HOLTEC DECOMMISSIONING INTERNATIONAL

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10 CFR 50.90
10 CFR 50.91

March 27, 2025

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Oyster Creek Nuclear Generating Station
Renewed Facility Operating License No. DPR-16
NRC Docket No. 50-219 and 72-15

Subject: Holtec Decommissioning International's response to LTP Request for Supplemental Information (RSI) numbers 10, 11, 12 and 13

Reference:

[1] Letter from Holtec Decommissioning International to USNRC – "License Amendment Request to Revise Oyster Creek Nuclear Generating Station Renewed Facility Operating License to Add License Condition 2.C.(18) to Include License Termination Plan Requirements," August 1,2024, (ML 24214A037).

[2] Letter from USNRC to Holtec Decommissioning International – "Oyster Creek Nuclear Generating Station – License Termination Plan Acceptance Review Request for Supplemental Information (EPID L-2024-LLA-0107)," October 4, 2024, (ML24269A046).

[3] Letter from USNRC to Holtec Decommissioning International – "Oyster Creek Nuclear Generating Station – License Termination Plan Acceptance Review Request for Supplemental Information – Revision to Enclosures (EPID L-2024-LLA-0107)," October 10, 2024, (ML24214A037).

In Reference [1], Holtec Decommissioning International, LLC (HDI) requested approval of a proposed amendment to the Renewed Facility Operating License DPR-16 for Oyster Creek Nuclear Generating Station (OCNGS) to include License Termination Plan Requirements.

In Reference [2], the NRC issued a request for supplemental information (RSI) required to complete the acceptance review of the proposed License Termination Plan by March 31, 2025. Reference [3] modified and clarified some of the requests.

Via email dated March 13, 2025, HDI requested an extension to the RSI response date to April 30, 2025.

Per discussions with NRC Senior Project Manager, HDI indicated that responses to environmental requests for supplemental information could be made available for staff review prior

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to April 30th. The purpose of this submittal is to provide responses to environmental requests for supplemental information documented in RSIs 10, 11, 12 and 13.

Enclosure 1 is the response to the Oyster Creek environmental RSIs, including modifications to the applicable portions of the LTP Chapter 8 text. The complete LTP, inclusive of Chapter 8, will be submitted on or before April 30, 2024. The SEARCH Architectural Survey Technical Report that provides the basis for the response to RSI-10 will be made available on the HDI-NRC SharePoint site to facilitate staff review of the RSI response.

Should you have any questions or require any further information, please contact me at (856) 797-0900 x 3578.

Sincerely,

William Noval

Digitally signed by William Noval
DN: cn=William Noval, o=HDI, ou=Regulatory Affairs, email=w.noval@holtec.com
Date: 2025.03.27 09:52:06 -04'00'

William Noval
Director, Regulatory Affairs
Holtec Decommissioning International, LLC

Enclosure 1: Response to Oyster Creek License Termination Plan Environmental Requests for Supplemental Information

cc:
USNRC Regional Administrator, Region I
USNRC Project Manager, NMSS - Oyster Creek Nuclear Generating Station
USNRC Region I, Lead Inspector - Oyster Creek Nuclear Generating Station
Assistant Commissioner, Air Quality, Energy and Sustainability, NJ DEP
Assistant Director Radiation Protection Element, NJ Bureau of Nuclear Engineering

HDI-OC-25-012

Enclosure 1

Response to Oyster Creek License Termination Plan Environmental Requests for Supplemental Information

RSI-10 *Environmental*: Provide documentation of appropriate identification efforts of background research and/or field surveys meeting current state standards and provide a National Register of Historic Places (NRHP) evaluation of all potential historic properties – which include any building, structure, object, site, or district at or over 50 years of age at the time of project activities – that will be impacted by project activities.

Rationale: Based on the information provided in Section 8.8.13 of the Environmental Report, the facility may include individually eligible buildings and/or structures and may constitute a historic district. An evaluation conducted by appropriately qualified individuals (see the Secretary of the Interior's Professional Qualifications Standards and 36 CFR 800.2(a)(1)) will provide the basis for the NRC to begin consultations with all appropriate consulting parties regarding the eligibility status for the NRHP, as well as the potential effects of the undertaking on any historic properties. See 36 CFR 800.4(c) and 36 CFR 60.4 for more details about National Historic Preservation Act of 1966, as amended (NHPA) evaluations and criteria for NRHP eligibility.

Response: HDI retained SEARCH LLC to conduct an architectural survey to identify and provide National Register of Historic Places (NRHP) eligibility recommendations for aboveground cultural resources within the OCNGS licensed and immediately surrounding areas that will or could be affected by decommissioning activities. The information below has been added to Section 8.8.13 of the License Termination Plan (LTP). A reference to the report prepared by SEARCH has been added to the reference section of the chapter and will be made available to NRC upon request. The revised text of the applicable portions of the Oyster Creek License Termination Plan follows:

> An architectural history survey of the OCNGS site and associated buildings and structures for listing on the National Register of Historic Places (NRHP) was conducted by SEARCH LLC in November 2024 (Reference 62). The purpose of the architectural history survey was to identify and provide NRHP eligibility recommendations for aboveground cultural resources within the OCNGS Complex. The anticipated area of potential effects (APE) for the license termination is the OCNGS licensed operational area. One structure outside the licensed area (a pump building and reservoir) that will be partially demolished as part of decommissioning also was surveyed. The buildings and structures surveyed were those constructed prior to 1980. The survey was conducted in accordance with the New Jersey Historic Preservation Office (NJHPO) *Guidelines for Architectural Survey*.
>
> A summary of the architectural survey results is presented in Table 8.6. The Survey Area and locations of the buildings and structures surveyed are shown on Figure 8.14. A listing of pre-1980 buildings and structures demolished prior to the survey is provided in Table 8.7.

Table 8.6. Architectural History Resources Within Survey Area

Resource Name	Resource Type	Style	Year Built	Recommended NRHP Status
Oyster Creek Nuclear Generating Station Complex	District	No Style - Industrial	1969	Ineligible
Oyster Creek Nuclear Generating Station Reactor/Turbine Building Complex	Building	No Style - Industrial	1969	Ineligible
Oyster Creek Nuclear Generating Station Intake Structure	Structure	No Style	1969	Ineligible
Oyster Creek Nuclear Generating Station Canal	Structure - Canal	No Style	1969	Ineligible
Diesel Generator Building (Building 11)	Building	No Style - Industrial	1968	Ineligible
Old Rad Waste (Building 26)	Building	No Style - Industrial	1968	Ineligible
New Rad Waste (Building 31)	Building	No Style - Industrial	1978	Ineligible
Materials Warehouse (Building 33)	Building	No Style - Industrial	Ca. 1978	Ineligible
Pump Building and Reservoir	Building	No Style - Industrial	Ca. 1969–1972	Ineligible
Barnegat Branch Railroad	Railroad	No Style	Ca. 1872	Ineligible
Barnegat Branch Railroad Spur	Railroad	No Style	Ca. 1977	Ineligible
Barnegat Branch Railroad Spur Bridge Remnant	Bridge	No Style	Ca. 1977	Ineligible
South Branch of the Forked River Trestle (Barnegat Branch Railroad)	Bridge	No Style	1967	Eligible (No Change)
Oyster Creek Trestle (Barnegat Branch Railroad)	Bridge	No Style	Ca. 1967	Eligible (No Change)

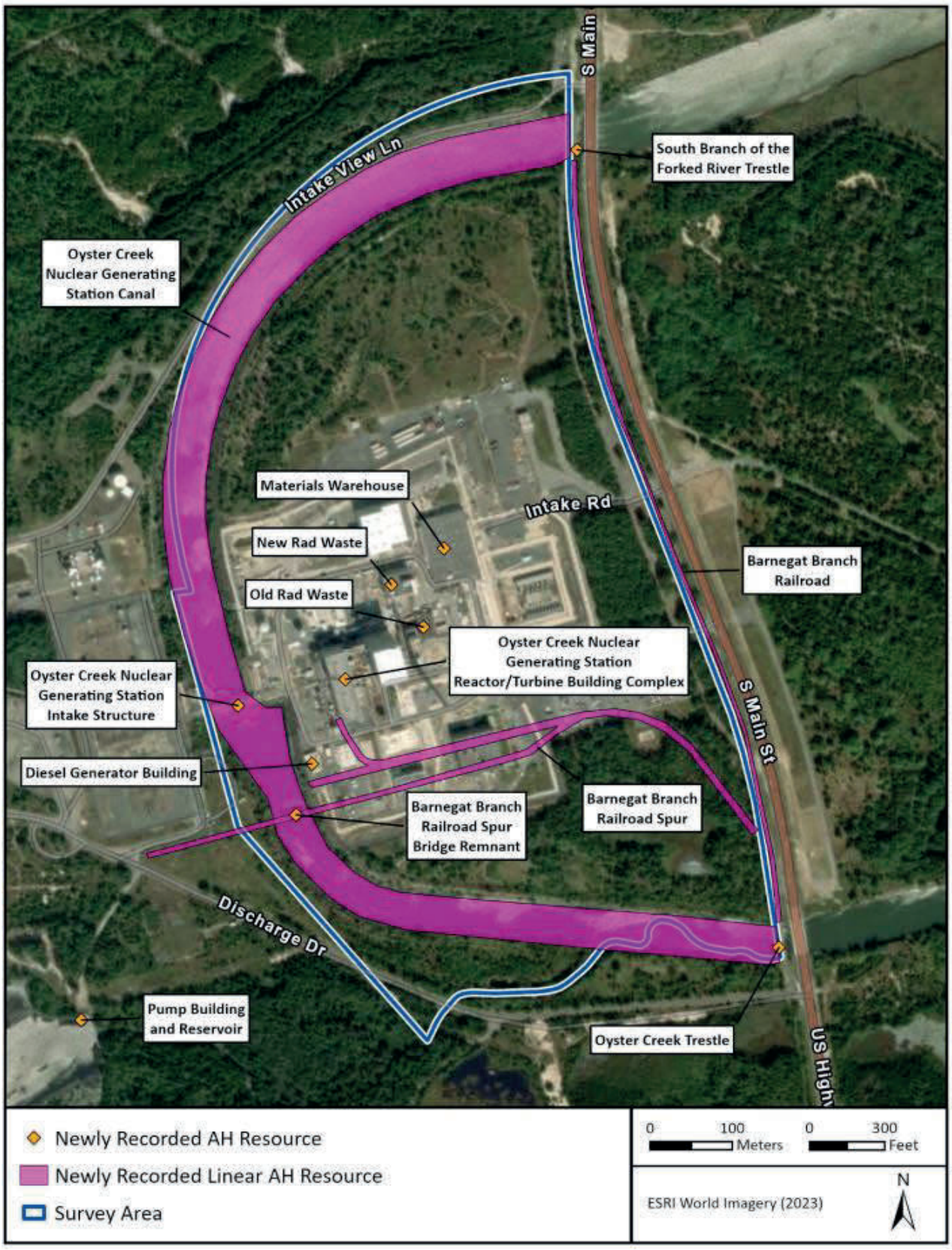

Figure 8.14. Survey Area and Buildings and Structures Surveyed

Table 8.7. Pre-1980 Buildings and Structures Demolished Prior to Survey

Building Name	OCNGS Building Number	Year Built	Year Demolished
North Gate Security Building	6	Ca. 1978	2020
Torus Tank	7	Ca. 1975	2020
C.S.T.	8	1969	Ca. 2022
Storage Building	12	Ca. 1975	2019
Maintenance Building	15	Ca. 1978	Ca. 2021
Main Gate Security Building	20	Ca. 1978	Ca. 2022
Plant Engineering Building	21	Ca. 1975	2019
Off Gas Building	34	Ca. 1975	Ca. 2022

The conclusions and recommendations of the architectural survey are summarized below.

- Twelve newly recorded pre-1980 resources within the Survey Area, and one resource, the OCNGS Complex consisting of four interconnected facilities, were identified and recommended not eligible for NHRP inclusion.
- Two previously recorded bridges within the survey area were previously determined to be eligible for listing in 2009 and 2022. The condition of the bridges has not changed since those evaluations were conducted, and no change to the eligibility status for these resources is recommended. Termination of the OCNGS operating license will have No Effect on these resources.

The architectural survey report (Reference 62) provides a complete description of the survey, and its results and conclusions.

RSI-11 *Environmental*: Provide site-specific analysis of the federally protected species associated with the proposed federal action in accordance with the Endangered Species Act (ESA). The site-specific analysis should include a conclusion of potential impact on each species as defined in 50 CFR 402.02. See https://www.epa.gov/system/files/documents/2023-07/ESA-Overview.pdf for more details about the ESA determinations.

Rationale: The Environmental Report does identify federally listed species under the ESA; however, there are no effects determinations provided. Section 8.8.8.1, "Terrestrial Listed Species," and Section 8.8.8.7, "Aquatic/Marine Listed Species, "should include a site-specific analysis of the potential impacts of the proposed action on each species using the language in the ESA, namely, "no effect," "may affect, not likely to adversely affect," or "may affect, likely to adversely affect." The discussion should also include any identified critical habitat listed in the area, with the corresponding impact considerations. More information about potential impacts conclusions can be found in 50 CFR 402 and the U.S. Fish and Wildlife Service (FWS) and NMFS's ESA Section 7 Handbook.

Response: HDI has added effects determinations to the species descriptions and evaluations in Sections 8.8.8.1 and 8.8.8.7 and the requested discussion of identified critical habitat and corresponding impact considerations. The added and/or modified text is provided below.

8.8.8.1 Endangered Species Action Area

"Action areas" are areas affected directly or indirectly by the federal action and not merely the immediate area involved in the action, as described in 50 CFR 402.02. The action area bounds the analysis of federally listed species and critical habitats because only federally listed species and critical habitats that occur within the action area may be affected by the federal action. For the purpose of assessing the potential impacts of decommissioning on federally listed species, the action area is defined below.

Terrestrial Region

The terrestrial action area is the 152 acre licensed area of the OCNGS site consisting of developed areas and a 60 acre, mostly undeveloped, buffer strip that includes a small area of emergent scrub-shrub and forested wetlands.

Aquatic Region

The National Marine Fisheries Service (NMFS) defined the aquatic action area in its 2020 Biological Opinion (Reference 8-46). 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 operation occupied Oyster Creek and extended into a relatively large surface area of Barnegat Bay (estimated to be less than 1.6 km in an east-west direction by 5.6 km in a north-south direction, under all conditions). In general, elevated temperatures did not extend to the bottom of the Bay except in the area immediately adjacent to the mouth of Oyster Creek. Post-operational intake flow rates and thermal discharge temperatures were drastically reduced in September 2018 and thermal discharge was terminated in 2021. Since then, flow rates have been further reduced, and the size and scope of the action area (including the area and volume of discharge thermal plume, and the intake flow rate) would correspondingly be dramatically reduced with respect to intake flow and thermal discharge effects.

8.8.8.2 Federal Listed Species

State and federally listed threatened and endangered species potentially occurring in the vicinity of OCNGS were previously identified in the Updated Environmental Report (ER) and the Revised Post Shutdown Decommissioning Activities Report (PSDAR).

Federally listed threatened and endangered species (excluding marine species) potentially present in the OCNGS area have been updated using information available in the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) database (Reference 8-47). No critical habitat is identified as present in the OCNGS area in the IPaC database.

Federally listed marine threatened and endangered species potentially present in the OCNGS area were identified through review of the National Oceanic and Atmospheric Administration (NOAA) Endangered Species Act (ESA) Section 7 Mapper database for the Greater Atlantic Region (Reference 8-48).

The federally listed species potentially present in the OCNGS area are listed in Table 8.1

Table 8.1 Federal Listed Threatened and Endangered Species Potentially Present at OCNGS

Scientific Name	Common Name	Status
Fish		
Acipenser oxyrinchus oxyrincus	Atlantic Sturgeon	Endangered
Acipenser brevirostrum	Shortnose Sturgeon	Endangered
Reptiles		
Caretta caretta	Loggerhead Sea Turtle	Threatened
Chelonia mydas	Green Sea Turtle	Threatened
Clemmys muhlenbergii	Bog turtle	Threatened
Dermochelys coriacea	Atlantic Leatherback	Endangered
Eretmochelys imbricata	Atlantic Hawksbill	Not Present
Lepidochelys kempii	Kemp's Ridley	Endangered
Birds		
Calidris canutus	Red Knot	Threatened
Charadrius melodus	Piping Plover	Threatened
Laterallus jamaicecensis	Eastern Black Rail	Threatened
Sterna dougallii	Roseate Tern	Endangered
Mammals		
Myotis septentrionalis	Northern Long-Eared Bat	Endangered
Perimyotis subflavis	TriColored Bat	Proposed Endangered
Insects		
Danous plexippus	Monarch Butterfly	Threatened
Flowering Plants		
Schwalbea americana	American Chaffseed	Endangered
Rynchspora knieskernii	Knieskern's Beaked-rush	Threatened
Amaranthus pumilus	Seabeach Amaranth	Threatened
Aeschynome virginica	Sensitive Joint-Vetch	Threatened
Helonias bullata	Swamp Pink	Threatened

8.8.8.3 Terrestrial Listed Species

The federally listed terrestrial protected species identified as potentially present near the site is similar to that evaluated in the Supplemental Environmental Impact Statement (SEIS), the Updated ER, and the Revised PSDAR. Federally protected plant species addressed in prior environmental evaluations include the threatened Seabeach Amaranth, Swamp Pink, Knieskern's Beak-rush, and the endangered American Chaffseed. The threatened Northern Long-Eared Bat was identified as the only mammal potentially present near OCNGS. Federally listed birds included the threatened Red Knot and Piping Plover, the endangered Roseate Tern, and the no longer federally listed Bald Eagle. Invertebrates consisted of the threatened Northeastern Beach Tiger Beetle and the endangered American Burying Beetle. The SEIS reported that none of the protected species were known to occur in the OCNGS affected area.

Federally protected terrestrial species potentially present near OCNGS not previously evaluated include the proposed endangered Tri-Colored Bat, the threatened Bog Turtle, and the threatened Monarch Butterfly. The threatened Sensitive Joint-Vetch (a flowering plant) also was identified as potentially present in the area. The Northern Long-Eared Bat federal status was changed from threatened to endangered in November 2022.

No additional construction, land clearing or ground-disturbing activities are currently proposed outside operational or previously disturbed areas; thus, no loss, degradation or disturbance of terrestrial habitat is anticipated. All decommissioning activities are anticipated to occur in already developed areas of OCNGS. Any potential ground-disturbing activities associated with decommissioning will undergo environmental compliance reviews prior to implementation, including an evaluation of potential impacts to protected species prior to the activity. If a potential for impacts to protected species is identified, appropriate evaluations and permits will be pursued.

8.8.8.4 TriColored Bat

The TriColored Bat (*Perimyotis subflavis*) was listed as proposed endangered in 2023. The primary stressor supporting the listing is white-nose syndrome, a fungal disease causing high mortality in affected TriColored Bat populations within the species range. The TriColored Bat is one of the smallest bats native to North America. During the spring, summer, and fall (non-hibernating seasons), TriColored Bats primarily roost among leaf clusters of live or recently dead deciduous hardwood trees. In the southern and northern portions of the range, TriColored Bats will also roost in Spanish moss (*Tillandsia usneoides*) and *Usnea trichodea* lichen, respectively. In addition, TriColored Bats have been observed roosting during summer among pine needles, eastern red cedar (*Juniperus virginiana*), within artificial roosts like barns, beneath porch roofs, bridges, concrete bunkers, and, rarely, within caves. Female TriColored Bats exhibit high site fidelity, returning year after year to the same summer roosting locations. Female TriColored Bats form maternity colonies and switch roost trees regularly. Males roost singly. During the winter, TriColored Bats hibernate in caves and mines; although, in the southern United States, where caves are sparse, TriColored Bats often hibernate in road culverts and sometimes in tree cavities and abandoned water wells. TriColored Bats exhibit high site fidelity, with many individuals returning year after year to the same hibernaculum. The current known range of the TriColored Bat includes the OCNGS area (Reference 8-49).

Suitable roosting and maternity habitat for the TriColored Bat is potentially present near OCNGS; however, no occurrences of the species have been documented at the site. A sonic bat survey recently conducted on the adjacent Finninger Farm property detected no evidence of the presence of myotis species bats (Reference 8-50). Any increase in noise levels associated with decommissioning activities (such as structure removal) will be temporary. Any bat species, if present on the site, have likely already acclimated to the noise, vibration, and general human disturbances associated with site activities. Moreover, the forested areas within the Finninger Farm property to the east of the developed site, and adjacent offsite properties, are likely to provide more suitable habitat in general and will not be used or disturbed during decommissioning. HDI therefore concludes that decommissioning activities associated with OCNGS will have NO EFFECT on the Tricolored Bat.

8.8.8.5 Northern Long-Eared Bat

The Northern Long-Eared Bat (*Myotis septentrionalis*) was listed as endangered under the ESA in 2015 and reclassified as endangered in 2023. The classification was changed in response to increase stress on the species caused by white-nose syndrome, a fungal disease causing high mortality across the species range. This species of bat is medium-sized, about 3 to 3.7 inches in length with a 9 to 10 inch wingspan. Northern Long-Eared Bats spend winter hibernating in caves and mines, called hibernacula. During the summer and portions of the fall and spring, Northern Long-Eared Bats may be found roosting singly or in colonies underneath bark, in cavities or in crevices of live trees and snags, or dead trees. Males and non-reproductive females may also roost in cooler places, such as caves and mines. The species has also been found, although less commonly, roosting in structures, such as barns and sheds. Northern Long-Eared Bats use forested areas for roosting, foraging, and commuting between summer and winter habitat. The Northern Long-Eared Bat feeds on insects (moths, flies, leafhoppers, caddisflies, and beetles, catching them in flight or from vegetation. The current known range of the Northern Long-Eared Bat includes the OCNGS area (Reference 8-51).

Suitable roosting and maternity habitat for the Northern Long-Eared Bat is potentially present near OCNGS; however, no occurrences of the Northern Long-Eared Bat have been documented at the site. A sonic bat survey conducted in 2022 on the adjacent Finninger Farm property detected no evidence of the presence of myotis species bats (Reference 8-50). Any increase in noise levels associated with decommissioning activities (such as structure removal) will be temporary. Any bat species, if present on the site, have likely already acclimated to the noise, vibration, and general human disturbances associated with site activities. Moreover, the forested areas within the Finninger Farm property to the east of the developed site, and adjacent offsite properties, are likely to provide more suitable habitat in general and will not be used or disturbed during decommissioning. HDI therefore concludes that decommissioning activities associated with OCNGS will have NO EFFECT on the Northern Long-Eared Bat.

8.8.8.6 Bog Turtle

The Bog Turtle (G*lyptemys muhlenburgii*) was listed as threatened in 1997. The Bog Turtle is long-lived and the smallest species of turtle in North America growing to a

length of up to 4.5 inches. The turtles are dark brown with an orange-yellow blotch behind the tympanium (ears) and flecks of orange or yellow on the head, neck, and limbs. Bog Turtles are semi-aquatic and occupy shallow, sparsely shaded wetlands, spending time in the water and on top of hummocks within the wetlands. They nest in elevated areas in late spring to early summer with hatching occurring in late August to September and generally hibernate under the roots of trees, shrubs, rock walls, or burrows from September to April. The Bog Turtle is omnivorous consuming invertebrates (slugs, worms, insects), carrion, seeds, berries, and plant leaves (Reference 8-52).

Suitable habitat for the Bog Turtle may be present in the OCNGS area; however, Bog Turtles have not been identified as present at or near OCNGS. Further, all decommissioning activities are anticipated to occur on previously developed/disturbed areas of the OCNGS site; existing natural areas including suitable Bog Turtle habitats such as wetlands will not be altered during the decommissioning process. No land-use modification is anticipated to occur in natural habitats surrounding the developed portion of the site. All the decommissioning activities are anticipated to occur within previously developed, industrial portions of the site and will be subject to environmental compliance reviews prior to implementation. HDI therefore concludes that decommissioning activities associated with PNPS will have NO EFFECT on the bog turtle.

8.8.8.7 Monarch Butterfly

The Monarch Butterfly (*Danous plexippus)* is a candidate species under the ESA. Adult monarch butterflies are large and conspicuous, with bright orange wings surrounded by a black border and covered with black veins. The black border has a double row of white spots, present on the upper side of the wings. Adult monarchs feed on the nectar of many flowers during breeding and migration, but they can only lay eggs on milkweed plants. For overwintering monarchs, habitat with a specific microclimate is needed for protection from the elements, as well as moderate temperatures to avoid freezing. Monarch butterflies require healthy and abundant milkweed plants for laying eggs on and as a food source for larvae or caterpillars. By consuming milkweed plants, monarchs obtain toxins, called cardenolides, that provide a defense against predators. Additionally, flower nectar is needed for adults throughout the breeding season, migration, and overwintering. Monarchs are native to North and South America but have since spread to many other locations where milkweed and suitable temperatures exist (Reference 8-53)

According to the USFWS, the current known range of the Monarch Butterfly extends across the contiguous United States and overlaps with the 6-mile vicinity of the OCNGS site. Suitable habitat for the Monarch Butterfly is potentially present in undeveloped portions of the OCNGS site that are not maintained by mowing. No vegetation clearing or land use change to areas not previously disturbed is proposed during the decommissioning term that would potentially impact habitat for the Monarch butterfly. All the decommissioning activities are anticipated to occur within previously developed, industrial portions of the site and will be subject to environmental compliance reviews prior to implementation. HDI therefore concludes that decommissioning activities associated with OCNGS will have NO EFFECT on the Monarch Butterfly.

8.8.8.8 Sensitive Joint-Vetch

The Sensitive Joint-Vetch (*Aeschynomene virginica)* was listed as threatened in 1992 and is an annual legume that typically grows to a height of three to six feet and in some cases up to 8 feet. Habitat occurs in freshwater or slightly brackish tidal marshes along river system segments near the coast subject to twice-daily tidal flooding. The plant has yellow flowers streaked with red and produces pods that turn brown when ripe.

The Sensitive Joint-Vetch has been identified as present in isolated locations within New Jersey but has not been identified as present at or near OCNGS (Reference 8-54). Any populations of this plant that might exist on the OCNGS site will likely be in undeveloped areas such as in marshy areas. All the decommissioning activities are anticipated to occur within previously developed, industrial portions of the site and will be subject to environmental compliance reviews prior to implementation. Hence, any suitable Sensitive Joint-Vetch habitats, if present on site, would not be affected by decommissioning activities. HDI therefore concludes that decommissioning activities associated with OCNGS will have NO EFFECT on the Sensitive Joint-Vetch.

8.8.8.9 Aquatic/Marine Listed Species

No protected fish species were found in pre-operational surveys of freshwater reaches of Oyster Creek and the South Branch of the Forked River or in Barnegat Bay. Atlantic sturgeon and Shortnose sturgeon are found in the Delaware River in New Jersey, but none of the resource agencies contacted by the NRC in 2006 when OCNGS was seeking to renew its operating license evidenced concern about these species. Neither has been collected by biologists conducting ecological studies at OCNGS.

In a Biological Opinion issued in November 2006, the National Marine Fisheries Service (NMFS) concluded that operation of OCNGS over the license renewal term was “likely to adversely affect but not likely to jeopardize” the continued existence of loggerhead, Kemp’s ridley, or green sea turtles. On November 21, 2011, NMFS issued a revised Biological Opinion and again concluded that continued operation of OCNGS over the renewal term (2009-2029) “may adversely affect but is not likely to jeopardize the continued existence of endangered Kemp’s ridley, green, or threatened loggerhead sea turtles.”

Reinitiation of consultation for the ESA Section 7 Biological Opinion with the NMFS was requested by Exelon on October 16, 2018 (Reference 8-55) to consider amending the 2011 Biological Opinion to be more relevant to a permanently shut down plant and the corresponding reduced effects on listed species. On May 29, 2020, NRC issued a new Biological Opinion (Reference 8-46) concluding that the potential for impacts on threatened and endangered sea turtles were unlikely during decommissioning under the low-flow velocity and thermal discharge conditions associated with the shutdown plant..

The NMFS’ Biological Opinion concluded that the proposed action (meaning the decommissioning actions considered) may adversely affect but is not likely to jeopardize the continued existence of the threatened and endangered sea turtles. The opinion also recognized that no critical habitat is designated in the action area and will therefore not

be affected by the proposed action. No take of threatened and endangered sea turtles was expected by the NMFS and no Incidental Take Statement was included in the new Biological Opinion.

The four species of sea turtles and one fish species under NMFS jurisdiction that occur within a six-mile radius of OCNGS are the following: loggerhead turtle (*Caretta caretta*), leatherback turtle (*Dermochelys coriacea*), Kemp's ridley turtle (*Lepidochelys kempii*), green sea turtle (*Chelonia mydas*) and the Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*). (Reference 8-48).

The NMFS's 2020 Biological Opinion considered three of the four listed species above to occur in the action area: North Atlantic DPS of green sea turtles, Northwest Atlantic Ocean DPS of loggerhead sea turtles, and Kemp's ridley sea turtles. NMFS determined that the effects of the decommissioning are the consequences of 1) water withdrawal and discharge (ceased in 2019), 2) a potential one-time dredging event and 3) potential barge trips to remove components from OCNGS.

- The NRC concluded that impingement of sea turtles at the OCNGS intake would be extremely unlikely during the decommissioning period. NMFS concurred with this conclusion based on the dramatically lowered flow velocities from 2018 - 2019, and no further intake flow for the remainder of the decommissioning period. The associated discharge area and thermal effect of the plume at the site would also be dramatically reduced due to the much lower flow rates and temperatures during decommissioning. Consequently, the NMFS expected that the preferred prey of the loggerhead, Kemp's ridleys, and green sea turtles are impacted insignificantly, if at all, by the thermal discharge from OCNGS. Any effects on foraging will be so small that they cannot be meaningfully measured, detected, or evaluated.
- NMFS considered the effects of a potential one-time dredging event in Oyster Creek during decommissioning on the amount of sea turtle benthic prey in areas where sediments were removed. They determined that any reductions in prey would be limited to the areas being dredged, and would be for a relatively short term, and therefore concluded that all effects associated with dredging on foraging sea turtles would be too small to be meaningfully measured or detected and would, therefore, be insignificant.[1]
- NMFS concluded that all effects of decommissioning of OCNGS on leatherback, Kemp's ridley, and green sea turtles in the action area are expected to be insignificant. There is no critical habitat for any of these three sea turtle species within the OCNGS action area. HDI therefore concludes that the decommissioning activities at OCNGS will have NO EFFECT on the loggerhead, Kemp's ridley or green sea turtle.
- NMFS considered the effects of vessel traffic during decommissioning and concluded that the increase in risk of vessel strike in the action area due to the increased barge traffic is so small that it cannot be meaningfully measured, evaluated, or detected and it is extremely unlikely that a project barge will strike a sea turtle.[1]

[1] Barging is no longer under consideration as a transportation method.

In addition to these three species, the leatherback turtle is also seasonally present off the coast of New Jersey. However, no leatherback sea turtles have been observed in the Barnegat Bay or at OCNGS. NMFS determined that leatherback sea turtles do not occur in the action area, and therefore, leatherback sea turtles will not be exposed to any effects of decommissioning. Further, there is no critical habitat for the leatherback turtle within the OCNGS action area. HDI concludes that the decommissioning activities at OCNGS will have NO EFFECT on the leatherback turtle.

RSI-12 *Environmental*: Provide further information about essential fish habitats (EFH) protected under the Magnuson-Stevens Fishery Conservation and Management Act that are in or near the action area.

Rationale: There is no discussion of the Magnuson-Stevens Fishery Conservation and Management Act in the Environmental Report; however, there are marine fisheries present at or near the site and thus potential impacts to the local fish habitats needs to be considered. The EFH should be described in the affected area, including any habitat areas of particular concern, and the OCNGS LTP should make an effect determination for each EFH species, life stage, and their prey in accordance with the appropriate EFH language and definitions in 50 CFR 600.10 and 50 CFR 600 Subparts J and K.

Response: HDI has added a discussion of the Magnuson-Stevens Fishery Conservation and Management Act as Section 8.8.8.10. The added text is provide below:

8.8.8.10 Magnuson-Stevens Act: Essential Fish Habitat

Essential Fish Habitat (EFH) identified in the OCNGS area are listed below.

Common Name	**Scientific Name**	**Lifestage(s) Found near PNPS**
Atlantic Butterfish	*Peprilus triacanthus*	Adult
Atlantic Herring	*Clupea harengus*	Adult, Juvenile
Atlantic Mackerel	*Scomber scombrus*	Eggs
Black Sea Bass	*Centropristis striata*	Adult, Juvenile
Bluefish	*Pomatomus saltatrix*	Adult, Juvenile
Clearnose Skate	*Rostroraja eglanteria*	Adult, Juvenile
Little Skate	*Leucoraja erinacea*	Adult, Juvenile
Longfin Inshore Squid	*Loligo pealeii*	Adult, Eggs, Juvenile
Scup	*Stenotomus chrysops*	Juvenile
Spiny Dogfish	*Squalus acanthias*	Adult Female, Adult Male, Sub-Adult Female
Summer Flounder	*Paralichthys dentatus*	Adult, Juvenile, Larvae
Windowpane Flounder	*Scophthalmus aquosus*	Adult, Eggs, Juvenile, Larvae
Winter Flounder	*Pseudopleuronectes americanus*	Adult, Eggs, Juvenile, Larvae
Winter Skate	*Leucoraja ocellata*	Adult, Juvenile

The termination of electricity generation at OCNGS in 2018 resulted in a substantial reduction in intake flow and intake velocity at OCNGS and thereafter represented the “best technology available” to minimize adverse environmental impacts from impingement and entrainment. This effectively minimizes any potential impacts from impingement and entrainment on species with designated EFH in or near the OCNGS action area. When OCNGS further curtailed water withdrawal in 2019, any impingement and entrainment impacts on EFH species or their prey sources would have been minimized further so as to be undetectable due to the lack of water intake from the aquatic action area. With respect to thermal effects, OCNGS’s operational permit limits assured 1) the protection and propagation of the balanced, indigenous population and 2) that there would likely to be no adverse effects from the thermal plume on benthic flora, benthic fauna, and pelagic fish, including species for which EFH has been designated. Termination of heated water discharge from OCNGS during the decommissioning period has significantly reduced the temperature differential and extent of the thermal plume. Given that post-operational intake flow rates and thermal discharge temperature reductions would likely result in even more conducive environs than during the operational period, HDI concludes that the proposed decommissioning activities at OCNGS are likely to have NO ADVERSE EFFECTS on the EFH for any of the above species or their prey sources.

RSI-13 *Environmental*: Provide an assessment of reasonable alternative actions as required under 10 CFR 51.45(3).

Rationale: The Environmental Report must discuss reasonable alternative actions for the proposed action for the responsible federal agency to consider. At a minimum the considered alternatives must include the no-action alternative, as defined in 43 CFR 46.30. For example, the Environmental Report discusses the potential for barging waste material from the OCNGS site; this would be a possible alternative and should be discussed in more detail in this section. See NUREG-1748 Section 6.2 for information about what should be included in the alternative actions review.

Response: HDI is no longer considering barging as a potential transportation method. The text of the chapter has been revised to reflect this change. The evaluation provided below has been added to the chapter for the No Action alternative in Section 8.1.2.

8.1.2 Alternatives to Decommissioning and License Termination

The alternative to decommissioning and license termination is the No Action alternative in which OCNGS is not decommissioned and/or the NRC does not approve termination of the license. In this scenario, OCNGS decommissioning would not be completed and the facility would not meet the requirements for license termination, or decommissioning would be completed but the NRC declines to approve termination of the license for the decommissioned portions of the facility. As stated in the GEIS (Reference 8-10),

> "The only alternative to the action of decommissioning is not to decommission the facility. The option to restart the reactor is not considered to be an alternative to decommissioning because the decision to permanently cease operation prevents the licensee from operating the reactor without a significant safety and environmental review by the NRC staff."
>
> "NRC regulations do not allow the option of not decommissioning. Once the facility permanently ceases operation, if the licensee does not conduct decommissioning activities to an extent that meets the license termination criteria in 10 CFR Part 20, Subpart E; then the license will not be terminated (although the licensee will not be authorized to operate the reactor)."

Decommissioning of OCNGS is required by law and regulation and when completed and determined sufficient by the NRC, there would be no practical reason for NRC to decline approval of license termination, which would result in the site being unavailable for another use.

The No Action alternative is not environmentally feasible, nor is it allowed under NRC laws and regulations, and is therefore not carried forward for further analysis.

Oyster Creek LTP Chapter 8 References Cited in Environmental RSI Responses

8-10 NRC. 2002. *Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities: Regarding the Decommissioning of Nuclear Power Reactors.* NUREG-0586, Final Report, Supplement 1, NRC, Office of Nuclear Reactor Regulation, Washington, D.C. (Vol 1: ML023470304) and (Vol 2: ML023470323)

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8-48 National Oceanic and Atmospheric Administration. 2022. ESA Section 7 Mapper – NOAA Fisheries Greater Atlantic Region. Accessed on October 31, 2023. https://noaa.maps.arcgis.com/apps/webappviewer/index.html?id=a85c0313b68b44e0927b51928271422a

8-49 U.S. Fish & Wildlife Service. 2022. *Tricolored Bat*. Accessed on January 8, 2024. https://www.fws.gov/species/tricolored-bat-perimyotis-subflavus

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8-52 U.S. Fish & Wildlife Service. 2022. *Bog Turtle*. Accessed on January 8, 2024. https://www.fws.gov/species/bog-turtle-glyptemys-muhlenbergii

8-53 U.S. Fish & Wildlife Service. 2023. *Monarch*. Accessed on January 8, 2024. https://www.fws.gov/species/monarch-danaus-plexippus

8-54 U.S. Fish & Wildlife Service. 2021. *Sensitive Joint-Vetch*. Accessed on January 8, 2024. https://www.fws.gov/species/sensitive-joint-vetch- aeschynomene-virginica

8-55 Gallagher, Michael, Exelon Generation Company, LLC. October 2018. Letter to NRC. “Request to Reinitiate Consultation Regarding the OCNGS Sea Turtle Incidental Take Statement”. (ML18289A252)

8-62 SEARCH, March 2025, *Technical Report, Architectural Survey of Oyster Creek Nuclear Generating Station, Ocean County, New Jersey*