

ST. LUCIE PLANT, UNITS 1 AND 2
SUBSEQUENT LICENSE RENEWAL APPLICATION
REQUESTS FOR CONFIRMATION OF INFORMATION
ENVIRONMENTAL REVIEW

Regulatory Basis:

Licensees are required by Title 10 of the *Code of Federal Regulations* (CFR) Part 51.53(c)(1) to submit with its application a separate document entitled "Applicant's Environmental Report—Operating License Renewal Stage." The U.S. Nuclear Regulatory Commission's (NRC) regulations at 10 CFR Part 51, which implement Section 102(2) of the National Environmental Policy Act of 1969, as amended (NEPA), include requirements for applicants to provide information as may be useful in aiding the NRC staff in complying with NEPA. As part of its review for initial license renewal, the NRC staff is required to prepare a site-specific Supplemental Environmental Impact Statement (SEIS) to NUREG-1437, "Generic Environmental Impact Statement for License Renewal of Nuclear Plants" (GEIS). Review guidance for the staff is provided in NUREG-1555, Supplement 1, Revision 1, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants: Supplement 1 – Operating License Renewal." The staff is currently engaged in rulemaking activities to revise the GEIS so that it covers subsequent license renewal applications as well.

Request for Confirmation of Information:

During the environmental audit, the NRC staff reviewed documents that were made available on the applicant's electronic information portal in response to the staff audit needs (Agencywide Documents Access and Management System Accession No. ML21246A131). The staff also participated in breakout sessions for each resource area with applicant personnel to gather information that will likely be used in the SEIS. To the best of the staff's knowledge, this information on the applicant's electronic information portal and discussed in breakout sessions is not currently on the docket or publicly accessible. The NRC staff requests that the applicant submits confirmation that the information gathered from the audit and listed below is correct or provides the associated corrected information.

1) Info Need ALT-2

Sections 7.2.2 and 7.2.3 of the environmental review (ER) cite the Florida Power & Light Company (FPL) Ten Year Power Plant Site Plan for 2020-2029 as the reference supporting FPL's determination as to whether certain energy technologies and approaches would be reasonable replacement power alternatives. In April 2021, FPL subsequently filed the 2021-2030 Ten Year Power Plant Site Plan with the Florida Public Service Commission. Based on the information discussed during the environmental audit breakout session pertaining to replacement power alternatives, please confirm that the underlying basis supporting FPL's selection of reasonable alternatives to St Lucie relicensing have not changed (i.e., the list of viable non-nuclear resource options for FPL's service territory still includes solar, battery storage, and gas-fueled generation).

2) Info Need ALT-3

Section 7.2.1 of the ER identifies energy alternatives that FPL considers reasonable, all of which would be located offsite of the St. Lucie plant. Based on the information discussed during the environmental audit breakout session pertaining to replacement power alternatives, please confirm that the constraining factor precluding the consideration of siting replacement power alternatives at the St. Lucie site is the lack of available suitable land (i.e., undeveloped land that is not classified as wetlands or considered ecologically sensitive).

3) Info Need AQ-3

Please confirm the following: In accordance with a Florida Fish and Wildlife Conservation Commission Special Activity License, FPL captures, tags, and releases fish and other marine organisms from the intake canal. Biologists typically collect fish two to three times per month. Target species include elasmobranchs (i.e., sharks, rays, skates, and sawfish), goliath grouper (*Epinephelus itajara*), and recreationally important species, such as common snook (*Centropomus undecimalis*), snapper (family Lutjanidae), and grouper (subfamily Epinephelinae). Over the past 10 years, FPL has removed from the intake canal and released back to the ocean approximately 6,400 pounds of fish. FPL intends to continue this mitigation program during the proposed subsequent license renewal term.

4) Info Need AQN-2

Section 3.4 of the ER identifies that St. Lucie did not receive noise complaints during the 2015-2019 time period. During the environmental audit, Air Quality and Noise breakout session, and in response to information need AQN-2, FPL stated that there have been no noise complaints related to St. Lucie plant operations after that time period. Please confirm that FPL has not received noise complaints as a result of St. Lucie plant operations after the 2015-2019 time period.

5) Info Need CI-1

Sections 3.1.4 and 4.12 of the ER discuss past, present, and reasonably foreseeable projects or actions that could potentially result in cumulative impacts during the proposed St. Lucie subsequent license renewal period, including several projects that were identified in the ER as conceptual or for which the need had yet to be determined. Based on the information discussed during the environmental audit breakout sessions pertaining to cumulative impacts and land use, please confirm:

- a) FPL has identified no additional past, present, or reasonably foreseeable projects or actions at St. Lucie since the ER was prepared.
- b) FPL plans to re-engineer existing onsite dredge spoils pits (located west of the intake canal) to increase their capacity to facilitate future dredge activities. The current plan is to initiate the bid process for this project in 2022, but no construction or completion dates have been established.
- c) The status of a potential project to increase St. Lucie's stormwater discharge capacity and revise its stormwater pollution prevention plan remains in a conceptual phase with no construction plans developed or completion date established.
- d) Because the possible need to expand the independent spent fuel storage installation (ISFSI) and the scope of any such expansion cannot be determined at this time, the possibility of such an expansion remains speculative and not reasonably foreseeable.

6) Info Need CI-2

Section 3.1.4 of the ER discusses improvements to transmission lines at St Lucie that were initiated by FPL in late 2016 but does not address when these improvements were completed. Based on the information discussed during the environmental audit breakout sessions pertaining to cumulative impacts and land use, please confirm that these improvements, (i.e., installation of a 13.65-mile underground transmission line known as the Port St. Lucie Transmission Line Reliability Project), were completed in 2017.

7) Info Need GEN-1

Please confirm the updated information, including new expiration dates, for environmental permits that were provided as part of the environmental audit.

8) Info Need HH-1

As discussed during the audit breakout session, please confirm the in-scope transmission lines discussed in Section 3.10.2 of the ER are the same as those discussed in Section 2.2.5.1. Specifically, the elevated tower connections discussed in 3.10.2 are not considered to be in-scope.

9) Info Need HH-3

Please confirm that based on a search of available resources, such as the Florida Department of Health, Florida Department of Environmental Protection, and local news websites, there have been no changes that would increase the risk of waterborne diseases in the waters in the vicinity of the plant.

10) Info Need HH-6

The NRC staff struggled to navigate the associated websites regarding accessing references related to industrial wastewater. Please confirm the proper site navigation as discussed during the audit breakout session.

11) Info Need LU-3

If an ISFSI expansion occurs during the subsequent license renewal period, please confirm there exists sufficient land on the St. Lucie site to accommodate the construction and operation of the ISFSI expansion.

12) Info Need SOC-1

During the St. Lucie environmental audit, socioeconomics breakout session, and in response to information need SOC-2, FPL provided annual 2020 and 2021 property tax payments for St. Lucie. Please confirm that 2020 and 2021 county property tax payments for St. Lucie were \$43,866,726.19 and 42,525,898.26, respectively.

13) Info Need SSH-1

Please confirm the following: FPL maintains a company-wide Avian Protection Plan, which it developed in accordance with the Avian Power Line Interaction Committee and Fish and Wildlife Service's (FWS's) Avian Protection Plan Guidelines (APLIC and FWS 2005). The plan includes guidelines for working around federally listed bird and their nests and procedures workers should follow to ensure that listed birds are protected during site activities, such as vegetation maintenance, power restoration, and continued use of existing facilities. The plan provides flow charts to help workers determine whether FPL should coordinate with the FWS or obtain any Federal or State permits for a given activity. FPL has also established nest buffers within the Avian Protection Plan for working around migratory bird nests. Each buffer area follows species-specific guidance from the FWS, State resource agencies, and relevant scientific literature. The table below lists the nest buffers that apply to the federally listed birds that may occur in the St. Lucie action area.

Buffer Guidance for Working Around Nests of Federally Listed Birds

Species	Nest Buffer for Active Nest
Audubon's crested caracara	985 ft during nesting season (Nov-Apr) ⁽¹⁾
Florida scrub-jay	to be established following APC coordination with FWS biologist
wood stork	500–1500 ft ⁽²⁾
⁽¹⁾ Ogden 1990	
⁽²⁾ FWS 2004	

References:

[FWS] U.S. Fish and Wildlife Service. 2004. Species Conservation Guidelines, South Florida, Audubon's Crested Caracara. Draft. April 20, 2004. 40 p. Available at <<https://www.fws.gov/verobeach/BirdsPDFs/2004SpeciesConservationGuidelinesCaracaraALLINCLUSIVE.pdf?spcode=A003>> (accessed February 23, 2022).

Ogden J.C. 1990. Habitat Management Guidelines for the Wood Stork in the Southeast Region. Prepared for the U.S. Fish and Wildlife Service. 11 p. Available at <https://www.saj.usace.army.mil/Portals/44/docs/regulatory/sourcebook/endangered_species/wood_stork/habitatGuidelines.pdf> (accessed February 23, 2022).

[APLIC and FWS] Avian Power Line Interaction Committee and U.S. Fish and Wildlife Service. 2005. 88 p. Available at <https://www.aplic.org/uploads/files/2634/APPguidelines_final-draft_Apr12005.pdf> (accessed February 23, 2022).

14) Info Need SW-3

Please confirm that there have been no reportable violations of the Industrial Wastewater Facilities Permit (IWFP)/National Pollutant Discharge Elimination System (NPDES) permit requirements since the ER was submitted.

15) Info Need WM-1

Please confirm that there have been no reportable unplanned releases of radioactive materials (unplanned/inadvertent radioactive liquid or gaseous releases) which would trigger a notification requirement since the ER was written.

16) Info Need WM-2

Please confirm that there have been no reportable inadvertent nonradioactive releases that would be classified as an incidental spill which would trigger a notification requirement since the ER was written.

17) Info Need WM-3

St. Lucie is subject to the reporting provisions of 40 CFR Part 110 as it relates to the discharge of oil in such quantities as may be harmful pursuant to Section 311(b)(4) of the Federal Water Pollution Control Act. Any discharges of oil in such quantities that may be harmful to the public health or welfare or the environment must be reported to Environmental Protection Agency's National Response Center. In Section 9.5.3.7 of the ER, the applicant discusses reportable spills and states that for the for the 5-year period of 2016-2020, there were no reportable spills/no releases. Please confirm that there have been no discharges of oil in such quantities that would be reportable to the Environmental Protection Agency National Response Center.

18) Info Need WM-4

St. Lucie is subject to the reporting provision under Florida Administrative Code 62-780 and under the site conditions of certification. This reporting provision requires that any spills of materials having potential to significantly pollute surface or groundwaters and which are not confined to a building or similar containment structure be reported to the Florida Department of Environmental Protection (FDEP), Office of Emergency Response, by telephone immediately after discovery of such spill, followed by a detailed written report. Section 9.5.3.8 of the ER states that between the 5-year period of 2016 to 2020, there has been one release at St. Lucie that triggered the notification requirement (on October 22, 2019). Please confirm that there have been no additional spills which would trigger the notification requirement since the ER was written.

19) Info Need WM-6

Please confirm that the waste minimization measures applicable to solid waste and hazardous waste are listed in the plant's applicable waste management and recycling procedures. Confirm that the measures applicable to hazard waste include:

- Where possible, replace halogenated solvents used for cleaning with environmentally safe, non-halogenated cleaners.
- To minimize the volume of hazardous waste produced, segregate waste materials as much as possible to minimize the amount of non-hazardous waste that is mixed with hazardous waste
- Minimize the use of halogenated solvents in spray cans and use substitutes where possible.
- Keep the number of chemical materials with a short shelf-life to a minimum.
- Use all the products in cylinders.
- Obtain only the amount of materials needed for a job.
- In addition, please confirm that other sections of the applicable waste management and recycling procedures specifically address waste stream recycling.

20) Info Need WM-7

Based on the staff's review of information in the ER for the radioactive solid waste program concerning how the plant plans to handle low-level radioactive waste (Class A, B, and C, mixed waste, and spent nuclear fuel) during the license renewal term (onsite storage, potential expansion of storage facilities, and disposal options), please confirm that there are no proposed changes or upgrades to the program being considered during the license renewal term.

21) Info Need WM-7

In terms of the ER for the Radiation Protection Program with emphasis on the as low as reasonably achievable (ALARA) program to control worker radiation exposure (annual dose goals and status), please confirm that there have been no proposed changes or upgrades to the program being considered during the license renewal term.

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REQUESTS FOR ADDITIONAL INFORMATION
ENVIRONMENTAL REVIEW

1) Info Need ALT-4

REQUIREMENT: 10 CFR 51.53(c)(2) requires that applicants discuss in the ER the environmental impacts of alternatives and any other matters described in 10 CFR 51.45; 10CFR 51.45 requires that the discussion of alternatives be sufficiently complete to aid the Commission in developing and exploring, pursuant to Section 102(2)(E) of NEPA, “appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.”

ISSUE: Section 7.2.3.4 of the ER states that the solar alternative is comprised of approximately 95 solar photovoltaic facilities, each having an approximately 75 MW nameplate capacity and 56 MW battery storage. To support the audit, NextEra posted a description to the portal indicating how these numerical factors were calculated to support replacement of St. Lucie’s 1,968 MW net generation. The NRC staff requires the information that was posted to the portal and discussed during the breakout session to be docketed in order to verify and reference this replacement power approach.

REQUEST: Provide the information posted to the portal and discussed during the environmental audit discussion held on 3/1/2022 addressing the narrative response to Information Need ALT-4.

2) Info Need HCR-1

REQUIREMENT: 10 CFR 51.53(c)(2)(K) requires that all applicants identify any potentially historic or archaeological properties and assess whether any of these properties will be affected by future plant operations and any planned refurbishment activities in accordance with the National Historic Preservation Act (NHPA). Section 106 of the NHPA directs Federal Agencies to take into account the effects of their undertakings on historic properties. In accordance with 36 CFR 800.4(b), in consultation with the SHPO, the NRC shall take the steps necessary to identify historic properties within the area of potential effect.

ISSUE: Section 3.8.5 of the ER states that there have been four previous cultural resource investigations conducted within the St. Lucie property. Additionally, Section 3.8.5 of the ER states that a cultural resource survey was conducted in the vicinity of the St. Lucie property in 2007 (FMSF Survey 14038). Attachment D to the ER provides a copy of a letter from FPL to the Florida State Historic Preservation Office (SHPO). The letter identifies that there have been 13 cultural resource surveys conducted within close proximity to the St. Lucie site, five of which were conducted within portions of the 1,132-acre property. Furthermore, the letter to the SHPO identifies that FMSF Survey 14038 is one of the five cultural resource surveys conducted within the 1,132-acre property. During the environmental audit, the NRC staff reviewed a total of six cultural resource surveys conducted within St. Lucie property that were provided by FPL on the electronic portal. The NRC staff noted that in addition to the six cultural resource surveys that were provided for review during the environmental audit, there are other cultural resource surveys that have been conducted within the St. Lucie site.

REQUEST:

- a) Clarify and identify the total number of cultural resource surveys conducted within the 1,132-acre site property.
- b) Identify and describe the site identified in the Archaeological and Historical Conservancy, Inc. 2008 cultural resource study. As part of the description, include: the type of site, eligibility for the National Register of Historic Places, site significance, and any recommendations related to the site resulting from the survey.

3) Info Need HCR-3

REQUIREMENT: 10 CFR 51.53(c)(2)(K) requires that all applicants identify any potentially historic or archaeological properties and assess whether any of these properties will be affected by future plant operations and any planned refurbishment activities in accordance with the NHPA. Section 4.6 of NUREG 1555 S1 states, in part, if resources are located within the area of potential affect, the assessment to historic and cultural resource impacts associated with continued operations should consider procedures or integrated cultural resource managements plans implemented by the licensee to protect the historic and cultural resources identified.

ISSUE: Section 3.8.6 of the ER states that there is no cultural resource management plan nor unanticipated discoveries plan in place at St. Lucie. Section 3.8.6 of the ER further states that inadvertent discovery of human remains is handled via 872.05 Florida Statutes. The ER, however, does not describe how known onsite historic and cultural resources are protected or how inadvertent discoveries are handled in accordance with Florida Statutes.

REQUEST:

- a) Discuss how known onsite historic and cultural resources are protected.
- b) Describe administrative controls, procedures, or protocols in place to ensure that human remains are handled via 872.05 Florida Statutes in the event of inadvertent discovery related to land disturbing activities
- c) Describe how inadvertent cultural resource discoveries, in addition to human remains, would be treated during land-disturbing activities.
- d) Describe how/if employees and staff involved in potential land-disturbing activities are trained to identify historic or cultural resources.

4) Info Need LU-4

REQUIREMENT: 10 CFR 51.53(c)(2) requires that an applicant's environmental report (ER) contain the applicant's plans to modify the facility, describe in detail the affected environment around the plant, and describe modifications directly affecting the environment.

ISSUE: Section 3.1.4 in the ER describes a 2020 pilot project off the shoreline in the Atlantic Ocean performed in part to stop beach erosion. During the environmental audit, FPL responded to the NRC staff's information need LU-4 by describing shoreline loss between various dates and FPL's ongoing beach and dune restoration projects addressing these losses.

REQUEST: With the understanding that 2020 pilot project is still in progress and results are not yet final, how much beach erosion (in linear feet) would you estimate has occurred in the St. Lucie Atlantic Ocean waterfront area since the previous license renewal application?

5) Info Need HH-5

REQUIREMENT: 10 CFR 51.53(c)(2) requires, in part, that applicants describe in detail in their environmental report the affected environment around the plant. Regulatory Guide 4.2, Supplement 1, Revision 1 states that, "The applicant should consult the State agency responsible for environmental health regarding the potential existence and concentration of... microorganisms in the receiving waters for plant cooling water discharge. The applicant should document the results of this consultation in the ER. The ER should include copies of correspondence with the responsible agency indicating concurrence with the applicant's risk assessment and proposed mitigation strategy, if one is required."

ISSUE: Appendix E of the ER includes a letter from FPL to the State regarding microbiological hazards, but no reply is included.

REQUEST:

- a) Please describe St. Lucie's consultation with the State related to microbiological hazards and the State's views of the environmental health risks to the public from thermal effluent from the site.
- b) Please submit with the response copies of the relevant correspondence between St. Lucie and the State.

6) Info Need SAMA-1/2

REQUIREMENT: The NRC's regulations in 10 CFR Part 51, which implement Section 102(2) of NEPA, require that all applicants for license renewal must submit an ER to the NRC, in which they identify any "new and significant information regarding the environmental impacts of license renewal of which the applicant is aware" (10 CFR 51.53(c)(3)(iv)). This includes new and significant information that could affect the environmental impacts related to postulated severe accidents or that could affect the results of a previous severe accident mitigation alternatives (SAMA) analysis. Accordingly, in its subsequent license renewal application ER, FPL evaluates areas of new and significant information that could affect the environmental impact of postulated severe accidents during the subsequent license renewal period of extended operation and possible new and significant information as it relates to SAMAs.

ISSUE: The St. Lucie ER did not provide the specific values for internal and external event Core Damage Frequency (CDF) used to determine the potential environmental impacts related to postulated severe accidents or that could affect the results of a previous SAMA analysis.

REQUEST: Please provide plant-specific internal and external event CDF values, including a brief description, overview, and/or reference of the screening processes used to justify the conclusions in the St. Lucie ER. These numbers are necessary for NRC staff to make a comparison to the generic values or considerations in the 2013 Generic Environmental Impact Statement, as well as the values presented in the 2003 environmental impact statement for St. Lucie's initial license renewal.

7) Info Need SOC-9

REQUIREMENT: 10 CFR 51.53(c)(2) requires, in part, that applicants describe in detail in their environmental report the affected environment around the plant. Section 4.4.1 of

NUREG-1555, Supplement 1, Revision 1, "Standard Review Plans for Environmental Reviews for Nuclear Power Plants: Operating License Renewal," directs the staff to describe the socioeconomic characteristics of the counties within the region of influence, including tax payment information to local tax authorities (i.e., county, public school district) directly affected by plant operations.

ISSUE: During the environmental audit, socioeconomics breakout session, and in response to information need SOC-2, FPL identified that annual funding for emergency preparedness is provided to local jurisdictions on behalf of St. Lucie. Payments in addition to property taxes are not discussed in the ER.

REQUEST: Provide the annual funding amount for emergency preparedness FPL pays on behalf of St. Lucie and identify the local organizations, communities, or jurisdictions to which the funding is provided.