

From: [Grange, Briana](#)
To: [NMFS Southeast Section 7 Consultation \(nmfs.ser.esa consultations@noaa.gov\)](#)
Cc: [Roy Crabtree \(roy.crabtree@noaa.gov\)](#); [Jennifer Moore \(jennifer.moore@noaa.gov\)](#); [Audra Livergood](#); [Eldridge, Jodie](#); [Eaton, Kristin](#); [Vince Munne \(vince.munne@fpl.com\)](#); [Richard Sciscente \(richard.sciscente@fpl.com\)](#); [Peter Robbins \(peter.robbs@fpl.com\)](#); [Steven Hamrick \(steven.hamrick@fpl.com\)](#); [Elliott, Robert](#); [Tappert, John](#); [Carusone, Caroline](#); [Wentzel, Michael](#); [Jordan, Natreon](#); [Burnell, Scott](#); [Wachutka, Jeremy](#); [EndangeredSpecies Resource](#); [RidsNrrPMStLucie Resource](#)
Subject: Request to Reinitiate ESA Section 7 Consultation for St. Lucie Plant, Unit Nos. 1 and 2
Date: Monday, November 18, 2019 5:45:25 PM



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

Dr. Crabtree:

This letter addresses your September 23, 2019, conclusion of Endangered Species Act (ESA) Section 7 consultation between the U.S. Nuclear Regulatory Commission (NRC) and the National Marine Fisheries Service (NMFS) for the continued operation of Florida Power and Light Company's (FPL) St. Lucie Plant, Unit Nos. 1 and 2 (St. Lucie) in St. Lucie County, Florida.⁽¹⁾ Specifically, this letter explains that the reinitiation of this consultation is required because (1) take limits have been exceeded and their exceedance would not have been prevented by the full implementation of reasonable and prudent measures and because (2) the subject action has been modified since the previous consultation that resulted in the NMFS's issuance of the 2016 biological opinion.

Background

On March 24, 2016, the NMFS issued a biological opinion for the continued operation of St. Lucie under the terms of NRC-issued renewed facility operating licenses.⁽²⁾ The opinion's incidental take statement (ITS) exempts from the prohibitions of ESA Section 9 takes of smalltooth sawfish (*Pristis pectinata*) and five species of sea turtles^[a] subject to compliance with specific reasonable and prudent measures (RPMs) and terms and conditions (T&Cs).

One of the ITS's RPMs, RPM 1, states, in part, that the NRC must ensure FPL designs, tests, constructs, and implements excluder devices that reduce the number of turtles and smalltooth sawfish that enter the St. Lucie intake canal. The T&Cs implementing RPM 1 state, in part, that the excluder devices must be for the intake pipe velocity caps, must be designed to minimize the number of nesting or egg-bearing female sea turtles that enter the intake pipelines, and that their construction must begin no later than the first half of 2018.

Following the NMFS's issuance of the biological opinion, FPL progressed in fulfilling the requirements of RPM1 until excluder device testing revealed adverse effects to sea turtles. Specifically, in May 2016, FPL submitted an excluder device test plan to the NMFS,⁽³⁾ which the NMFS subsequently approved.⁽⁴⁾ Thereafter, FPL proceeded to test interactions of live sea turtles with a test excluder device within a controlled tank environment. FPL submitted a revised plan in July 2016,⁽⁵⁾ which the NMFS approved.⁽⁶⁾ FPL continued with testing until February 2017, when a loggerhead turtle "failed" the test by becoming wedged in the test excluder device grating.⁽⁷⁾ In accordance with the approved revised test plan, FPL suspended all further testing pending resolution of the conditions that caused the failure.

The NMFS, the NRC, the Florida Fish and Wildlife Conservation Commission (FWC), and FPL subsequently engaged in teleconferences to discuss the failure event and determine potential next steps.⁽⁸⁾ The NMFS instructed FPL to continue test suspension until the

agencies had reviewed available test results and could discuss and agree upon next steps. The NMFS also expressed its understanding that these events would necessarily delay excluder device construction.

In May 2017, FPL submitted an interim test report to the agencies,⁽⁹⁾ and in June 2017, FPL submitted video footage of the testing failure event to the agencies.

In February 2018,⁽¹⁰⁾ as amended in April 2018,⁽¹¹⁾ the NRC requested to reinstate ESA Section 7 consultation with the NMFS following FPL's takes of smalltooth sawfish, Kemp's ridley turtles, and green turtles meeting or exceeding the authorized take limits set forth in the ITS. The reinstatement request also addressed the unresolved issues relating to the excluder devices. Specifically, the NRC requested that the NMFS (1) revise the ITS to address the level of allowable takes of the three species and (2) revise the T&Cs related to the testing and implementation of the excluder devices. The NMFS opened this consultation under Public Consultation Tracking System No. SERO-2018-19124.

In March 2018, FPL presented to the NMFS and the NRC a draft report for comment on the test results for the excluder device.⁽¹²⁾ In the report, FPL concluded that the design had failed. FPL proposed two options to address this failure: (1) pursue an alternative conceptual design for excluder devices (i.e., the alternative conceptual design option) or (2) undertake certain intake system maintenance activities and modifications, perform certain inspections, and maintain certain monitoring programs that would collectively reduce or minimize the take of and harm to listed species (i.e., the intake system modification option).

In April 2018, the NMFS provided comments on FPL's draft report and recommended that FPL move forward with the alternative conceptual design option.⁽¹³⁾

In May 2018, the NMFS, the NRC, the FWC, FPL, and Inwater Research Group, Inc. experts met to discuss the excluder device test results and FPL's two proposed options.⁽¹⁴⁾ The parties discussed the benefits and challenges of each option but did not ultimately come to a consensus. The NMFS expressed its preference for the alternative conceptual design option during the meeting but stated that it was ultimately the NRC's responsibility as the Federal action agency to clearly define the proposed action of the consultation, including which alternative to the original design FPL would pursue.

In July 2018, the NMFS transmitted its final recommendation, in which it reiterated its support for the alternative conceptual design option.⁽¹⁵⁾

In November 2018, the NMFS requested that the NRC withdraw its reinstatement request due to insufficient information relating to the proposed action.⁽¹⁶⁾ The NMFS recommended that the NRC submit a new reinstatement request when the NRC could formulate a clearly defined proposed action. In response, in December 2018, the NRC withdrew its request.⁽¹⁷⁾

In December 2018, FPL submitted its final excluder device test report.⁽¹⁸⁾ In the report, FPL described the potential adverse effects of excluder devices and recommended the intake system modification option.

In April 2019, the NRC submitted a new reinstatement request to the NMFS.⁽¹⁹⁾ The new request reiterated the contributing events and requests made in the NRC's previous request. In order to address the NMFS's request that the NRC formulate a clearly defined proposed action, the NRC submitted with its new request a biological assessment that defined the proposed action in detail and evaluated the associated impacts on listed species.⁽²⁰⁾ The biological assessment defined the proposed action as FPL undertaking the intake system modification option instead of pursuing the existing RPM 1 approach of designing, testing, constructing, and implementing excluder devices for the intake pipe velocity caps. The NMFS accepted the NRC's reinstatement request and opened this consultation under Public Consultation Tracking System No. SERO-2019-00302 in May 2019.⁽²¹⁾

In September 2019, the NMFS concluded consultation with the NRC without issuing a revised biological opinion or ITS.⁽¹⁾ In its letter concluding consultation, the NMFS stated, in part, that the 2016 biological opinion and its ITS do not currently require revision or amendment and that FPL likely would not have exceeded the authorized take limits had the NRC fully implemented the RPMs and T&Cs included in the biological opinion.

Reinitiation of Consultation Is Required

According to 50 CFR 402.16, reinitiation of consultation is required when, among other things, (1) the amount or extent of taking specified in the ITS is exceeded or (2) the identified action is subsequently modified in a manner that causes an effect to the listed species that was not considered in the biological opinion.

With respect to St. Lucie, the amount of taking specified in the 2016 ITS has been exceeded for several species, and this would not have been prevented by excluder devices. Additionally, based on information from the testing of the excluder devices, the identified action has subsequently been modified in a manner that causes an effect to the listed species that was not considered in the 2016 biological opinion (i.e., the identified action now relies on intake system modifications). For these two, independent reasons, the reinitiation of consultation is required.

Authorized Take Limits Would Have Been Met or Exceeded Regardless of Excluder Devices

The NRC reinitiated consultation with the NMFS in 2018 and 2019, in part, to address FPL's meeting or exceeding the authorized take limits set forth in the ITS of the 2016 biological opinion. To date, FPL has met or exceeded the following limits:

- Smalltooth sawfish non-lethal captures (2017 and 2019);
- Green turtle causal mortalities (2018); and
- Kemp's ridley turtle non-lethal captures (2018 and 2019).

In its September 23, 2019 letter, the NMFS stated, in part, that FPL likely would not have exceeded these authorized take limits had the NRC fully implemented the RPMs and T&Cs included in the 2016 biological opinion. In particular, the NMFS noted that RPM 1 and its implementing T&Cs had only been partially met.

As discussed below, even if RPM 1 and its implementing T&Cs had been fully met, this would not have prevented the authorized take limits from being met or exceeded because FPL's NMFS-approved revised test plan described, in part, that the excluder devices, as designed, would only exclude turtles with a straight maximum carapace width (SMCW) of greater than 61.0 centimeters (cm).⁽⁵⁾

Smalltooth Sawfish Non-Lethal Captures

The ITS allows for one non-lethal smalltooth sawfish capture (regardless of injury) every five years.

In 2017, FPL exceeded this limit with two captures (September 17, 2017 and November 2, 2017). On September 7, 2019, FPL captured a third smalltooth sawfish. Although such information is not available on the first two individuals, Inwater Research Group, Inc. biologists reported that the third individual was small enough to have been capable of passing through the excluder devices based on the measurements and photographs taken of the individual.⁽²²⁾ Thus, the full implementation of the RPMs and T&Cs would not have prevented the take of this individual.

FPL would have at least met, and possibly exceeded, the authorized take limit for smalltooth sawfish non-lethal captures for the five-year period from 2017 to 2022 regardless of the full implementation of the RPMs and T&Cs. Therefore, pursuant to 50 CFR 402.16, reinitiation of consultation is required.

Green Turtle Causal Mortalities

The ITS allows for five causal mortalities of green turtles annually.

In 2018, FPL exceeded this limit with six causal mortalities. The six individuals ranged from 20.5 to 34.2 cm SMCW. The full implementation of the RPMs and T&Cs would not have prevented these takes because all were of individuals significantly smaller than 61.0 cm SMCW.

FPL would have exceeded the authorized take limit for green turtle causal mortalities in 2018 regardless of the full implementation of the RPMs and T&Cs. Therefore, pursuant to 50 CFR 402.16, reinitiation of consultation is required.

Kemp's Ridley Turtle Non-Lethal Captures

The ITS allows for eight non-lethal captures of Kemp's ridley turtles annually.

In 2018, FPL exceeded this limit with 11 captures. The 11 individuals ranged from 43.2 to 55.5 cm SMCW. The full implementation of the RPMs and T&Cs would not have prevented these takes because all were of individuals significantly smaller than 61.0 cm SMCW.

In 2019, FPL exceeded the ITS limit with 12 captures. The 12 individuals ranged from 43.8 to 60.7 cm SMCW. The full implementation of the RPMs and T&Cs would likely not have prevented the authorized take limit from at least being met for several reasons. First, all individuals were smaller than 61.0 cm SMCW. Second, only five individuals were relatively close to 61.0 cm SMCW (i.e., those with an SMCW of 56.0 cm or greater). According to FPL's revised test plan, sea turtles with an SMCW of 56.0 to 60.9 cm could potentially pass through the barrier panels, although these individuals would have difficulty doing so. Third, several months remain in the period, and Kemp's ridley turtles have appeared at St. Lucie as late as December.⁽²³⁾

In summary, FPL would have exceeded the authorized take limit for Kemp's ridley turtle non-lethal captures in 2018, and also potentially in 2019, regardless of the full implementation of the RPMs and T&Cs. Therefore, pursuant to 50 CFR 402.16, reinitiation of consultation is required.

The Identified Action Has Been Modified

The NRC reinitiated consultation with the NMFS in 2018 and 2019, in part, because the identified action has been modified. Specifically, the information developed from the testing of the excluder devices demonstrates that the use of excluder devices, as envisioned when the NMFS formulated RPM 1 and its implementing T&Cs, is no longer reasonable or prudent. Instead, the identified action now relies on intake system modifications. Therefore, pursuant to 50 CFR 402.16, reinitiation of consultation is required.

Excluder device testing revealed numerous previously unanticipated adverse effects to sea turtles and smalltooth sawfish. These adverse effects would exist regardless of design.

One adverse effect is the potential for entrapment of listed species and other aquatic life in the excluder devices' barrier panels. Excluder device testing demonstrated this risk when a healthy loggerhead turtle became wedged in the test excluder device grating. Further, it remains unknown how injured or ill sea turtles would interact with excluder devices. These individuals could be more susceptible to entrapment than healthy individuals. It also remains unknown how smalltooth sawfish (healthy or injured) would interact with excluder devices. Smalltooth sawfish could potentially become wedged in barrier panels as testing demonstrated is possible for sea turtles. Other aquatic life could also become entrapped. Monitoring the barrier panels for entrapped sea turtles, smalltooth sawfish, and other aquatic life would be nearly impossible because ocean conditions limit regular and reliable access to St. Lucie's intake pipe velocity caps.

Another adverse effect of excluder devices is the lost benefit to certain non-causally injured or ill sea turtles that would no longer be rehabilitated. Excluder devices (either original design or alternative conceptual design) would preclude sea turtles with SMCWs of 61.0 cm or greater from entrainment. Therefore, non-causally injured and ill sea turtles of this size would no longer enter St. Lucie's intake canal where FPL could capture and transport these individuals to a rehabilitation facility for treatment and recovery. Such lost benefits could

result in the mortality of these individuals, and the species' populations would suffer an associated loss of fecundity and genetic diversity. Since September 29, 2018, Inwater Research Group, Inc. has transported 10 adult sea turtles (8 loggerhead, 1 green, and 1 Kemp's ridley) to a rehabilitation center for non-causal injury or illness that were of SMCW greater than 55.9 cm.⁽²²⁾ These individuals would likely not have been transported to rehabilitation had excluder devices been in place because they likely would have been precluded from entering the intake canal. The NRC further addressed transportation of non-causally injured and ill sea turtles to rehabilitation in Section 7.7 of its April 2019 biological assessment.⁽²⁰⁾

Excluder device construction would result in adverse effects to listed species and other aquatic life associated with barge traffic, lighting, vibration, noise, and sedimentation, among other in-water disturbances. Such effects would require further evaluation prior to construction. With respect to the alternative conceptual design, these effects could be significant enough to require FPL to obtain additional Federal and State approvals and to undertake additional environmental reviews.

In addition to the potential adverse effects of excluder devices in general, the alternative conceptual design, in particular, would be difficult, if not impossible, to test. Although FPL has formulated a conceptual design, FPL has been unable to design a model that would sufficiently predict how sea turtles and smalltooth sawfish would interact with the redesigned devices. Construction of the alternative conceptual design would be a more complex and disruptive process than construction of the original design. Unlike the original design, in which excluder device panels would have been fitted onto the existing intake pipe velocity cap windows, the alternative conceptual design would require FPL to drive the excluder device panels directly into the sea floor. Additional supports or structures could be necessary to brace the panels. The highly variable ocean conditions would create additional logistical and environmental difficulties. These factors, among others, make designing a test environment that would accurately simulate actual conditions extremely challenging. FPL considered how to test the alternative conceptual design in formulating its final excluder device test report but was unable to design an appropriate model.

In analyzing the results of its excluder device testing and in finalizing the associated test report, FPL sought expert opinions, including those of three experts from the NMFS, two experts from Inwater Research Group, Inc., and one expert from the Loggerhead Marinelife Center. These experts reviewed both written test results and video footage of the loggerhead turtle that had failed in the testing of the original design. One NMFS expert recommended redesigning the barrier panels with a smaller grid pattern. Reducing grid size, however, would conflict with ensuring adequate flow of cooling water into the plant. Additionally, reduced grid size would continue to pose an entrapment risk to smaller sea turtles. Two NMFS experts suggested that a barrier panel with closely-spaced vertical bars that extend from the velocity caps down to the sea floor at a low angle could reduce sea turtle entrapment hazard. FPL incorporated this feedback into its alternative conceptual design. Several of the consulted experts, however, recognized that this or any other redesign would be difficult to adequately test and that sea turtle entrapment could not be entirely ruled out.

Based on the foregoing information, excluder devices do not meet the regulatory criteria for an RPM. RPMs and the T&Cs that implement them "cannot alter the basic design, location, scope, duration, or timing of the action and may involve only minor changes" (50 CFR 402.14(i)(2)). As previously explained, the original excluder device design failed in testing and that design has been abandoned. Thus, if FPL were to construct and implement excluder devices in fulfillment of RPM1 and its implementing T&Cs, FPL would have to pursue its alternative conceptual design. However, this design would alter the basic design and timing of the action and would involve more than minor changes. As previously described, the alternative conceptual design would require substantial in-water construction, and this would change the basic design of St. Lucie's cooling water intake system. With respect to the timing of the action, FPL estimates that completing a fully engineered design, project planning, contract bidding, component fabrication, and excluder device installation associated with the alternative conceptual design would take a minimum of five years. Additional time would likely be required for FPL to obtain necessary Federal

and State approvals and permits. For instance, FPL would likely be required to obtain a construction permit from the U.S. Army Corps of Engineers. The project could also require FPL to obtain license amendments or regulatory exemptions from the NRC depending on how the final design would affect the plant's cooling water intake system, cooling water supply, or other technical specifications. These approvals would likely require these agencies to undertake National Environmental Policy Act reviews that could require an additional one to two years. FPL would also need to plan construction around plant refueling outages, which could further prolong the construction and implementation timeline by an additional year. Hurricanes and other hazardous ocean conditions could limit access to the construction site. Storms would be an unpredictable factor and could delay construction progress or project completion by several seasons. In total, the NRC anticipates that roughly 8 to 10 years would be required for FPL to fully construct and implement the alternative conceptual design. With respect to cost, FPL has estimated that the alternative conceptual design would cost roughly \$20 million. Undertaking a project of such magnitude, timing, and cost is not a minor change. For these reasons, the alternative conceptual design, which is the only remaining excluder device design available under RPM 1 and its implementing T&Cs, does not meet the relevant regulatory criteria.

In summary, excluder devices of any design would result in numerous adverse effects; FPL's alternative conceptual design would be difficult, if not impossible, to test; and the alternative conceptual design does not meet the regulatory criteria of an RPM. For these reasons and as explained above, RPM 1 and its implementing T&Cs are no longer reasonable or prudent and require revision. Accordingly, in its April 2019 reinitiation request, the NRC modified its definition of the identified action to be

the continued operations of St. Lucie and its ocean intake system under the terms of NRC Renewed Facility Operating License Nos. DPR-67 and NPF-16, which authorize operations through March 1, 2036 (Unit No. 1) and April 6, 2043 (Unit No. 2), assuming FPL undertakes certain intake system maintenance activities and modifications, performs certain inspections, and maintains certain monitoring programs to reduce or minimize the take of and harm to listed species. (emphasis added)

Therefore, pursuant to 50 CFR 402.16, reinitiation of consultation is required.

Request to Reinitiate Consultation

With this letter, the NRC renews its request to reinitiate consultation with the NMFS related to the continued operation of St. Lucie. Reinitiation is required for two, independent reasons. First, FPL has exceeded authorized take limits specified in the 2016 ITS, and FPL would have exceeded these limits regardless of the installation of excluder devices (50 CFR 402.16(a)). Second, the identified action has been modified to explicitly rely on intake system modifications, which causes an effect to the listed species that was not considered in the 2016 biological opinion (50 CFR 402.16(c)).

Information supporting this request is in the NRC's April 2019 biological assessment, which remains relevant to the NRC's current reinitiation request. In its biological assessment, the NRC staff concludes that the proposed action of continued operation of St. Lucie with intake system modifications is likely to adversely affect the smalltooth sawfish, loggerhead turtle, green turtle, leatherback turtle, hawksbill turtle, and Kemp's ridley turtle and would not destroy or adversely modify designated critical habitat for the Northwest Atlantic distinct population segment of loggerhead turtle. The NRC previously transmitted the biological assessment to the NMFS on April 17, 2019.⁽¹⁹⁾⁽²⁰⁾ The assessment is also attached to this letter.

The NRC notes that, as explained in the biological assessment, the continued operation of St. Lucie with intake system modifications addresses the NMFS's primary concerns related to the effects of the continued operation of St. Lucie as expressed in the NMFS's July 13, 2018, final recommendation⁽¹⁵⁾ regarding excluder devices:

- Sea turtle harm and mortality associated with skull fractures is addressed in Section 7.1, "Injury or Mortality Associated with Travel through the Intake Pipes." In

that section, the NRC staff explains that sea turtle causal injuries requiring rehabilitation or mortalities associated with travel through the intake pipes are rare and that the likelihood of each would likely decrease under the proposed action (i.e., the intake system modification option).

- Harm to gravid females and hatchlings associated with capture and handling is addressed in Section 7.4, “Reproductive Failure Associated with Sea Turtle Nesting on the Intake Canal Banks.” The NRC staff concludes that these impacts would be insignificant or discountable under the proposed action (i.e., the intake system modification option).

Olive Ridley Turtles

On May 11, 2019, FPL captured a live olive ridley turtle (*Lepidochelys olivacea*) in the St. Lucie intake canal. The individual was subsequently returned to the ocean healthy and unharmed. This event was the first reported capture of this species at the plant.⁽²⁴⁾ The NRC discussed this event with the NMFS, and in subsequent correspondence, the NRC expressed its understanding that the NMFS would consider the olive ridley turtle in the reinitiated consultation.⁽²⁵⁾ The NMFS replied to the NRC stating that it did not intend to consider the olive ridley turtle in the reinitiated consultation because the Atlantic Ocean near St. Lucie is not part of the species’ range and any individuals in this area would be considered already lost from their populations.⁽²⁶⁾ The NRC requests that the NMFS confirm, as part of the reinitiated consultation, that the olive ridley turtle is not subject to consultation in the St. Lucie action area and that any future captures of the species at St. Lucie would not constitute prohibited takes under Section 9 of the ESA.

Responsibility to Provide Best Scientific and Commercial Data Available

FPL has reviewed this reinitiation request and affirmed the accuracy of the information presented herein. The NRC also provided FPL with the opportunity to submit additional relevant information for consideration during the consultation in accordance with 50 CFR 402.14(d). The NRC has incorporated FPL’s information into this letter.

Conclusion

The NRC asks that the NMFS work with the NRC to complete the reinitiated consultation and issue a revised ITS within the 135-day timeframe set forth at 50 CFR 402.14(e). Given the long and complex history of ESA Section 7 consultations relating to the continued operation of St. Lucie, the NRC staff would also like to schedule an in-person meeting between the NRC, the NMFS, the FWC, and relevant FPL and Inwater Research Group, Inc. experts and researchers to discuss the issues described in this letter and the options for resolving any outstanding disagreements. Please contact me by phone or by email to discuss your availability for such a meeting at your earliest convenience.

Thank you,

Briana

Briana A. Grange

Conservation Biologist & ESA Consultation Coordinator
Division of Rulemaking, Environmental, and Financial Support
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
(301) 415-1042
briana.grange@nrc.gov

Footnotes

[a] The five species are loggerhead turtle (*Caretta caretta*), green turtle (*Chelonia mydas*), leatherback turtle (*Dermochelys coriacea*), hawksbill turtle (*Eretmochelys imbricata*), and Kemp’s ridley turtle (*Lepidochelys kempi*).

References

- (1) National Marine Fisheries Service. 2019. Letter from R. Crabtree, NMFS, to B. Grange, NRC. Subject: Conclusion of ESA Section 7 Consultation for St. Lucie. September 23, 2019. ADAMS Accession No. [ML19267A147](#).
- (2) National Marine Fisheries Service. 2016. Biological Opinion for Continued Operation of St. Lucie Nuclear Power Plant. March 24, 2016. 98 p. ADAMS Accession No. [ML16084A616](#).
- (3) Florida Power & Light Company. 2016. Email from J. Gless, FPL, to H. Nash, NMFS. Subject: Turtle Tank Test Procedure. May 10, 2016. Available at [ML19289A761](#).
- (4) National Marine Fisheries Service. 2016. Email from H. Nash, NMFS, to J. Gless, FPL. Subject: Approval of Turtle Tank Test Procedure. May 24, 2016. Available at [ML19289A761](#).
- (5) Florida Power & Light Company. 2016. Email from J. Gless, FPL, to H. Nash and A. Livergood, NMFS. Subject: Revised Turtle Tank Test Plan. July 27, 2016. Available at [ML19289A761](#).
- (6) National Marine Fisheries Service. 2016. Email from H. Nash, NMFS, to J. Gless, FPL. Subject: Approval of Revised Turtle Tank Test Plan. July 29, 2016. Available at [ML19289A761](#).
- (7) Florida Fish and Wildlife Conservation Commission. 2017. Email from M. Koperski, FWC, to A. Livergood, NMFS. Subject: Loggerhead Failure During Turtle Tank Test. March 2, 2017. Available at [ML19289A761](#).
- (8) Florida Power & Light Company. 2017. Email from K. Eaton, FPL, to NMFS, NRC, and FWC. Subject: Meeting Agenda for St. Lucie Call to Discuss Next Steps. April 3, 2017. Available at [ML19289A761](#).
- (9) Florida Power & Light Company. 2017. Sea Turtle Excluder Device Preliminary Tank Testing Report. May 2017. 6 p. ADAMS Accession No. [ML19289A761](#).
- (10) U.S. Nuclear Regulatory Commission. 2018. Letter from B. Beasley, NRC, to D. Bernhart, NMFS. Request to Reinitiate Endangered Species Act Section 7 Formal Consultation for St. Lucie Plant, Units 1 and 2. February 9, 2018. ADAMS Accession No. [ML18029A143](#).
- (11) U.S. Nuclear Regulatory Commission. 2018. Email from B. Grange, NRC, to A. Livergood, NMFS. Reply to Request for Additional Information and Amended Reinitiation Request. April 3, 2018. ADAMS Accession No. [ML18093A076](#).
- (12) Florida Power & Light Company. 2018. Test Evaluation Report: Test Failure of Fixed Barrier Device for St. Lucie Nuclear Plant (SLNPP) Intake Pipe Velocity Caps. Draft Report for Comment. March 23, 2018. 126 p. ADAMS Accession No. [ML19289A761](#).
- (13) National Marine Fisheries Service. 2018. Email from A. Livergood, NMFS, to B. Grange, NRC. Subject: NMFS Comments on Draft Test Evaluation Report. April 24, 2018. ADAMS Accession No. [ML19289A761](#).
- (14) Florida Power & Light Company. 2018. St. Lucie Nuclear Power Plant; FPL, NMFS, and NRC Meeting on St. Lucie Nuclear Power Plant's Biological Opinion. May 14, 2018. ADAMS Accession No. [ML19289A761](#).
- (15) National Marine Fisheries Service. 2018. Email from A. Livergood, NMFS, to B. Grange, NRC, and J. Gless and K. Eaton, FPL. Subject: NMFS Response to New Data Presented in Slides 24 thru 34 of FPL's May 14, 2018 Presentation. July 13, 2018. ADAMS Accession No. [ML19289A761](#).
- (16) National Marine Fisheries Service. 2018. Email from A. Livergood, NMFS, to B. Grange, NRC. Request for NRC to Withdraw Its Reinitiated Consultation Request for St. Lucie Plant. November 27, 2018. ADAMS Accession No. [ML18333A338](#).
- (17) U.S. Nuclear Regulatory Commission. 2018. Email from B. Grange, NRC, to

- A. Livergood, NMFS. Withdrawal of ESA Section 7 Consultation SER-2018-19124 for St. Lucie Plant. December 18, 2018. [ML18352A943](#).
- (18) Florida Power & Light Company. 2018. Test Evaluation Report: Test Failure of Fixed Barrier Device for St. Lucie Nuclear Plant (SLNPP) Intake Pipe Velocity Caps. Final Report. December 28, 2018. 131 p. ADAMS Accession No. [ML18362A104](#).
- (19) U.S. Nuclear Regulatory Commission. 2019. Email from B. Grange, NRC, to NMFS Southeast Regional Office. Request to Reinitiate Formal Section 7 Consultation for St. Lucie Plant, Unit Nos. 1 and 2. April 17, 2019. ADAMS Accession No. [ML19107A156](#).
- (20) U.S. Nuclear Regulatory Commission. 2019. Biological Assessment of Impacts to Sea Turtles and Smalltooth Sawfish, St. Lucie Plant, Unit Nos. 1 and 2, Continued Operations Under Renewed Facility Operating License Nos. DPR-67 and NPF-16. April 2019. 63 p. ADAMS Accession No. [ML19093A064](#).
- (21) National Marine Fisheries Service. 2019. Email from A. Livergood, NMFS, to B. Grange, NRC. Subject: Confirmation of Effective Reinitiation Date for St. Lucie Reinitiated ESA Section 7 Consultation. May 31, 2019. ADAMS Accession No. [ML19289A761](#).
- (22) Florida Power & Light Company. 2019. Email from K. Eaton, FPL, to B. Grange, NRC. Subject: Review of St. Lucie Hypothetical Excluder Device Scenario. October 11, 2019. ADAMS Accession No. [ML19289A761](#).
- (23) Florida Power & Light Company. 2018. Email from S. Weege, Inwater Research Group, Inc., to M. Koperski, Florida Fish and Wildlife Conservation Commission. Subject: December 2017 Marine Turtle Captures. January 9, 2018. ADAMS Accession No. [ML18024B360](#).
- (24) Florida Power & Light Company. 2019. Letter from M. Snyder, FPL, to NRC. Subject: Unusual or Important Environmental Events. June 4, 2019. ADAMS Accession No. [ML19155A017](#).
- (25) U.S. Nuclear Regulatory Commission. 2019. Email from B. Grange, NRC, to A. Livergood, NMFS. Subject: Reply to Request for Additional Information to Support Reinitiated Consultation for FPL St. Lucie. May 22, 2019. ADAMS Accession No. [ML19142A139](#).
- (26) National Marine Fisheries Service. 2019. Email from A. Livergood, NMFS, to B. Grange, NRC. Subject: Consideration of Olive Ridley Sea Turtle in Reinitiated Section 7 Consultation. May 22, 2019. ADAMS Accession No. [ML19289A761](#).

Enclosures

1. Biological Assessment of Impacts to Sea Turtles and Smalltooth Sawfish, St. Lucie Plant, Unit Nos. 1 and 2, Continued Operations Under Renewed Facility Operating License Nos. DPR-67 and NPF-16

Docket Nos.: 50-335 and 50-389

ADAMS Accession Nos.

Package: [ML19289A474](#)

Email Reinitiation Request: [ML19289A401](#)

Biological Assessment: [ML19093A064](#)

CONCURRENCE			
OFFICE	BC:ELRB:REFS	OGC(NLO)	CB:ELRB:REFS
NAME	RElliott	JWachutka	BGrange
DATE	11/18/19	10/31/19	11/18/19
OFFICIAL RECORD COPY			