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From: Briana Arlene
Sent: Thursday, February 29, 2024 10:04 AM
To: FW4FLESRegs@fws.gov
Cc: Marla Morales; Michelle Rome (She/Her); Mitchell Dehmer; Amy Minor (She/Her)
Subject: NRC Request for Concurrence with Endangered Species Act Determinations for Crystal River Unit 3 Nuclear Generating Plant License Termination Plan (Consultation Code: 2024-0023697)
Attachments: Crystal River 3 LTP IPaC Report_ML23345A188.pdf; Crystal River 3 LTP Reference List.pdf; Crystal River 3 LTP ESA Determinations.pdf



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

Dear Florida Ecological Services Field Office:

The purpose of this email is to notify you of the U.S. Nuclear Regulatory Commission (NRC) staff's determination that approval of the proposed license termination plan (LTP) of Crystal River Nuclear Generating Plant, Unit 3 (CR3), in Citrus County, Florida, is not likely to adversely affect (NLAA) the eastern black rail (*Laterallus jamaicensis*), everglade snail kite (*Rostrhamus sociabilis plumbeus*), Florida scrub-jay (*Aphelocoma coerulescens*), red-cockaded woodpecker (*Picoides borealis*), whooping crane (*Grus americana*), eastern indigo snake (*Drymarchon couperi*), monarch butterfly (*Danaus plexippus*), wood stork (*Mycteria americana*), or the American alligator (*Alligator mississippiensis*), and will have no effect on the West Indian manatee (*Tricherechus manatus*), loggerhead sea turtle (*Caretta caretta*), or West Indian manatee critical habitat. This email describes the proposed action and summarizes the NRC staff's environmental review. This email also requests the U.S. Fish and Wildlife Service's (FWS) concurrence with the NRC staff's determinations pursuant to Section 7 of the Endangered Species Act of 1973, as amended (ESA).

Proposed Action

The NRC is reviewing the Accelerated Decommissioning Partners, LLC (ADP) License Termination Plan (LTP) for the decommissioning of CR3. The proposed action is the review and subsequent approval, if appropriate, of the CR3 LTP. In its license amendment request, ADP requested an amendment to the CR3 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 CR3 license that adds the requested license conditions.

Title 10 of the *Code of Federal Regulations* (10 CFR) part 50.82 sets forth the process for the licensee to decommission its nuclear power plant, including submission of the LTP. If the NRC approves the LTP, the NRC will amend the CR3 license (No. DPR-72) to include license conditions that pertain to the LTP.

By letter dated December 12, 2022 ([ML22355A441](#)), as supplemented by letter dated June 9, 2023 ([ML23163A063](#)), ADP CR3 requested the NRC to add a condition to include LTP requirements to the CR3 license. CR3 is part of the larger Crystal River Energy Complex (CREC), which is located on the Gulf of Mexico in Citrus County, Florida.

The CR3 LTP characterizes the site, identifies remaining dismantlement activities, and specifies actions that ADP CR3 would take to remediate the remaining residual radioactivity at the CR3 site to a level that complies with the NRC's radiological criteria for license termination. The CR3 LTP also describes how the licensee will confirm the extent and success of remediation through radiological surveys, provide financial assurance to

complete decommissioning, and ensure that the environmental impacts of decommissioning activities are appropriately evaluated and addressed.

Environmental Assessment

In support of its review of the proposed action, the NRC staff is preparing an environmental assessment (EA) to comply with the National Environmental Policy Act of 1969, as amended (NEPA), and the NRC's environmental regulations at Title 10 of the *Code of Federal Regulations* (10 CFR) Part 51 that implement NEPA. The draft EA addresses the environmental impacts of the proposed action and relevant alternatives to the proposed action. Once completed, the NRC will make the final EA publicly available online and will notice it in the *Federal Register*. The NRC anticipates issuing the EA in July 2024.

Description of Action Area

CR3 Site

CR3 lies approximately 7.5 mi (12 km) northwest of the city of Crystal River and 70 mi (113 km) north of Tampa. In addition to CR3, other structures near the CR3 site include two fossil-fueled units, two large cooling towers, parking lots, coal delivery and storage areas, ash storage area, office buildings, warehouses, barge handling docks, and a railroad. Additionally, located outside the licensed footprint are two newly constructed gas combined cycle units. The NRC does not license either the fossil-fueled units or the gas combined cycle units. CR3 occupies approximately 27 ac (11 ha) of the previously disturbed land within the 1,062-ac (430-ha) developed portion of the 4,738-ac (1,917-ha) site. The remaining site acreage is largely undeveloped and supports four habitat types: salt marsh, hardwood hammock forest, pineland, and freshwater swamp (AEC 1973). Salt or tidal marshes (FNAI 1990) occur on the westernmost portion of the site along the Gulf coast in a band about 0.75 mi (1.2 km) wide and are crossed by the intake and discharge canals associated with CR3 (Progress Energy 2008).

The CR3 site lies in Citrus County in west-central Florida between the mouths of the Withlacoochee and Crystal rivers and adjacent to the Gulf of Mexico. The site and associated transmission lines are within the Southern Coastal Plain Ecoregion, which consists of mostly flat plains, but also barrier islands, coastal lagoons, marshes, and swampy lowlands along the Gulf and Atlantic coasts (EPA 2002). The region was once covered by a variety of forest communities that included longleaf pine (*Pinus palustris*), slash pine (*P. elliottii*), pond pine (*P. serotina*), American beech (*Fagus grandifolia*), sweetgum (*Liquidambar styraciflua*), large-flower magnolia (*Magnolia grandiflora*), white oak (*Quercus alba*), and laurel-leaf oak (*Q. laurifolia*), but is now predominantly slash and loblolly pine (*P. taeda*) (with oak-gum-cypress forest in some low lying areas), citrus groves, cattle pasture, and urban development. Much of the area adjacent to the CR3 site is undeveloped wetland habitat, especially near the coast, but extensive areas of pine plantations and about 900 ac (360 ha) of quarry lakes also occur in the vicinity. Terrain in the northwestern portion of Citrus County, in which the CREC is located, rises gradually from mangrove swamp and coastal marshes along the coast to gently rolling hills about 16 mi (26 km) inland. The CR3 site and surrounding areas are about 2 to 5 ft (0.6 to 1.5 m) above mean sea level (AEC 1973).

Salt marshes of the site are dominated by smooth cordgrass (*Spartina alterniflora*) and Roemer's rush (*Juncus roemerianus*) (AEC 1973). Salt marshes are used by many animals, especially wading birds, such as egrets and herons. The FWS's National Wetland Inventory (FWS 2010) has mapped most of the undeveloped portions of the CREC site as wetland. Salt marsh habitat described above is classified by the FWS as estuarine intertidal emergent and shrub/scrub wetland (Cowardin et al. 1979). Hardwood hammocks are classified as palustrine forested evergreen and deciduous wetlands. Palustrine emergent wetlands exist as patches within these habitats and within pine flatwoods. Freshwater swamps within pine flatwoods (described above) are classified as palustrine forested evergreen and deciduous wetland by the FWS (2010).

Crystal Bay and the Gulf of Mexico

The aquatic region of the action area includes the Crystal Bay which is the principal aquatic habitat in the vicinity of CR3. Crystal Bay is a shallow estuarine embayment of the Gulf of Mexico largely located between the Cross Florida Barge Canal (Marjorie Harris Carr Cross Florida Greenway) and Crystal River and extending offshore for about 10 mi (16 km) (SWEC 1985). Crystal Bay is shallow with depths less than 10 ft (3 m) out to 3 mi (5 km) from shore. Oyster reefs parallel the shore. Crystal Bay has relatively low wave energy with many

rocky reef areas, oyster bars, and seagrass beds. Salt marshes are extensive in undeveloped areas of the coast (SWEC 1985). Most oyster reefs are underwater at high tide with portions exposed at low tide (SWEC 1985). Small numerous basins created by the oyster reefs run in a north-south orientation near the intake and discharge canals (Progress Energy 2008). Overall, the shallow waters of Florida's Big Bend have exceptional water quality and clarity (Handley et al. 2007). Land use practices such as agriculture, urbanization, and industrial development affect water quality; resulting in hydrologic alterations to watersheds that flow into Big Bend and result in nutrient enrichment of the estuarine and coastal waters (GMP 2004; Mattson et al. 1988). Water quality within the estuarine areas of Citrus County is affected by increased urban stormwater runoff, seepage from onsite sanitary sewage disposal, sewage treatment plant effluent, residential use of pesticides, herbicide and fertilizers, and activities associated with commercial and leisure boating (CCBCC 2009).

A variety of habitats support an abundance of aquatic resources in Crystal Bay. Open water habitats include saltwater, tidally influenced water of variable salinities, and tidal freshwater areas. The bottom of Crystal Bay provides several benthic habitats, with their characteristics dictated by salinity, tides, and substrate. The Florida Fish and Wildlife Conservation Commission identifies this region as including artificial structure (reefs, hardened shorelines), coastal tidal rivers and streams, oyster reefs, salt marshes, submerged aquatic vegetation, and subtidal unconsolidated marine/estuary sediments (FWC 2005).

Site-Specific Activities and Conservation Measures

Permits

The permits relevant to the proposed action are as follows.

- Florida Department of Environmental Protection (FDEP) Multi-Sector General Permit No. FLR051568-001
- FDEP Industrial Wastewater Discharge Permit No. FLOA00004
- FDEP Environmental Resource Permit No. 09-0270612-042-EI
- Florida Department of Business and Professional Regulation General Contractor License No. CGC1527969

Aquatic Resources

ADP states in its LTP that it would continue to maintain its existing FDEP permits and would perform decommissioning work in compliance with those permits and implement best management practices (BMPs), as appropriate (ADP 2023). The APD LTP contains BMPs that address sediment and erosion to waterways and wetlands. ADP states in its LTP that all BMPs would be in place prior to initiating decommissioning activities (ADP 2023). Direct and indirect impacts outside of the operational area would be minimal or non-existent as ADP plans to contain decommissioning activities within previously disturbed area (ADP 2023). Additionally, ADP states that all disturbed areas will be stabilized with gravel, contouring, or vegetation to limit erosion and minimize runoff of soils to surface waters (ADP 2024).

The only place on or near CR3 where the NRC staff has identified that federally protected species may occur is Crystal Bay. During operations, CR3 withdrew water from Crystal Bay to cool reactor systems and discharged heated effluent into the Gulf of Mexico. CR3 is no longer operating and therefore, the requirement for water withdrawal is greatly reduced. Currently, ADP conducts periodic permitted liquid releases where CR3 withdraws water from the Gulf of Mexico (Northstar 2024). The water that is provided to Ras Water Pump #6 is subsequently returned, along with the permitted liquid waste to the discharge canal at the permitted discharge point (Northstar 2024).

ADP states in its LTP that the removal of intake and discharge facilities, as well as other shoreline structures (owned by Duke), will be conducted in accordance with FDEP permits and BMPs will be used (ADP 2023). Additionally, ADP states that intake canal dredging will no longer be required for CR3 due to the diminished residual heat removal requirements and the relocation of the spent fuel to the ISFSI (ADP 2023). By letter dated January 18, 2024, ADP states that it has not yet been determined if the discharge structure will be removed, but if any bank or canal work is planned by Duke Energy (not the licensee), the work will be completed under both state and federal permits (ADP 2024). Duke Energy (not ADP, the NRC licensee) has contracted and received proper permitting to modify the vertical weir wall structure in the discharge canal. This modification will permit manatees to move freely within the canal and prevent entrapment (Northstar 2024).

ADP anticipates minimal runoff from associated land disturbance activities as current occupational areas of the plant will be the only areas where land will be disturbed (ADP 2023).

Terrestrial Resources

ADP states in its Post Shutdown Decommissioning Activity Report (PSDAR) and LTP 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 CR3 site (ADP 2023). ADP 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, will be restricted to the previously disturbed land (ADP 2023).

ADP 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, and noise (ADP 2023). ADP holds several environmental permits to ensure that impacts to the surrounding environment are minimized. These include the FDEP multi-sector general permit (FLR051568-001), the FDEP industrial wastewater discharge permit (FL0A00004), and FDEP environmental resource permit (09-0270612-042-EI) (ADP 2024). In its LTP, ADP commits to control fugitive dust emissions through water spraying and other BMPs (ADP 2023). The NRC concludes that ADP's continued compliance with the applicable environmental permits, as well as its implementation of BMPs, would effectively minimize erosion, runoff, and fugitive dust and thereby prevent adverse impacts to terrestrial habitats outside of the operational area. At this time, ADP does not plan to fill any wetlands.

Birds and other wildlife using the wetlands and riparian lands adjoining the former operational area near the river could be affected by noise generated by decommissioning and license termination activities within the operational area. However, CR3 is an established industrial site with a history of continuous industrial activity. It is reasonable to expect that wildlife using habitats near the site have generally acclimated to noise and human activity typical of industrial sites. Certain decommissioning activities may generate brief noise bursts that might startle wildlife in nearby habitats. However, due to the short duration of those activities, the NRC staff expects that such bursts would be too brief to noticeably affect nearby wildlife.

ESA NLAA and No Effect Determinations

As part of its environmental review, the NRC staff evaluated impacts of the proposed action on federally listed species and critical habitats. The attached table displays the NRC staff's ESA findings for each federally listed species and critical habitat in the action area.

Request for Concurrence

The NRC staff requests your written concurrence with its NLAA determinations for the species identified in the attached table in accordance with 50 CFR 402.13(c). Please provide your response electronically to the following email addresses: EndangeredSpecies@nrc.gov, Briana.Arlene@nrc.gov, and Mitchell.Dehmer@nrc.gov. Should you need additional time to review this request, please reach out to discuss an extended timeframe so that the NRC staff can communicate this timeline to and obtain consent from its applicant, ADP, in accordance with 50 CFR 402.13(c)(2).

Conclusion

Should you need to discuss the information in this email or if you require additional information concerning this project, please reach out to Mitchell Dehmer at Mitchell.Dehmer@nrc.gov.

Thank you,

Briana

Briana S. Arlene

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IPaC Consultation Code: 2024-0023697

Docket Nos.: 50-302

ADAMS Accession No.: ML24060A086

CONCURRENCE					
OFFICE	CB:ETRB1:REFS	PM:ELRB:REFS	BC:ETRB1:REFS	OGC(NLO)	CB:ETRB1:REFS
NAME	BArlene	MMorales	MRome	AGendelman	MDehmer
DATE	2/13/2024	2/20/2024	2/20/2024	2/29/2024	2/20/24
OFFICIAL RECORD COPY					

Crystal River Unit 3 Nuclear Generating Plant License Termination Plan

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Species	Federal Status ^(a)	U.S. Nuclear Regulatory Commission (NRC) Endangered Species Act (ESA) Effect Determination
whooping crane <i>(Grus americana)</i>	FE (NEP)	<p>May Affect But is Not Likely to Adversely Affect (NLAA). Several factors affect the conservation of this species to include alteration and destruction of habitat, climate change, and reduction in river flows (FWS 2023). The NRC staff concludes that whooping cranes may occur in the action area during migration to wintering grounds in Florida, as well as in the nearby Chassahowitzka National Wildlife Refuge (NRC 2011). All land disturbances and construction or demolition work would occur on previously disturbed land and would not affect any natural habitats where whooping cranes may occur. Potential stressors that whooping cranes could experience during the decommissioning period include noise; behavioral changes, such as avoidance, from vehicles, machinery, and general human activity; collisions with site structures and transmission lines; and effects related to herbicide application. Whooping cranes, if present in the action area, have already acclimated to regular site disturbances. Thus, continued disturbances during decommissioning 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 where a take might occur. Collision hazards would remain the same as during the operational period; to date, the NRC staff is not aware of any whooping crane injuries or mortalities on the Crystal River Energy Complex (CREC) site associated with birds colliding with site structures or transmission lines. Accelerated Decommissioning Partners Crystal River Unit 3, LLC (ADP) would use U.S. Environmental Protection Agency (EPA)-approved herbicides according to label instructions, and licensed applicators would apply herbicides under supervision. Herbicide application would be limited to developed or maintained. All potential effects on the whooping crane resulting from the proposed action would be insignificant or discountable. Therefore, the NRC staff concludes that the proposed action <i>may affect but is not likely to adversely affect</i> the whooping crane.</p>
eastern indigo snake <i>(Drymarchon couperi)</i>	FT	<p>NLAA. Several factors affect the conservation of this species to include habitat destruction, fragmentation, and degradation (FWC 2023). The NRC staff concludes that the eastern indigo snake may occur in the action area due to the presence of suitable habitat. All land disturbances and construction or demolition work would occur on previously disturbed land and would not affect any natural habitats where eastern indigo snakes may occur. Potential stressors that the eastern indigo snake could experience during the decommissioning period include noise; behavioral changes, such as avoidance, from vehicles, machinery, and general human activity; and effects related to herbicide application. Snakes, if present in the action area, have already acclimated to regular site disturbances. Thus, continued disturbances during decommissioning would not cause behavioral changes in snakes to a degree that would be able to be meaningfully measured, detected, or evaluated or that would reach the scale where a take might occur. ADP would use EPA-approved herbicides according to label instructions, and licensed applicators would apply herbicides under supervision. Herbicide application would be limited to developed or maintained areas of the site, and thus, snakes are unlikely to come into direct contact with these chemicals. Therefore, the NRC staff concludes that the proposed action <i>may affect but is not likely to adversely affect</i> the Eastern indigo snake.</p>

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Species	Federal Status ^(a)	U.S. Nuclear Regulatory Commission (NRC) Endangered Species Act (ESA) Effect Determination
Everglade snail kite <i>(Rostrhamus sociabilis plumbeus)</i>	FE	NLAA. Several factors affect the conservation of this species to include the loss and degradation of wetlands, harassment from humans, and degradation of water quality (FWC 2023). The NRC staff concludes that the Everglade snail kite may occur in the action area due to the presence of wetlands, marshes, and emergent vegetation on or near the CREC site. Direct impacts would be limited to the operational area as decommissioning activities will not degrade further habitat. Indirect effects such as noise may impact the Everglade snail kite as this species is known to abandon their nest if approached or spooked. The noise caused by decommissioning activities is predicted to be temporary and therefore is not likely to affect this species. Collision hazards would remain the same as during the operational period; to date, the NRC staff is not aware of any Everglade snail kite injuries or mortalities on the CREC site associated with birds colliding with site structures or transmission lines. Therefore, the NRC staff concludes that the proposed action <i>may affect but is not likely to adversely affect</i> the Everglade snail kite.
red-cockaded woodpecker <i>(Picoides borealis)</i>	FE	NLAA. The primary threat to this species is the loss and deterioration of habitat (FWC 2023). The NRC staff concludes that the red-cockaded woodpecker may occur within the action area due to known reporting in Citrus County and the presence of longleaf pine and slash pine. Direct impacts would be limited to the operational area as decommissioning activities will not degrade further surrounding habitat. Indirect effects such as noise will be temporary and not likely to affect this species. Collision hazards would remain the same as during the operational period; to date, the NRC staff is not aware of any red-cockaded woodpecker injuries or mortalities on the CREC site associated with birds colliding with site structures or transmission lines. Therefore, the NRC staff concludes that the proposed action <i>may affect but is not likely to adversely affect</i> the red-cockaded woodpecker.
eastern black rail <i>(Laterallus jamaicensis)</i>	FT	NLAA. Several factors affect the conservation of this species to include habitat fragmentation, altered hydrology, land management, climate change, environmental contaminants, disease, altered food webs, and human disturbance (FWS 2023). The NRC staff concludes that the eastern black rail may occur within the action area due to suitable habitat present. Direct impacts would be limited to the operational area as decommissioning activities will not degrade further surrounding habitat. Indirect effects such as noise will be temporary and not likely to affect this species. Collision hazards would remain the same as during the operational period; to date, the NRC staff is not aware of any Eastern black rail injuries or mortalities on the CREC site associated with birds colliding with site structures or transmission lines. Therefore, the NRC staff concludes that the proposed action <i>may affect but is not likely to adversely affect</i> the eastern black rail.
Florida scrub-jay <i>(Aphelocoma coerulescens)</i>	FT	NLAA. Several factors affect the conservation of this species including habitat destruction, and degradation from development and agriculture, and vehicle strikes (FWC 2023). The NRC staff concludes that the Florida scrub-jay may occur within the action area due to suitable habitat and past reporting of the species' presence (NRC 2011). Notably, in 2011, the FWS (2011) issued a biological opinion to the NRC for the Florida scrub-jay related to construction and operation of two new nuclear units near the CREC site; however, these units were never constructed and, therefore, this opinion never became effective. For that project, most anticipated effects to the Florida scrub-jay would have resulted from construction of new transmission lines. CR3 decommissioning would not involve new transmission lines and would not involve any of the other potential impacts assessed in the FWS's opinion for Levy. Direct impacts of CR3 decommissioning activities would be

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Species	Federal Status ^(a)	U.S. Nuclear Regulatory Commission (NRC) Endangered Species Act (ESA) Effect Determination
Florida scrub-jay (cont'd)		limited to the operational area as decommissioning activities will not degrade further surrounding habitat. Indirect effects such as noise will be temporary and not likely to affect this species. Vehicle traffic around the operational area is expected to continue at current levels as decommissioning activities progress. Collision hazards would remain the same as during the operational period; to date, the NRC staff is not aware of any Florida scrub-jay injuries or mortalities on the CREC site associated with birds colliding with site structures or transmission lines. Therefore, the NRC staff concludes that the proposed action <i>may affect but is not likely to adversely affect</i> the Florida scrub-jay.
wood stork <i>(Mycteria americana)</i>	FT	NLAA. The primary threat to conservation of this species is due to agricultural expansion and altered hydrocycles, nest predation, prolonged drought, and loss of nesting trees (FWC 2023). The NRC staff concludes that the wood stork may occur within the action area due to prior reports of the species utilizing the percolation ponds and nearby wetlands of the CREC site. Direct impacts would be limited to the operational area as decommissioning activities will not degrade further surrounding habitat. Indirect effects such as noise will be temporary and not likely to affect this species. Collision hazards would remain the same as during the operational period; to date, the NRC staff is not aware of any wood stork injuries or mortalities on the CREC site associated with birds colliding with site structures or transmission lines. Therefore, the NRC staff concludes that the proposed action <i>may affect but is not likely to adversely affect</i> the wood stork.
monarch butterfly <i>(Danaus plexippus)</i>	CND	NLAA. Several factors affect the conservation of this species to include habitat alteration, herbicide use, drought, and climate change (FWS 2023). The NRC staff concludes that the monarch butterfly may occur within the action area due to the presence of suitable habitat. Continued preservation of the existing natural areas on site would result in positive impacts on monarch butterflies. Herbicides would only be applied according to labeled uses in developed and manicured areas of the site, and herbicides would not be applied in natural areas. Monarchs would only have the potential to occur in the action area seasonally and infrequently, making the likelihood of herbicide exposure low. All potential effects on the monarch butterfly resulting from the proposed action would be insignificant or discountable. Therefore, the NRC staff concludes that the proposed action <i>may affect but is not likely to adversely affect</i> the monarch butterfly.
American alligator <i>(Alligator mississippiensis)</i>	FT(S/A)	NLAA. The factors that affect the conservation of this species include destruction and degradation of wetland habitat mainly due to human development, and predation of eggs (FWC 2023). The NRC staff concludes that alligators may occur in the action area in nearby wetland habitats. All land disturbances and construction or demolition work would occur on previously disturbed land and would not affect any natural habitats where alligators may occur. Potential stressors that alligators could experience during the decommissioning period include noise; behavioral changes, such as avoidance, from vehicles, machinery, and general human activity; and effects related to herbicide application. Alligators, if present in the action area, have already acclimated to regular site disturbances. Thus, continued disturbances during decommissioning would not cause behavioral changes in alligators to a degree that would be able to be meaningfully measured, detected, or evaluated or that would reach the scale where a take might occur. ADP would use EPA-approved herbicides according to label instructions, and licensed applicators would apply herbicides under supervision. Herbicide application would be limited to developed or maintained areas of the site, and thus, alligators are unlikely to come into direct contact with these chemicals. For these reasons, the NRC staff concludes that the proposed action <i>may affect but is not likely to adversely affect</i> the American alligator.

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Species	Federal Status ^(a)	U.S. Nuclear Regulatory Commission (NRC) Endangered Species Act (ESA) Effect Determination
loggerhead sea turtle (<i>Caretta caretta</i>) Northwest Atlantic Ocean DPS	FT	No Effect. The factors that affect the conservation of this species include bycatch in fishing gear, climate change, direct harvest of turtles and eggs, loss and degradation of nesting habitat, ocean pollution and debris, predation of eggs and hatchlings, and vessel strikes (NOAA 2023). The loggerhead sea turtle is known to occur in the action area, and NMFS (2002) addressed it in its 2002 biological opinion regarding operation of CR3. During operation of CR3, this species was regularly captured at the cooling water intake structure. In 2022, NMFS (2022) determined that the 2002 biological opinion no longer applies because the cooling water intake is now part of the Duke Energy Citrus Combined Cycle Station and is no longer in use for CR3. Duke Energy and not the NRC’s licensee (ADP), operates the intake in accordance with the programmatic biological opinion on the EPA’s 2014 final rule on Section 316(b) of the Clean Water Act. CR3 would continue to intermittently withdrawal and discharge small amounts of water during the decommissioning period. These withdrawals and discharges would be regulated by the FDEP through the site’s National Pollutant Discharge Elimination System (NPDES) permit, and any impacts to federally listed species would be addressed under the programmatic 316(b) biological opinion. Nonetheless, the NRC staff finds that loggerhead sea turtles, if present, would be unaffected by water withdrawals because the low flow associated with the small volume of water being withdrawn would not pose an impingement or entrainment risk. Sea turtles are unlikely to be in the area of the discharge canal that would be affected by discharges, and continued compliance with the NPDES permit would ensure that discharges do not harm the aquatic environment. The NRC’s (2011) license renewal supplemental environmental impact statement (SEIS) describes that when work is performed in the intake or discharge canal, the licensee must comply with the “Sea Turtle and Smalltooth Sawfish Construction Conditions” that are part of the Florida Department of Environmental Protection’s (FDEP) State Programmatic General Permit. This procedure would continue to apply during the decommissioning period; however, any future dredging would be performed by Duke Energy and not the NRC licensee (ADP). Before dredging, Duke Energy would be required to obtain appropriate permits from the U.S. Army Corps of Engineers (USACE) who, as a Federal agency, would be required to consult with NMFS regarding this species, as appropriate, to address any potential impacts. For these reasons, the NRC staff concludes that the proposed action would have <i>no effect</i> on loggerhead sea turtles.
West Indian manatee (<i>Trichechys manatus</i>)	FT	No Effect. The factors that affect the conservation of this species include hunting and habitat fragmentation/loss (FWS 2023). Historically, manatees used the CREC discharge canal and surrounding area during the winter months as warmwater refuges, and Progress Energy Florida, Inc. maintained an FDEP-approved manatee protection plan to address potential effects of operation on this species (NRC 2011). However, CR3 ceased discharging heated effluent over 9 years ago when the Spent Fuel Cooling system was converted to use mechanical chillers to transfer the heat load to the surrounding atmosphere (Northstar 2024). Therefore, any remaining thermal effluent being discharged at CREC is from the Citrus Combined Cycle Station. As previously explained, the cooling water intake system is now part of the Duke Energy Citrus Combined Cycle Station. Duke Energy and not the NRC’s licensee (ADP), operates this system in accordance with the programmatic biological opinion on the U.S. Environmental Protection Agency’s 2014 final rule on Section 316(b) of the Clean Water Act (NMFS 2022). Duke Energy has obtained applicable permits from the USACE and State of Florida to modify the vertical weir wall structure within the discharge canal to permit manatees to move freely within the canal and not get trapped if they swim behind it

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Species	Federal Status ^(a)	U.S. Nuclear Regulatory Commission (NRC) Endangered Species Act (ESA) Effect Determination
West Indian manatee (cont'd)		at high tide (Northstar 2024). Duke Energy tentatively plans to perform this work in Spring 2024. However, this work is not associated with CR3 decommissioning activities and will not involve NRC's licensee (ADP). During the decommissioning period, CR3 would continue to intermittently withdrawal and discharge small amounts of water. These withdrawals and discharges would be regulated by the FDEP through the site's NPDES permit, and any impacts to federally listed species would be addressed under the programmatic 316(b) biological opinion. Any future dredging would be performed by Duke Energy and not ADP. Before dredging, Duke Energy would be required to obtain appropriate permits from the USACE who, as a Federal agency, would be required to consult with the U.S. Fish and Wildlife Service (FWS) regarding this species, as appropriate, to address any potential impacts. For these reasons, the NRC staff concludes that the proposed action would have <i>no effect</i> on the West Indian manatee.
Critical Habitat	Federal Status ^(a)	NRC ESA Effect Determination
West Indian manatee	DCH	No Effect. NMFS established critical habitat for the West Indian manatee in 1977 to include Crystal Bay and its headwaters, known as King's Bay (50 CFR 17.95). As previously explained, CR3 would continue to intermittently withdrawal and discharge small amounts of water during the decommissioning period. These withdrawals and discharges would be regulated by the FDEP through the site's NPDES permit, and habitat within Crystal Bay would not experience any effects from these small and intermittent withdrawals and discharges. Therefore, the NRC staff concludes that the proposed action would have <i>no effect</i> on critical habitat of the West Indian manatee.
<p>^(a) The NRC staff obtained the list of federally listed species and critical habitats from the following sources: FWS 2023b; FWC 2023; NOAA 2023.</p> <p>^(b)FE: federally endangered; FT: federally threatened; FT(S/A): federally threatened due to similarity of appearance; DCH: designated critical habitat, NEP = in the vicinity of the action area, this species is part of a nonessential experimental population.</p>		

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