

**Supplemental Environmental Impact
Statement
Scoping Process**

Summary Report

**Turkey Point Nuclear Generating
Unit Nos. 3 and 4
Miami-Dade County, Florida**

January 2019



**U.S. Nuclear Regulatory Commission
Rockville, Maryland**

Introduction

On January 30, 2018, the U.S. Nuclear Regulatory Commission (NRC) received an application from Florida Power & Light Company (FPL). The application requested subsequent license renewal of the operating licenses for the Turkey Point Nuclear Generating Unit Nos. 3 and 4 (Turkey Point). Turkey Point is located in Miami-Dade County, Florida, about 20 miles south of Miami, Florida and adjacent to Biscayne Bay. In its application, FPL requests subsequent license renewal for a period of 20 years beyond the dates when the current renewed operating licenses expire. Specifically, the new expiration dates would be July 19, 2052 for Turkey Point Unit No. 3 and April 10, 2053 for Turkey Point Unit No. 4.¹

The purpose of this report² is to provide a concise summary of the determinations and conclusions reached regarding the scope of the NRC staff's environmental review of this application. This report will briefly summarize the issues identified by the environmental impact statement scoping process associated with the NRC staff's review of FPL's subsequent license renewal application.

This report is structured in three sections:

- A. The Turkey Point Public Scoping Period
- B. Public Comments and Responses
- C. List of Commenters

A. The Turkey Point Public Scoping Period

Background

The Turkey Point application and all other public documents relevant to the subsequent license renewal are available in the NRC's Agencywide Documents Access and Management System (ADAMS). The ADAMS Public Electronic Reading Room is accessible at <http://www.nrc.gov/reading-rm/adams.html>. Persons who encounter problems in accessing documents in ADAMS should contact the NRC's Public Document Room (PDR) reference staff by telephone at 1-800-397-4209 or 301-415-4737 or by e-mail at pdr.resource@nrc.gov.

For additional information, the NRC staff has made available a Web site with specific information about the Turkey Point subsequent license renewal application at <https://www.nrc.gov/reactors/operating/licensing/renewal/applications/turkey-point-subsequent.html>. This website includes application information, the licensing schedule, opportunities for public involvement, project manager information, and other relevant information. In addition, important documents, including public comments, are available at the Federal rulemaking Web site <https://www.regulations.gov/>, under Docket ID NRC-2018-0101.

On January 30, 2018, as part of its application, FPL submitted an environmental report (ER) to the NRC, available at ADAMS accession number ML18037A812. FPL prepared the ER in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Part 51, which contains

¹ The Turkey Point Unit No. 3 current renewed operating license (DPR-31) expires at midnight on July 19, 2032; the Turkey Point Unit No. 4 current renewed operating license (DPR-41) expires at midnight on April 10, 2033.

² The NRC's requirements for conducting the scoping process and for preparing a scoping summary report are found at 10 CFR 51.29.

the NRC's requirements for implementing the National Environmental Policy Act of 1969, as amended (NEPA).³ FPL subsequently supplemented its application by letters dated February 9, 2018 (ADAMS Accession No. ML18044A653), February 16, 2018 (ADAMS Accession No. ML18053A123), March 1, 2018 (ADAMS Accession No. ML18072A224), and April 10, 2018 (ADAMS Accession No. ML18113A132).

License renewal of a power reactor operating license requires preparation of a supplemental environmental impact statement (SEIS) which is a supplement to the Commission's NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants" (GEIS). The GEIS is available in two volumes at ADAMS Accession Nos. ML13106A241 and ML13106A242. In the GEIS, the NRC staff identified and evaluated the environmental impacts associated with license renewal of nuclear power plants. The NRC determined that a number of environmental issues were generic to all nuclear power plants (or, in some cases, to a distinct subset of plants having specific characteristics such as a particular type of cooling system). These generic issues were designated as "Category 1" issues. An applicant for license renewal may adopt the conclusions contained in the GEIS for Category 1 issues without further evaluation, unless there is new and significant information that may cause the conclusions for its plant to differ from those of the GEIS. Other issues that were not determined generically and that require a site-specific review were designated as "Category 2" issues and are required to be evaluated in the applicant's environmental report.

Scoping Process and Objectives

The first step in developing an SEIS is to conduct a public scoping process. On May 22, 2018, the NRC published a *Federal Register* (FR) Notice describing the scoping process for the Turkey Point subsequent license renewal application environmental review (83 FR 23726). This notified stakeholders of the NRC staff's intent to prepare a plant-specific supplement to the GEIS and provided the public with an opportunity to participate in the environmental scoping process. The Notice invited members of the public to submit written comments by June 21, 2018. In addition to written comments, oral comments were recorded at public meetings held on May 31, 2018 in Homestead, Florida. All comments, whether written or oral, were considered in the NRC's scoping process.

The scoping process provided an opportunity for members of the public to propose environmental issues to be addressed in the SEIS and to highlight public concerns and issues. This scoping summary report will provide a brief summary of what the NRC heard during the scoping process, including a summary of the determinations and conclusions reached during the scoping process. The NRC's stated objectives of the scoping process were to:

- Define the proposed action, which is to be the subject of the supplement to the GEIS;
- Determine the scope of the supplement to the GEIS and identify the significant issues to be analyzed in depth;
- Identify and eliminate from detailed study those issues that are peripheral or are not significant or were covered by a prior environmental review;
- Identify any environmental assessments and other EISs that are being or will be prepared that are related to, but are not part of, the scope of the supplement to the GEIS being considered;

³ The NRC's requirements for an environmental report supporting a license renewal application are found at 10 CFR 51.53(c)(3).

- Identify other environmental review and consultation requirements related to the proposed action;
- Indicate the relationship between the timing of the preparation of the environmental analyses and the Commission's tentative planning and decisionmaking schedule;
- Identify any cooperating agencies and, as appropriate, allocate assignments for preparation and schedules for completing the supplement to the GEIS to the NRC and any cooperating agencies; and
- Describe how the supplement to the GEIS will be prepared, including any contractor assistance to be used.

The NRC staff's determinations and conclusions regarding the above objectives follow.

Define the Proposed Action

The NRC's proposed action in this instance is to determine whether to renew the Turkey Point operating licenses for an additional 20 years.

Determine the Scope and Significant Issues; Issues that are not Significant

The scope of the SEIS includes an evaluation of the environmental impacts of and reasonable alternatives to Turkey Point's subsequent license renewal. The "Scoping Comments and Responses" section of this report includes specific issues identified by the scoping comments. The NRC staff's responses explain whether the issues will be addressed in the SEIS and, if so, where in the SEIS they will be addressed. Issues that are not significant, or otherwise out of scope, are identified as well.

For Turkey Point's subsequent license renewal, the NRC staff will follow the structure provided in the GEIS. The GEIS evaluates 78 environmental issues related to plant operation and classifies each issue as either a Category 1 issue (generic to all or a subset of nuclear power plants) or a Category 2 issue (specific to individual power plants). Unless new and significant information is discovered, the NRC will rely on the conclusions in the GEIS for all Category 1 issues. The NRC will reconsider generic impacts in the SEIS where there is new and significant information. All Category 2 issues will be discussed in depth in the SEIS.

The following areas were the subject of public comments:

- Aquatic Ecology and Special Status Species
- Alternatives-Replacement Power and No Action
- Alternatives-Technology and Mitigation
- Climate Change
- Cumulative Impacts
- Decommissioning
- Environmental Justice
- General Environmental Concerns
- Groundwater Hydrology and Quality
- Historic and Cultural Resources
- Human Health
- Postulated Accidents and Severe Accident Mitigation Alternatives (SAMA)
- Radioactive Waste
- Socioeconomics

- Surface Water Hydrology and Quality
- Terrestrial Ecology and Special Status Species
- Uranium Fuel Cycle
- Support of License Renewal
- Opposition to License Renewal
- NEPA Process
- License Renewal Process
- Outside Scope-Aging Management
- Outside Scope-Emergency Preparedness
- Outside Scope-Other Non-License-Renewal Actions
- Outside Scope-Safety Concerns
- Outside Scope-Other Topics

Identification of Related Environmental Assessments and other EISs

The NRC staff did not identify any environmental assessments being or soon to be prepared, which relate to, but are not within the scope of the SEIS. Prior completed EISs will be used in the preparation of the Turkey Point SEIS, most notably the license renewal GEIS, the EIS prepared for Turkey Point Unit Nos. 6 and 7, and the SEIS that was prepared for the initial license renewal of Turkey Point Unit Nos. 3 and 4.

Other Environmental Review and Consultation Requirements

In parallel with its NEPA review, the NRC staff will consult as appropriate with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service under Section 7 of the Endangered Species Act of 1973, as amended (ESA), to evaluate the potential impacts of the operation of Turkey Point for an additional 20 years on endangered and threatened species and their critical habitat for those species under each agency's respective jurisdictions. The NRC staff will also consult with the National Marine Fisheries Service under the provisions of the Magnuson-Stevens Fishery Conservation and Management Act, as amended, to address potential impacts to designated Essential Fish Habitat of federally managed marine species. Consistent with 36 CFR 800.8(c), the NRC staff is also consulting with affected Indian Tribes, the Florida State Historic Preservation Officer, and the Advisory Council on Historic Preservation, to fulfill its obligations under Section 106 of the National Historic Preservation Act of 1966 (NHPA).

Timing of Agency Action

Upon completion of the scoping process and site audits, completion of its review of FPL's environmental report and related documents, and completion of its own independent evaluations, the NRC staff will compile its findings in a draft SEIS. The NRC staff will make the draft SEIS available for public comment. Based on the information gathered during this public comment period, the NRC staff will amend the draft SEIS findings, as necessary, and will then publish the final SEIS. Simultaneously with the environmental review, the NRC will document its safety review in a safety evaluation report (SER). The findings in the SEIS and the SER will be considered in the NRC's decision to issue or deny subsequent renewed licenses.

The NRC staff's current schedule anticipates reaching a decision on the subsequent license renewal application by October 2019. This schedule is subject to change, however, and could be affected by circumstances or events beyond the NRC staff's control.

Identification of Cooperating Agencies

The U.S. National Park Service, Southeast Region (NPS), is participating in the environmental review as a cooperating agency. The NPS does not have any specific regulatory actions related to the proposed subsequent license renewal; however, NPS is providing special expertise for the areas in and around Biscayne National Park which is located next to the Turkey Point site.

How the SEIS will be Prepared, Including Contractor Assistance

The SEIS will be prepared by the NRC staff with contract support from Pacific Northwest National Laboratory. The NRC's contractors will assist the NRC staff with the assessment and resolution of public comments and with technical review of hydrologic issues. As a cooperating agency, the NPS will also contribute to the SEIS in the areas of surface water resources, groundwater resources, terrestrial resources, and aquatic resources in and affecting the Biscayne National Park.

Future Opportunities for Public Participation

The NRC staff plans to issue a draft SEIS (DSEIS) for public comment in early 2019. The DSEIS comment period will offer an opportunity for the participants such as the applicant, interested Federal, State, and local government agencies, Tribal governments, local organizations, and members of the public to provide further input to the NRC's environmental review process. The comments received on the DSEIS will be considered in the preparation of the final SEIS (FSEIS). The FSEIS, along with the NRC staff's safety evaluation report (SER), will identify the information considered and evaluations performed by the NRC staff and will provide much of the basis for the NRC's decision on FPL's application for subsequent renewal of the Turkey Point operating licenses.

Scoping Process Conclusion

The comments provided during the environmental scoping process identified many important issues that will be addressed by the NRC staff in its DSEIS for Turkey Point's subsequent license renewal. Issues which do not pertain to the staff's environmental evaluation or are beyond the scope of subsequent license renewal will not be considered in the DSEIS.

B. Public Comments and Responses

The NRC staff's responses to comments and suggestions received as part of the Turkey Point environmental scoping process are summarized in this section of the report. Comments were grouped by category, and comments with similar themes were further subdivided to capture essential issues. Responses are provided for each subgroup of similar comments. The NRC staff categorized and consolidated comments according to subject area.

Each piece of correspondence was given a unique identifier, and when a piece of correspondence addressed multiple issues, the correspondence was further divided into separate comments.

Section C of this report contains tables that identify the individuals providing comments, their affiliation if provided, the unique number associated with the correspondence, and the ADAMS Accession number that can be used to locate the correspondence.

B.1.1 Aquatic Ecology and Special Status Species

Comment: The following comments request that the NRC staff consider the importance of ecological resources near the Turkey Point site and examine the possible impacts to aquatic and terrestrial ecosystems, special status species, and National Parks and Aquatic Preserves from continued operations of Turkey Point Unit Nos. 3 and 4 to include water quality changes and continued use of the cooling canal system (CCS).

Comments: (2-2) (3-14) (5-2) (6-1) (17-1) (65-7) (66-3) (66-6)

Response: *The NRC staff will describe the attributes and condition of ecosystems near the Turkey Point site to include habitat quality, special status species, and the ecology associated with the Florida Keys National Marine Sanctuary, Card Sound, Biscayne National Park, and Biscayne Bay Aquatic Preserve in Chapter 3 of the draft SEIS. The NRC staff will consider the impacts of continued operation of Turkey Point Unit Nos. 3 and 4 on aquatic resources, including federally listed endangered and threatened species, critical habitat, and essential fish habitat, in Chapter 4 of the draft SEIS. In Chapter 4, the NRC staff will also consider the impacts of water quality and continued CCS use on aquatic resources, among other potential impacts.*

Comment: The following comments request that the NRC staff examine and consider the current sediment conditions, water quality, salinity levels, and lack of ecological function in the CCS when assessing impacts to ecological resources within the CCS and near the Turkey Point site from continued use and maintenance of the CCS during continued operation of Turkey Point Unit Nos. 3 and 4.

Comments: (4-1-6) (4-1-8) (4-1-9) (5-7) (26-2) (28-2-21) (45-24-2) (45-15-3) (45-11-7) (53-7) (62-6) (65-3) (65-4) (65-5) (65-9)

Response: *The NRC staff will describe the physical and ecological environment of the CCS in Chapter 3 of the draft SEIS to include presence of contaminants, salinity, and nutrient levels, and how these constituents have previously affected nearby biota and ecological function. The NRC staff will consider impacts to the ecological environment of the CCS and the ecological*

environment near the Turkey Point site from continued operation of Turkey Point Unit Nos. 3 and 4 in Chapter 4 of the draft SEIS.

B.1.2 Alternatives-Replacement Power and No Action

Comment: The following comments are related to alternative technologies for power generation at Turkey Point. Commenters request that the SEIS consider alternative technologies to replace the power generation from Turkey Point Unit Nos. 3 and 4, including new nuclear options (at Unit Nos. 3 and 4; at Turkey Point Unit Nos. 1, 2, and 5; and at other sites), natural gas combined-cycle (NGCC) generation, and a combination of NGCC and solar. They also request that the SEIS consider demand-side management.

Comments: (28-2-15) (28-2-16) (28-2-17) (28-2-18) (41-1) (45-14-4) (45-18-4) (52-3)

Response: *The NRC staff will evaluate the environmental impacts of the proposed action (i.e., subsequent license renewal for Turkey Point Unit Nos. 3 and 4) as well as alternatives to the proposed action in the draft SEIS. The staff will identify alternatives in Chapter 2 of the draft SEIS, and will assess the impacts of the proposed action and alternatives in Chapter 4. Alternative power generation technologies to be evaluated in the draft SEIS will include: (1) new nuclear generation; (2) NGCC generation; and (3) a combination of NGCC and solar generation. The staff will also consider the feasibility of demand-side management as an alternative to subsequent license renewal.*

Comment: The following comments were included in requests for hearing and petitions for leave to intervene in the Turkey Point Unit Nos. 3 and 4 subsequent license renewal proceeding. The comments are related to alternative technologies for power generation at the Turkey Point site. Commenters request that the SEIS consider alternative technologies to replace the power generation from Unit Nos. 3 and 4, including new nuclear options (at Unit Nos. 3 and 4; at Turkey Point Unit Nos. 1, 2, and 5; and at other sites), NGCC generation, and a combination of NGCC and solar. They also request that the SEIS consider demand-side management.

Comments: (29-6) (67-3)

Response: *Requests for hearing and petitions for leave to intervene are part of an adjudicatory process that is independent of the license renewal application environmental and safety review process. Safety and environmental contentions raised by intervenors will be considered by an Atomic Safety and Licensing Board (ASLB) that will decide on the admissibility of the contentions and set a hearing schedule.*

As part of its environmental review of the subsequent license renewal application, the NRC staff will evaluate the environmental impacts of the proposed action as well as alternatives to the proposed action in the SEIS. The staff will identify alternatives in Chapter 2 of the draft SEIS and assess the impacts of the proposed action and alternatives in Chapter 4. Alternative power generation technologies to be evaluated in the SEIS will include: (1) new nuclear generation; (2) NGCC generation; and (3) a combination of NGCC and solar generation. The staff will also consider the feasibility of demand-side management as an alternative to license renewal.

B.1.3 Alternatives-Technology and Mitigation

Comment: The following comments are related to alternative system designs. Commenters request that the SEIS evaluate alternatives to the existing CCS at Turkey Point. Specifically, commenters request that the SEIS evaluate alternative closed-loop cooling systems (primarily cooling towers, but also lined or piped cooling canals) and that the NRC require an alternative closed-loop cooling system as a condition of subsequent license renewal.

Comments: (2-8) (3-3) (3-8) (4-1-1) (4-2-1) (4-1-17) (4-1-19) (4-2-5) (8-3) (17-5) (18-1) (19-1) (25-4) (26-4) (28-2-19) (28-2-5) (31-2) (45-12-1) (45-14-2) (45-9-2) (45-10-3) (45-13-3) (45-12-4) (45-11-5) (45-15-5) (45-14-6) (45-18-6) (45-11-8) (46-13-1) (46-14-1) (46-16-1) (46-17-1) (46-18-1) (46-2-1) (46-7-1) (46-12-2) (46-7-2) (48-2) (53-11) (53-14) (53-5) (57-3) (57-4) (57-5) (57-9) (59-1) (59-2) (60-1) (61-1) (61-2) (61-8) (62-1) (62-2) (63-1) (63-3) (63-5) (64-1) (65-1) (66-1)

Response: *The NRC staff will evaluate the environmental impacts of an alternative closed-loop cooling water system in the SEIS. The staff will identify the alternative system in Chapter 2 of the draft SEIS, and will assess the impacts of the existing and alternative cooling system in Chapter 4. The NRC does not, however, have the regulatory authority to require that Florida Power & Light Company (FPL) implement an alternative closed-loop cooling water system as a condition of subsequent license renewal. In the event that such a condition is needed to ensure public safety, it would be imposed by the NRC as part of its oversight of the operating license, outside the scope of license renewal. Regarding the environmental impacts of the existing CCS, FPL must seek and be granted all necessary State and local permits to continue operation, one of which is the State-issued National Pollutant Discharge Elimination System (NPDES) permit. Any potential changes to the existing cooling system for Turkey Point Unit Nos. 3 and 4 must be determined by FPL and the State of Florida as a part of that permitting process.*

Comment: The following comments were included in requests for hearing and petitions for leave to intervene in the Turkey Point Unit Nos. 3 and 4 subsequent license renewal proceeding. The comments are related to alternative system designs. Commenters request that the SEIS evaluate alternatives to the existing CCS at Turkey Point. Specifically, commenters request that the SEIS evaluate alternative closed-loop cooling systems (primarily cooling towers, but also lined or piped cooling canals) and that the NRC require an alternative closed-loop cooling system as a condition of subsequent license renewal.

Comments: (67-10) (67-2) (67-4) (67-5) (68-4)

Response: *Requests for hearing and petitions for leave to intervene are part of an adjudicatory process that is independent of the license renewal application environmental and safety review process. Safety and environmental contentions raised by intervenors will be considered by an ASLB that will decide on the admissibility of the contentions and set a hearing schedule.*

As part of its environmental review of the subsequent license renewal application, the NRC staff will evaluate the environmental impacts of alternative closed-loop cooling systems in the draft SEIS. The staff will identify alternative systems in Chapter 2 of the draft SEIS, and will assess the impacts of the existing CCS and alternative systems in Chapter 4. The NRC does not, however, have the regulatory authority to require that FPL implement an alternative closed-loop cooling system as a condition of subsequent license renewal. In the event that such a condition is needed to ensure public safety, it would be imposed by the NRC as part of its oversight of the

operating license, outside the scope of license renewal. Regarding the environmental impacts of the existing CCS, FPL must seek and be granted all necessary State and local permits to continue operation, one of which is the State-issued NPDES permit. Any potential changes to the existing cooling system for Turkey Point Unit Nos. 3 and 4 must be determined by FPL and the State of Florida as a part of that permitting process.

B.1.4 Climate Change

Comment: The following comments suggest that the NRC consider the effects of climate change on the existing environment to establish an environmental baseline for impacts analysis. One comment mentions how climate change could alter the environment in the vicinity of Turkey Point by coastal inundation, salt water intrusion, and associated loss of habitat. Other comments mention species migration and die-off and rising temperatures of cooling water and its effect on ecosystems. Some comments recommend that the NRC cooperate with local and State government agencies in preparing the SEIS and mention an apparent discrepancy in the sea-level rise data between FPL's environmental report and reports issued by the National Oceanic and Atmospheric Administration (NOAA). Another comment suggests that the NRC incorporate sea-level rise planning using conservative projections of climate change such that the water resources in the vicinity of Turkey Point are protected during the license extension time period.

Comments: (5-10) (28-1-1) (28-1-10) (28-1-12) (28-2-13) (28-1-14) (28-1-2) (28-1-3) (28-2-3) (45-18-3) (46-9-1)

Response: *The NRC staff will consider the effects of climate change and associated impacts in Chapter 4 of the draft SEIS. The NRC staff will consider climate change information compiled by the U.S. Global Change Research Program (USGCRP) from its member agencies in its assessment. In the draft SEIS, resource impacts related to climate change will be assessed as a part of the cumulative impacts analysis. The observed trends in and effects of climate change on resources as well as the potential implications of future changes in climate change indicators will be separately evaluated in Chapter 4 of the draft SEIS as part of the climate change analysis.*

Comment: These comments express concern that climate change could affect the operations of the CCS. The comments suggest that potentially increasing incidences of droughts could lead to increasing salinity of CCS waters, heavy rainfall events could result in discharge of CCS waters via surface pathways, increasing temperature could reduce CCS cooling efficiency, and potential inundation of CCS by sea-level rise could compromise the CCS's ability to serve as a cooling system.

Comments: (3-7) (4-1-15) (28-2-2) (28-2-4)

Response: *The NRC staff will describe the surface water environment and groundwater around Turkey Point in Chapter 3 of the draft SEIS, including the characteristics and operations of the CCS. In the draft SEIS, resource impacts related to climate change will be assessed as a part of the cumulative impacts analysis. The observed trends in and effects of climate change on resources as well as the potential implications of future changes in climate change indicators will be separately evaluated in Chapter 4 of the draft SEIS as part of the climate change analysis. The impacts of climate change on CCS operations are outside the scope of NRC's subsequent license renewal environmental review, which documents the potential*

environmental impacts from subsequent license renewal and continued reactor operations; the impacts of climate change on the safety of plant operations would be considered by the NRC as part of its regulatory oversight of Turkey Point Unit Nos. 3 and 4, outside the scope of license renewal.

Comment: The following comments were included in requests for hearing and petitions for leave to intervene in the Turkey Point Unit Nos. 3 and 4 subsequent license renewal proceeding. The comments express concerns related to (1) the assessment of cumulative impacts on water resources from projected sea-level rise and the effects of the CCS on groundwater, (2) the consideration of new and significant information, (3) the effects of projected sea-level rise, and (4) the description of affected environment during the subsequent license renewal period.

Comments: (67-11) (67-12) (67-14) (67-15) (67-18)

Response: *Requests for hearing and petitions for leave to intervene are part of an adjudicatory process that is independent of the license renewal application environmental and safety review process. Safety and environmental contentions raised by intervenors will be considered by an ASLB that will decide on the admissibility of the contentions and set a hearing schedule.*

As part of its environmental review of the subsequent license renewal application, the NRC staff will describe the surface water and groundwater environment around Turkey Point in Chapter 3 of the draft SEIS, including the characteristics and operation of the CCS. The NRC staff will consider new and significant information in Chapter 4 of the draft SEIS. The NRC staff will consider the effects of climate change, including those from projected sea-level rise and other climate change indicators, and associated impacts, in Chapter 4 of the draft SEIS. The NRC staff will consider climate change information compiled by the USGCRP from its member agencies in its assessment. In the draft SEIS, impacts related to climate change, including its effects on the existing environment, will be assessed as a part of the cumulative impacts analysis

B.1.5 Cumulative Impacts

Comment: The following comments are related to cumulative impacts. Commenters request that the NRC staff include the construction and operation of Turkey Point Unit Nos. 6 and 7 in its cumulative impacts analysis because the NRC's issuance of licenses for these two units makes such construction and operation "reasonably foreseeable."

Comments: (2-9) (3-15) (46-9-2) (46-12-3)

Response: *The NRC staff will consider the cumulative impacts of renewing the licenses for Turkey Point Unit Nos. 3 and 4 when considered with other past, present, and reasonably foreseeable future actions in Chapter 4 of the draft SEIS. The cumulative impacts analysis will include the construction and operation of Turkey Point Unit Nos. 6 and 7.*

B.1.6 Decommissioning

Comment: The following comments are related to decommissioning the nuclear facilities at Turkey Point. Commenters request that the NRC staff consider the effects of climate change and potential flooding on decommissioning after the subsequent license renewal periods, and

express concern that the environmental impacts from decommissioning will be far more significant in the future due to hypothesized climate change impacts. Commenters state that such impacts might expose the environment to radioactive and contaminated materials and make decommissioning infeasible.

Comments: (28-2-11) (28-1-8) (45-14-3)

Response: *The Generic Environmental Impact Statement for License Renewal of Nuclear Plants, NUREG-1437 (GEIS) concludes that “termination of plant operations and decommissioning would occur eventually regardless of license renewal,” and that “[t]he additional 20-year period of operation under the license renewal term would not affect the impacts of shutdown and decommissioning on any resource or at any plant.” Because the impacts of decommissioning are expected to be SMALL at all plants and for all environmental resources, the GEIS identifies decommissioning as a Category 1 issue. Further, the NRC staff evaluated the impacts of decommissioning nuclear plants in the Generic Environmental Impact Statement on Decommissioning of Nuclear Facilities: Supplement 1, Regarding the Decommissioning of Nuclear Power Reactors (NUREG-0586). Unless new and significant information regarding the decommissioning of Turkey Point Unit Nos. 3 and 4 is identified during the review of FPL’s application, the environmental site audit, or the scoping process, this issue will be treated as a Category 1 issue in the draft SEIS. The NRC staff will discuss decommissioning Unit Nos. 3 and 4 at the end of the current license period in Chapter 2 of the draft SEIS, and will consider the environmental impacts of such decommissioning in Chapter 4. Regarding the effects of climate change on decommissioning, changes in climate have the potential to affect air and water resources, ecological resources, and human health, and will be considered in Chapter 4 of the draft SEIS. However, in the absence of any site-specific issues related to the effects of climate change on decommissioning at Turkey Point, the draft SEIS will only consider environmental impacts that arise directly from plant shutdown and decommissioning.*

Comment: The following comment was included in a request for hearing and petition for leave to intervene in the Turkey Point Unit Nos. 3 and 4 subsequent license renewal proceeding. The comment is related to decommissioning the nuclear facilities at Turkey Point Unit Nos. 3 and 4. The commenter requests that the NRC staff consider the effects of climate change and potential flooding on decommissioning after the subsequent license renewal period.

Comments: (67-17)

Response: *Requests for hearing and petitions for leave to intervene are part of an adjudicatory process that is independent of the license renewal application environmental and safety review process. Safety and environmental contentions raised by petitioners for leave to intervene or intervenors will be considered by an ASLB that will decide on the admissibility of the contentions and set a hearing schedule.*

The GEIS concludes that “termination of plant operations and decommissioning would occur eventually regardless of license renewal,” and that “[t]he additional 20-year period of operation under the license renewal term would not affect the impacts of shutdown and decommissioning on any resource or at any plant.” Because the impacts of decommissioning are expected to be SMALL at all plants and for all environmental resources, the GEIS identifies decommissioning as a Category 1 issue. Further, the NRC staff evaluated the impacts of decommissioning nuclear plants in the Generic Environmental Impact Statement on Decommissioning of Nuclear

Facilities: Supplement 1, Regarding the Decommissioning of Nuclear Power Reactors (NUREG-0586). Unless new and significant information regarding decommissioning of Turkey Point Unit Nos. 3 and 4 is identified during the review of FPL's application, the environmental site audit, or the scoping process, this issue will be treated as a Category 1 issue in the draft SEIS. The NRC staff will discuss decommissioning Unit Nos. 3 and 4 at the end of the current license period in Chapter 2 of the draft SEIS, and will consider the environmental impacts of such decommissioning in Chapter 4. Regarding the effects of climate change on decommissioning, changes in climate have the potential to affect air and water resources, ecological resources, and human health, and will be considered in Chapter 4 of the draft SEIS. However, in the absence of any site-specific issues related to the effects of climate change on decommissioning at Turkey Point Unit Nos. 3 and 4, the draft SEIS will only consider environmental impacts that arise directly from plant shutdown.

B.1.7 Environmental Justice

Comment: The following comments are related to environmental justice. Commenters express concerns with the methods used to apply the “meaningfully greater criteria” for identifying potential environmental justice populations in the licensee’s application. Commenters also suggest that affected environmental justice populations should be engaged by the NRC in meaningful discussions throughout the decision-making process and in outreach and participation methods to minority and low-income populations that may have limited English proficiency, particularly Hispanic communities. Commenters suggest that Tribal and other populations that use area resources for hunting, fishing, or gardening as part of their cultural practices or for subsistence should be coordinated with during the EIS process.

Comments: (3-11) (3-12) (3-13)

Response: *The comments relate to environmental justice issues and will be considered in the preparation of the draft SEIS. The NRC conducts an independent analysis of the impacts of subsequent license renewal with regard to environmental justice. During the scoping public meetings, paper copies of the presentation material were available in Spanish and an NRC Spanish speaking representative was available at the meetings to address questions from members of the public. Additionally, consistent with 36 CFR 800.8(c), the NRC staff is consulting with potentially affected Indian Tribes as part of the NHPA Section 106 process. Identification of affected environmental justice populations will be discussed in Chapter 3 of the draft SEIS, and potential environmental justice impacts will be discussed in Chapter 4.*

B.1.8 General Environmental Concerns

Comment: The commenters express general concerns that the NRC’s environmental impact assessment must be a thorough evaluation of topics including water supply and quality, impacts on national parks, economic impacts, and ecological impacts on habitats and species.

Comments: (5-13) (17-4) (24-6) (45-13-1) (45-21-1) (45-17-4) (45-17-6)

Response: *The NRC staff will consider the topics identified in these comments, among other matters, in the draft SEIS. The staff will describe the affected environment at Turkey Point in Chapter 3 of the draft SEIS and will consider the environmental consequences of renewing the Turkey Point Unit Nos. 3 and 4 licenses in Chapter 4.*

B.1.9 Groundwater Hydrology and Quality

Comment: The following comments express concerns related to current and future operations of the CCS, potential impacts on the surrounding environment from release of CCS waters via subsurface and surface pathways, and FPL's agreement with the State of Florida for reducing environmental impacts. One comment was supportive of FPL's proposed use of reclaimed water for reducing salinity of CCS waters. Another comment raised the possibility of inflow into the CCS from Biscayne Bay at high tide; the same commenter also disputed FPL's description that water quality differences between Biscayne Bay and Card Sound are not meaningful.

Comments: (2-5) (3-1) (3-17) (3-20) (3-6) (4-1-11) (4-1-16) (4-1-18) (4-1-2) (4-1-3) (4-2-3) (4-1-5) (5-5) (16-1) (17-2) (22-1) (24-2) (25-1) (25-2) (26-1) (28-1-11) (28-2-20) (28-1-4) (30-1) (31-1) (36-1) (45-1-1) (45-11-1) (45-15-1) (45-24-1) (45-6-1) (45-7-1) (45-9-1) (45-13-2) (45-12-3) (45-13-4) (45-11-6) (46-13-4) (48-1) (53-6) (57-2) (61-7) (63-12) (63-9) (66-2)

Response: *The NRC staff will discuss surface water and groundwater quality in the vicinity of the Turkey Point site, including the characteristics and operations of the CCS, in Chapter 3 of the draft SEIS. The NRC staff will consider the potential impacts to surface water and groundwater quality and use resulting from the subsequent license renewal and continued operation of Turkey Point Unit Nos. 3 and 4 in Chapter 4.*

Comment: The following comments are related to groundwater use conflicts. Commenters express concern about the use of non-saline water resources for controlling salinity and temperature of the CCS. Commenters state that the CCS requires a significant amount of freshwater from the regional water system, and that this water use competes with county, State, and Federal efforts under the Comprehensive Everglades Restoration Plan and the Biscayne Bay Coastal Wetlands project and creates conflicts over the limited water resources. Commenters request that the SEIS address the effect of groundwater use on land subsidence. Commenters also express concern about the need for additional fresh water in case of future drought conditions.

Comments: (2-6) (28-1-18) (28-1-5) (28-2-9)

Response: *The NRC staff will discuss groundwater use in the vicinity of the Turkey Point site in Chapter 3 of the draft SEIS, and will consider potential groundwater use conflicts resulting from the subsequent license renewal and continued operation of Unit Nos. 3 and 4 in Chapter 4.*

Comment: The following comments were included in requests for hearing and petitions for leave to intervene in the Turkey Point Unit Nos. 3 and 4 subsequent license renewal proceeding. The comments express concerns related to current and future operations of the CCS, potential impacts on the surrounding environment from release of CCS waters via subsurface and surface pathways, and FPL's agreement with the State for reducing environmental impacts. Some comments are related to the use of non-saline water resources for controlling salinity and temperature of the CCS. Commenters state that the CCS requires a significant amount of freshwater from the regional water system, and that this water use creates conflicts for the limited water resources.

Comments: (29-10) (29-5) (29-9) (67-7) (67-8) (68-3)

Response: *Requests for hearing and petitions for leave to intervene are part of an adjudicatory process that is independent of the license renewal application environmental and safety review process. Safety and environmental contentions raised by petitioners for leave to intervene or intervenors will be considered by an ASLB that will decide on the admissibility of the contentions and set a hearing schedule. As part of its environmental review of the subsequent license renewal application, the NRC staff will discuss the groundwater quality and water use in the vicinity of the Turkey Point site in Chapter 3 of the draft SEIS, and will consider the impacts on groundwater quality and water use (including potential groundwater use conflicts) from the subsequent license renewal and continued operations of Unit Nos. 3 and 4 in Chapter 4.*

Comment: The following comments concern how the NRC considers information about the hypersaline plume migrating from the CCS and FPL compliance with the consent agreements with FDEP and Miami-Dade County relating to its remediation. Commenters expressed concerns about how new information would be considered in the SEIS, uncertainty about impacts of proposed and ongoing mitigation, and communications with the public regarding remediation effectiveness. Several comments stated a need for the NRC to consider various scenarios related to the effectiveness of the plume remediation actions. Some comments stated that FPL has not fully complied with required mitigating actions. Comments regarding compliance with the consent agreements were generally associated with one of two recommendations: that either the NRC should not consider license renewal until FPL has satisfied the consent agreements, or the NRC should make compliance with the consent agreements a condition of the subsequent license renewal.

Comments: (1-1) (3-19) (3-4) (4-2-2) (4-2-6) (5-8) (19-2) (22-2) (25-3) (28-2-12)

Response: *In preparing the draft SEIS, the NRC staff will consider information from a variety of sources in addition to FPL's ER to perform an independent assessment of impacts from continued operation of Turkey Point Unit Nos. 3 and 4. The NRC staff will consider new and significant information in its assessment. The NRC staff will also consider the agreements and obligations that FPL has with various state and local agencies. The NRC staff will verify the accuracy of the information used in the draft SEIS. The NRC staff will also consider alternatives to the CCS and their associated impacts. The impact assessment will be described in Chapter 4 of the draft SEIS. The commenters recommended that the NRC ensure that FPL meets all of its requirements listed in the NPDES permit and consent agreements, or to make FPL's compliance with the permits and agreements a condition of the NRC's license. In the event that such a condition is needed to ensure public safety, it would be imposed by the NRC as part of its oversight of the operating license, outside the scope of license renewal. The NRC does not have the authority to ensure compliance with other regulatory authorities' requirements under CWA (8 NRC 702 (1978)-TN4867) and therefore cannot make compliance with permits, agreements, and orders issued by other agencies a condition of the NRC's license. Issuance of a renewed license, however, does not foreclose or restrict the ability of other regulatory authorities to take such actions as they deem necessary to ensure compliance with orders, consent agreements, or other regulatory requirements under their Clean Water Act or other lawful statutory jurisdiction.*

B.1.10 Historic and Cultural Resources

Comment: The NRC received comments related to historic and cultural resources from three consulting parties in response to the NRC's letter initiating NHPA Section 106 consultation and its environmental scoping. These parties are the Florida State Historic Preservation Office

(SHPO), the Seminole Tribe of Florida Tribal Historic Preservation Office (STOF-THPO), and the Seminole Nation of Oklahoma. The Florida SHPO and the STOF-THPO indicated that they had no concerns at this time. The STOF-THPO also indicated that Turkey Point falls within the STOF's Area of Interest. The Seminole Nation of Oklahoma requested consultation meetings with the NRC and FPL.

Comments: (49-1) (50-1) (51-1)

Response: *The NRC is conducting NHPA Section 106 compliance through NEPA in accordance with 36 CFR 800.8(c). The NRC will describe historic properties and historic and cultural resources that may be affected by the subsequent license renewal in Chapter 3 of the draft SEIS. The NRC staff will consider effects on historic properties and impacts to historic and cultural resources in Chapter 4. The NRC's ongoing NHPA Section 106 consultation with consulting parties will be described in Chapters 3 and 4 of the draft SEIS.*

B.1.11 Human Health

Comment: The following comments relate to human health. Three comments stated that FPL had been cited by Federal, State, and/or county authorities for violations related to exceedance of discharge limits and potential harm to human health, the environment, and drinking water sources. Two of these three comments further stated that FPL has not fully complied with required mitigating actions. One comment stated that FPL has a record of exceeding allowable radioactive discharge concentrations. Two comments stated that alternative sources of groundwater sampling data (Miami-Dade County Department of Regulatory and Economic Resources, Division of Environmental Resources [DERM] and Southern Alliance for Clean Energy [SACE]) indicate higher concentrations of radionuclides than reported by FPL.

Comments: (14-2) (27-3) (45-15-2) (63-13) (65-10) (65-2)

Response: *The NRC staff will describe the human health risks from Turkey Point Unit Nos. 3 and 4 in Chapter 3 of the draft SEIS and will consider the impacts to human health from renewing the Turkey Point Unit Nos. 3 and 4 licenses in Chapter 4.*

Comment: This comment is from a request for hearing and petition for leave to intervene in the Turkey Point Unit Nos. 3 and 4 subsequent license renewal proceeding. The comment concerns the potential for tritium in the CCS to reach the surrounding environment given the potential for more frequent inundation related to projected future sea level rise.

Comments: (67-9)

Response: *Requests for hearing and petitions for leave to intervene are part of an adjudicatory process that is independent of the license renewal application environmental and safety review process. Safety and environmental contentions raised by petitioners for leave to intervene or intervenors will be considered by an ASLB that will decide on the admissibility of the contentions and set a hearing schedule.*

As part of its environmental review of the subsequent license renewal application, the NRC staff will describe the human health risks from Turkey Point Unit Nos. 3 and 4 in Chapter 3 of the draft SEIS and will consider the impacts on human health from renewing the Unit Nos. 3 and 4

licenses in Chapter 4. The NRC staff will consider the effects of climate change and associated impacts in Chapter 4 of the draft SEIS. The NRC staff will consider climate change information compiled by the USGCRP in its assessment. In the draft SEIS, resource impacts related to climate change will be assessed as a part of the cumulative impacts analysis. The observed trends in and effects of climate change on resources as well as the potential implications of future changes in climate change indicators will be separately evaluated in Chapter 4 of the draft SEIS as part of the climate change analysis.

B.1.12 Postulated Accidents and Severe Accident Mitigation Alternatives (SAMA)

Comment: One commenter expressed concern that current population estimates will be used in the accident analyses and requested that evacuation plans for the area surrounding Turkey Point be in place.

Comments: (53-12)

Response: *Because SAMA analyses have been performed for Turkey Point Unit Nos. 3 and 4 previously, the NRC staff will consider postulated accidents in the draft SEIS insofar as there is new and significant information that may affect the previous conclusions. Emergency preparedness is applicable to the current operating license and is outside the scope of the environmental analysis for license renewal. Emergency preparedness plans, including evacuation time estimates, are in effect under the current renewed licenses, and will continue to be required if the Turkey Point Unit Nos. 3 and 4 subsequent license renewal application is granted.*

B.1.13 Radioactive Waste

Comments: The following comments relate to waste management. One comment stated that onsite storage of spent nuclear fuel in pools requires a continuous and reliable source of electricity and that that source of electricity is susceptible to disruption from hurricanes. One comment stated that the proposed solutions for long-term storage of spent nuclear fuel at the site are not sustainable and may be compromised by storms or other threats. One comment stated that the risk of flooding and inundation must be addressed with regard to the long-term storage of spent nuclear fuel, both in pools and dry storage.

Comments: (28-1-7) (44-2) (45-7-3)

Response: *Onsite storage of spent nuclear fuel was determined in the GEIS to be a Category 1 issue. The NRC staff will describe the management of radioactive waste in Chapter 3 of the draft SEIS and will consider any new and significant information regarding radioactive waste impacts from renewing the Turkey Point Unit Nos. 3 and 4 licenses in Chapter 4. The evaluation of natural hazards, including storms and flooding, on the safety of spent fuel storage is required by the NRC as part of its oversight of the current operating license, outside the scope of license renewal.*

Comment: This comment is from a request for hearing and petition for leave to intervene in the Turkey Point Unit Nos. 3 and 4 subsequent license renewal proceeding. The comment concerns onsite storage of spent nuclear fuel and high-level radioactive waste in light of projected future sea level rise.

Comments: (29-8)

Response: *Requests for hearing and petitions for leave to intervene are part of an adjudicatory process that is independent of the license renewal application environmental and safety review process. Safety and environmental contentions raised by petitioners for leave to intervene or intervenors will be considered by an ASLB that will decide on the admissibility of the contentions and set a hearing schedule.*

As part of its environmental review of the subsequent license renewal application, the NRC staff will describe the management of radioactive waste in Chapter 3 of the draft SEIS and will consider the impacts of radioactive waste from renewing the Turkey Point Unit Nos. 3 and 4 licenses in Chapter 4 of the draft SEIS. The NRC staff will consider the effects of climate change and associated impacts in Chapter 4 of the draft SEIS. The NRC staff will consider climate change information compiled by the USGCRP in its assessment. In the draft SEIS, resource impacts related to climate change will be assessed as a part of the cumulative impacts analysis. The observed trends in and effects of climate change on resources as well as the potential implications of future changes in climate change indicators will be separately evaluated in Chapter 4 of the draft SEIS as part of the climate change analysis.

B.1.14 Socioeconomics

Comment: The following comments are related to the importance of Biscayne Bay and the Everglades as economic, natural, and recreational resources in close proximity to the Turkey Point site. Commenters point out that marine recreation supports manufacturers, suppliers, and service industries including boat sales and service centers, charter operations, marinas, dive-shops, bait/tackle, and are primary beneficiaries of visitor and resident recreation expenditures. They indicate that Biscayne and Everglades National Parks generated nearly \$183 million of economic output from almost 1.5 million visitors in 2017. Commenters urge the NRC to include a thorough examination of any environmental impacts to these natural areas and the associated marine recreation and commercial fishing economic impacts. Comments also suggest the connection of the health of these nearby natural resources with the future drinking water supply and local real estate values.

Comments: (2-3) (5-3) (5-4) (24-1) (53-2) (66-7)

Response: *Employment, recreation, and tourism were evaluated in the GEIS and were determined to be Category 1 issues. Affected socioeconomic resources will be described in Chapter 3 of the draft SEIS, and any new and significant potential socioeconomic impacts will be discussed in Chapter 4. In addition, the NRC staff will describe the attributes and condition of ecosystems in the vicinity of the Turkey Point site, including habitat quality, special status species, and the ecology associated with Biscayne National Park and Biscayne Bay Aquatic Preserve in Chapter 3 of the draft SEIS. Wetland environments, characteristics (e.g., salinity levels), and functions (e.g., fish and wildlife habitat) potentially affected by the continued operation of Turkey Point Unit Nos. 3 and 4 will also be described in Chapter 3 of the draft SEIS, including important habitats and restoration efforts, such as the Comprehensive Everglades Restoration Project. Surface water and groundwater quality around the Turkey Point site, including the characteristics and operation of the CCS, will be described in Chapter 3 of the draft SEIS and the potential impacts to surface water and groundwater quality and use from continued operations of Unit Nos. 3 and 4 will be considered in Chapter 4.*

Comment: The following comments are related to economic or societal impacts. Commenters call attention to the ongoing positive economic impacts associated with continued operation of Turkey Point Unit Nos. 3 and 4. These comments suggest that continued operation would have the most positive economic impacts in the affected area including continued positive property tax impacts, worker incomes, outage worker spending impacts, and positive impacts of plant-related contractors and vendors. Comments also suggest that traffic impact mitigation measures such as enhanced public transportation or park-and-ride facilities may reduce the cumulative impacts of foreseeable car emissions impacts and vehicle maintenance activities of the workforce.

Comments: (28-2-23) (45-2-2) (46-4-1)

Response: *Employment and income, tax revenues, and transportation were evaluated in the GEIS and were determined to be Category 1 issues. Any new and significant information concerning socioeconomic impacts will be discussed in Chapter 4 of the draft SEIS.*

B.1.15 Surface Water Hydrology and Quality

Comment: The following comments express concerns related to current and future operations of the CCS, potential impacts on the surrounding environment from release of CCS waters via subsurface and surface pathways, and FPL's agreement with the State of Florida for reducing environmental impacts. One comment was supportive of FPL's proposed use of reclaimed water for reducing salinity of CCS waters. Another comment raised the possibility of inflow into the CCS from Biscayne Bay at high tide; the same commenter also disputed FPL's description that water quality differences between Biscayne Bay and Card Sound are not meaningful.

Comments: (1-2) (1-3) (3-2) (3-5) (4-1-4) (4-1-7) (5-6) (8-2) (24-3) (26-3) (30-2) (45-6-2) (45-2-3) (53-1) (53-3) (57-1) (57-6) (57-7) (57-8) (61-10) (61-3) (61-4) (61-5) (61-6) (62-3) (62-4) (62-5) (63-11) (63-2) (63-4) (63-6) (63-7) (64-2) (65-6)

Response: *The NRC staff will describe the surface water environment around Turkey Point in Chapter 3 of the draft SEIS, including the characteristics, operations, and associated effects of the CCS. Any new and significant information concerning these impacts will be discussed in Chapter 4 of the draft SEIS.*

Comment: The following comments express concerns related to projected sea-level rise and its effect on the CCS. Several comments suggest that projected sea-level rise could result in inundation of the CCS, particularly during hurricane storm surges. The comments point out that CCS water could be released via surface pathways under the postulated conditions, adversely impacting water quality in Biscayne Bay.

Comments: (1-4) (5-1) (5-12) (5-9) (24-4) (28-1-6) (30-3) (45-10-1) (45-8-2) (45-11-4) (46-9-4) (56-1) (66-8)

Response: *The NRC staff will describe the Turkey Point cooling system in Chapter 3 of the draft SEIS. The NRC staff will describe expected climate change, associated sea-level rise, and their effects on the environment in the vicinity of Turkey Point in Chapter 4 of the draft SEIS. Any new and significant information concerning these impacts will be discussed in Chapter 4 of the draft SEIS.*

Comment: The following comments express concerns with rising temperatures, increasing evapotranspiration, increasing droughts, saltwater intrusion, and loss of freshwater resources around Turkey Point. One comment mentions potential conflicts over freshwater resources and the others suggest that the NRC should consider the effects of droughts on the baseline environment.

Comments: (28-1-13) (28-1-16)

Response: *The NRC staff will describe the water use in the vicinity of Turkey Point in Chapter 3 of the draft SEIS. Any new and significant information concerning these impacts to water resources, including impacts due to projected climate changes, will be discussed in Chapter 4 of the draft SEIS.*

Comment: The following comment suggests that improvements to FPL's stormwater management system could reduce potential impacts on surrounding aquatic and terrestrial environments from increased severity and frequency of storm events. The comment also suggests that NRC should consider site-specific impacts from construction related to improvements of the stormwater management system.

Comments: (28-2-7)

Response: *The NRC staff will describe the stormwater management system in Chapter 3 of the draft SEIS. Impacts to aquatic and terrestrial environments from potential effects of climate change will be described in Chapter 4 of the draft SEIS, as appropriate.*

Comment: The following comments were included in requests for hearing and petitions for leave to intervene in the Turkey Point Unit Nos. 3 and 4 subsequent license renewal proceeding. The comments express concerns related to consideration of new and significant information related to projected sea-level rise, impacts on the surrounding environment from release of CCS waters via subsurface and surface pathways, and the effects of projected sea-level rise on the CCS.

Comments: (67-16) (68-2)

Response: *Requests for hearing and petitions for leave to intervene are part of an adjudicatory process that is independent of the license renewal application environmental and safety review process. Safety and environmental contentions raised by petitioners for leave to intervene or intervenors will be considered by an ASLB that will decide on the admissibility of the contentions and set a hearing schedule. As part of its environmental review of the subsequent license renewal application, the NRC staff will describe the surface water environment in the vicinity of Turkey Point in Chapter 3 of the draft SEIS, including the characteristics, operations, and associated effects of the CCS. The NRC staff will describe how CCS operations and plant cooling could be affected under expected sea-level rise conditions in Chapter 4 of the draft SEIS. The NRC staff will also consider any new and significant information pertaining to these matters in Chapter 4 of the draft SEIS.*

B.1.16 Terrestrial Ecology and Special Status Species

Comment: The following comments request that the NRC staff consider the population trends and historical impacts to special status species and habitats near the Turkey Point site when assessing impacts from continued operations of Unit Nos. 3 and 4.

Comments: (1-5) (4-1-10) (46-13-2) (65-8)

Response: *The NRC staff will describe the population history and status of federally listed species and the past and current condition of federally protected habitats, including the American crocodile and critical habitat in the CCS, which may be affected by continued operation of Turkey Point Unit Nos. 3 and 4, in Chapter 3 of the draft SEIS and within the Biological Assessment. The NRC staff will consider potential impacts from continued operation of Turkey Point Unit Nos. 3 and 4 to special status species and habitats, including the American crocodile and critical habitat in the CCS, in Chapter 4 of the draft SEIS. The NRC staff will also consider potential impacts to federally listed species and designated critical habitat under the U.S. Fish and Wildlife's jurisdiction within the Biological Assessment.*

Comment: The following comment notes how FPL has demonstrated environmental stewardship through the creation of habitat for the American crocodile, outreach activities to the community, and the control of invasive exotic species.

Comments: (45-20-1)

Response: *The NRC staff will describe applicable portions of FPL's environmental stewardship and conservation programs at the Turkey Point site in Chapter 3 of the draft SEIS and in the Biological Assessment. In Chapter 4 of the draft SEIS and in the Biological Assessment, the NRC staff will describe how continued operation of Turkey Point Unit Nos. 3 and 4 and FPL environmental stewardship and conservation programs would affect future environmental conditions at the Turkey Point site.*

Comment: The following comments concern the potential effects of continued operation of Turkey Point Unit Nos. 3 and 4 on nearby coastal wetland restoration efforts (such as various Comprehensive Everglades Restoration Plan projects) via ongoing reductions in available freshwater and discharge of hypersaline cooling water.

Comments: (2-4) (4-1-12) (4-2-4) (45-24-4) (53-9) (66-5)

Response: *The NRC staff will describe the wetland environments, characteristics (e.g., species diversity and biomass levels), and functions (e.g., fish and wildlife habitat) which may be affected by continued operation of Turkey Point Unit Nos. 3 and 4, in Chapter 3 of the draft SEIS. The NRC staff will also describe nearby important habitats and restoration efforts, such as the Comprehensive Everglades Restoration Plan, in Chapter 3 of the draft SEIS, and will discuss the overlapping impacts with the proposed action in Section 4.16, cumulative impacts. Comments suggesting that the NRC should require FPL to modify certain operations related to the CCS, or conduct mitigation as a condition for license renewal are outside the scope of the NRC's license renewal purview. Rather, such matters are subject to regulatory oversight exercised by other authorities, including the State of Florida. In the Biological Assessment, the NRC staff will evaluate how any impacts to wetland habitats could impact federally listed species under the U.S. Fish and Wildlife Service's jurisdiction. This matter will also be considered in the NRC staff's draft SEIS. In the event that such a condition is needed to ensure*

public safety, it would be imposed by the NRC as part of its oversight of the operating license, outside the scope of license renewal.

Comment: The following comment was included in a request for hearing and petition for leave to intervene in the Turkey Point Unit Nos. 3 and 4 subsequent license renewal proceeding. The comment expresses concern that a decline in numbers, nesting, and body condition of American crocodiles since the uprate of Turkey Point Unit Nos. 3 and 4 in 2013 is related to increased water temperature and increased salinity in the CCS. The comment also expresses concern for similar adverse effects on other federally listed species, and suggests that an improvement in water quality and a reduction in adverse effects may be achieved by replacing the CCS with cooling towers.

Comments: (67-6)

Response: *Requests for hearing and petitions for leave to intervene are part of an adjudicatory process that is independent of the license renewal application environmental and safety review process. Safety and environmental contentions raised by petitioners for leave to intervene or intervenors will be considered by an ASLB that will decide on the admissibility of the contentions and set a hearing schedule.*

In its Biological Assessment, the NRC staff will discuss the population history and status of federally listed species and the past and current condition of designated critical habitats under the U.S. Fish and Wildlife Service's jurisdiction, including the American crocodile and its critical habitat in the CCS. In addition, in the Biological Assessment, the NRC staff will evaluate potential impacts to federally listed species under the U.S. Fish and Wildlife Service's jurisdiction, including the American crocodile and its designated critical habitat, from continued operation of Turkey Point Unit Nos. 3 and 4. In addition, as part of its environmental review of the subsequent license renewal application, the NRC staff will identify alternative cooling systems in Chapter 2 of the draft SEIS, including closed-loop cooling systems such as cooling towers. In Chapter 4 of the draft SEIS, the NRC staff will evaluate the impacts from a cooling tower alternative. The NRC does not have the regulatory authority to require that FPL implement an alternative closed-loop cooling system such as cooling towers as a condition of subsequent license renewal. In the event that such a condition is needed to ensure public safety, it would be imposed by the NRC as part of its oversight of the operating license, outside the scope of license renewal. Regarding the environmental impacts of the existing CCS, FPL must seek and be granted all necessary State and local permits to continue operation, one of which is the State-issued NPDES permit. Any potential changes to the existing cooling system at Turkey Point must be determined by FPL and the State of Florida as a part of that permitting process.

Comment: The following comments are from a request for hearing and petition for leave to intervene in the Turkey Point Unit Nos. 3 and 4 subsequent license renewal proceeding. The comments express concerns related to increases in the salinity and pollutants in fresh water wetlands and surface waters, and potential adverse effects on dependent federally listed species, citing as the causal mechanism the downward movement of salt and pollutants in the CCS for Turkey Point Unit Nos. 3 and 4 and their subsequent lateral movement within the underlying Biscayne Bay Aquifer.

Comments: (67-19) (67-20)

Response: Requests for hearing and petitions for leave to intervene are part of an adjudicatory process that is independent of the license renewal application environmental and safety review process. Safety and environmental contentions raised by petitioners for leave to intervene or intervenors will be considered by an ASLB that will decide on the admissibility of the contentions and set a hearing schedule. As part of its environmental review of the subsequent license renewal application, the NRC staff will discuss in Chapter 3 of the draft SEIS the historical and existing water quality of the CCS, the underlying Biscayne Bay Aquifer, and adjoining fresh water wetlands and surface waters. In the Biological Assessment, the NRC staff will discuss the population history and status of federally listed species under the U.S. Fish and Wildlife Service's jurisdiction dependent upon the freshwater wetlands. In the Biological Assessment, the NRC staff will evaluate whether any potential impacts to fresh water wetlands could adversely affect federally listed species under the U.S. Fish and Wildlife Service's jurisdiction.

B.1.17 Uranium Fuel Cycle

Comment: The following comment is related to the uranium fuel cycle. This comment states that the SEIS should consider the environmental impacts of uranium mining and processing required to fuel Turkey Point Unit Nos. 3 and 4 for an additional 20 years.

Comments: (28-1-17)

Response: Uranium fuel cycle issues were evaluated in the License Renewal GEIS and were determined to be Category 1 issues. The NRC staff will consider whether any new and significant information relative to the uranium fuel cycle has been identified, and, if so, will evaluate the information in Chapter 4 of the draft SEIS.

B.2.1 Support of License Renewal

Comment: The following comments express support for nuclear power, FPL, or the Turkey Point Unit Nos. 3 and 4 license renewal. The commenters cite the carbon-free energy provided by nuclear power, the safe operation of Turkey Point by FPL, and the positive impact on the community by FPL and its employees.

Comments: (7-1) (8-1) (8-4) (9-1) (10-1) (12-1) (13-1) (45-19-1) (45-2-1) (45-22-1) (45-3-1) (45-4-1) (45-5-1) (45-2-4) (46-3-1) (46-5-1) (46-6-1)

Response: These comments are general in nature and provide no new and significant information, beyond the information presently under consideration by the NRC staff. As such, these comments will not be evaluated further in the development of the SEIS. To the extent that these comments refer to socioeconomic issues, these were evaluated in the License Renewal GEIS and were determined to be Category 1 issues, and any new and significant potential socioeconomic impacts will be discussed in Chapter 4. To the extent that these comments refer generally to the alternatives to license renewal—including the impacts of not renewing the Turkey Point licenses, the impacts to greenhouse gases, and programs in place at Turkey Point to protect aquatic and terrestrial resources as reasons favoring subsequent license renewal, the NRC staff will describe the environment around Turkey Point as it pertains to these issues in Chapter 3 of the draft SEIS. The NRC staff will consider the impacts from renewing the Turkey Point licenses and alternatives to subsequent license renewal as they pertain to these issues in Chapter 4 of the draft SEIS.

B.2.2 Opposition to License Renewal

Comment: The following comments express opposition to nuclear power, FPL, or the Turkey Point Unit Nos. 3 and 4 license renewal. The commenters cite various environmental concerns.

Comments: (11-1) (14-1) (15-1) (16-2) (20-1) (21-1) (23-1) (30-5) (30-6) (33-1) (34-1) (37-1) (38-1) (39-1) (42-1) (43-2) (44-1) (45-23-2) (45-7-2) (45-16-3) (45-7-4) (45-15-6) (46-11-1) (46-8-1) (53-4)

Response: *These comments are general in nature and provide no new and significant information. As such, these comments will not be evaluated further in the development of the draft SEIS. However, to the extent that these comments refer generally to the alternatives to subsequent license renewal—including the impacts of not renewing the Turkey Point licenses, the impacts to greenhouse gases, and programs in place at Turkey Point to protect aquatic and terrestrial resources as reasons for opposition, the NRC staff will describe the environment around Turkey Point as it pertains to these issues in Chapter 3 of the draft SEIS. The NRC staff will consider the impacts from renewing the Turkey Point licenses and alternatives to renewal as they pertain to these issues in Chapter 4 of the draft SEIS.*

B.2.3 NEPA Process

Comment: The comment states that the NRC should maintain ongoing communication with Biscayne National Park, the National Marine Sanctuary, and the Aquatic Preserve as part of the NEPA process.

Comments: (53-8)

Response: *The NRC staff will continue to maintain communications with other Federal, State, and local government agencies, Tribes, non-governmental organizations, and the public throughout the NEPA process. In addition, as discussed above, the NRC staff is consulting with the U.S. Fish and Wildlife Service, the National Marine Fisheries Service, affected Indian Tribes, the Florida State Historic Preservation Officer, and the Advisory Council on Historic Preservation, on matters within their jurisdiction. Finally, the U.S. National Park Service, Southeast Region, is a cooperating agency on the environmental review.*

B.2.4 License Renewal Process

Comment: The commenters express general concerns about safety and the environment, and about the NRC staff doing separate environmental and safety reviews.

Comments: (45-11-2) (45-17-2)

Response: *The NRC's environmental review is confined to environmental matters inasmuch as they are relevant to the effects of operating Turkey Point Unit Nos. 3 and 4 on the environment during the period of extended operation requested by the applicant. To the extent that the comments pertain to the safety of Turkey Point equipment and aging (i.e., the effects of the environment on the plant) within the scope of license renewal, these issues will be addressed during the staff's parallel safety review performed under 10 CFR Part 54. Operational safety issues are outside the scope of 10 CFR Part 51 and Part 54, and would be addressed by the*

NRC as part of its oversight of the existing or future renewed operating licenses; thus, such safety issues will not be evaluated in the SEIS.

Comment: The following comments express dissatisfaction with the length of the scoping comment period and request an extension to the scoping comment period.

Comments: (3-18) (27-2) (46-13-5) (47-1)

Response: *The NRC established the time period for comments on the scope of the environmental review for license renewal to balance the Commission's goal of ensuring openness in the regulatory processes, with its goal of ensuring that the NRC's actions are effective, efficient, realistic, and timely. Members of the public will have a further opportunity to participate in the NRC's evaluation of the environmental impacts of the proposed action, by submitting comments concerning the NRC staff's draft SEIS following its publication.*

Comment: The following comments were included in requests for hearing and petitions for leave to intervene in the Turkey Point Unit Nos. 3 and 4 subsequent license renewal proceeding. The comments express dissatisfaction with the length of the scoping comment period and request an extension to the scoping comment period.

Comments: (29-1) (29-2) (29-3)

Response: *Requests for hearing and petitions for leave to intervene are part of an adjudicatory process that is independent of the license renewal application environmental and safety review process. The NRC established the time period for comments on the scope of the environmental review for license renewal to balance the Commission's goal of ensuring openness in the regulatory processes, with its goal of ensuring that the NRC's actions are effective, efficient, realistic, and timely. Members of the public will have a further opportunity to participate in the NRC's evaluation of the environmental impacts of the proposed action, by submitting comments concerning the NRC staff's draft SEIS following its publication.*

Comment: This comment concerns the request by the U.S. National Park Service, Southeast Region (NPS), to be a cooperating agency in the development of the Turkey Point Unit Nos. 3 and 4 subsequent license renewal SEIS.

Comments: (2-1)

Response: *The NRC responded to the NPS on July 20, 2018 (ADAMS Accession No. ML18197A294), recognizing that the NPS would be able to provide valuable information as a cooperating agency and that the NRC and the NPS would work together to develop a memorandum of understanding (MOU) for cooperating on the environmental review. Subsequently, a MOU was developed and executed by the NRC and NPS on November 30, 2018, and may be viewed at ADAMS Accession No. ML18355A847.*

Comment: These comments express concern regarding the accuracy of information provided in the Environmental Report (ER) submitted by FPL as part of its application for subsequent license renewal for Turkey Point Unit Nos. 3 and 4. Some commenters provided additional documents during the scoping process for staff review.

Comments: (45-13-5) (46-13-3) (53-15) (54-1) (55-1) (58-1)

Response: *The NRC staff will conduct an independent analysis in preparing the draft SEIS, and will use information from a variety of sources in addition to FPL's ER. The NRC staff will verify the accuracy of the information used in the draft SEIS. The documents received from the public will become part of the record in this subsequent license renewal proceeding.*

Comment: The following comments express disagreement with the timing of the license renewal process. The comments state that FPL should not be able to submit a license renewal application so far in advance of the expiration dates of its current licenses (i.e., 2032 for Unit No. 3 and 2033 for Unit No. 4), and that the NRC should delay its environmental review until closer to those dates. The comments also state that the NRC should not continue its review of FPL's application with so many unresolved issues, with comments specifically mentioning uncertainty surrounding the potential for new environmental conditions at the Turkey Point site in the future, the potential advances in alternative energy sources in the future, and the need for models and predictions to be checked, confirmed, or modified to avoid using inaccurate or outdated information in decision-making. Finally, the comments urge the NRC staff to take a hard look at all the existing information as it is developed, and not just rely on outdated, original information from previous NEPA assessments at the Turkey Point site.

Comments: (28-2-25) (45-12-2) (66-4)

Response: *Section 54.17(c) of 10 CFR Part 54 allows licensees to submit license renewal applications up to 20 years before the expiration of the licenses currently in effect. The Commission established this earliest date for submission of license renewal applications after soliciting and considering public comments (56 FR 64943). In the 1991 statements of consideration for 10 CFR 54.17(c), the Commission rejected the suggestion that 20 years of operational and regulatory experience with a particular plant was an insufficient period in which to accumulate information on plant performance. Further, the Commission rejected suggestions that a 5-year or even a 15-year time limit for filing renewal applications would be adequate. The Commission stated that, in establishing the earliest date for license renewal applications, it considered the time necessary for utilities to plan for replacement of retired nuclear plants. The Commission found that the lead time for building new electric generation facilities is 10-14 years depending on the technology. When the license renewal rule was revised in 1995, the Commission again solicited comments on the earliest date for filing license renewal applications. After considering the comments, the Commission concluded that there was no new information warranting a change in the earliest date for license renewal applications, either to make it earlier or later (60 FR 22461). Regarding the potential for new environmental conditions at the Turkey Point site in the future, the NRC staff will base its analyses of impacts in the SEIS on the existing environmental baseline, but will consider past, present, and reasonably foreseeable future actions under the cumulative impact analysis in Chapter 4. Regarding potential advances in alternative energy sources in the future, the NRC staff will identify alternative energy technologies in Chapter 2 of the draft SEIS, and assess the impacts of those alternative technologies in Chapter 4. Regarding the need to use accurate and updated information in decision-making, the NRC staff will conduct an independent analysis in preparing the draft SEIS, and will use information from a variety of sources in addition to FPL's ER. The NRC staff will verify the accuracy of the information used in the draft SEIS.*

Comment: The following comments were included in requests for hearing and petitions for leave to intervene in the Turkey Point Unit Nos. 3 and 4 subsequent license renewal proceeding. The comments challenge generally the sufficiency of FPL's application under NRC regulations, as well as its compliance with NEPA. The comments state that some

environmental issues have been resolved generically in the GEIS for all plants and are normally, therefore, “beyond the scope of a license renewal hearing.” The comments note that these issues may be raised when a petitioner (1) demonstrates that there is new and significant information subsequent to the preparation of the GEIS regarding the environmental impacts of license renewal; (2) files a petition for a rulemaking with the NRC; or (3) seeks a waiver pursuant to 10 CFR 2.335. In addition to challenging the sufficiency of the environmental report, the comments identify actions the applicant should take.

Comments: (67-1) (68-1)

Response: *Requests for hearing and petitions for leave to intervene are part of an adjudicatory process that is independent of the license renewal application environmental and safety review process. Safety and environmental contentions raised by intervenors will be considered by an ASLB that will decide on the admissibility of the contentions and set a hearing schedule.*

The NRC developed the GEIS to establish an effective licensing process. It contains the results of a systematic evaluation of the environmental consequences of renewing an operating license and operating a nuclear power facility for an additional 20 years. Those environmental issues that could be resolved generically were analyzed in detail and were resolved in the GEIS. Those issues that were unique because of a site-specific attribute, a particular site setting or unique facility interface with the environment, or variability from site to site, were deferred and would be resolved at the time that an applicant sought license renewal. In the license renewal process, these issues are addressed by a site-specific SEIS, such as the one being prepared for Turkey Point Unit Nos. 3 and 4. The GEIS is used to avoid duplication and allow the staff to focus specifically on those issues that are important for a particular plant (i.e., issues that are not generic). This is an appropriate and effective use of the concept of tiering that was promulgated by the President’s Council on Environmental Quality in its 1978 regulations that implemented the requirements of NEPA.

B.2.5 Outside Scope-Aging Management

Comment: The following comments express concern about aging components at Turkey Point or the ability to effectively manage aging during the period of extended operation. Several comments specifically cite reactor pressure vessel embrittlement. Many comments mention continued maintenance of the CCS.

Comments: (27-4) (28-2-22) (28-2-24) (32-1) (45-25-1) (45-18-2) (45-14-5) (45-17-5) (46-12-1) (53-10) (60-2) (60-3) (60-4) (60-5) (60-6) (61-9) (63-10) (63-8)

Response: *These comments raise issues related to the aging management of structures, systems, and components. In order to be granted renewed licenses, FPL must demonstrate that aging effects will be adequately managed such that the intended functions of the systems, structures, and components within the scope of license renewal will be maintained consistent with the current licensing basis for the period of extended operation. The NRC staff is evaluating FPL’s aging management programs as part of the safety review of the subsequent license renewal application, which is separate from the environmental review. The results of the NRC staff’s safety review will be documented in the safety evaluation report for subsequent license renewal. These comments are outside the scope of the NRC staff’s environmental review and will not be considered in the draft SEIS.*

Comment: This comment was included a in a request for hearing and petition for leave to intervene in the Turkey Point Unit Nos. 3 and 4 subsequent license renewal proceeding. It expresses concern that the license renewal review process would get ahead of the analysis of aging components (e.g., metallurgical analysis of reactor pressure vessel embrittlement).

Comments: (29-4)

Response: *In order to be granted renewed licenses, FPL must demonstrate that aging effects will be adequately managed such that the intended functions of the systems, structures, and components within the scope of license renewal will be maintained consistent with the current licensing basis for the period of extended operation. The NRC staff is evaluating FPL's aging management programs as part of the safety review of the subsequent license renewal application. The results of the NRC staff's safety review will be documented in the safety evaluation report for subsequent license renewal. These comments are outside the scope of the NRC staff's environmental review and will not be considered in the draft SEIS*

B.2.6 Outside Scope-Emergency Preparedness

Comment: The following comments address emergency planning or security-related issues. On the topic of emergency planning, most commenters expressed skepticism that emergency plans at Turkey Point are adequate. On the topic of plant security, one comment expressed the need for security plans at Turkey Point to be updated regularly. Commenters specifically mention theft of nuclear material and cybersecurity.

Comments: (28-2-14) (45-4-2) (45-15-4) (52-2)

Response: *Emergency preparedness and security are applicable to the current operating license and are subject to NRC oversight of the existing or future renewed operating licenses, but are outside the scope of the environmental analysis for license renewal. Emergency preparedness and physical security plans are required at all nuclear power plants and require specified levels of protection from each licensee regardless of plant design, construction, or license date. Requirements related to emergency planning are set out in the NRC's regulations at 10 CFR 50.47 and Appendix E to 10 CFR Part 50. Requirements related to physical security are set out in the NRC's regulations in 10 CFR Part 73. These requirements apply to all operating licenses and will continue to apply to facilities with subsequent renewed licenses.*

The NRC has regulations in place to ensure that emergency preparedness and security plans are updated throughout the life of all plants. For example, nuclear power plant operators are required to update their evacuation time estimates after every U.S. Census, or when changes in population would increase the estimate by either 25 percent or 30 minutes, whichever is less. Additionally, the NRC assesses the capabilities of the nuclear power plant operator to protect the public by requiring the performance of a full-scale exercise—that includes the participation of various Federal, State, and local government agencies—at least once every two years. These exercises are performed in order to maintain the skills of the emergency responders and to identify and correct weaknesses.

In addition, in 2009 the NRC issued cybersecurity requirements for licensees under 10 CFR 73.54, "Protection of digital computer and communication systems and networks." This regulation requires licensees to provide a high assurance that digital computer and

communication systems and networks are adequately protected against cyber-attacks, up to and including the design-basis threats as described in 10 CFR 73.1, "Purpose and scope."

B.2.7 Outside Scope-Other Non-License Renewal Actions

Comment: These comments concern the NRC as a regulatory agency and how its safety mission is carried out, or NRC actions other than subsequent license renewal. One commenter suggested ways to remove impediments to the production of nuclear power; another suggested that the current Turkey Point Unit Nos. 3 and 4 renewed operating licenses be revoked.

Comments: (9-2) (27-1) (45-17-1) (45-18-1) (46-1-1)

Response: *Concerns relevant to current Turkey Point operation or operational safety are outside the scope of the license renewal environmental review. Issues related to safety during the subsequent license renewal period will be addressed in the NRC's parallel safety review. Issues pertaining to plant safety that do not involve the license renewal requirements of 10 CFR Part 54 are subject to NRC oversight of the current or future renewed operating licenses, and are outside the scope of license renewal.*

B.2.8 Outside Scope-Safety Concerns

Comment: The following comments express concerns about the impacts of external events and natural hazards, primarily sea level rise, storm surge, and hurricanes, on Turkey Point Unit Nos. 3 and 4. Many commenters noted that climate change would increase the rate of sea level rise and the frequency and intensity of storm events; some were concerned that appropriate new information be considered. Commenters are concerned about the vulnerability of the plant to damage by such events, the adequacy of existing protections and whether additional protection would be needed. Several of the comments expressed concern about the potential for an accident resulting from coastal flooding; some comments included requests that the risk to and integrity of plant structures (including the CCS and fuel storage and waste storage facilities) be analyzed with respect to sea level rise and extreme storm events. Some of the comments also expressed concerns related to emergency preparedness.

Comments: (2-7) (3-10) (3-16) (3-9) (4-1-13) (4-1-14) (5-11) (17-3) (24-5) (28-2-1) (28-2-10) (28-1-15) (28-2-6) (28-2-8) (28-1-9) (30-4) (31-3) (35-1) (40-1) (43-1) (45-14-1) (45-16-1) (45-23-1) (45-8-1) (45-10-2) (45-16-2) (45-24-3) (45-18-5) (45-15-7) (46-10-1) (46-15-1) (46-1-2) (46-17-2) (46-9-3) (52-1) (53-13) (56-2) (56-3) (56-4) (66-9)

Response: *The NRC addresses potential hazards to safe operation of a nuclear power plant, including external hazards, through its ongoing oversight of operating licenses. Such oversight will continue during the term of any renewed license. In addition, the NRC staff's review of the subsequent license renewal application takes into consideration external hazards, such as hurricanes, storm surge, and rising sea level, in two ways. First, the risks from external hazards were considered as part of the NRC staff's review of FPL's Severe Accident Mitigation Alternatives (SAMA) analysis, performed for the initial license renewal of Turkey Point Unit Nos. 3 and 4. For subsequent license renewal, the NRC staff will consider any new and significant information that is identified relevant to SAMAs. SAMAs are potential ways to reduce the risk or potential impacts of uncommon, but potentially severe accidents. SAMAs may include changes to plant components, systems, procedures, and training. Second, the external hazard licensing basis for the plant helps to inform the scope of the subsequent license renewal safety*

review. SSCs that are relied upon to remain functional during and after design basis events are within the scope of subsequent license renewal. As such, the NRC staff review considers whether an applicant will adequately manage the effects of aging on these SSCs, such that there is reasonable assurance that the activities authorized by the renewed licenses will continue to be conducted in accordance with the plants' current licensing basis, and that any changes to the plants' current licensing basis for license renewal are in accord with the Atomic Energy Act and the NRC's regulations. The results of the NRC staff's safety review will be documented in the safety evaluation report for license renewal. Emergency preparedness is applicable to the current operating license and is subject to NRC oversight of the current or future renewed operating license; as such, this issue is outside the scope of subsequent license renewal and the environmental analysis for subsequent license renewal. Comments related to the impacts of continued plant operation on the surrounding environment, such as potential environmental releases from the CCS, are within the scope of the environmental review (surface water hydrology and climate change) and will be described in Chapters 3 and 4 of the draft SEIS.

Comment: The following comments were included in requests for hearing and petitions for leave to intervene in the Turkey Point Unit Nos. 3 and 4 subsequent license renewal proceeding. The comments are concerned about the vulnerability of the plant to sea level rise and storm surge, and whether assessment of natural hazards would use available new information.

Comments: (29-11) (67-13)

Response:

The NRC addresses potential hazards to safe operation of a nuclear power plant, including external hazards, through its ongoing oversight of operating licenses. Such oversight will continue during the term of any renewed license. In addition, the NRC staff's review of the Turkey Point subsequent license renewal application takes into consideration external hazards, such as hurricanes, storm surge, and rising sea level, in two ways. First, the risks from external hazards were considered as part of the NRC staff's review of FPL's SAMA analysis, performed for the initial license renewal of Turkey Point Unit Nos. 3 and 4. For subsequent license renewal, the NRC staff will consider any new and significant information that is identified relevant to SAMAs. SAMAs are potential ways to reduce the risk or potential impacts of uncommon, but potentially severe accidents. SAMAs may include changes to plant components, systems, procedures, and training. Second, the external hazard licensing basis for the plant helps to inform the scope of the subsequent license renewal safety review. SSCs that are relied upon to remain functional during and after design basis events are within the scope of subsequent license renewal. As such, the NRC staff review considers whether an applicant will adequately manage the effects of aging on these SSCs, such that there is reasonable assurance that the activities authorized by the renewed licenses will continue to be conducted in accordance with the plants' current licensing basis, and that any changes to the plants' current licensing basis for license renewal are in accord with the Atomic Energy Act and the NRC's regulations. The results of the NRC staff's safety review will be documented in the safety evaluation report for license renewal.

Comments related to the impacts of continued plant operation on the surrounding environment are within the scope of the environmental review (surface water hydrology and climate change) and will be described in Chapters 3 and 4 of the draft SEIS.

Comment: This comment was included in a request for hearing and petition for leave to intervene in the Turkey Point Unit Nos. 3 and 4 subsequent license renewal proceeding. The comment concerns whether safe operating temperatures might be exceeded if another uprate is requested.

Comments: (29-7)

Response: *Concerns relevant to current Turkey Point operation or operational safety are outside the scope of the subsequent license renewal environmental review. Issues related to safety during the license renewal period will be addressed in the NRC's parallel safety review under 10 CFR Part 54. Issues pertaining to plant safety that do not involve the license renewal requirements of 10 CFR Part 54 are subject to NRC oversight of the current or future renewed operating licenses.*

B.2.9 Outside Scope-Other Topics

Comment: The following comments discuss issues relating to the consideration of costs in the SEIS. One comment concerns the cost of electricity and the potential profits for FPL. Another notes that the Florida Public Service Commission requires FPL ratepayers to pay for the cleanup of the hypersaline plume.

Comments: (45-11-3) (45-17-3)

Response: *The consideration of economic costs and benefits is outside the scope of subsequent license renewal (10 CFR 51.95(c)(2)). The purpose and need for the proposed action (i.e., issuance of a subsequent renewed license) is to provide an option that allows for power generation capability beyond the term of a current nuclear power plant operating license to meet future system generating needs, as such needs may be determined by other energy-planning decisionmakers. Similarly, the decision whether or not to pursue nuclear power as a power generation source is a decision that is made by other energy-planning decisionmakers and is outside the scope of this review.*

With regard to concerns about the funding of cleanup or remediation of the hypersaline plume, the funding of any compliance activities required by the State of Florida are outside the scope of the NRC's environmental review. The environmental effects of continued operation of Turkey Point Unit Nos. 3 and 4 will be described in Chapter 4 of the draft SEIS.

C. List of Commenters

The following tables present the comments received by the NRC and the commenters. Table C-1 provides a list of commenters who provided unique comment submissions (i.e., non-form letter submissions). Unique commenter authors are identified by name, affiliation (if stated), the comment correspondence identification (ID) number, and the ADAMS accession number of their comment correspondence. The form letter is included in Table C-1 and the author is noted as "Multiple Commenters" under the Commenter column. Table C-2 lists the names of commenters who provided the form letter and the ADAMS accession number for their correspondence. Those authors who added unique content to the form letter are listed in both tables.

Table C-1 - Individuals Providing Comments during the Scoping Comment Period

| Commenter | Affiliation (if stated) | Correspondence ID | Comment Source | ADAMS Accession Number |
|----------------------|--|-------------------|----------------------|-----------------------------|
| Jennifer Allman | | 0046-5 | Evening Transcript | ML18176A401 |
| Anonymous | | 23 | reg.gov | ML18177A185 |
| Karen Aronowitz | | 0045-14 | Afternoon Transcript | ML18176A399 |
| Richard E. Ayres | Ayres Law Group LLP | 67 | Email | ML18213A418 |
| Richard E. Ayres | Ayres Law Group LLP | 28 | reg.gov | ML18177A192 |
| Sonia Baez-Hernandez | | 43 | Email | ML18180A019 |
| Jose Barros | Tropical Audubon Society | 4 | Email | ML18180A051 |
| Jonathan Bauer | | 15 | reg.gov | ML18162A067 |
| Joan Bausch | | 41 | Email | ML18180A008 |
| Bob Bertelson | Florida Power and Light | 0045-20 | Afternoon Transcript | ML18176A399 |
| Kerry Black | South Bay Chamber of Commerce | 0046-4 | Evening Transcript | ML18176A401 |
| Joseph Bonasia | | 42 | Email | ML18180A009 |
| Wendy Brainard | | 0046-14 | Evening Transcript | ML18176A401 |
| Mark Bromley | | 0046-6 | Evening Transcript | ML18176A401 |
| Steven Brown | | 38 | Email | ML18179A514 |
| Marisa Carrozzo | Everglades Coalition | 66 | Letter | ML18214A171 |
| Andrew Carter | Miami Waterkeeper | 0045-7 | Afternoon Transcript | ML18176A399 |
| George Cavros | Southern Alliance for Clean Energy | 0045-9 | Afternoon Transcript | ML18176A399 |
| Michael F. Chenoweth | Florida Division of the Izaak Walton League of America | 24 | reg.gov | ML18177A186 |

| Commenter | Affiliation (if stated) | Correspondence ID | Comment Source | ADAMS Accession Number |
|---------------------|--|--------------------------|-----------------------|-------------------------------|
| Bonnie Clancy | | 21 | reg.gov | ML18177A180 |
| Multiple Commenters | | 31 | Email | ML18178A182 |
| Matthew Cook | | 7 | reg.gov | ML18155A329 |
| Zach Cosner | | 0045-24 | Afternoon Transcript | ML18176A399 |
| Zach Cosner | | 0046-18 | Evening Transcript | ML18176A401 |
| Zach Cosner | | 0046-2 | Evening Transcript | ML18176A401 |
| Kelly Cox | Miami Waterkeeper | 0045-8 | Afternoon Transcript | ML18176A399 |
| Sarah Craighead | National Park Service | 2 | Email | ML18180A176 |
| Diane Curran | Harmon, Curran, Spielberg & Eisenberg, LLP | 68 | Letter | ML18213A529 |
| Anthony DeNardo | | 12 | reg.gov | ML18162A063 |
| Sarah Fangman | Florida Keys National Marine Sanctuary | 6 | reg.gov | ML18162A069 |
| Alan Farago | Friends of the Everglades | 4 | Email | ML18180A051 |
| Geoffrey H. Fettus | Natural Resources Defense Council | 67 | Email | ML18213A418 |
| Geoffrey H. Fettus | Natural Resources Defense Council | 28 | reg.gov | ML18177A192 |
| Hannah Gardiner | | 8 | reg.gov | ML18155A331 |
| Mike Gibaldi | | 32 | Email | ML18178A670 |
| Sheryl Gold | | 34 | Email | ML18179A239 |
| Albert Gomez | | 0045-18 | Afternoon Transcript | ML18176A399 |
| Albert Gomez | | 0046-1 | Evening Transcript | ML18176A401 |
| Albert Gomez | | 29 | reg.gov | ML18177A193 |
| Erik Gonzalez | | 0046-3 | Evening Transcript | ML18176A401 |
| Tiffany Grantham | | 0045-21 | Afternoon Transcript | ML18176A399 |
| Michael Hall | | 27 | reg.gov | ML18177A190 |
| Orpha Harper | | 0045-19 | Afternoon Transcript | ML18176A399 |
| Lee N. Hefty | Miami-Dade County Division of Environmental Resources Management | 1 | Email | ML18180A059 |
| Jamie Higgins | U.S. Environmental Protection Agency | 3 | Email | ML18180A424 |
| James Hopf | | 13 | reg.gov | ML18162A065 |

| Commenter | Affiliation (if stated) | Correspondence ID | Comment Source | ADAMS Accession Number |
|---------------------|---|--------------------------|-----------------------|-------------------------------|
| Gabriel Ignetti | | 0045-4 | Afternoon Transcript | ML18176A399 |
| Gabriel Ignetti | | 9 | reg.gov | ML18155A332 |
| Theodore Isham | Seminole Nation of Oklahoma | 51 | Email | ML18169A152 |
| Benjamin Joannou Jr | | 33 | Email | ML18178A679 |
| Diane Johnson | | 16 | reg.gov | ML18162A068 |
| John Karahalios | | 10 | reg.gov | ML18155A333 |
| John Kocol | | 20 | reg.gov | ML18169A144 |
| Jaclyn Lopez | Center for Biological Diversity | 24 | reg.gov | ML18177A186 |
| Patricia Mann | FPL | 0045-22 | Afternoon Transcript | ML18176A399 |
| Ross McCluney | | 36 | Email | ML18179A390 |
| Caroline McLaughlin | National Parks Conservation Association | 0045-6 | Afternoon Transcript | ML18176A399 |
| Caroline McLaughlin | National Parks Conservation Association | 24 | reg.gov | ML18177A186 |
| Caroline McLaughlin | National Parks Conservation Association | 5 | reg.gov | ML18177A187 |
| Roger Messenger | | 35 | Email | ML18179A242 |
| Patricia Milone | | 0045-25 | Afternoon Transcript | ML18176A399 |
| Patricia Milone | | 19 | reg.gov | ML18163A113 |
| Patricia Milone | | 47 | reg.gov | ML18179A155 |
| Adrian Moreira | FPL | 0045-3 | Afternoon Transcript | ML18176A399 |
| Dorothy Moses | | 26 | reg.gov | ML18177A188 |
| Kent Nelson | Florida Keys Aqueduct Authority | 0046-7 | Evening Transcript | ML18176A401 |
| Kevin O'Keefe | | 37 | Email | ML18179A484 |
| Maria Parra | | 0046-8 | Evening Transcript | ML18176A401 |
| Bryan Paz | | 0046-17 | Evening Transcript | ML18176A401 |
| Bryan Paz | | 0046-9 | Evening Transcript | ML18176A401 |
| Mark Perry | | 66 | Letter | ML18214A171 |
| Robert Pike | | 18 | reg.gov | ML18162A074 |
| Laura Reynolds | Tropical Audubon Society | 0045-13 | Afternoon Transcript | ML18176A399 |
| Laura Reynolds | Tropical Audubon Society | 0046-13 | Evening Transcript | ML18176A401 |
| Laura Reynolds | Tropical Audubon Society | 0046-16 | Evening Transcript | ML18176A401 |

| Commenter | Affiliation (if stated) | Correspondence ID | Comment Source | ADAMS Accession Number |
|--------------------|--|--------------------------|-----------------------|-------------------------------|
| David Rice | Monroe County Board of County Commissioners | 22 | reg.gov | ML18177A181 |
| Bonnie Rippingille | | 57 | Email | ML18183A016 |
| Bonnie Rippingille | | 58 | Email | ML18183A021 |
| Bonnie Rippingille | | 0045-11 | Afternoon Transcript | ML18176A399 |
| David Ritz | Ocean Reef Community Association | 53 | Email | ML18180A014 |
| Rhonda Roff | | 0045-17 | Afternoon Transcript | ML18176A399 |
| Simon Rose | | 40 | Email | ML18180A005 |
| Edan Rotenburg | SUPER LAW GROUP, LLC | 67 | Email | ML18213A418 |
| Kenneth J. Rumelt | Environment & Natural Resources Law Clinic, Vermont Law School | 67 | Email | ML18213A418 |
| Kenneth J. Rumelt | Environment & Natural Resources Law Clinic, Vermont Law School | 28 | reg.gov | ML18177A192 |
| Steven Schoedinger | | 54 | Email | ML18180A054 |
| Steven Schoedinger | | 55 | Email | ML18180A055 |
| Steven Schoedinger | | 60 | Email | ML18180A074 |
| Steven Schoedinger | | 61 | Email | ML18180A075 |
| Steven Schoedinger | | 62 | Email | ML18180A076 |
| Steven Schoedinger | | 63 | Email | ML18180A105 |
| Steven Schoedinger | | 65 | Email | ML18180A109 |
| Steven Schoedinger | | 64 | Email | ML18180A120 |
| Steven Schoedinger | | 59 | Email | ML18186A125 |
| Steven Schoedinger | | 0046-12 | Evening Transcript | ML18176A401 |
| Matthew Schwartz | South Florida Wetlands Association | 0045-23 | Afternoon Transcript | ML18176A399 |
| Matthew Schwartz | South Florida Wetlands Association | 0046-15 | Evening Transcript | ML18176A401 |
| Matthew Schwartz | South Florida Wetlands Association | 30 | reg.gov | ML18177A194 |
| Mara Shlackman | | 44 | Email | ML18180A046 |
| Steve Shoedinger | | 0045-12 | Afternoon Transcript | ML18176A399 |
| Mark Short | | 0045-5 | Afternoon Transcript | ML18176A399 |
| Rachel Silverstein | Miami Waterkeeper | 24 | reg.gov | ML18177A186 |
| Rachel Silverstein | Miami Waterkeeper | 5 | reg.gov | ML18177A187 |

| Commenter | Affiliation (if stated) | Correspondence ID | Comment Source | ADAMS Accession Number |
|---------------------|--|--------------------------|-----------------------|-------------------------------|
| Stephen Smith | Southern Alliance for Clean Energy | 4 | Email | ML18180A051 |
| Mark E. Songer | Last Stand | 24 | reg.gov | ML18177A186 |
| D Sotelo | | 14 | reg.gov | ML18162A066 |
| Tom Southern | | 0046-11 | Evening Transcript | ML18176A401 |
| Brian Stamp | FPL | 0045-2 | Afternoon Transcript | ML18176A399 |
| Brian Stamp | FPL | 0046-10 | Evening Transcript | ML18176A401 |
| Laura Stinson | | 0045-10 | Afternoon Transcript | ML18176A399 |
| Philip K. Stoddard | City of South Miami | 56 | Email | ML18180A031 |
| Edward Tamson | Backcountry Fly Fishers Naples | 24 | reg.gov | ML18177A186 |
| Ignacio Tejedor | | 52 | Email | ML18179A333 |
| Lisa Tennyson | Monroe County Board of County Commissioners | 0045-1 | Afternoon Transcript | ML18176A399 |
| Elaine Trotter | | 11 | reg.gov | ML18155A334 |
| Benjamin B. Waldrop | | 28 | reg.gov | ML18177A192 |
| Lynn Wheeler | | 39 | Email | ML18179A518 |
| Barry J. White | Citizens Allied for Safe Energy, Inc. | 0045-15 | Afternoon Transcript | ML18176A399 |
| Laura Sue Wilansky | | 0045-16 | Afternoon Transcript | ML18176A399 |
| Elinor Williams | Friends of Arthur R. Marshall Loxahatchee National Wildlife Refuge | 24 | reg.gov | ML18177A186 |
| Kirk Zeulch | Florida Keys Aqueduct Authority | 25 | reg.gov | ML18179A158 |
| Ian Zink | | 17 | reg.gov | ML18162A070 |

The individuals listed in Table C-2 submitted all or part of a form letter set up on the EveryAction platform under the title "Stop Decades of More Pollution from FPL's Turkey Point!"

Table C-2 - Individuals Submitting the Form E-Mail With Correspondence ID 31 and Representative ADAMS Accession No. ML18178A182

| Commenter | ADAMS Accession Number |
|-------------------|-------------------------------|
| Tonya Andreacchio | ML18178A671 |
| Yoca Arditi-Rocha | ML18179A519 |

| Commenter | ADAMS Accession Number |
|----------------------|-------------------------------|
| Sonia Baez-Hernandez | ML18180A019 |
| Enrique Baloyra | ML18179A232 |
| Laura Bauman | ML18180A000 |
| Joan Bausch | ML18180A008 |
| Clyde Beck | ML18179A520 |
| Clyde Beck | ML18180A002 |
| Stacey Besford | ML18186A088 |
| Joseph Bonasia | ML18180A009 |
| Brenda Brinkley | ML18179A437 |
| Chris Bromfield | ML18178A683 |
| Steven Brown | ML18179A514 |
| Maureen Burke | ML18179A491 |
| Andrea Culberson | ML18179A524 |
| Maggie Davidson | ML18179A542 |
| Lesley Decker | ML18179A229 |
| Jody Heriot Dehart | ML18179A496 |
| Suki deJong | ML18179A539 |
| Michael Dickey | ML18179A512 |
| Stephanie Figueroa | ML18179A543 |
| Jeffrey Finell | ML18179A230 |
| Jody Finver | ML18180A003 |
| Vincent Frazzini | ML18179A516 |
| Cherie Free | ML18179A363 |
| Ettienne Fuentes | ML18179A235 |
| Michelle Gale | ML18179A495 |
| Eric Gandarilla | ML18180A010 |
| Christopher Gates | ML18180A012 |
| Mike Gibaldi | ML18178A670 |
| Sheryl Gold | ML18179A239 |
| Kimberly Gonzalez | ML18178A665 |
| Emily Gorman | ML18179A533 |
| Yvonne Grams | ML18179A541 |
| Kelsey Grentzer | ML18179A354 |
| Mary Gutierrez | ML18180A018 |
| Kim Jacobs | ML18179A528 |
| Jackie Jahosky | ML18180A020 |
| Jason James | ML18179A404 |
| Benjamin Joannou Jr | ML18178A679 |
| Dan Kipnis | ML18179A529 |
| Allison Kotzig | ML18180A023 |
| Justin Landry | ML18180A013 |
| BrendaLee Lennick | ML18179A245 |
| David Levinson | ML18179A244 |
| Gilda Levinson | ML18179A034 |

| Commenter | ADAMS Accession Number |
|-------------------|-------------------------------|
| Brenda Macedo | ML18179A426 |
| Robert Mahoney | ML18180A015 |
| Orlando Marquez | ML18180A016 |
| Drew Martin | ML18179A534 |
| Jessica Martinez | ML18180A001 |
| Melanie Masterson | ML18180A004 |
| Ross McCluney | ML18179A390 |
| Jessica McCormick | ML18179A489 |
| Mari Mennel-Bell | ML18178A674 |
| Roger Messenger | ML18179A242 |
| Nancy Metayer | ML18180A017 |
| Carol Nicholson | ML18178A682 |
| Robert O'Brien | ML18179A415 |
| Kevin O'Keefe | ML18179A484 |
| Brett Olson | ML18178A680 |
| Tim Oswald | ML18179A470 |
| Michael Parker | ML18179A226 |
| Jeremy Penn | ML18180A007 |
| R. Peterson | ML18183A031 |
| Alvera Pritchard | ML18178A677 |
| Carolina Quintero | ML18180A026 |
| Laura Randall | ML18178A681 |
| Tatiana Rawal | ML18179A537 |
| Sandra Remilien | ML18179A228 |
| Janet Robinson | ML18179A476 |
| Simon Rose | ML18180A005 |
| Ron Rosenblum | ML18179A047 |
| Emily Sagovac | ML18179A071 |
| Alissa Schafer | ML18178A182 |
| Doreen Schooley | ML18178A663 |
| Mara Shlackman | ML18180A046 |
| Martha Singleton | ML18179A536 |
| E Sorkin | ML18180A035 |
| Mike Stone | ML18179A341 |
| Michael Storino | ML18179A535 |
| James Teas | ML18179A030 |
| Stephanie Trudeau | ML18179A462 |
| Marlies Tumolo | ML18180A011 |
| Christina Wald | ML18179A449 |
| Allan Weiss | ML18179A077 |
| Lynn Wheeler | ML18179A518 |
| Alek Williams | ML18179A037 |
| Patricia Wynn | ML18178A675 |
| Patricia Wynn | ML18179A062 |

| Commenter | ADAMS Accession Number |
|------------------|-----------------------------------|
| Monica Zapata | ML18179A233 |