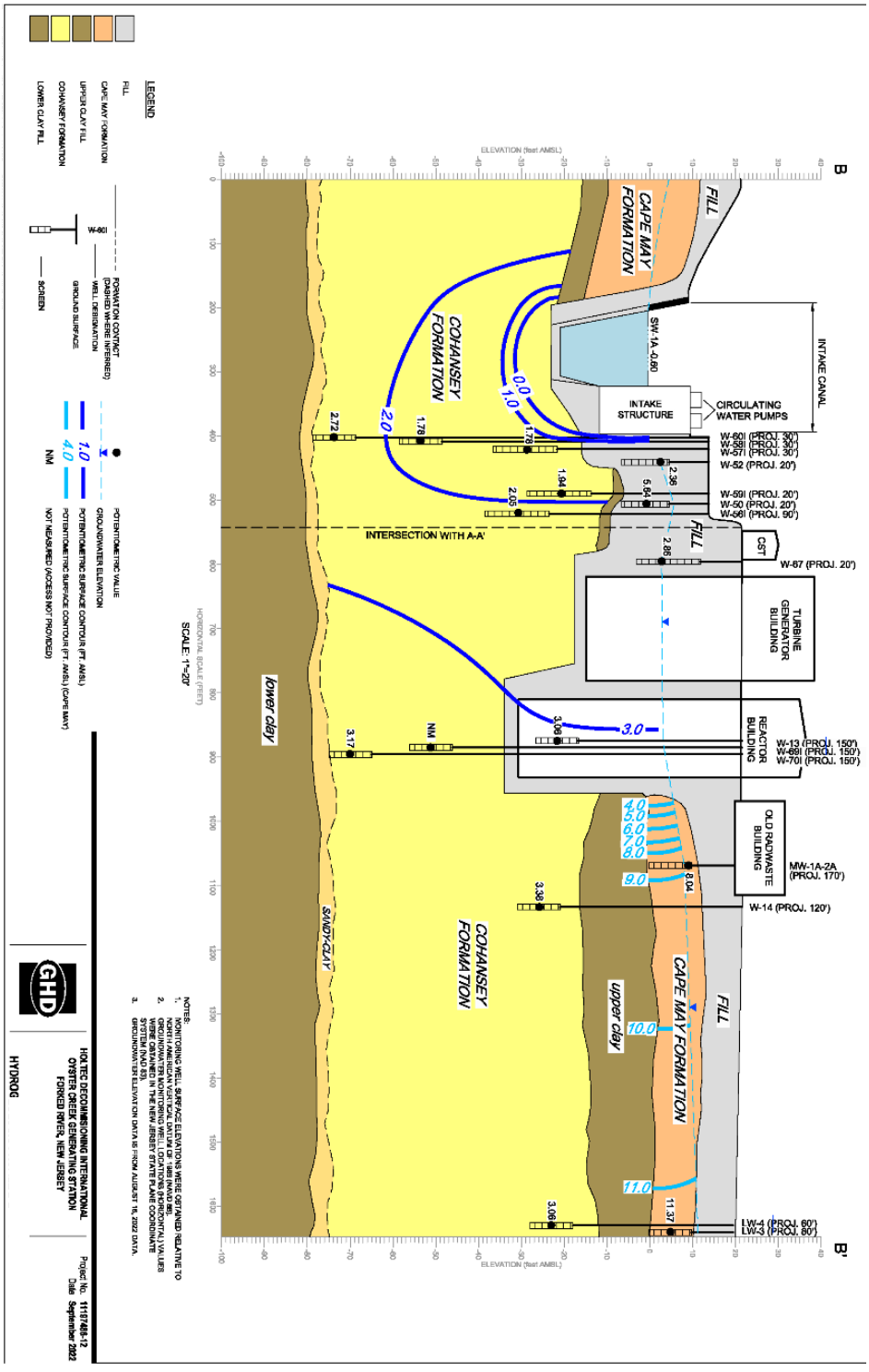

Figure 3-2 Site Hydrogeologic Cross Section (HDI 2025b)

Source: Cross section aerial references can be found in Figure 5.7 of (HDI 2025b)

3.2.2 Impacts

Proposed decommissioning activities include excavation surrounding demolished and to-be-demolished buildings, as well as excavation of buried piping. Backfill material will consist of clean material from the original site canal and building foundation or concrete rubble. All backfill material will meet 10 CFR 20.1402 unrestricted use criteria. All backfilled areas will be restored to existing grade (HDI 2025a).

Decommissioning activities would not negatively impact the geology, soils, or seismicity at the site because any excavation conducted would involve the replacement of contaminated soils (in most cases, previously deposited fill) with clean fill. The monitoring and remediation of any new or previously unknown contamination, if found, will be conducted in keeping with protocols outlined in the SER.

Decommissioning activities do not otherwise require alterations to the regional or site geology. Because the site is already disturbed by previous construction and operations, all impacts are expected to be less than those of construction as evaluated in the Final Environmental Statement (AEC 1974). Additional information regarding the disposal of contaminated soil can be found in Section 3.10.2 of this EA. The NRC staff concludes that the proposed action would have no significant impact on geology and soil.

3.3 Water Resources

3.3.1 Affected Environment

The OCNGS site is bordered to the north and northwest by the Intake Canal and to the south and southwest by the Discharge Canal (HDI 2025a). The Forked River is located to the north of the site, and Oyster Creek is south of the site (Figure 1-1). Barnegat Bay is approximately 2 mi (3.2 km) east of OCNGS.

During operation, water was drawn from the Intake Canal, which is connected to the South Fork of the Forked River approximately 0.75 mi (1.2 km) upstream of the river's outlet to Barnegat Bay (HDI 2025a). Water is discharged into the discharge canal, which flows out to Barnegat Bay. A dam separates the Intake and Discharge Canals on the west side of the site.

As described in Section 3.2 of this EA, clay layers create slightly artesian conditions in localized areas of the site, but groundwater generally is unconfined. The Lower Clay is a confining layer between the unconfined water bearing zones in the Cohansey and Cape May Formations and the underlying Kirkwood Formation, which is a confined aquifer. The Kirkwood Formation is confined beneath the Lower Clay; therefore, the underlying aquifer is unlikely to be impacted by decommissioning activities at the site and is not considered in detail in this review.

Groundwater flow at the site in the shallow, unconfined water bearing zone is controlled primarily by the Intake and Discharge Canals. Within the site area between the canals, the shallow groundwater flow direction is to the west. Other than in the area between the canals, regional flow is generally toward the southeast toward Barnegat Bay (HDI 2025a).

A groundwater remediation program for tritium was initiated in early 2009 due to the discovery of leaking underground pipelines associated with the Condensate Storage Tank (CST). The damaged underground piping was replaced in late April 2009 through August 2009. A groundwater pump-and-treat system was installed on November 17, 2010, and continued to

operate to remove residual tritium concentrations around the CST. Groundwater extraction ceased in 2018 and received New Jersey Department of Environmental Protection (NJDEP) concurrence in 2019. Overall, the station has seen a decreasing trend in tritium values to the point where groundwater tritium is within relevant standards and the tritium plume associated with the 2009 leaks has dissipated (HDI 2026a).

Figure 3-3 shows all permitted wells within 1 mi (1.6 km) of the reactor building, excluding monitoring wells. Most offsite potable water wells are domestic wells while offsite non-potable wells are mostly classified as either industrial or irrigation supply wells (Table 3-1 and Table 3-2). There are no potable water wells at the site, and most potable water in the vicinity is provided by municipal water systems in Lacey and Ocean Townships. Domestic well water use within the well search area is prohibited by municipal ordinance. The Ocean Township Municipal Water System uses wells screened in the Cohansey and Kirkwood Aquifers, while the Lacey Township Municipal Water System is screened in the Kirkwood Aquifer.

Table 3-1 Potable Drinking Water Wells (Table 1-1 in application)

User	Identified Wells
Domestic Water	220
Non-Public	3
Public Community	6
Public Non-Community	11
Total	240

Table 3-2 Non-potable Water Wells (Table 1-2 in application)

User	Identified Wells
Irrigation (Agriculture/Horticulture/Aquaculture)	1
Cathodic Protection/Individual	1
Industrial	8
Irrigation	29
Total	39

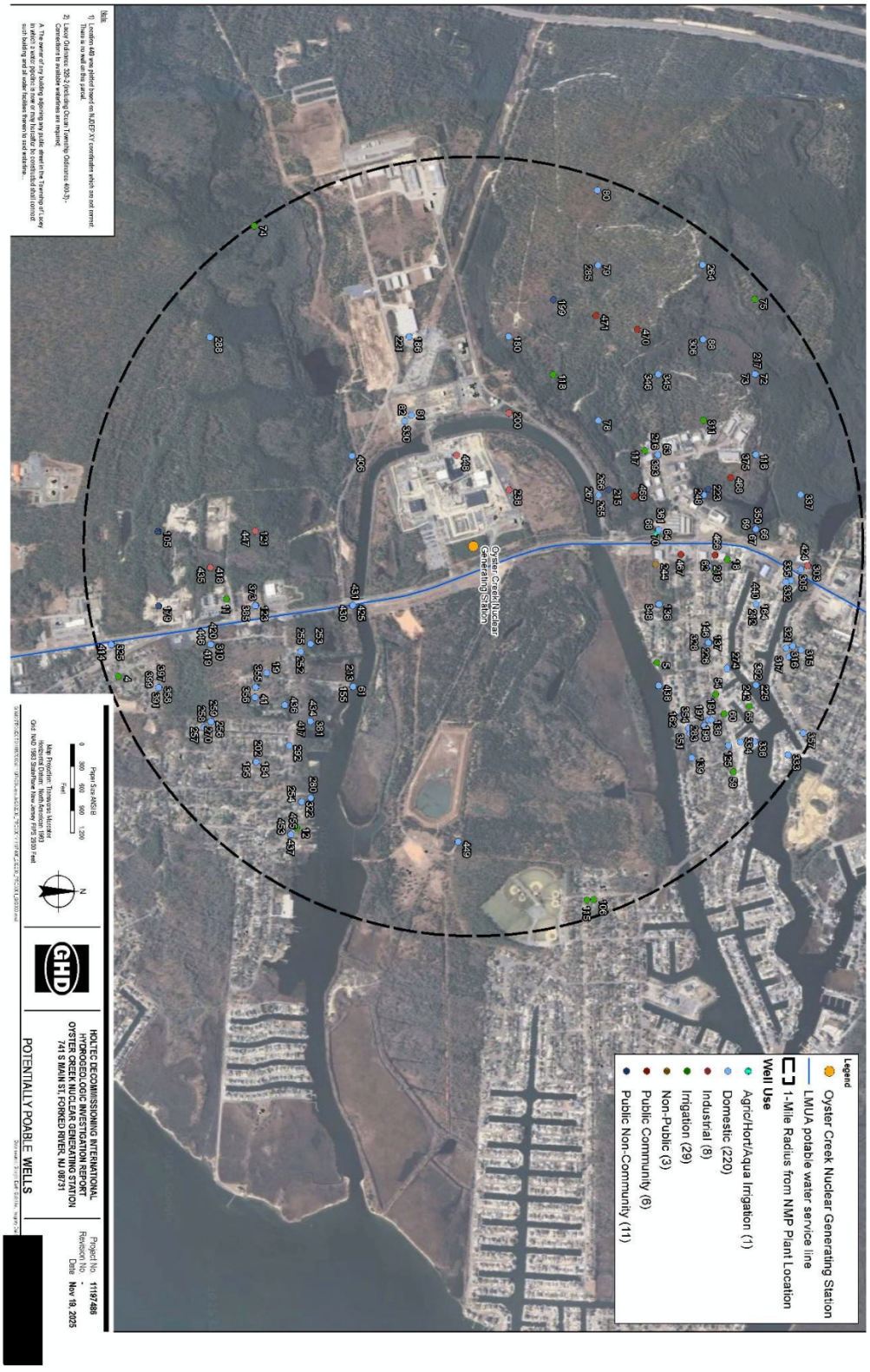

Figure 3-3 Permitted Wells Within 1 mile of Center of Oyster Creek Nuclear Generating Station (HDI 2025a)

3.3.2 Impacts

Operational demand for cooling water and makeup water dramatically decreased when OCNGS shut down. The circulating water system and the dilution water system were removed from service after plant shutdown, thereby eliminating water withdrawals, discharges, and thermal load associated with plant operations (HDI 2024). The Service Water (SW) system remains active to support decommissioning. The system consists of two intake water pumps in the Intake Canal at a flow rate up to 12,000 gallons per minute (gpm) (4.5e4 liters per minute [lpm]), which is well below the 460,000 gpm (1.7e6 lpm) used during operation. In a typical month, the SW system is used to withdraw 3,200 gpm (1.2e4 lpm) for approximately 11 hours per month. The impact to surface water is less than during operations and will continue to decrease as decommissioning progresses when less water is needed at the site.

HDI monitors groundwater at OCNGS under the radiological groundwater protection program (HDI 2024, 2025a). Well monitoring data show site subsurface water flows into the Intake and Discharge Canals with no radiological impacts to the wells identified or anticipated during site decommissioning. The Annual Radiological Environmental Operating Report for 2025 includes an Annual Radiological Groundwater Protection Program Report (HDI 2025a). Across 60 samples collected at 26 groundwater monitoring locations, tritium was detected in one sample with a concentration of 267 picocuries per liter (piC/L). The United States Environmental Protection Agency (EPA) has a drinking water limit of 2,000 piC/L for tritium (HDI 2025a). Any discovered contamination during decommissioning will be handled in accordance with protocols referenced in Section 3.2.2 of this EA and in the SER. Additional information about radiological impacts to groundwater is discussed in Section 3.8 of this EA.

All liquid discharges at the OCNGS site are monitored and reported in Annual Radioactive Effluent Release Reports. There were no abnormal liquid releases in 2025 (HDI 2025b). Levels of radioactivity were detectable in routine releases, but at low concentrations that were a small fraction of Federal limits (HDI 2025b). Additional information about radiological impacts from discharges is discussed in Section 3.8 of this EA.

Stormwater at the site is monitored and discharged following the New Jersey Pollutant Discharge Elimination System (NJPDES) Permit and a New Jersey general stormwater permit for the OCNGS site to minimize site impacts on stormwater runoff (HDI 2018). Areas of 1 ac (0.40 ha) or more disturbed during the proposed action that are not covered by the existing permits would require new stormwater permits from the NJDEP (HDI 2018). HDI would implement best management practices (BMPs) as required in the stormwater permit for stormwater runoff from areas disturbed during the proposed action.

In the GEIS, the NRC staff concluded that the largest impacts to surface water use and quality would be from stormwater runoff or releases of substances during decommissioning activities. For OCNGS, potable water for Lacey Township and Ocean Township comes from screened wells in the Cohansey and Kirkwood aquifers and would not be impacted by any surface water runoff from the site. The Intake and Discharge Canals are monitored routinely as part of the Radiological Groundwater Protection Program to make sure no radiological material in quantities above regulatory limits is discharged into surface waters. HDI would abide by the NJPDES and general stormwater permits to minimize potential impacts on local surface waters from stormwater runoff at the site.

The GEIS concluded that the impacts of decommissioning on water use and quality are neither detectable nor destabilizing. The NRC staff concludes there would be no significant impacts on

surface water use or quality beyond those considered in the GEIS from the proposed action; therefore, the proposed action would have no significant impact on water resources.

3.4 Climatology, Meteorology, and Air Quality

3.4.1 Affected Environment

Pursuant to the Clean Air Act, the Environmental Protection Agency established National Ambient Air Quality Standards (NAAQS) to protect public health from known or anticipated adverse effects of regulated pollutants. The NAAQS regulates seven primary air pollutants, ozone, carbon monoxide, sulfur dioxide, nitrogen oxides (NO_x), lead, and particulate matter (PM) at two sizes—2.5 micrometers ($PM_{2.5}$) and 10 micrometers (PM_{10}). Ocean County is non-attainment for 8-hour ozone (2015) (EPA 2025). The county is in attainment for all other NAAQS standards: PM_{10}, $PM_{2.5}$, sulfur dioxide, carbon monoxide, NO_x, and lead.

The prevailing wind in the area is offshore at 7 to 11 miles per hour (mph) (11.3 to 17.7 kilometers per hour [kph]). The maximum wind speed in the area over the last 30 years was 87 mph (140 kph) (NOAA 2025a). The annual average temperature in Ocean County is approximately 52°F (11.1 °C) with a low monthly average temperature of 21.7°F (-5.7 °C) in January and a maximum monthly average temperature of 85.5°F (29.7 °C) in July, as measured approximately 9 mi (14.5 km) north of OCNGS in Toms River. The maximum measured temperature for the area was 105°F (40.6 °C) in August 1896, while the lowest measured temperature for the area was -19°F (-28.3 °C) in January 1982. The average annual precipitation is 52.04 inches (in.) (132.2 centimeters [cm]) with a maximum daily precipitation of 8.35 in. (21.2 cm) in August 2014 (NOAA 2025b). The site is in a meteorological transition zone between the continent and the ocean. The prevailing winds are offshore; thus, the site weather is more influenced, on average, by continental than by maritime weather.

Extreme weather events are rare, and none have resulted in significant impacts to plant facilities or operations (HDI 2025a).

3.4.2 Impacts

HDI maintains NJDEP air permit certificates for various equipment and source operations at OCNGS (HDI 2025a). Pollutant emissions for NO_x and volatile organic compounds (VOCs) total 0.09-tons per year (0.082 tonnes per year) and 0.83-tons per year (0.75 tonnes per year), respectively. NO_x and VOC react in the presence of sunlight to make ozone. The emission rates for both contaminants are small; thus, OCNGS is not considered a significant contributor of ground-level ozone in New Jersey (HDI 2025a).

Additionally, emissions of NO_x and VOCs would decrease during decommissioning as HDI removes emitting equipment. Thus, OCNGS is currently a minor contributor to ground-level ozone and contributions would decrease throughout decommissioning.

Decommissioning impacts on air quality would largely be emissions from motor vehicles, diesel generators, and other construction-related equipment along with fugitive dust from the removal, dismantlement, demolition, and backfill activities. These are all activities considered in the GEIS, which concluded that the largest impact from decommissioning of a nuclear power plant on air quality would be fugitive dust (Section 4.3.4 of the GEIS).

BMPs to control fugitive dust emissions (e.g., water sprays, enclosures, or other fugitive dust capture systems) would be implemented during decommissioning (HDI 2025a; Section 8.8.5). The impacts on air quality would decrease during decommissioning as HDI removes material from the site and completes decommissioning; thus, the NRC staff expects any decommissioning impacts on air quality from motor vehicles, diesel generators, and dust generation would be minor and short term in duration.

The radiological air monitoring program would remain in place during decommissioning to monitor potential releases from the plant to the local environment. Radiological air monitoring is discussed in more detail in Section 3.8 of this EA.

In the GEIS, the NRC staff considered impacts on air quality from decommissioning activities, such as worker transportation, system and equipment dismantling and removal, building and structure demolition, and shipment of material and debris from the site for disposal (NRC 2002). The NRC staff concluded the impacts from these activities likely would be neither detectable nor destabilizing for any reactor site. The most likely impact from decommissioning is from fugitive dust. However, fugitive dust generation would be less than during plant construction and the use of BMPs would limit the potential impacts on air quality near the site.

The NRC staff concluded in the GEIS that the impacts of decommissioning on air quality are neither detectable nor destabilizing. There are no site-specific conditions at OCNGS that would change this determination or make the conclusions in the GEIS not applicable. Therefore, the NRC staff concludes that decommissioning of OCNGS is bound by the GEIS, and the proposed action would have no significant impact on air quality.

3.5 Ecological Resources

This section of the EA provides an overview of the ecological resources that potentially would be affected by the proposed license termination activities outlined in the OCNGS LTP. It evaluates the potential impacts on terrestrial and aquatic habitats, flora, and fauna within the project area. Additional ecological analyses, including the NRC staff's Biological Evaluation for Endangered Species Act (ESA) Section 7 Consultation is provided in Appendix A.

3.5.1 Terrestrial Ecology Affected Environment

As described in the NRC's supplemental environmental impact statement (SEIS) for OCNGS (NRC 2007), the site is located in the coastal pine barrens of New Jersey and consists of structures, dredge spoils, cleared land, upland forest, Atlantic white cedar swamps, salt marshes, forested/shrub wetlands, emergent wetlands, and woodland. The industrialized area and a 60 ac (24 ha) undeveloped strip of land that contains emergent scrub shrub and forested wetlands are located west of U.S. Highway 9.

Adjacent to this area, the Edwin B. Forsythe National Wildlife Refuge, which provides suitable habitat for a wide variety of bird species, spans coastal and near-coastal areas of Ocean and Atlantic Counties. Over 290 species have been documented within the refuge, making it a significant site for avian biodiversity in the region (FWS 2025a). The refuge is composed of multiple parcels, with the sections nearest to OCNGS situated just north of Forked River and south of Oyster Creek (FWS 2025a). These nearby parcels contribute to the ecological connectivity of the area and support migratory, breeding, and overwintering bird populations, thus reinforcing the regional importance of coastal and estuarine habitats for wildlife conservation.

The broader Barnegat Bay region also supports a diverse community of wildlife, particularly avian species. Located within the Atlantic flyway, it is an important migration and wintering habitat for more than 20 waterfowl species. Numerous shorebirds, including sanderlings, semipalmated sandpipers, red knots, and dunlins, migrate through the area during spring and fall. Only a few species, willet, American oystercatcher, and piping plover, nest locally. However, their habitats have been degraded by development, beach stabilization, disturbance, and predation. The estuary also serves as a critical staging and overwintering area for seabirds such as cormorants, scoters, loons, and northern gannets. Raptors such as osprey, peregrine falcon, and norther harrier are common, with human disturbance posing the greatest threat, Neotropical migrants, primarily forest, scrub-shrub, and grassland birds, are impacted by habitat loss and fragmentation (NRC 2007).

In addition to the avian diversity, the Pine Barrens host about 34 mammal species including white-tailed deer, red and gray foxes, raccoons, and various rodents, with some species adapted to wetlands and others to upland habitats. Hunting and trapping are common in the watershed, particularly for deer, squirrel, raccoons, and fox (NRC 2007). For additional information on the terrestrial affected environment, see Section 2.2.6 of the 2006 SEIS, which is hereby incorporated for reference (NRC 2007).

Migratory Bird Treaty Act (MBTA) and Bald and Golden Eagle Protection Act (BGEPA)

The U.S. Fish and Wildlife Service (FWS) administers the MBTA of 1918, which prohibits anyone from taking native migratory birds or their eggs, feathers, or nests. The NRC staff's Information for Planning and Consultation (IPaC) search identified several species of migratory birds designated as birds of priority concern by the FWS near the project area (Table 3-3).

The bald eagle is protected under the BGEPA. The NRC staff expects that HDI would obtain any permits required under the MBTA and the BGEPA and that impacts to bald eagles would be evaluated as part of that permitting process.

Table 3-3 Migratory Bird Species of Conservation Concern Observed Near the Oyster Creek Nuclear Generating Station

Common Name	Scientific Name	Level of Concern	Breeding Season
American oystercatcher	*Haematopus palliatus*	BCC Rangewide (CON)	Apr 15–Aug 31
Audubon's shearwater	*Puffinus lherminieri*	BCC Rangewide (CON)	Mar 1–Aug 5
bald eagle	*Haliaeetus leucocephalus*	Non-BCC Vulnerable	Oct 15–Aug 31
black guillemot	*Cepphus grylle*	Non-BCC Vulnerable	May 15–Sep 10
black scoter	*Melanitta nigra*	Non-BCC Vulnerable	Breeds elsewhere
black skimmer	*Rynchops niger*	BCC Rangewide (CON)	May 20–Sep 15
black-billed cuckoo	*Coccyzus erythropthalmus*	BCC Rangewide (CON)	May 15–Oct 10
black-legged kittiwake	*Rissa tridactyla*	Non-BCC Vulnerable	Breeds elsewhere
blue-winged warbler	*Vermivora cyanoptera*	BCC - BCR	May 1–Jun 30
bobolink	*Dolichonyx oryzivorus*	BCC Rangewide (CON)	May 20–Jul 31
brown pelican	*Pelecanus occidentalis*	Non-BCC Vulnerable	Jan 15–Sep 30
Canada warbler	*Cardellina canadensis*	BCC Rangewide (CON)	May 20–Aug 10
cerulean warbler	*Setophaga cerulea*	BCC Rangewide (CON)	Apr 29–Jul 20
chimney swift	*Chaetura pelagica*	BCC Rangewide (CON)	Mar 15–Aug 25
common eider	*Somateria mollissima*	Non-BCC Vulnerable	Jun 1–Sep 30

Common Name	Scientific Name	Level of Concern	Breeding Season
common loon	*Gavia immer*	Non-BCC Vulnerable	Apr 15–Oct 31
cory's shearwater	*Calonectris diomedea*	BCC Rangewide (CON)	Breeds elsewhere
double-crested cormorant	*Phalacrocorax auritus*	Non-BCC Vulnerable	Apr 20–Aug 31
dovekie	*Alle alle*	Non-BCC Vulnerable	Breeds elsewhere
eastern whip-poor-will	*Antrostomus vociferus*	BCC Rangewide (CON)	May 1–Aug 20
golden eagle	*Aquila chrysaetos*	Non-BCC Vulnerable	Breeds elsewhere
grasshopper sparrow	*Ammodramus savannarum perpallidus*	BCC - BCR	Jun 1–Aug 20
great shearwater	*Puffinus gravis*	Non-BCC Vulnerable	Breeds elsewhere
gull-billed tern	*Gelochelidon nilotica*	BCC Rangewide (CON)	May 1–Jul 31
hudsonian godwit	*Limosa haemastica*	BCC Rangewide (CON)	Breeds elsewhere
least tern	*Sternula antillarum antillarum*	BCC Rangewide (CON)	Apr 25–Sep 5
lesser yellowlegs	*Tringa flavipes*	BCC Rangewide (CON)	Breeds elsewhere
long-eared owl	*Asio otus*	BCC Rangewide (CON)	Mar 1–Jul 15
long-tailed duck	*Clangula hyemalis*	Non-BCC Vulnerable	Breeds elsewhere
pectoral sandpiper	*Calidris melanotos*	BCC Rangewide (CON)	Breeds elsewhere
pomarine jaeger	*Stercorarius pomarinus*	Non-BCC Vulnerable	Breeds elsewhere
prairie warbler	*Setophaga discolor*	BCC Rangewide (CON)	May 1–Jul 31
prothonotary warbler	*Protonotaria citrea*	BCC Rangewide (CON)	Apr 1–Jul 31
purple sandpiper	*Calidris maritima*	BCC Rangewide (CON)	Breeds elsewhere
razorbill	*Alca torda*	Non-BCC Vulnerable	Jun 15–Sep 10
red-breasted merganser	*Mergus serrator*	Non-BCC Vulnerable	Breeds elsewhere
red-headed woodpecker	*Melanerpes erythrocephalus*	BCC Rangewide (CON)	May 10–Sep 10
red-necked phalarope	*Phalaropus lobatus*	Non-BCC Vulnerable	Breeds elsewhere
red-throated loon	*Gavia stellata*	Non-BCC Vulnerable	Breeds elsewhere
ring-billed gull	*Larus delawarensis*	Non-BCC Vulnerable	Breeds elsewhere
roseate tern	*Sterna dougallii*	Non-BCC Vulnerable	May 10–Aug 31
royal tern	*Thalasseus maximus*	Non-BCC Vulnerable	Apr 15–Aug 31
ruddy turnstone	*Arenaria interpres morinella*	BCC - BCR	Breeds elsewhere
rusty blackbird	*Euphagus carolinus*	BCC - BCR	Breeds elsewhere
saltmarsh sparrow	*Ammospiza caudacuta*	BCC Rangewide (CON)	May 15–Sep 5
scarlet tanager	*Piranga olivacea*	BCC - BCR	May 10–Aug 10
semipalmated sandpiper	*Calidris pusilla*	BCC - BCR	Breeds elsewhere
short-billed dowitcher	*Limnodromus griseus*	BCC Rangewide (CON)	Breeds elsewhere
sooty shearwater	*Ardenna grisea*	Non-BCC Vulnerable	Breeds elsewhere
surf scoter	*Melanitta perspicillata*	Non-BCC Vulnerable	Breeds elsewhere
thick-billed murre	*Uria lomvia*	Non-BCC Vulnerable	Apr 15–Aug 15
whimbrel	*Numenius phaeopus hudsonicus*	BCC - BCR	Breeds elsewhere
white-winged scoter	*Melanitta fusca*	Non-BCC Vulnerable	Breeds elsewhere
willet	*Tringa semipalmata*	BCC Rangewide (CON)	Apr 20–Aug 5
Wilson’s storm-petrel	*Oceanites oceanicus*	Non-BCC Vulnerable	Breeds elsewhere
wood thrush	*Hylocichla mustelina*	BCC Rangewide (CON)	May 10–Aug 31

BCC = bird of conservation concern; BCR = bird conservation region; CON = continental USA and Alaska.
Sources: IPaC Report (FWS 2025b)

3.5.2 Terrestrial Impacts

The GEIS concludes generically that the potential terrestrial impacts from decommissioning activities conducted within the operational area of a nuclear plant site are SMALL, although it indicates that a site-specific analysis is necessary to determine the significance of terrestrial ecology impacts from activities conducted outside of the operational area (NRC 2002). The GEIS acknowledges that lands disturbed by construction of a nuclear facility typically continue to be of low value as terrestrial habitat throughout operations and decommissioning unless the site goes into a decade-long period of low decommissioning activity (NRC 2002).

In its PSDAR and LTP, HDI states that it envisions that all dismantlement, demolition, and waste-staging activities performed as part of decommissioning and license termination would take place within the former operational area of the OCNGS site. HDI indicates that land disturbance would not be conducted in environmentally sensitive lands, such as nearby marsh, wetlands, and shorelines. Direct impacts such as clearing native vegetation or filling wetland would be restricted to the previously disturbed land. HDI acknowledges that terrestrial habitats adjoining the operational area could be subject to indirect impacts from decommissioning and license termination activities caused by soil erosion, surface runoff, fugitive dust, vibration, and noise. HDI holds several environmental permits that ensure safe and environmentally sound decommissioning activities on land, including the Ocean County Soil Erosion and Sediment Control Permit (#22499A), NJPDES Permit (#NJ0005550), and NJDEP Air Permit certificates for various equipment and source operations (HDI 2025a). HDI commits to control fugitive dust emissions by restricting vehicle traffic to paved areas, by using high powered water mister nozzles during demolition work, and by monitoring and complying with radiologic dust control procedures (HDI 2025c).

The NRC staff concludes that the BMPs and water spraying proposed by HDI would effectively minimize erosion, runoff, and fugitive dust, thus preventing adverse impacts to terrestrial habitats adjacent to the operational area. Birds and other wildlife using the wetlands and riparian lands adjoining the former operational area near OCNGS could be affected by vibration and noise generated by decommissioning and license termination activity within the operational area. It is reasonable to expect that wildlife using habitats near the site have generally acclimated to human activity typical of industrial sites, including vibration and noise from license termination activities. Certain decommissioning activities may generate brief noise bursts or vibration overpressure that may startle wildlife in nearby habitats. However, because of the short duration and historical presence of those activities, the NRC staff expects that these noise and vibration occurrences would be too brief to noticeably affect nearby wildlife. Table 3-4 identifies BMPs that HDI will employ throughout the decommissioning process.

An evaluation of terrestrial ecological resources at OCNGS indicates that decommissioning activities are not expected to result in noticeable or measurable impacts. Direct impacts such as vegetation removal or soil disturbance would be confined to previously developed or disturbed areas and are anticipated to be marginal. Indirect impacts, including potential changes in habitat connectivity, increased human activity, or noise-related disturbance to biota are expected to be minor and temporary. No site-specific conditions were identified that would elevate the level of impact beyond what is typically associated with decommissioning activities as described in the GEIS. Therefore, the NRC staff concludes that the proposed action is not expected to result in significant effects on terrestrial ecological resources.

Table 3-4 Holtec Decommissioning International, LLC Planned and Implemented Best Management Practices for the Oyster Creek Nuclear Generating Station License Termination Plan

Decommissioning Activity	Best Management Practice
Stormwater Runoff, Pollution, Erosion, and Sedimentation	1. Implement BMPs outlined in SPPP and SPCC 2. Include containment, site control, grading, and use of buffer zones near surface water features 3. Compliance with Ocean County Soil and Erosion and Sediment Control Permit
Fugitive Dust	1. Restrict vehicle traffic to paved areas 2. Utilize high powered water misters for decommissioning activities 3. Monitor and remain compliant with radiological dust control procedures.
Noise	1. Isolate noise when possible (indoor work) 2. Noise buffer implemented near potential habitat 3. Noise primarily conducted during daylight hours
Lighting	1. Decommissioning work will be conducted primarily during daylight hours 2. Utilize downward-facing artificial lighting 3. Outdoor lighting during non-daylight hours is limited to safety and security requirements
Land Clearing, Earth Moving	1. BMPs required by SPPP, SPCC, and SESC permit, as applicable 2. Land clearing will be limited to previously disturbed areas; appropriate permits will be acquired should land clearing be required elsewhere
Ecological Protection (Listed Species)	1. Work conducted in previously disturbed areas 2. On-site personnel trained in environmental awareness

BMP = best management practice; SESC = Temporary Erosion and Sediment Control; SPCC = Spill Prevention, Control, and Countermeasure; SPPP = Stormwater Pollution Prevention Plan.
Source: HDI 2025c

3.5.3 Aquatic Ecology Affected Environment

The following discussion of aquatic ecology affected environment is based on information presented in the NRC's 2007 SEIS for OCNGS, with paraphrasing, summarization, and incorporation by reference for clarity and as relevant to the current decommissioning and LTP analysis.

Barnegat Bay is a shallow, lagoon-type estuary located along the central New Jersey coast, separated from the Atlantic Ocean by a nearly continuous barrier island system. The bay is approximately 43 mi (69.2 km) in length and ranges from 3 to 9 mi (4.8 to 14.5 km) in width, with depths varying from 3 to 23 ft (0.9 to 7.0 m). The deepest areas are associated with the Intracoastal Waterway, a dredged channel that runs parallel to the eastern seaboard. The total water volume of the bay is estimated at approximately 60 billion gallons. The estuary is bounded by the mainland to the west, Point Pleasant and Bay Head to the north, barrier islands to the east, and the Manahawkin Causeway to the south. Freshwater enters the bay through multiple rivers and creeks, including the Manasquan River and Canal, Metedeconk River, Kettle Creek, Toms River, Cedar Creek, Stout Creek, Forked River, and Oyster Creek. Seawater exchange occurs through several inlets, including Manasquan Inlet to the north, Barnegat Inlet near Oyster

Creek, and Little Egg Inlet to the south. Barnegat Inlet, located east-southeast of Oyster Creek, has undergone modifications over time, including jetty realignment and channel dredging to maintain navigability.

Because of the limited connection to the Atlantic Ocean, tidal energy in Barnegat Bay is attenuated compared to the open ocean. Water exchange is relatively slow, with full turnover occurring over multiple tidal cycles. Salinity levels vary across the bay, generally ranging from brackish conditions near freshwater inflows to higher salinities near the inlets. Water temperatures fluctuate seasonally, with colder conditions during the winter and warmer temperatures in the summer.

Sediment composition in the bay reflects its estuarine character. Central areas are dominated by fine to medium sands, while muddier sediments are more common along the western shoreline. Intertidal zones near the mouths of Forked River and Oyster Creek typically are composed of sandy mud. The bay's barrier islands and mainland shores support extensive coastal wetlands and salt marshes, which serve as important nursery habitats for juvenile fish and invertebrates. These habitats have been subject to both natural and human-induced changes. Salt marsh loss has been linked to factors such as sea level rise, altered hydrology, and reduced sediment supply. Historical land use changes, including shoreline development, bulkhead construction, and watershed modification, also have contributed to habitat degradation. However, regulatory measures and conservation initiatives have helped reduce the extent of some of the most damaging practices, such as widespread dredging and filling of wetlands.

Barnegat Bay's shallow depth, limited flushing capacity, and proximity to developed areas make it particularly sensitive to ecological stressors. In recognition of these vulnerabilities, the estuary has been the focus of long-term monitoring, research, and management planning under State and Federal programs. These efforts have identified key concerns such as habitat loss, water quality degradation, and hydrologic alteration as ongoing priorities for resource protection and restoration.

Barnegat Bay supports a diverse array of aquatic vegetation, including submerged aquatic vegetation (SAV) and macroalgae. Dominant species include eelgrass (*Zostera marina*), sea lettuce (*Ulva lactuca*), graceful red weed (*Gracilaria tikvahiae*), and other benthic algae. Eelgrass is particularly important due to its role in providing habitat for fish and invertebrates and serving as an indicator of water quality. SAV distribution varies spatially and temporally, influenced by environmental factors such as salinity, turbidity, temperature, and light availability. Stressors affecting SAV include disease (e.g., wasting disease caused by *Labyrinthula zosterae*), algal blooms that reduce light penetration, physical disturbances from boating, and eutrophication from nutrient inputs. While overall SAV distribution has remained relatively stable in recent years, localized declines and fluctuations continue to be observed.

Salt marshes are another critical component of the estuarine ecosystem, offering habitat for fish, birds, and mammals and providing shoreline stabilization and nutrient cycling. Historical mapping indicates that Barnegat Bay has experienced a significant reduction in salt marsh area over the past century, largely due to coastal development and dredging. Although regulatory protections such as the New Jersey Wetlands Act of 1970 have helped slow the rate of loss, marshes remain vulnerable to sea level rise, altered hydrology, and sediment supply disruption. Shoreline hardening and upland development have further impacted marsh sustainability, with a substantial portion of the bay's shoreline now bulkheaded. Some areas, particularly near

Barnegat Inlet, have seen localized marsh gains due to inlet stabilization, but overall trends reflect continued pressure on these habitats.

Barnegat Bay also supports a variety of benthic and planktonic communities. Historical studies have documented shifts in benthic fauna, with localized impacts near OCNGS attributed to dredging, thermal discharges, and salinity changes. Despite these impacts, the bay continues to support diverse mobile epifauna such as shrimp, crabs, clams, and horseshoe crabs. Phytoplankton and zooplankton populations exhibit seasonal and interannual variability, with diatoms and dinoflagellates dominating the phytoplankton community. Algal blooms, often linked to nutrient enrichment, can reduce light availability and negatively affect SAV. While long-term monitoring has improved understanding of these dynamics, knowledge gaps remain regarding the specific drivers and ecological consequences of eutrophication and bloom events. For additional information on the aquatic ecology affected environment, see Section 2.2.5 of the 2006 SEIS, which is hereby incorporated for reference (NRC 2007).

3.5.4 Aquatic Ecology Impacts

The GEIS concludes generically that the potential impacts to aquatic ecology from decommissioning activities conducted within the operational area of a nuclear plant site are SMALL. It does indicate that a site-specific analysis is required to determine the significance of aquatic ecology impacts from activities conducted outside of the operational area (NRC 2002). The SMALL conclusion in the GEIS assumes that applicable BMPs are implemented, and that the licensee obtains and abides by necessary permits.

In its LTP and PSDAR, HDI states that it would continue to maintain its existing permits and would perform decommissioning work in compliance with those permits and implement BMPs, as appropriate. In their Audit Response to Additional Questions, shown in Table 3-4 of this EA, HDI lists BMPs that address sediment discharges and erosion to waterways and wetlands (HDI 2025c). HDI also states that all BMPs would be in place prior to initiating decommissioning activities. Direct and indirect impacts outside of the operational area would be minimal or non-existent as HDI plans to contain decommissioning activities within previously disturbed areas. Additionally, HDI states that all disturbed areas would be stabilized using silt control, grading, and buffer areas near surface water features to limit erosion and minimize runoff of soils to surface waters (HDI 2025c).

During operations, OCNGS withdrew water from the south fork of the Forked River at a rate of 460,000 gpm (29.0 m^3/s) (HDI 2025a). Intake water was withdrawn from the north side of the dam which separated the intake and discharge canals. Water was discharged from the plant on the south side of the dam and flowed to Barnegat Bay. A separate Dilution Water System also withdrew water to reduce thermal discharge. Both systems were permanently taken out of service after shutdown, eliminating water withdrawal, discharge, and thermal effluent discharge into Barnegat Bay. The only remaining system in periodic use is the SW system which has a permitted operation of 12,000 gpm (0.76 m^3/s) as described in the NJPDES permit for OCNGS. Current operations are well below the 12,000 gpm (0.76 m^3/s) threshold. As of June 2023, all spent fuel has been transferred to dry storage and the SW system usage has further decreased.

Today, HDI reports that the SW system operates periodically, averaging 11 hours per month and withdraws approximately 3,200 gpm (0.20 m^3/s) to support decommissioning and license termination activities. The SW system will be permanently shut down once decommissioning and license termination activities are complete. As part of decommissioning activities, pumps, piping, trash racks, screens, stop logs, and supporting equipment will be removed from the

intake and discharge structures. The physical intake and discharge structure will remain in place for potential future uses. As of March 27, 2025, barging is no longer under consideration by HDI as a transportation method for transporting site waste from decommissioning and license termination activities (HDI 2025d). Therefore, large plant components will not be moved from the power block area to the barge landing, further limiting impacts to the site ecology (HDI 2018; HDI 2025a). In their Audit Response to Additional Questions, shown in Table 3-4 of this EA, HDI lists additional BMPs HDI plans to implement as part of the proposed action to limit impacts to aquatic resources (HDI 2025c).

An evaluation of aquatic ecological resources at the OCNGS site indicates that the proposed decommissioning and license termination activities are not expected to result in significant adverse impacts. Direct impacts, such as localized sediment disturbance or runoff, would be minimized by restricting activities to the existing operational footprint and avoiding in-water work, including dredging. Indirect impacts such as potential changes in water quality or aquatic habitat conditions in adjacent systems like Barnegat Bay are expected to be minor due to the implementation of BMPs, continued compliance with applicable environmental permits, and the planned reduction or elimination of raw water withdrawals. This conclusion is consistent with the NRC's GEIS, which determined that decommissioning activities typically result in SMALL impacts on aquatic ecological resources. Site-specific measures proposed by HDI include limiting land disturbance to previously developed areas, maintaining permit compliance, and avoiding activities that could affect nearby aquatic systems, which further support this determination. These measures are expected to effectively control sedimentation, runoff, and fugitive dust, thereby protecting Barnegat Bay and its associated aquatic habitats.

All decommissioning and license termination activities would occur within previously disturbed areas of the OCGNS site. Based on the analysis above, the NRC staff concludes that the proposed action is not expected to result in significant impacts on aquatic ecological resources.

3.5.5 Federally Protected Ecological Resources

The NRC staff must consider the effects of agency actions on ecological resources protected under several Federal statutes and must consult with the FWS and the National Marine Fisheries Service (NMFS) or the National Oceanic and Atmospheric Administration prior to acting in cases where an agency action may affect those resources. These statutes include the following:

- ESA
- Magnuson–Stevens Fishery Conservation and Management Act, as amended
- National Marine Sanctuaries Act

In the following sections, the NRC staff summarizes the findings with respect to federally protected ecological resources protected under these statutes and the outcome of the related consultations with the FWS, NMFS, and National Oceanic and Atmospheric Administration. The NRC staff determined that there are no National Marine Sanctuaries within the affected area and therefore, the National Marine Sanctuaries Act is not discussed further.

3.5.5.1 ESA: Federally Listed Species and Critical Habitats under U.S. Fish and Wildlife Jurisdiction

The NRC staff evaluated the impacts of the proposed OCNGS LTP on federally listed species and critical habitats under the FWS's jurisdiction. Appendix A includes the NRC staff's biological

evaluation as required by the ESA. Table 3-5 identifies the NRC staff's ESA effect determination, the Federal status, and determination of whether the species is potentially present in the action area for each species. For the full biological evaluation for the following species, please refer to Appendix A of this EA.

Table 3-5 Summary of Federally Listed Species and Critical Habitats Under U.S. Fish and Wildlife Service Jurisdiction Present in the Action Area and the Associated Effects from Oyster Creek License Termination Plan

Species	Federal Status[a]	Potentially Present in the Action Area?	NRC Effect Determination[b]	FWS Concurrence Date[c]
American chaffseed (*Schwalbea americana*)	FE	Yes	NLAA	April 2, 2026
eastern black rail (*Laterallus jamaicensis ssp. Jamaicensis*)	FT	Yes	NLAA	April 2, 2026
Knieskern's Beaked-rush (*Rhynchospora knieskernii*)	FT	Yes	NLAA	April 2, 2026
monarch butterfly (*Danaus plexippus*)	FPT	Yes	NLAA	April 2, 2026
Northern long-eared bat (Myotis septentrionalis)	FE	Yes	NLAA	November 28, 2025
rufa red knot (*Calidris canutus rufa*)	FT	Yes	NLAA	April 2, 2026
swamp pink (*Helonias bullata*)	FT	Yes	NLAA	April 2, 2026
tricolored bat (*Perimyotis subflavus*)	FPE	Yes	NLAA	November 28, 2025

FE = federally endangered; FPE = proposed for Federal listing as endangered; FPT = proposed for Federal listing as threatened; FT = federally threatened; FWS = U.S. Fish and Wildlife Service; NE = no effect; NLAA = may affect but is not likely to adversely affect; NRC = U.S. Nuclear Regulatory Commission; TBD = to be determined.

(a) Indicates protection status under the ESA.

(b) The NRC staff makes its effect determinations for federally listed species in accordance with the language and definitions specified in the FWS and NMFS Endangered Species Consultation Handbook (FWS and NMFS 1998-TN1031).

(c) The ESA does not require Federal agencies to seek FWS concurrence for "no effect" determinations or for NLAA determinations for candidate and proposed species. For species whose FWS concurrence date is listed as N/A or TBD, the NRC will seek the FWS's concurrence following the issuance of this draft environmental impact statement (EIS).

3.5.5.2 ESA: Federally Listed Species and Critical Habitats under National Marine Fisheries Service Jurisdiction

For federally listed species and critical habitats under the NMFS's jurisdiction, the NRC conducted formal consultation in 2020 that resulted in a Biological Opinion for the species covered in Table 3-6 (NOAA 2020). Because the proposed action has not changed since implementation of the Biological Opinion and reinitiation criteria has not been met, no further analysis of these species is required (50 CFR 402.16).

Table 3-6 Summary of Federally Listed Species and Critical Habitats Under National Marine Fisheries Service Jurisdiction Present in the Action Area and the Associated Effects from Oyster Creek Nuclear Generating Station License Termination Plan

Species	Federal Status[a]	Potentially Present in the Action Area?	NRC/NMFS Effect Determination[b]	NMFS Concurrence Date[c]
Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) All DPSs	FT/FE	Yes	NLAA	May 29, 2020
Green sea turtle (*Chelonia mydas*) North Atlantic DPS	FT	Yes	NLAA	May 29, 2020
Kemp's ridley sea turtle (*Lepidochelys kempii*)	FE	Yes	NLAA	May 29, 2020
Leatherback sea turtle (*Dermochelys coriacea*)	FE	No	NE	N/A
Loggerhead sea turtle (*Caretta caretta*) Northwest Atlantic DPS	FT	Yes	NLAA	May 29, 2020

DPS = distinct population segment; FE = federally endangered; FT = federally threatened; FWS = U.S. Fish and Wildlife Service; N/A = not applicable; NE = no effect; NMFS = National Marine Fisheries Service; NRC = U.S. Nuclear Regulatory Commission.

(a) Indicates protection status under the ESA.

(b) The NRC staff makes its effect determinations for federally listed species in accordance with the language and definitions specified in the FWS and NMFS Endangered Species Consultation Handbook (FWS and NMFS 1998-TN1031).

(c) For species whose NMFS concurrence date is listed TBD, the NRC updates the status of the NMFS consultation in the final EIS.

3.5.5.3 Magnuson-Stevens Fishery Conservation and Management Act: Essential Fish Habitat

To determine the relevant Essential Fish Habitat (EFH) species for the NRC staff's OCNGS LTP review, the NRC staff queried the NMFS's EFH Mapper, an online mapping application. The EFH Mapper identified 23 species or taxa groups for which EFH may occur near the OCNGS site and one habitat area of particular concern that may occur near the OCNGS site. For each of the identified species and their relevant life stages, the NRC staff reviewed habitat characteristics documented in scientific literature, EFH descriptions contained in relevant fishery management plans, and HDI's EFH analysis contained in their Request for Supplemental Information Response (HDI 2025d).

The NRC last evaluated effects to EFH for this site in 2007 as a result of license renewal for operations (NRC 2007). This analysis included species consisting of black sea bass, bluefish, clearnose skate, dusky shark, little skate, red hake, sandbar shark, scup, summer flounder, surf clam, tiger shark, windowpane flounder, winter flounder, and winter skate, and concluded that the license renewal for continued operations would have minimal adverse effects on the federally managed EFH.

Cessation of operations at OCNGS in 2018 resulted in a significant reduction in both water intake flow and velocity, achieving "best technology available (BTA)" for minimizing environmental impacts from impingement and entrainment. In 2019, OCNGS further curtailed

water withdrawals, rendering any remaining potential for impingement or entrainment of EFH species or their prey negligible, undetectable, and unmeasurable due to the near elimination of intake activity. The proposed low-volume, intermittent water withdrawals during the decommissioning period at OCNGS are significantly smaller than those conducted during normal plant operations. These withdrawals are strictly regulated under the site's NJDPES permit, thus ensuring that water quality and temperature remain within natural variability in Oyster Creek and adjacent nearshore waters. As a result, no impingement or entrainment of federally managed species or their prey is anticipated.

Thermal discharges from OCNGS were historically regulated to protect propagation of a balanced, indigenous aquatic community. These permit conditions also indicated that thermal discharges were unlikely to adversely affect benthic flora, benthic fauna, or pelagic fish, including EFH species. The termination of heated water discharges during the decommissioning period has further reduced both the temperature differential and the spatial extent of the thermal plume. Current conditions are therefore expected to be more favorable to aquatic life relative to the facility's operational period.

EFH regulations define adverse effects as "any impact that reduces quality and/or quantity of EFH" (50 CFR 600.810). These effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate, as well as loss or injury to benthic organisms, prey species, their habitat, and other ecosystem components if such modifications reduce EFH quality or quantity (NMFS 2004). Because the proposed action is small in scale, intermittent, and regulated, and it will not result in any measurable or meaningful reduction in the quality, quantity, or ecological function of EFH. No measurable direct, indirect, or cumulative impacts to EFH are anticipated. Based on the information presented, the NRC staff concludes that the proposed decommissioning activities at OCNGS will have no adverse effect on EFH designated for federally managed species and life stages in the affected area. Accordingly, no further EFH assessment is required under 50 CFR 600.815(a)(2).

3.6 Socioeconomics

3.6.1 Affected Environment

This section describes current socioeconomic factors that have the potential to be directly or indirectly affected by the proposed LTP. The region of influence is defined by areas where the majority of the workers and their families reside, spend their income, and use their benefits, thus affecting the economic conditions of the regions. The United States Census Bureau provides the most reliable census data for Lacey and Ocean Townships and for Ocean County. The total estimated population in 2020 was 28,879 residents for Lacey Township, 8,835 residents for Ocean Township, and 659,197 for Ocean County (USCB 2025).

3.6.2 Impacts

In its LTP application, HDI reported a workforce of up to 700 employees supported OCNGS operations. The NRC staff expects the number of employees at OCNGS would decrease during decommissioning as fewer employees are needed to maintain critical infrastructure. The changes during decommissioning primarily impact Ocean County, where the majority of the operating plant workforce lived, and Lacey Township, which received the preponderance of OCNGS property tax payments (HDI 2025a).

The NRC staff reviewed potential impacts from decommissioning on socioeconomics in the GEIS, where the staff concluded socioeconomic impacts during decommissioning would be

SMALL for all nuclear power plants. The staff identified no new or significant socioeconomic impact at OCNGS that would change the conclusion for site-specific decommissioning activities occurring. As explained in GEIS Section 4.3.12, Socioeconomics, a population change greater than 3 percent could have a detectable socioeconomic effect on local communities (NRC 2002). Changes in the amount of taxes paid by the utility of less than 10 percent generally are not detectable, resulting in little to no change in the availability of local public services. The loss of up to 700 employees would be less than .03 percent of the population in Lacey Township, and less than .002 percent of the population of Ocean County. Therefore, the NRC staff concludes that the OCNGS decommissioning is bound by the GEIS, and the proposed action would have no significant impact on socioeconomics in the affected area.

3.7 Historic and Cultural

3.7.1 Affected Environment

The National Historic Preservation Act of 1966, as amended (NHPA), requires Federal agencies to consider the effects of their undertakings on historic properties; the remaining license termination and decommissioning activities at OCNGS are an undertaking that could potentially affect historic properties, should such properties be present. The NHPA defines historic properties as any prehistoric or historic district, site, building, structure, or object included in, or eligible for, inclusion in the National Register of Historic Places (NRHP). Historic properties are a subset of cultural resources that are considered during the NEPA process. Cultural resources include, but are not limited to, properties that may not be NRHP-eligible or listed; places or landscapes of traditional cultural importance; and sacred, ceremonial, and religious sites.

Construction of OCNGS began in 1964 and was completed in 1969. Commercial operations began in December 1969. OCNGS stopped producing power and was officially retired in 2018 (Exelon 2018b). At present, the OCNGS licensed site boundary occupies approximately 152 ac (61.5 ha) (HDI 2025a). Additional information on the licensing and operational history of the OCNGS can be found in Section 1.1 of this EA.

Decommissioning activities within the license boundary and areas previously disturbed by the original construction would include removing all above-grade structures and some paved surfaces, decontaminating, and backfilling deep basements; some below-grade structures will remain (HDI 2025a). No intact soil will be disturbed, and no trees will be removed. The ISFSI would remain undisturbed and under an NRC license. The NRC staff has determined the area of potential effects (APE) is the 152-ac (61.5 ha) licensed site boundary.

The NRC staff reviewed the current and historic land use within and immediately adjacent to the OCNGS site. In addition, the NRC staff relied upon historic and cultural resources descriptions provided in LTP ER Section 8.8.13 to inform their independent analysis (HDI 2025a). In September 2025, the NRC staff confirmed applicable historic and cultural resources data by accessing LUCY, which is the New Jersey cultural resources Geographic Information System online viewer (NJHPO 2025a). Except for the South Branch of the Forked River Trestle and Oyster Creek Trestle, no historic or cultural resources have been previously recorded in the OCNGS licensed area or immediately adjacent as depicted on LUCY. However, the Oyster Creek Paleoindian Spot Find (ID#5907) has been reported close to the OCNGS, near the area previously used to access the barge landing. This off-site area will not be used during license termination or decommissioning.

An architectural inventory of the licensed area was conducted by SEARCH in 2025 (SEARCH 2025). The survey was conducted in accordance with applicable New Jersey State Historic Preservation Office (SHPO) guidelines. Only two previously recorded and evaluated structures were recommended NRHP-eligible—the South Branch of the Forked River Trestle and the Oyster Creek Trestle. The trestles were previously determined to be NRHP-eligible in 2009 and 2022. Eleven newly recorded historic buildings/structures and one potential district—the OCNGS complex—were identified and evaluated. All were recommended to be individually ineligible for listing on the NRHP; OCNGS was also recommended ineligible for NRHP-listing as a district. Based on documentation in the *Architectural History Survey* (SEARCH 2025), the NRC staff made a determination of No Adverse Effect pursuant to 36 CFR 800.5(b). The New Jersey SHPO disagreed with this assessment, and noted that six buildings/structures contributed to the NRHP-eligibility of the OCNGS as a whole under Criterion A: reactor/turbine building complex, old rad waste building, diesel generator building, canal and intake structure, electrical substation west of the canal (outside the APE), and auxiliary reservoir (outside the APE). The New Jersey SHPO also requested clarification and additional information (including more detailed and updated maps), which was prepared by SEARCH (SEARCH 2026) as a supplement to SEARCH's 2025 *Architectural History Survey*. Development of a Memorandum of Agreement (MOA) pursuant to 36 CFR 800.6(b)(iv) was identified as the appropriate means by which to resolve adverse effects.

3.7.2 Impacts

Decommissioning GEIS Determination

As discussed in the GEIS, the amount of land required to support the decommissioning process in most cases is relatively small and is a small portion of the overall plant site (NRC 2002). Usually, the areas disturbed or used to support decommissioning are within the operational areas of the site and typically are within the protected area. For plants in which the disturbance of lands beyond the operational areas is not anticipated, impacts on cultural, historic, and archaeological resources are not considered to be detectable or destabilizing. The GEIS concluded the impacts of decommissioning on historic and cultural resources within the operational area are SMALL. The staff does not anticipate any impacts beyond those discussed in the GEIS because planned disturbances mostly are within the OCNGS operational area.

Site-Specific Activities

Although the GEIS concluded a site-specific inquiry was necessary outside the operational area, there would be minimal decommissioning activities outside of that area and none on previously undisturbed land (HDI 2025a). Clean backfill for demolished buildings and structure foundations would be sourced from on-site demolition activities. If necessary, additional clean fill would be obtained from off-site sources that satisfy applicable regulatory requirements (HDI 2025a). Furthermore, the NRHP-eligible railroad trestles will be avoided and the area around the Oyster Creek Paleoindian Spot Find (ID#5907) will not be disturbed during license termination or decommissioning.

Based on its cultural resources review, which included consultation with the New Jersey SHPO and the identification of buildings/structures at OCNGS that contribute to the NRHP-eligibility of OCNGS as a whole, the NRC has made a revised determination of Adverse Effect pursuant to 36 CFR 800.5(d)(2). To resolve adverse effects from the undertaking, an MOA was developed and made available for review by consulting parties and the public, which includes mitigation measures that will be conducted prior to external removal, demolition, or alteration of the contributing buildings/structures; the final executed MOA can be found in Appendix B. Based on

execution of the MOA and commitment to completion of mitigation measures in the MOA, impacts to historic and cultural resources would be less than significant. Consultations conducted pursuant to the NRC staff's analysis of historic and cultural resources are discussed in Section 4.1 of this EA.

3.8 Public and Occupational Health

3.8.1 Affected Environment

All facilities that the NRC licenses must adhere to the radiation protection standards in 10 CFR 20 to protect workers and the public against potential exposure to radioactive material used, generated, and released from the licensed facility. In the GEIS, the NRC staff determined that radiological impacts to public and occupational health would remain within regulatory limits.

OCNGS was permanently shut down in 2018 and placed in SAFSTOR status (Exelon 2018a). By letter dated September 28, 2018, HDI notified the NRC that the OCNGS site status was transitioning from SAFSTOR to DECON (HDI 2018). The radiological occupational and public doses are expected to decrease during decommissioning as short-lived radionuclides decay and various site buildings and components are decommissioned, dismantled, and transported off-site, thereby reducing the remaining residual radioactivity and contamination on site.

The spent fuel rods have all been transported to the ISFSI on site as of September 25, 2018; thus, there is no fuel remaining in the reactor building (Exelon 2018b).

3.8.2 Impacts

Until license termination, power reactor licensees are required to keep releases of radioactive material to unrestricted areas as low as reasonably achievable (ALARA) and are required to meet 10 CFR 50.36(a) requirements for effluent releases after ceasing operations (NRC 2002). HDI expects that the total occupational dose from decommissioning OCNGS would be within the GEIS estimate for occupational dose during decommissioning of a BWR, which is between 700 and 1,874 person-roentgen equivalent man (rem) (HDI 2025a). During decommissioning, HDI would continue to use various protection programs to ensure public and occupational doses remain below the regulatory limits in 10 CFR 20 and 10 CFR 50 (HDI 2025a).

Plant personnel would not need to enter radiological areas to conduct maintenance, calibration, and inspections, or other activities associated with an operating plant as regularly during decommissioning; thus, occupational dose during decommissioning would be significantly lower than it was during operation of the plant.

Table 3-4 in the OCNGS LTP, Revision 2, shows the occupational dose actuals for the 2019 through 2023 period in person-rem (HDI 2025a). The largest total dose in 1 year was 68 person-rem in 2021. HDI estimates the remaining decommissioning work will result a total occupational dose of 938 person-rem, for a total of 1,133 person-rem during decommissioning. This is within the range estimated in the GEIS of 700 to 1,874 person-rem (NRC 2002). HDI would continue to monitor occupational dose during decommissioning to make sure the maximum occupational exposure remains below the regulatory limit in 10 CFR 20.1201.

Table A-5 in the most recent Annual Radioactive Effluent Release Report shows the whole body sum of internal exposure, inhalation, and direct radiation for public dose compared to the annual limits from 40 CFR 190 (HDI 2026b). The whole-body dose for individuals in unrestricted areas

near OCNGS was a fraction of the regulatory limit for 2025. The NRC staff expects the public dose to decrease as radiological waste continues to be removed from the site.

Optically stimulated luminescent dosimeter location 62 had the highest measured public dose of 0.22 millirem per year in 2025, based on a scenario in which a member of the public takes advantage of the nature trail west of U.S. Route 9 east of the site (HDI 2026b). The highest calculated dose to the public is at the warehouse west of the site across the dam separating the Intake and Discharge Canals and was lower than the threshold for indicating the dose greater than the baseline in 2025 (HDI 2026b). All gaseous and liquid radiological effluent from OCNGS in 2025 were a small fraction of the applicable regulatory limit, with the largest releases being 0.96 Curies of gaseous tritium and 0.75 Curies of liquid tritium over the full year, which are each significantly less than 1 percent of their respective regulatory limits (HDI 2026b).

HDI maintains the Offsite Dose Calculation Model and Radiological Environmental Monitoring Program (REMP) to make sure the off-site dose remains well below applicable regulatory limits. REMP reports indicate that direct radiation from sources are below the 40 CFR 190 limits. The REMP is required to continue as part of the OCNGS 10 CFR 50 license until the removal of the spent fuel from the ISFSI and termination of the license to ensure radiological dose remains below applicable regulatory limits

Non-radiological hazards for occupational safety would be similar to another industrial site of the same size. Plant personnel would operate heavy machinery and could inhale dust or particulates during decommissioning activities. HDI would implement BMPs to reduce the risk of dust and other industrial non-radiological hazards at the site.

Section 4.3.8 of the GEIS compared effluent releases between operating and decommissioning facilities and concluded that decommissioning presented a lower risk. The GEIS concluded that the dose to a maximally exposed individual during decommissioning was expected to be well below the regulatory standards in 10 CFR 20. There is no new or significant information about the OCNGS decommissioning plan that would indicate public radiation dose during decommissioning is beyond what was considered in the GEIS. Therefore, the NRC staff concludes that potential impacts to public radiological health are bounded by the GEIS and the proposed action would have no significant impact on public and occupational health.

3.9 Transportation

3.9.1 Affected Environment

The OCNGS site is located along U.S. Highway 9. A 2020 study by the New Jersey Department of Transportation on U.S. Highway 9 at a station approximately 0.5 mi (0.8 km) north of OCNGS indicated that the maximum daily traffic by month varied from 12,077 vehicles per day in April to 16,270 vehicles per day in August (NJDOT 2020).

3.9.2 Impacts

There were 580 waste shipments from the start of decommissioning of OCNGS to 2024 (HDI 2025a). The NRC staff expects the frequency of waste shipments through the end of decommissioning to continue at a similar frequency, which is an insignificant fraction of the daily traffic load for U.S. Highway 9.

Fewer staff travel to/from the site during decommissioning than during operations (transportation discussion in SEIS for the reactor). There are no unique features or site-specific conditions at OCNGS that are outside of the bounds of the GEIS, which concluded decommissioning of a reactor would have SMALL impacts on transportation because the impacts would generally be less than when the reactor was operating and would continue to decrease throughout decommissioning.

Therefore, the NRC staff concludes the proposed action would have no significant impact on transportation in Lacey Township or along U.S. Highway 9.

3.10 Waste Management

3.10.1 Affected Environment

HDI transitioned OCNGS from SAFSTOR status to DECON on September 28, 2018 (HDI 2018). This transition involved dismantling and disposal of site structures and buildings to release the site from the operating license. Radiological waste is regulated under 10 CFR 71 while transportation of hazardous, mixed-waste, and radioactive waste is regulated by the U.S. Department of Transportation under 49 CFR 171–177.

3.10.2 Impacts

Low-level radioactive waste (LLRW) from OCNGS decommissioning would be classified as Class A, Class B, or Class C waste. Some of the radiological waste generated during decommissioning may be mixed waste, which contains elevated levels of radionuclides along with non-radiological constituents that result in the waste being classified as both radiological and hazardous waste under the Resource Conservation and Recovery Act. Radiological and mixed waste would be managed at the site according to applicable regulations and disposed at facilities authorized to accept them.

HDI estimates that OCNGS decommissioning would generate 1,400,000 ft^3 (39,643.6 cubic meters [m^3]) of Class A waste, 3,164 ft^3 (89.6 m^3) of Class B waste, and 4,800 ft^3 (135.9 m^3) of Greater than Class C (GTCC) waste (HDI 2025a). The Class A and Class B wastes would be transported off-site for disposal at a licensed disposal facility while the GTCC waste currently is stored in canisters on the ISFSI pad. The GTCC would be moved off-site with the spent fuel by

the U.S. Department of Energy (DOE) when a long-term disposal facility that can receive spent fuel and GTCC for long-term disposal becomes operational.

The LLRW would be sent to Waste Control Specialists in Texas. To date, approximately half of the waste shipments have been by truck while the rest of the waste has been transported from the site by truck to a rail loading facility that could safely transfer the waste to rail. The LLRW was then transported by rail to Waste Control Specialists (HDI 2025a). To date, no LLRW has been transported by barge and barging is no longer under consideration as a transportation method (HDI 2025d).

Anticipated total waste volume from decommissioning OCNGS is 1,403,164 ft^3 (39,733.2 m^3), which is below the high-end estimate of 1.5 million ft^3 (42,475 m^3) in the GEIS Table 4-7 (HDI 2025a; NRC 2007). All non-radiological waste generated during decommissioning would be characterized as required by the state and Federal regulations and disposed of accordingly.

Therefore, the NRC staff concludes that the proposed action would have no significant impact on waste management.

3.11 Noise

3.11.1 Affected Environment

OCNGS is located in Lacey Township, New Jersey, and no schools, hospitals, prisons, motels, or hotels are located in the immediate vicinity of the site. Noise generated by OCNGS operations is mitigated at the nearest off-site receptor because the plant is buffered by undeveloped land along the Forked River to the north of the site and Oyster Creek to the south. Between the river and creek, the plant is buffered toward the east by a small, wooded area along the length of U.S. Highway 9, thus creating a barrier for any noise generated by OCNGS operations. To the west is the electric substation and a warehouse (more industrial facilities).

3.11.2 Impacts

Noise during decommissioning is expected to be consistent with the noise generated during refueling outages when OCNGS was operating. There would be temporary higher-than-normal noise levels during some demolition activities. However, these higher noise levels would be short in duration, infrequent, and not expected to cause an audible intrusion on the surrounding off-site community.

Section 4.3.16 of the GEIS concluded that the noise impacts from decommissioning would be neither detectable nor destabilizing. HDI is using a standard DECON approach, so no noise levels beyond those bounded by the GEIS (which considered the impacts of noise to be SMALL) are expected. Therefore, the NRC staff concludes that the proposed action would have no significant impact on noise.

3.12 Visual and Scenic

3.12.1 Affected Environment

The OCNGS site is surrounded by forested land, wetlands, and the intake and outtake canals, which surround the site to the north, west, and south. East of the site is U.S. Highway 9, a major north-south highway in the area. The site aesthetic is typical of an industrial site of this size. The most prominent structures (auxiliary buildings, the containment structure, etc.) are the same

ones that will be removed during decommissioning. Some buildings and facilities will be preserved for potential reuse and will remain after decommissioning.

3.12.2 Impacts

In the GEIS, the NRC staff concluded that removal of industrial structures generally is considered a beneficial aesthetic impact of a site.

Impacts of decommissioning are temporary and would generally result in a net benefit for the local community as structures are removed and the site is restored. HDI plans to decommission the site to meet NRC regulations for unrestricted release in 10 CFR 20.1401. HDI's proposal is that the OCNGS property would be land restored for unrestricted use and would include undeveloped open areas, tidal canals, and freshwater streams (HDI 2018; 2025a).

The ISFSI would remain on-site until the DOE takes ownership of the spent nuclear fuel and GTCC waste and transfers it off-site. The ISFSI then would be decommissioned and the land restored for unrestricted release after all spent fuel and GTCC waste is removed. The ISFSI occupies only a small portion of the site and would not significantly impact the aesthetic during decommissioning.

The NRC staff expects no aesthetic impacts beyond those discussed in the GEIS, which concluded that for all types of nuclear power plants, the impacts on aesthetics are SMALL and mitigation is not warranted.

4 PERSONS AND AGENCIES CONSULTED

4.1 National Historic Preservation Act

NHPA consultation was conducted pursuant to 36 CFR 800.8(c). The NRC staff initiated consultation with four Federally recognized Indian Tribes with historic and ancestral ties to the project vicinity—the Delaware Nation, Delaware Tribe of Indians, Shawnee Tribe, and Stockbridge-Munsee Community. These consultations were conducted to make sure the Tribes were afforded an opportunity to identify their concerns, provide advice on the identification and evaluation of historic properties, including those of traditional religious and cultural importance, and, if necessary, participate in the resolution of any adverse effects to such properties (NRC 2025a). Three Tribes recognized by the State—the Powhatan Renape Indians, Ramapough Lenape Indian Nation, and Nanticoke Lenni-Lenape Indians of New Jersey—also were provided an opportunity to provide input on NRC review (NRC 2025b).

The Shawnee Tribe and Stockbridge-Munsee Community responded that the project was located outside their areas of interest (Shawnee Tribe 2025 and Stockbridge-Munsee Community 2025).

The NRC staff also initiated consultation with the New Jersey SHPO and informed the Advisory Council on Historic Preservation (ACHP) of its intent to use the NEPA process to satisfy the NRC's Section 106 responsibilities pursuant to 36 CFR 800.8(c) (all consulting parties were similarly notified) (NRC 2025c and 2025d). The New Jersey SHPO responded (NJHPO 2025b) with a request to review the architectural inventory report (SEARCH 2025) and the ACHP responded (ACHP 2025) confirming receipt and reiterating the procedures at 36 CFR 800.8(c). The NRC staff subsequently made a preliminary determination of No Adverse Effect based on SEARCH 2025 and sent the report and correspondence to the New Jersey SHPO requesting concurrence on December 17, 2025 (NRC 2025e). The New Jersey SHPO responded by letter dated January 15, 2026 (NJHPO 2026a), stating that they did not concur with the NRC staff's preliminary determination, and in their opinion, six buildings/structures contribute to the NRHP-eligibility of OCNGS as a whole; the letter also requested additional/updated maps.

On March 3, 2026, correspondence (including SEARCH 2025 and SEARCH 2026) was sent to the New Jersey SHPO requesting concurrence on the revised determination of adverse effect (NRC 2026a); to the ACHP providing notification of a determination of adverse effect pursuant to 36 CFR 800.6(a)(1) (NRC 2026b); to the Delaware Nation and the Delaware Tribe requesting comment (NRC 2026c and NRC 2026d, respectively); and three state recognized Tribes requesting comment (Nanticoke Lenni-Lenape Indians of New Jersey [NRC 2026e]; Powhatan Renape Indians [NRC 2026f]; and Ramapough Lenape Indian Nation [NRC 2026g]). The ACHP responded by letter dated March 6, 2026, where they elected not to participate in the resolution of adverse effects (ACHP 2026a). The New Jersey SHPO concurred with the determination of adverse effect by email dated March 17, 2026 (NJHPO 2026b), which also agreed to the applicability of an MOA to resolve adverse effects.

By letters dated April 16, 2026, the draft historic and cultural resources section of the EA, including the draft MOA, was made available to consulting parties and the public for review and comment (NRC 2026h, 2026i, 2026j, 2026k). A response was received from the ACHP on April 17, 2026, indicating that they would add the available documents to their case record (ACHP 2026b). The New Jersey SHPO responded on April 27, 2026, with minor suggested

revisions to the MOA prior to finalization (NJHPO 2026c). HDI responded on May 5, 2026, with minor suggested revisions prior to finalization (HDI 2026c).

The final executed MOA is available in Appendix B. The NRC has submitted a copy of the executed MOA to the ACHP consistent with 36 CFR 800.6(b)(1)(iv).

4.2 Endangered Species Act

By letter dated February 24, 2026, the NRC staff requested FWS concurrence on the staff's impact determination for species listed in Appendix A (NRC 2026l). By letter dated April 2, 2026, the FWS concurred with the NRC staff's effect determinations (FWS 2026). The NRC staff's consultation and engagement with FWS is discussed in detail in Appendix A. The NRC's obligations under ESA Section 7 are satisfied.

4.3 State Review

By letter dated April 15, 2026, the NRC staff provided a copy of a draft of this EA to the NJDEP for their review (NRC 2026m). By letter dated May 6, 2026, the NJDEP responded with multiple comments regarding figure legibility, groundwater wells, potential pathways for soil contamination, decommissioning activity details, and NHPA consultation with the New Jersey SHPO (NJDEP 2026). The NRC staff made changes in Sections 1.1, 3.2, 3.3, 3.8, and 4.1 of this EA to address these comments.

5 CONCLUSION AND RECOMMENDATION

Based on its review of the proposed action, in accordance with the 10 CFR 51 requirements, the NRC staff has preliminarily determined that the amendment of the 10 CFR 50 license for OCNGS will not significantly affect the quality of the human environment. If approved, this license amendment would add a license condition to the OCNGS license reflecting NRC's approval of the LTP and establishing criteria for determining when changes to the LTP require prior NRC approval. No significant changes in HDI's authorized operations for the OCNGS were requested as part of the license amendment application. Approval of the proposed action would not result in any new construction or expansion of the existing OCNGS footprint beyond that previously approved.

The GEIS addressed many of the potential environmental impacts of decommissioning at the OCNGS, including on-site land use; water resources; air quality; ecology, not including threatened and endangered species or outside the operational area; socioeconomics; historic and cultural resources within the operational area; aesthetics; noise; transportation; and nonradioactive waste management. During its review of the OCNGS LTP, the NRC staff concluded that the impacts for these resource areas were bounded by the GEIS. The NRC staff does not expect impacts associated with these issues beyond those discussed in the GEIS, which concluded that the impact level for these issues was SMALL.

In the GEIS, the NRC staff concluded that it could not necessarily determine the environmental impacts of decommissioning generically for the following five environmental resource areas:

1. threatened and endangered species
2. off-site land use
3. historic and cultural resources beyond the operational area with no current cultural and historic resource survey
4. terrestrial ecology beyond the operational area
5. aquatic ecology beyond the operational area

The NRC evaluated the potential environmental impacts of the remaining decommissioning and license termination activities on the five environmental resource areas that cannot be determined generically. The NRC did not identify any significant impacts for any resource areas that were not discussed generically in the GEIS.

No significant radiological or non-radiological impacts are expected from the proposed action at the OCNGS. Occupational dose estimates associated with the proposed action and continued decommissioning of OCNGS are expected to be at ALARA levels and within the limits of the requirements in 10 CFR 20.1201 and 10 CFR 20.1402. Therefore, the NRC staff has determined that pursuant to 10 CFR 51.31, preparation of an environmental impact statement is not required for the proposed action, and pursuant to 10 CFR 51.32, a Finding of No Significant Impact is appropriate.

6 LIST OF PREPARERS

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7 REFERENCES

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10 CFR 50. Code of Federal Regulations, Title 10, Energy, Part 50, “Domestic Licensing of Production and Utilization Facilities.”

50 CFR 402. Code of Federal Regulations, Title 50, Wildlife and Fisheries, Part 402, “Interagency Cooperation – Endangered Species Act of 1973, as Amended.”

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APPENDIX A

ECOLOGICAL CONSULTATIONS

This appendix outlines the ecological consultations conducted to inform the supporting resource analysis for the environmental review under the National Environmental Policy Act of 1969 (NEPA). It includes documentation of compliance with the Endangered Species Act (ESA), the Magnuson-Stevens Fishery Conservation and Management Act, and the National Marine Sanctuaries Act. These consultations assess the potential effects of the proposed action on federally listed species, designated critical habitats, essential fish habitats, and marine sanctuary resources.

A.1 ESA Section 7 Consultation and Biological Evaluation

As a Federal agency, the U.S. Nuclear Regulatory Commission (NRC) must comply with the ESA (Title 50 of the Code of Federal Regulations (50 CFR) Part 402) as part of any action authorized, funded, or carried out by the agency. Section 1 of this environmental assessment (EA) describes the proposed action. Under Section 7 of the ESA, the NRC must consult with the U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) ("the Services" [collectively] or "Service" [individually]), as appropriate, to ensure that the proposed action is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat.

Biological assessments are required for any agency action that is a "major construction activity" (50 CFR 402.12(b)). A major construction activity is a construction project or other undertaking having construction-type impacts that is a major Federal action which significantly affects the quality of the human environment under NEPA. Federal agencies may fulfill their obligations to consult with the Services under ESA Section 7 and to prepare a biological assessment, if required, in conjunction with the interagency cooperation procedures required by other statutes, including NEPA (50 CFR 402.06(a)). In such cases, the Federal agency should include the results of ESA Section 7 consultation(s) in the NEPA document (50 CFR 402.06(b)).

Decommissioning does not require preparation of a biological assessment because it is not a major construction activity. Regardless, the NRC staff must consider the impacts of its actions on federally listed species and designated critical habitats. For cases in which the staff finds that license renewal "may affect" ESA protected species or habitats, ESA Section 7 requires the NRC to consult with the relevant Service(s).

For federally listed species and critical habitats under FWS jurisdiction (Table A-1), the NRC staff has incorporated its biological evaluation below, which considers the effects of the proposed Oyster Creek License Termination Plan (LTP). This appendix summarizes the species and habitats present in the action area, the NRC's effect determinations, and the status of FWS's concurrence.

For federally listed species and critical habitats under NMFS jurisdiction, the NRC conducted formal consultation in 2020 that resulted in a Biological Opinion (BiOp) for the species covered in Table A-2 (NMFS 2020). The BiOp included impacts resulting from decommissioning activities. Because the proposed action has not changed since implementation of the BiOp and reinitiation criteria have not been met (50 CFR 402.16), no further analyses of these species are required.

Table A-1 Summary of Federally Listed Species and Critical Habitats Under U.S. Fish and Wildlife Service Jurisdiction Present in the Action Area and the Associated Effects from Oyster Creek License Termination Plan

Species	Federal Status[a]	Potentially Present in the Action Area?	NRC Effect Determination[b]	FWS Concurrence Date[c]
American chaffseed (*Schwalbea americana*)	FE	Yes	NLAA	April 2, 2026
eastern black rail (*Laterallus jamaicensis ssp. Jamaicensis*)	FT	Yes	NLAA	April 2, 2026
Knieskern's Beaked-rush (*Rhynchospora knieskernii*)	FT	Yes	NLAA	April 2, 2026
monarch butterfly (*Danaus plexippus*)	FPT	Yes	NLAA	April 2, 2026
Northern long-eared bat (Myotis septentrionalis)	FE	Yes	NLAA	November 28, 2025
rufa red knot (*Calidris canutus rufa*)	FT	Yes	NLAA	April 2, 2026
swamp pink (*Helonias bullata*)	FT	Yes	NLAA	April 2, 2026
tricolored bat (*Perimyotis subflavus*)	FPE	Yes	NLAA	November 28, 2025

FE = federally endangered; FPE = proposed for Federal listing as endangered; FPT = proposed for Federal listing as threatened; FT = federally threatened; FWS = U.S. Fish and Wildlife Service; NE = no effect; NLAA = may affect but is not likely to adversely affect; NRC = U.S. Nuclear Regulatory Commission; TBD = to be determined.

(a) Indicates protection status under the ESA.

(b) The NRC staff makes its effect determinations for federally listed species in accordance with the language and definitions specified in the FWS and NMFS Endangered Species Consultation Handbook (FWS and NMFS 1998-TN1031).

(c) The Endangered Species Act does not require Federal agencies to seek FWS concurrence for "no effect" determinations or for NLAA determinations for candidate and proposed species. For species whose FWS concurrence date is listed as N/A or TBD, the NRC will seek FWS concurrence following issuance of this EA.

Table A-2 Summary of Federally Listed Species and Critical Habitats Under National Marine Fisheries Service Jurisdiction Present in the Action Area and the Associated Effects from Oyster Creek License Termination Plan

Species	Federal Status[a]	Potentially Present in the Action Area?	NRC/NMFS Effect Determination[b]	NMFS Concurrence Date[c]
Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) All DPSs	FT/FE	Yes	NLAA	May 29, 2020
Green sea turtle (*Chelonia mydas*) North Atlantic DPS	FT	Yes	NLAA	May 29, 2020
Kemp's ridley sea turtle (*Lepidochelys kempii*)	FE	Yes	NLAA	May 29, 2020
Leatherback sea turtle (*Dermochelys coriacea*)	FE	No	NE	N/A
Loggerhead sea turtle	FT	Yes	NLAA	May 29, 2020

Species	Federal Status[a]	Potentially Present in the Action Area?	NRC/NMFS Effect Determination[b]	NMFS Concurrence Date[c]
(*Caretta caretta*) Northwest Atlantic DPS				

DPS = distinct population segment; FE = federally endangered; FT = federally threatened; N/A = not applicable; NE = no effect; NMFS = National Marine Fisheries Service; NRC = U.S. Nuclear Regulatory Commission.

(a) Indicates protection status under the ESA.

(b) The NRC staff makes its effect determinations for federally listed species in accordance with the language and definitions specified in the FWS and NMFS Endangered Species Consultation Handbook (FWS and NMFS 1998-TN1031).

(c) For species whose NMFS concurrence date is listed TBD, the NRC updates the status of the NMFS consultation in the final EA.

A.1.1 ESA: Action Area

The implementing regulations for ESA Section 7 define "action area" to mean all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action (50 CFR 402.02). The action area effectively bounds the analysis of federally listed species and critical habitats because only species and habitats that occur within the action area may be affected by the Federal action.

Terrestrial Action Area

As described in the Holtec Decommissioning International, LLC (HDI) environmental report (ER), "The terrestrial action area is the 152 ac (61.5 ha), licensed area of the Oyster Creek Nuclear Generating Station (OCNGS) site consisting of developed areas and a 60 ac (24 ha), mostly undeveloped, buffer strip that includes a small area of emergent scrub-shrub and forested wetland (HDI 2025a)."

Aquatic Action Area

As described in HDI's ER, the NMFS defined the aquatic area in its 2020 Biological Opinion (NMFS 2020). The action area was determined to include the underwater areas affected by operations of OCNGS, including the south fork of the Forked River, Oyster Creek, and Barnegat Bay. The discharge plume during OCNGS plant operations existed in Oyster Creek and extended into a relatively large surface area of Barnegat Bay.

A.1.2 ESA: Federally Listed Species and Critical Habitats Under U.S. Fish and Wildlife Jurisdiction

The NRC staff identified eight species under FWS jurisdiction that may occur in the action area (Table A-1). These include species that are federally listed as endangered or threatened under the ESA and species that are proposed for listing (FWS 2025a). The NRC staff reviewed the ER, the FWS Information for Planning and Consultation (IPaC) database, available ecological surveys, and other records to determine whether suitable habitat for each species exists in the action area and whether the species itself may occur in the action area.

Table A-3 summarizes the results of the NRC staff's evaluation, including the habitat requirements and information on the occurrence of each species within the action area. The NRC staff effect determinations are discussed in detail below in detail.

Table A-3 Occurrences of Federally Listed, Proposed, and Candidate Species and Critical Habitats Under U.S. Fish and Wildlife Service Jurisdiction in the Oyster Creek License Termination Plan Action Area

Species or Critical Habitat	Federal Status[(a)]	Habitat	Type and Likelihood of Occurrence in Action Area
American chaffseed (*Schwalbea americana*)	FE	Occurs in fire-maintained longleaf pine flatwoods and savannahs. Found between wetlands and sandy soil. Fire may be important to the species but requires additional research (FWS 2025b).	**Presumed Present**. Suitable habitat exists within the OCNGS site. HDI reports no observations of the species onsite. However, because suitable habitat is present onsite in isolated areas of the undeveloped portions of the site, the NRC staff conservatively assume that individuals may occasionally occur in the action area.
eastern black rail (*Laterallus jamaicensis ssp. Jamaicensis*)	FT	Salt, brackish, and freshwater marshes with dense vegetative cover that allows movement beneath the canopy.	**Seasonal and Occasional.** Suitable habitat is present within the undeveloped portions of the action area. HDI reports no observations of the species on the OCNGS site. However, because the species inhabits a variety of marsh types, the NRC staff conservatively assumes that individuals may occasionally occur in the action area during migration or uncommonly during winter.
Knieskern's Beaked-rush (*Rhynchospora knieskernii*)	FT	Occurs in groundwater-influenced, constantly fluctuating, successional habitats. It is found in naturally occurring successional habitats and disturbed areas such as road cuts, mowed roadsides, and utility rights of ways (56 FR 32978).	**Presumed Present.** Suitable habitat exists within the OCNGS. HDI reports no known observations of the species onsite. However, because suitable habitat is present onsite, NRC staff conservatively assume that individuals may occasionally occur within the action area.
monarch butterfly (*Danaus plexippus*)	FPT	Prairies, meadows, grasslands and along roadsides across most of North America, especially in areas containing milkweed (*Asclepias* spp.).	**Present.** HDI reports that monarch butterflies have/have not been documented within the OCNGS site and that the species is/is not likely to occur within the action area. HDI reports the presence of milkweed species within the action area.

Species or Critical Habitat	Federal Status[(a)]	Habitat	Type and Likelihood of Occurrence in Action Area
northern long-eared bat (*Myotis septentrionalis*)	FE	In non-hibernating seasons, northern long-eared bats (NLEB) typically roost individually or in colonies underneath bark or in cavities or crevices of both live trees and snags. Males and nonreproductive females also may roost in cooler locations, including caves and mines. Individuals may use caves and mines during fall swarming.	**Seasonal and Occasional.** Suitable habitat exists within the OCGNS action area. In the eastern portion of the action area, potential roosting habitat exists in the forested area. In 2022, an independent acoustic bat survey was conducted (ESCI 2022). The results of this survey were inconclusive whether the NLEB was present or not. Accordingly, NRC staff assumes the NLEB is present within the action area.
rufa red knot (*Calidris canutus rufa*)	FT	During migration, red knots use coastal marine and estuarine habitats with large areas of exposed intertidal sediment; ocean or bay front areas, and tidal flats in more sheltered bays and lagoons (FWS 2020).	**Migratory.** The OCGNS action area lies in the Mid-Atlantic stopover wintering habitat region for the rufa red knot. Suitable stopover habitat is present within the action area. Accordingly, NRC staff assume that individuals may utilize the action area as stopover or wintering habitat.
swamp pink (*Helonias bullata*)	FT	Requires obligate wetlands. Habitat consists of swamps, mountain bogs, seeps, drainages, and small stream sides with mature forest overstory, which do not receive prolong periods of inundation (FWS 2021).	**Presumed Present.** See Knieskern's Beaked-rush.
tricolored bat (*Perimyotis subflavus*)	FPE	In non-hibernating seasons, tricolored bats (TCB) primarily roost among live and dead leaf clusters of live or recently dead deciduous hardwood trees. Additionally, species may roost during summer among pine needles, within artificial roosts such as barns, beneath porch roofs, bridges, and concrete bunkers.	**Seasonal and Occasional.** See NLEB above.

ESA = Endangered Species Act; FWS = U.S. Fish and Wildlife Service; HDI = Holtec Decommissioning International, LLC; NRC = U.S. Nuclear Regulatory Commission; OCNGS = Oyster Creek Nuclear Generating Station.

(a) Indicates protection status under the ESA. FD = federally designated (critical habitat); FE = federally endangered; FPD = federally proposed for designation (critical habitat); FPT = federally proposed for listing as threatened; FT = federally threatened; SAT = federally listed due to similarity of appearance with a listed endangered species.

Sources: HDI 2025b; HDI 2025c; IPaC Report (FWS 2025a)

A.1.3 ESA: Effect Determinations for Federally Listed Species and Critical Habitats Under U.S. Fish and Wildlife Jurisdiction

In the preceding section of this EA, the NRC staff determined that eight federally listed or proposed for listing species may occur in the action area. Below, the NRC staff analyzes the potential impacts of the proposed Oyster Creek LTP on these species. Table A-3 summarizes the NRC staff's ESA effect determinations for these species.

NRC staff completed the "Northern Long-eared Bat and Tricolored Bat Range-wide Determination Key," to request concurrence for covered species. On November 28, 2025, the NRC staff received concurrence from FWS that the proposed action *may affect but is not likely to adversely affect* the northern long-eared bat and tricolored bat (FWS 2025c). Because the NRC staff received concurrence for these species and the concurrence letter includes an analysis of potential effects, the NRC staff does not address these species any further.

A.1.3.1 Eastern Black Rail (FT)

In Section A.1.2, the NRC staff concludes that the eastern black rail may occur in the action area throughout the undeveloped portions of the OCNGS site and nearby coastal habitat. HDI reports no observations of the eastern black rail within the action area (HDI 2025b).

The primary drivers identified by FWS as commonly affecting the health of the eastern black rail specific to the proposed action are (1) habitat fragmentation and conversion; (2) haying, mowing, and other mechanical treatment activities; (3) human disturbance; and (4) collisions with building infrastructure and vehicles (85 FR 63764).

Habitat Fragmentation and Conversion

Direct impacts would be limited to the operational area as decommissioning activities will not degrade further surrounding habitat. HDI has stated that additional land clearing, development, or construction during the proposed decommissioning plan would not occur. Any land disturbing activities, such as maintenance of roadways, would occur within pre-disturbed areas such as the industrialized area. Accordingly, the NRC staff finds the likelihood of future adverse effects of habitat fragmentation and conversion on the eastern black rail to be discountable and insignificant, and therefore, is not considered further.

Haying, Mowing, and other Mechanical Treatment Activities

Similar to the effects of habitat fragmentation and conversion, mowing will be limited to previously disturbed areas within the action area. Accordingly, the NRC staff finds the likelihood of future adverse effects of haying, mowing, and other mechanical treatment activities on the eastern black rail to be discountable and insignificant, and therefore, is not considered further.

Human Disturbance

Decommissioning activities, including site deconstruction, could prompt behavioral changes in listed birds. Noise, vibration, and general human disturbance are stressors that may disrupt normal nesting, roosting, foraging, and breeding activities. At low noise levels or further distances, birds may initially be startles but would likely habituate to low background noise levels. At close range and louder noise levels, particularly accompanied by physical vibrations from heavy machinery, listed birds would likely be startled to the point of fleeing from daytime

roosts. Fleeing birds could be more susceptible to predation and would expend more energy, which could decrease reproductive fitness. Increased noise may also reduce foraging success.

Within the action area, noise, vibration, and other human disturbances could dissuade birds from using the action area's wetland and coastal habitat during residency or migration. However, birds that use the action area have likely become habituated to such disturbances because OCNGS is an established industrialized area that has operated for several decades. Additionally, the noise and vibration caused by decommissioning activities is predicted to be temporary.

Decommissioning of OCNGS as result of the proposed action would not include any disturbance outside of the previously disturbed industrialized area. Levels and intensity of noise, lighting, and human activities associated with site activities would be similar to on-going conditions at the site. Table 3-4 lists best management practices (BMPs) that HDI plans to implement to include for noise, and lighting (HDI 2025b). While these disturbances could cause behavioral changes in migrating or resident birds, such as the expenditure of additional energy to find alternative habitat, the NRC staff assumes that listed birds, if present in the action area, have already acclimated to regular site disturbances. As such, NRC staff conclude that decommissioning of the OCNGS site would not cause behavioral changes in birds to a degree that would be able to be meaningfully measured, detected, or evaluated, or that would reach the scale at which take may occur, and therefore, is not considered further.

Collisions with Building Infrastructure and Vehicles

Tall structures, machinery, and vehicles present a known risk of collision for protected avian species, particularly those that may fly at lower altitudes or are attracted to industrial sites for foraging or roosting. Collisions with vertical infrastructure or moving vehicles can result in injury or mortality, potentially impacting local or migratory bird populations.

As part of the proposed decommissioning activities at the OCNGS site, a substantial reduction in the number and height of onsite structures is anticipated. This includes the removal or dismantling of buildings, towers, and other vertical elements that currently contribute to the collision risk. The overall decrease in structural density and height is expected to significantly reduce the likelihood of bird strikes involving stationary infrastructure.

Vehicular activity during the decommissioning phase will continue, including truck deliveries, equipment transport, and daily commuting by personnel. However, the nature and intensity of this traffic are expected to be comparable to those observed during regular site operations. Importantly, vehicle movement will remain largely restricted to existing paved roadways and designated industrial-use zones within the action area. These areas are not typically used by protected bird species for nesting, foraging, or other critical behaviors, thereby minimizing the potential for interaction.

Given the anticipated reduction in structural hazards and the continued confinement of vehicular activity to low-risk areas, the potential for future collisions involving protected birds is considered extremely low and discountable. The NRC staff has reviewed the proposed action and determined that the likelihood of adverse impacts to federally listed avian species from collisions with vehicles or remaining infrastructure is discountable. Therefore, this issue is not discussed further.

Conclusions for the Eastern Black Rail

All potential effects on the eastern black rail would be insignificant or discountable. Therefore, the NRC staff concludes that the proposed action *may affect but is not likely to adversely affect* the eastern black rail. On April 2, 2026, NRC staff received concurrence, concluding the NRC's obligations under ESA Section 7 (FWS 2026).

A.1.3.2 Monarch Butterfly (FPT)

In Table A-3 of Section A.1.2, the NRC staff concludes that the monarch butterfly may occur in the action area year-round. The primary drivers identified by FWS as commonly affecting the health of the monarch butterfly relative to the proposed action are (1) habitat loss and degradation and (2) insecticide exposure (FWS 2024).

Habitat Loss, Degradation, and Modification

Land use resulting in conversion of suitable habitat to other uses is the primary risk factor affecting the status of the monarch butterfly. Conversion of suitable habitat reduces the amount, availability, connectedness, size, and quality of habitat. While the primary cause of conversion throughout the species' range is agricultural activities, any development activity may reduce suitable habitat. This includes activities such as road construction, housing and commercial development, and energy projects. HDI has not proposed any activities that would result in habitat loss, land disturbance, or other activities that would degrade existing natural areas or potential habitats for butterflies during decommissioning activities. Milkweed, which is essential for the monarch life cycle, is not known to exist on the OCNGS site. Onsite mowing is restricted to the industrialized area where the presence of monarch would be minimal. Continued preservation and enhancement of natural areas onsite would benefit monarch butterflies. Invasive plant species and woody plant encroachment degrade monarch habitat quality and quantity. There are no activities proposed as part of decommissioning activities that would increase the prevalence of invasive plants.

Insecticide Exposure

Most insecticides are nonspecific and broad-spectrum in nature. Furthermore, the larvae of many Lepidopterans are considered major pest species, and insecticides are specifically tested on this taxon to ensure that they will effectively kill individuals at the labelled application rates (FWS 2024). Insecticide use is most often associated with agricultural production. Studies looking specifically at the dose response of monarchs to neonicotinoids, organophosphates, and pyrethroids have demonstrated monarch toxicity (e.g., Krischik et al. 2015; James 2019; Krishnan et al. 2020; Bagar et al. 2020). Moreover, the magnitude of risk posed by insecticides may be underestimated, as research usually examines the effects of the active ingredient alone, while many of the formulated products contain more than one active insecticide.

HDI would continue applying herbicides as needed and according to labelled uses but has no plans to apply herbicides in natural areas. Continued herbicide application could directly affect butterflies in the action area by injuring or killing individuals exposed to these chemicals. Certain herbicides such as glyphosate (e.g., Round Up™) can kill milkweed, which could affect the ability of the species to lay eggs and the availability of larval food sources. Continued herbicide application could affect butterflies in the action area by indirect exposure to these chemicals. However, all herbicide applications would be targeted and, therefore, unlikely to result in hazardous levels of contaminant exposure.

Conclusion for the Monarch Butterfly

All potential effects on the monarch butterfly would be insignificant or discountable. Therefore, the NRC staff concludes that the proposed action *may affect but is not likely to adversely affect* the monarch butterfly. On April 2, 2026, NRC staff received concurrence, concluding the NRC's obligations under ESA Section 7 (FWS 2026).

A.1.3.3 Rufa Red Knot (FT)

In Section A.1.2, the NRC staff concludes that the rufa red knot may occur in the action area throughout the undeveloped portions of the OCNGS site and nearby coastal habitat for stopover habitat. HDI reports no observations of the rufa red knot within the action area (HDI 2025b). The primary drivers identified by FWS as commonly affecting the health of the eastern black rail specific to the proposed action are (1) habitat fragmentation, conversion, and loss; (2) haying, mowing, and other mechanical treatment activities; (3) human disturbance; and (4) collisions with building infrastructure and vehicles (FWS 2020).

Habitat Fragmentation, Conversion, and Loss

For the same reasons listed in Appendix A.1.3.1, the NRC staff find the likelihood of future adverse effects of habitat fragmentation, conversion, and loss on the eastern black rail to be discountable and insignificant, and therefore, is not considered further.

Human Disturbances

For the same reasons listed in Appendix A.1.3.1, the NRS staff find the likelihood of future adverse effects of human disturbance on the rufa red knot to be discountable and insignificant, and therefore, is not considered further.

Collisions with Building Infrastructures and Vehicles

For the same reasons listed in Appendix A.1.3.1, the NRS staff find the likelihood of future adverse effects of collisions with building infrastructure and vehicles on the rufa red knot to be discountable and insignificant, and therefore, is not considered further.

Conclusion for the Red Rufa Knot

All potential effects on the rufa red knot would be insignificant or discountable. Therefore, the NRC staff concludes that the proposed action *may affect but is not likely to adversely affect* the rufa red knot. On April 2, 2026, NRC staff received concurrence, concluding the NRC's obligations under ESA Section 7 (FWS 2026).

A.1.3.4 American Chaffseed (FE)

In Section A.1.2, the NRC staff concludes that the American chaffseed may occur in the action area throughout the undeveloped portions of the OCNGS site. HDI reports no observations of the American chaffseed within the action area (HDI 2025b). As of 2025, there are six known populations of American chaffseed in New Jersey in the Pine Barrens (two established populations, and four additional "newly established" out-planted populations) (FWS 2025b).

The primary drivers identified by FWS as commonly affecting the health of the American chaffseed specific to the proposed action are (1) destruction, modification, or curtailment of habitat; and (2) other natural or manmade factors affecting its continued existent (i.e., herbicide use) (FWS 2025b).

Destruction, Modification, or Curtailment of Habitat

The proposed OCNGS LTP would not involve any habitat loss, land-disturbing activities outside of the previously disturbed industrial area, or any activities that would degrade existing natural areas or potential habitats for the American chaffseed. Additionally, there will be no modification or disturbance to wetland areas on-site. Due to decommissioning, the overall requirement for surface water and groundwater are reduced significantly, further benefiting the listed plant. The NRC staff has reviewed the proposed action and determined that the likelihood of adverse impacts to federally listed plant species from destruction, modification, or curtailment of habitat is discountable and insignificant. Therefore, this issue is not discussed further.

Natural or Manmade Factors Affecting its Continued Existence (i.e., herbicide)

Herbicide use has directly impacted populations of this species. It can result in direct impacts to chaffseed as well as impact chaffseed host plants and indirect impacts to surrounding habitats. (FWS 2025b). HDI would continue applying herbicides as needed and according to labelled uses but has no plans to apply herbicides in natural areas. Continued herbicide application could affect chaffseed in the action area by indirect exposure to these chemicals. However, all herbicide applications would be targeted and applied in manicured portions of the site and, therefore, unlikely to result in hazardous levels of contaminant exposure. Additionally, as previously discussed, no American chaffseed have been identified within the action area. The NRC staff has reviewed the proposed action and determined the likelihood of adverse impacts to federally listed plant species from natural or manmade factors affecting continued existence to be discountable. Therefore, this issue is not discussed further.

Conclusion for the American Chaffseed

All potential effects on the American chaffseed would be insignificant or discountable. Therefore, the NRC staff concludes that the proposed action *may affect but is not likely to adversely affect* the American chaffseed. On April 2, 2026, NRC staff received concurrence, concluding the NRC's obligations under ESA Section 7 (FWS 2026).

A.1.3.5 Knieskern's Beaked-Rush (FT)

In Section A.1.2, the NRC staff concludes that the Knieskern's beaked-rush may occur in the action area throughout the undeveloped portions of the OCNGS site. HDI reports no observations of the Knieskern's beaked-rush within the action area (HDI 2025b).
The primary drivers identified by FWS as commonly affecting the health of the Knieskern's beaked-rush specific to the proposed action are (1) destruction, modification, or curtailment of habitat and (2) other natural or manmade factors affecting its continued existent (i.e., herbicide use) (56 FR 32271).

Conclusion for Knieskern's Beaked-Rush

For the same reasons listed in Section A.1.3.4, all potential effects on the Knieskern's beaked-rush would be insignificant or discountable. Therefore, the NRC staff concludes that the proposed action *may affect but is not likely to adversely affect* Knieskern's beaked-rush. On April 2, 2026, NRC staff received concurrence, concluding the NRC's obligations under ESA Section 7 (FWS 2026).

A.1.3.6 Swamp Pink (FT)

In Section A.1.2, the NRC staff concludes that swamp pink may occur in the action area throughout the undeveloped portions of the OCNGS site. HDI reports no observations of swamp pink within the action area (HDI 2025b).

The primary drivers identified by FWS as commonly affecting the health of swamp pink specific to the proposed action are (1) destruction, modification, or curtailment of habitat and (2) other natural or manmade factors affecting its continued existent (i.e., herbicide use) (FWS 2021).

Conclusion for Swamp Pink

For the same reasons listed in Section A.1.3.4, all potential effects on the swamp pink would be insignificant or discountable. Therefore, the NRC staff concludes that the proposed action *may affect but is not likely to adversely affect* swamp pink.. On April 2, 2026, NRC staff received concurrence, concluding the NRC's obligations under ESA Section 7 (FWS 2026).

A.1.4 Chronology of Endangered Species Action Section 7 Consultation

Following the issuance of this EA, the NRC staff will seek FWS concurrence for species for which the NRC determined that the proposed OCNGS LTP may affect but is not likely to adversely affect in accordance with 50 CFR 402.13(c). Table A-4 lists the correspondence between the NRC and the Services pursuant to ESA Section 7 that has transpired to date.

Table A-4 U.S. Endangered Species Act Section 7 Consultation Correspondence with U.S. Fish and Wildlife Service and National Marine Fisheries Service

Date	Description	ADAMS Accession No.[(a)]
May 29, 2020	NMFS to NRC, Biological Opinion for Continued Operation of Oyster Creek Nuclear Generating Stations pursuant to a License issued by the NRC in April 2009, shutdown, and ongoing decommissioning	ML20153A228
November 28, 2025	FWS to NRC, Official Species List for Oyster Creek License Amendment to License Termination Plan	ML25332A071
November 28, 2025	FWS to NRC, NLAA Concurrence for NLEB and TCB for Oyster Creek LTP	ML25332A076
February 24, 2026	NRC to FWS, Request for Concurrence for Oyster Creek LTP	ML25332A079
April 2, 2026	FWS to NRC, NLAA Concurrence for Oyster Creek LTP	ML26093A008

FWS = U.S. Endangered Species Act; LTP = License Termination Plan; NLEB = Northern Long-eared Bat; NMFS = National Marine Fisheries Service; TCB = Tricolored Bat.

(a) Access these documents through the NRC's Agencywide Documents Access and Management System (ADAMS) at http://adams.nrc.gov/wba/.

A.2 References

50 CFR Part 402. Code of Federal Regulations, Title 50, Wildlife and Fisheries, Part 402, "Interagency Cooperation—Endangered Species Act of 1973, as amended."

56 FR 32978. 1991. "ETWP; Determination of the Plant Rhynchospora knieskernii (Knieskern's Beaked-rush), to be a Threatened Species." *Federal Register,* U.S. Fish and Wildlife Service.

85 FR 63764. 2020. "Threatened Species Status for Eastern Black Rail with Section 4(d) Rule."| *Federal Register,* U.S. Fish and Wildlife Service.

Bagar, T.A., M.L. Hladik, and J.C. Daniels. 2020. "Uptake and toxicity of clothianidin to monarch butterflies from milkweed consumption." Peer J 8:e8669, Bethesda, Maryland.

FWS (U.S. Fish and Wildlife Service). 2020. "Species Status Assessment Report for the Rufa Red Knot (*Calidris canutus rufa*), version 1.1." New Jersey Field Office. Galloway, New Jersey.

FWS (U.S. Fish and Wildlife Service). 2021. "Swamp Pink (*Helonias bullata*). 5-Year Review: Summary and Evaluation." New Jersey Field Office. Galloway, New Jersey.

FWS (U.S. Fish and Wildlife Service). 2024. "Monarch Butterfly (*Danaus plexippus*), Species Status Assessment Report, version 2.3." Bloomington, Minnesota.

FWS (U.S. Fish and Wildlife Service). 2025a. FWS to NRC, Official Species List for Oyster Creek License Amendment to License Termination Plan. ADAMS Accession Number ML25332A071.

FWS (U.S. Fish and Wildlife Service). 2025b. "American Chaffseed (*Schwalbea americana*). 5-Year Status Review: Summary and Evaluation." South Carolina Ecological Field Service Office. Charleston, South Carolina.

FWS (U.S. Fish and Wildlife Service). 2025c. FWS to NRC, NLAA Concurrence for NLEB and TCB for Oyster Creek License Amendment to License Termination Plan. ADAMS Accession Number ML25332A076.

FWS (U.S. Fish and Wildlife Service). 2026. "Oyster Creek Nuclear Generation Station License Termination Plan, Lacy and Ocean Townships, Ocean County, New Jersey." Letter to Mitchell Dehmer, Environmental Cener of Expertise, Division of Rulemaking, Environmental, and Financial Support, Office of Nuclear Material Safety and Safeguards, U.S. Nuclear Regulatory Commission from Michael Ciappi, Reviewing Biologist, and Ross Conover, Authorizing Supervisor, New Jersey Field Office. Dated April 2, 2026. ADAMS Accession Number ML26093A008.

HDI (Holtec Decommissioning International). 2025a. *Oyster Creek Nuclear Generating Station, Decommissioning Project License Termination Plan* Revision 2. Camden, New Jersey. ML25345A095.

HDI (Holtec Decommissioning International). 2025b. OC LTP Audit Response to Additional Questions. October 6, 2025. Camden, New Jersey. ADAMS Accession Number ML26030A060.

HDI (Holtec Decommissioning International). 2025c. *Oyster Creek Nuclear Generating Station, Decommissioning Project License Termination Plan* Revision 2. Camden, New Jersey. ADAMS Accession Number ML25345A095.

James, D.G. 2019. “A Neonicotinoid Insecticide at a Rate Found in Nectar Reduces Longevity but not Oogenesis in Monarch Butterflies, *Danaus plexippus* (L.). (*Lepidoptera: Nymphalidae*).” *Insects* 10(9):276, Bethesda, Maryland.

Krischik, V., M. Rogers, G. Gupta, and A. Varshney. 2015. “Soil-Applied Imidacloprid Translocates to Ornamental Flowers and Reduces Survival of Adult Coleomegilla maculata, Harmonia axyridis, and Hippodamia convergens Lady Beetles, and Larval Danaus plexippus and Vanessa cardui Butterflies.” *PLoS One* 10(3):e0119133, San Francisco, California.

Krishnan, N., Y. Zhang, K.G. Bidne, R.L. Hellmich, J.R. Coats, and S.P. Bradbury. 2020. “Assessing Field-Scale Risks of Foliar Insecticide Applications to Monarch Butterfly (*Danaus plexippus*) Larvae.” *Environmental Toxicology Chemistry* 39(4):923-941.

ECSI (Environmental Consulting Services, Inc.). 2022. Acoustic Bat Surveying at Oyster Creek in Lacey, Ocean Township, Ocean County. ADAMS Accession Number ML26028A044

NMFS (National Marine Fishery Service). 2020. NMFS to NRC, Biological Opinion for Continued Operation of Oyster Creek Nuclear Generating Stations pursuant to a License issued by the NRC in April 2009, shutdown, and ongoing decommissioning. ADAMS Accession Number ML20153A228.

APPENDIX B MEMORANDUM OF AGREEMENT

MEMORANDUM OF AGREEMENT
BETWEEN
THE U.S. NUCLEAR REGULATORY COMMISSION,
HOLTEC DECOMMISSIONING INTERNATIONAL, LLC, AND
THE NEW JERSEY STATE HISTORIC PRESERVATION OFFICER
REGARDING THE LICENSE TERMINATION PLAN FOR
OYSTER CREEK NUCLEAR GENERATING STATION IN OCEAN COUNTY, NEW JERSEY

WHEREAS, the United States Nuclear Regulatory Commission (NRC) is reviewing a request from Holtec Decommissioning International, LLC (HDI) to approve a license termination plan for Oyster Creek Nuclear Generating Station (OCNGS) in Ocean County, New Jersey, and that plan is accessible in the NRC's Agencywide Documents Access and Management System (Accession No. ML25345A095); and

WHEREAS, implementation of the license termination plan by HDI is an undertaking subject to the National Historic Preservation Act of 1966, as amended (NHPA) (54 U.S.C. §§ 300101 *et seq.*), and the NRC's review and potential approval of that plan via license amendment pursuant to the Atomic Energy Act of 1954, as amended (42 U.S.C. §§ 2011 *et seq.*) must accord with the procedural requirements of Section 106 of the NHPA (54 U.S.C. § 306108) and its implementing regulations at Title 36 of the *Code of Federal Regulations* (36 CFR) Part 800; and

WHEREAS, the NRC has defined the undertaking's area of potential effects (APE) as the 152-acre licensed site identified in the license termination plan; and

WHEREAS, the NRC has determined that the undertaking will have an adverse effect on the OCNGS, which has been determined eligible for listing in the National Register of Historic Places (NRHP); and

WHEREAS, the NRC has consulted with the New Jersey State Historic Preservation Officer (SHPO) pursuant to 36 CFR 800, and the New Jersey SHPO has concurred with the identification of historic properties and finding of adverse effect; and

WHEREAS, alternatives to the undertaking have been considered during the NRC's National Environmental Policy Act process; and

WHEREAS, the NRC has consulted with the following federally recognized Tribes: Stockbridge-Munsee Community, Shawnee Tribe, Delaware Nation, and Delaware Tribe of Indians (Stockbridge Munsee Community and Shawnee Tribe have opted out of further consultation; no other responses have been received); and the following state recognized Tribes: Powhatan Renape Indians, Ramapough Lenape Indian Nation, and Nanticoke Lenni-Lenape (none of which have responded to consultation), regarding the effects of the undertaking on historic properties pursuant to 36 CFR 800; and

WHEREAS, in accordance with 36 CFR 800.6(a)(1), the NRC has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect finding by providing the documentation specified in 36 CFR 800.11(e), and by letter dated March 6, 2026, the ACHP has elected not to participate in the consultation pursuant to 36 CFR 800.6(a)(1)(iii); and

WHEREAS, the NRC has consulted with HDI pursuant to 36 CFR 800; and

WHEREAS, the NRC has provided members of the public with opportunities to express their views regarding the effects of the undertaking on historic properties, and resolving adverse effects, in accordance with 36 CFR 800, and no comments have been received; and

WHEREAS, the NRC and the New Jersey SHPO have reached an agreement on how the adverse effects of the undertaking on OCNGS will be resolved if the undertaking is approved by the NRC, prompting the development of this memorandum of agreement (MOA) in accordance with 36 CFR 800.6(b)(1)(iv) and 36 CFR 800.6(c); and

WHEREAS, the agreed resolution involves the assumption of responsibilities by HDI, so the NRC has invited HDI to sign this MOA as an invited signatory in accordance with 36 CFR 800.6(c)(2);

NOW, THEREFORE, the NRC, the New Jersey SHPO, and HDI agree that the undertaking, if approved by the NRC, shall be implemented in accordance with the following stipulations to take into account the effect of the undertaking on historic properties.

STIPULATIONS

To the extent of its legal authority, the NRC shall ensure that the following measures are carried out:

I. GENERAL

A. DEFINITIONS: For the purposes of this MOA, the definitions in 36 CFR 800.16 shall apply.

B. PROFESSIONAL QUALIFICATIONS STANDARDS: All historic preservation activities stipulated by this MOA shall be carried out by or under the direct supervision of individuals meeting the Secretary of the Interior's *Professional Qualification Standards* (62 FR 33708) for the discipline appropriate to the activity (hereinafter referred to as "qualified professional(s)").

C. CURATION STANDARDS: Curation of materials and records resulting from actions stipulated by this MOA shall be in accordance with applicable standards and guidelines.

II. RECORDATION REQUIREMENTS

A. Prior to the removal, demolition, or alteration of any external components of the resources contributing to the NRHP-eligibility of the OCNGS within the current APE (i.e., reactor/turbine building complex, old rad waste building, diesel generator building, and canal and intake structure), HDI, using the services of a qualified professional, shall document the historic conditions of the aforementioned resources, as well as the contemporary conditions of those resources as they existed at the time of the architectural survey (SEARCH LLC 2025, 2026), to Level III equivalent standards of the Historic American Engineering Record (HAER).

B. In lieu of large format photography (as is typically required in HAER Level III documentation), HDI shall include contemporary high-resolution digital photographs that meet the National Park Service National Register Digital Photo Submission Standards.

The standards can be found at the following web address: https://www.nps.gov/subjects/nationalregister/upload/NR-NHL-photo-policy-2024-01-02.pdf. A number of views adequate to convey the significance of each resource, as determined by a qualified professional, shall be produced as part of the recordation, with a minimum of 25 total views across the OCNGS. Photography shall include documentation of the interior and exterior of the building and the building's setting. Documentation of the interior of a building will only be provided where feasible given the current condition of each building and any safety or radiological concerns, and such documentation will not include unclassified nuclear equipment, proprietary material, or sensitive information or activities related to national security. HDI will communicate the rationale, including any relevant federal laws, for excluding any portions of building interiors from the photographic documentation. The recordation shall also include high resolution digital copies of as-builts and historic photographs, if available.

C. HDI previously collected memorabilia, artifacts, videos, and photographs that chronicle OCNGS. The collection was donated to local historical societies, including the Lacey Historical Society, the Waretown Historical Society, and the Ocean County Historical Society. These collections shall be summarized and described, and any existing copies of photographs and videos shall be included, as part of OCNGS documentation.

D. All documentation shall be submitted, reviewed, accepted, and disseminated in accordance with Stipulation III.

III. REVIEW, ACCEPTANCE, AND DISSEMINATION OF DOCUMENTATION

HDI shall ensure that all documentation is completed and accepted by the New Jersey SHPO prior to any removal, demolition, or alteration of any external components of the contributing resources.

Draft documentation shall be submitted to the New Jersey SHPO within four months of MOA execution, and the final documentation shall be provided to the New Jersey SHPO within three months of New Jersey SHPO acceptance of the draft documentation.

The New Jersey SHPO shall have 30 days to review draft and final documentation and respond with comments. If no response is received in this timeframe, acceptance shall be assumed.

Once the New Jersey SHPO has accepted all final documentation, HDI shall provide one original archival copy of the documentation to the New Jersey SHPO, and duplicate copies shall be provided to the NRC (via the NRC's Electronic Information Exchange system) and the appropriate repositories as identified in consultation with the New Jersey SHPO.

Following acceptance of all final documentation by the New Jersey SHPO and delivery of copies to all required recipients, the NRC shall send a close out letter to all signatories detailing that the terms of the MOA have been successfully accomplished and concluded.

IV. UNANTICIPATED DISCOVERIES

In the event a potential historic property is discovered during the undertaking, all ground disturbance activities shall halt within 100 feet of the area of discovery to avoid or minimize impacts until the potential historic property is evaluated for NRHP eligibility by a qualified professional. In the event of such a discovery, HDI may continue to work in other areas of the

site; however, ground disturbance activities shall not resume within 100 feet of the area of discovery until the NRC has issued notice to proceed.

V. CHANGES TO UNDERTAKING

Prior to any changes to the undertaking, that may have adverse effects on historic properties not contemplated by this MOA, the signatories will consult to determine whether this MOA should be amended to address new adverse effects.

VI. DISPUTE RESOLUTION

Disputes regarding the implementation of the terms of this MOA shall be resolved by consultation between the signatories. If the signatories cannot agree on a resolution, any one of the signatories may request input from the ACHP regarding resolution of the dispute and/or pursue amendment (and, if necessary, termination) of the MOA in accordance with Stipulation VII. Input received from the ACHP within 30 days of request will be shared with and considered by the signatories.

VII. DURATION

This MOA shall remain in effect until five (5) years from the date of its execution (date of last signature), or when the terms of the MOA have been successfully accomplished and completed, whichever occurs first. Prior to such time, the signatories may consult with each other to reconsider the terms of the MOA and amend it in accordance with Stipulation VIII below.

VIII. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment shall be effective on the date of last signature.

IX. TERMINATION

If any signatory to this MOA determines that its terms cannot be carried out or are not being carried out, that signatory shall immediately consult with the other signatories to attempt to develop an amendment in accordance with Stipulation VIII, above. If an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, the NRC must either (a) execute an MOA pursuant to 36 CFR 800.6 or (b) request and take into account the comments of the ACHP under 36 CFR 800.7. The NRC shall notify the signatories as to the course of action it will pursue.

X. GENERAL PROVISIONS

A. Nothing in this MOA shall be interpreted to alter the NRC's enforcement authority related to compliance with the NRC's regulations or license conditions.

B. Nothing in this MOA shall be interpreted as a waiver of any judicial remedy available to any signatory.

C. No signatory to this agreement waives their sovereign or governmental immunity by entering into this MOA, and each fully retains all immunities and defenses provided by law with respect to any action based on or occurring as a result of the MOA.

D. Should any portion of this MOA be judicially determined to be illegal or unenforceable, the remainder of the MOA shall continue in full force and effect, and any signatory may renegotiate the terms affected by the severance.

E. The stipulations of this MOA are subject to the provisions of the Anti-Deficiency Act (31 U.S.C. § 1341). If compliance with the Anti-Deficiency Act alters or impairs the NRC's ability to implement the stipulations of this MOA, the NRC shall consult in accordance with the amendment and termination procedures found in this MOA.

XI. EXECUTION OF AGREEMENT

Execution of this MOA by the signatories and implementation of its terms evidence that the NRC has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

This MOA may be executed in counterparts, each of which shall constitute an original, and all of which shall constitute one and the same agreement.

MEMORANDUM OF AGREEMENT
BETWEEN
THE U.S. NUCLEAR REGULATORY COMMISSION,
HOLTEC DECOMMISSIONING INTERNATIONAL, LLC, AND
THE NEW JERSEY STATE HISTORIC PRESERVATION OFFICER
REGARDING THE LICENSE TERMINATION PLAN FOR
OYSTER CREEK NUCLEAR GENERATING STATION IN OCEAN COUNTY, NEW JERSEY

SIGNATORY

U.S. Nuclear Regulatory Commission

Signed by Koenick, Stephen
on 05/29/26

_____Date

Stephen Koenick, Acting Chief
Environmental Technical Review Branch 1
Division of Rulemaking, Environmental,
and Financial Support
Office of Nuclear Material Safety
and Safeguards

MEMORANDUM OF AGREEMENT
BETWEEN
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OYSTER CREEK NUCLEAR GENERATING STATION IN OCEAN COUNTY, NEW JERSEY

SIGNATORY

Deputy
New Jersey State Historic Preservation Officer

Katherine J. Marcopul Date 6/2/2026
Katherine J. Marcopul

MEMORANDUM OF AGREEMENT
BETWEEN
THE U.S. NUCLEAR REGULATORY COMMISSION,
HOLTEC DECOMMISSIONING INTERNATIONAL, LLC, AND
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REGARDING THE LICENSE TERMINATION PLAN FOR
OYSTER CREEK NUCLEAR GENERATING STATION IN OCEAN COUNTY, NEW JERSEY

INVITED SIGNATORY

Holtec Decommissioning, LLC

Paul Erich Jeffrey Dostal Digitally signed by Paul Erich Jeffrey Dostal DN: cn=Paul Erich Jeffrey Dostal , c=US, o=Holtec Decom Int, ou=HDI, email=j.dostal@holtec.com Date: 2026.06.01 12:59:02 -04'00' Date

Jeffrey P. Dostal
Site Vice President
Oyster Creek Nuclear Generating Station
Holtec Decommissioning International, LLC