



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 162 TO FACILITY OPERATING LICENSE NO. DPR-67  
AND AMENDMENT NO. 103 TO FACILITY OPERATING LICENSE NO. NPF-16

FLORIDA POWER AND LIGHT COMPANY, ET AL.

ST. LUCIE PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-335 AND 50-389

1.0 INTRODUCTION

In 1995, a Section 7 consultation under the Endangered Species Act of 1973 was initiated as a result of a large increase in the frequency of small green turtles taken incidentally and occasionally killed by entrapment in the St. Lucie Plant's cooling water intake canal. The consultation was performed to consider the effects of the continued operation of the cooling water system at the plant on listed species of sea turtles. Florida Power and Light Co. (FPL or the licensee) submitted a biological assessment (BA) to the U.S. Nuclear Regulatory Commission (NRC) in a letter dated November 20, 1995, which was reviewed by the NRC staff and forwarded to the National Marine Fisheries Service (NMFS) on February 7, 1996. NMFS issued its biological opinion (BO) to the NRC in a letter dated February 7, 1997. The BO concluded that continued operation of the plant may adversely affect, but is not likely to jeopardize, the continued existence of listed sea turtle species under NMFS jurisdiction. An incidental take statement (ITS) was included in the BO to establish lethal take levels for listed species of sea turtles. The ITS included terms and conditions necessary to monitor and minimize adverse impacts and the lethal takes of sea turtles. NMFS considers these terms and conditions to be reasonable, prudent, and necessary. The NRC staff held a public meeting with the licensee and the Florida Department of Environmental Protection (FDEP) on May 7, 1997, to discuss a study regarding sea turtle entrapment required by a condition of the ITS. Other areas of the ITS that needed clarification or revision, or both, were identified by the licensee. The NRC staff forwarded the BO to the licensee in a letter dated May 30, 1997, and requested FPL propose changes to the St. Lucie Units 1 and 2 Environmental Protection Plans (EPPs), located in Appendix B to Facility Operating Licenses DPR-67 and NPF-16, to implement the terms and conditions of the ITS. In a letter dated August 4, 1997, FPL proposed revisions to the EPPs. In a letter dated October 6, 1997, the staff informed FPL that the NRC and NMFS disagreed with the proposed changes and requested that FPL make changes to the EPP consistent with the BO and the ITS.

Proposed amendments to the EPP were submitted by FPL to NRC in a letter dated December 1, 1997; however, FPL had several further questions concerning the terms and conditions of the ITS. The staff held another public meeting with the licensee and representatives from FDEP and NMFS to discuss these issues. The meeting was held on

January 20, 1998. Subsequent to the meeting, NMFS amended its BO in a letter to the NRC dated May 8, 1998. The NRC forwarded the ITS amendments to FPL in a letter dated June 17, 1998, and requested that FPL amend the application for the EPP revisions. FPL provided an amended application by letter dated August 26, 1998. By letter dated October 8, 1998, the NRC forwarded FPL's revised proposed amendment, which included an intake well monitoring program and the proposed plan for the entrapment study, to NMFS for review and approval. In a letter to FPL dated, February, 22, 1999, NRC endorsed NMFS's approval of the proposed study of turtle entrapment.

The supplements contained clarifying information that that did not change the no significant hazards consideration.

## 2.0 EVALUATION

The proposed changes to Sections 4 and 5 of the EPP to incorporate the terms and conditions of the ITS and BO are discussed in this evaluation.

The Unit 1 EPP does not contain all of the environmental conditions for the protection of sea turtles that are contained in the Unit 2 EPP. FPL proposed to modify Section 4 and add Section 5 in the Unit 1 EPP to conform to Sections 4 and 5 in the Unit 2 EPP. This change would make the Unit 1 and Unit 2 EPPs identical. All of these changes are discussed in this evaluation. If there is not currently a similar requirement for Unit 1, a note will be made to that effect.

Section 4.1, "Unusual or Important Environmental Events" - FPL proposed changes to clarify the reporting requirements for unusual or important environmental events. For Unit 1, the description of the exact contents for a written report to NRC is deleted. For both Units, the clarifications included adding a statement that for any species protected by the Endangered Species Act of 1973, mortalities causally related to plant operation are included in the definition of a unusual or important environmental event. In addition, this section states that the reporting requirement time frame is to be consistent with §50.72 for environmental protection issues. Although this sentence was not originally proposed by FPL in its earlier requests, this sentence was added after telephone discussion between George Madden, FPL, and William Gleaves, NRC, on May 21, 1999. This sentence was inserted to clarify the timeliness for reporting of issues that relate to the environment. This modification provides clarifying information that did not change the original no significant hazards consideration determination. Therefore, these changes are acceptable.

Section 4.2, "Terrestrial/Aquatic Issues" - There is a similar section designation but no similar requirement in the current Unit 1 EPP (see discussion in Section 4.2.4, below). FPL proposed adding an introductory paragraph providing background on the St. Lucie consultation. The introductory paragraph conveys that in May 1995, NRC initiated the formal consultation with NMFS resulting in an updated Sea Turtle BA submitted by FPL on November 20, 1995. NMFS reviewed this assessment and in return issued a BO dated February 7, 1997. This change is acceptable.

Section 4.2.1, "Beach Nesting Surveys" - There is no similar requirement in the current Unit 1 EPP. This section originally discussed the beach nesting surveys required for the early years of operation. FPL has been conducting nesting studies as part of the St. Lucie reporting requirements for the U.S. Fish and Wildlife Service and the FDEP and is involved in providing data for long-term nesting index surveys. FPL proposed relocating the requirements for nesting surveys to a new Section 4.2.2.2, Item 9. The surveys required in this section of the EPP have been completed and the ongoing surveys are captured under other requirements. Therefore, the staff agrees with deletion of this section.

FPL proposed a new Section 4.2.1, titled, "Reinitiation of Endangered Species Act Section 7 Consultation," to address the criteria for reinitiating a Section 7 consultation. The criteria outlined in Section 4.2.1 for reinitiation of an Endangered Species Act Section 7 consultation are consistent with those outlined in the NMFS BO. The deletion is acceptable.

Section 4.2.2, "Studies to Evaluate and/or Mitigate Intake Entrapment" - Deleted. This section originally discussed the requirements to have a program to deter turtles from the plant intake structure and to perform studies to evaluate the effectiveness of the program in mitigating intake structure entrapment. These studies, titled, "Studies to Evaluate and/or Mitigate Intake Entrapment," were completed in 1985 and the results were provided to the NRC in FPL letter dated April 18, 1985. Because these studies are complete, and mitigation measures are discussed in the BO and terms and conditions of the ITS, deleting the original Section 4.2.2 requirements is acceptable.

FPL proposed a new Section 4.2.2, "Incidental Take Statement," to address the background of incidental take statements and basis for the incidental take limits. This is a new requirement for both Units 1 and 2. It also addresses the basis for not establishing a take limit for the entrapment, capture, and release of any species of turtle. These changes are acceptable.

Section 4.2.2.1, "Lethal Take Levels" - This is a new section for both Units 1 and 2. This section discusses the basis for the lethal take levels for sea turtles by species as specified in the ITS. The numerical limits will be established by NMFS in the current ITS and included in plant procedures and will allow for a case-by-case review and change in lethal take limits without a need for a license amendment. The lethal take levels are based on historical observed lethal takes, but provide for an increase in total numbers of lethal takes as entrapment levels increase. Two lethal levels are specified: one is a fixed level of lethal takes per calendar year, while the other is a percentage of the total number of entrapments per calendar year. The allowable take level will be the greater of the two numbers. These take levels are consistent with the ITS and therefore, are acceptable.

Section 4.2.2.2, "Terms and Conditions of the Incidental Take Statement" - This is a new section for both Units 1 and 2. This section discusses the terms and conditions of the ITS. These terms and conditions state the characteristics and inspection criteria of the mesh barrier, repair requirements for nets, and implements a study and monitoring program of the turtles. These measures are discussed in the BA and BO and generally reflect current practices at St. Lucie. In response to the NMFS BO, FPL took exception to items 6, 7, 9, and 10. In the May 8, 1998, letter from NMFS to the NRC, NMFS amended the BO with regard to these issues. Each of the terms and conditions is discussed below.

Item 1 establishes the requirement and basis for FPL to install, inspect, maintain, and repair the five-inch barrier net across the intake canal. FPL shall inspect, maintain, and repair the five-inch net on at least a quarterly basis and promptly repair any hole or damage to nets that are discovered outside of the regular maintenance program.

Item 2 establishes the requirement and basis for FPL to inspect, maintain, and repair the existing eight-inch barrier net as back up to the new five-inch net. It also describes its basis for being a backup to the five-inch net. FPL shall inspect, maintain, and repair the eight-inch net on at least a quarterly basis and promptly repair any hole or damage to nets that are discovered outside of the regular maintenance program.

Item 3 establishes the requirement and basis provisions for FPL or FPL's contractor to continue the current capture and release program for turtles in their intake canal in accordance with permits granted by FDEP.

Item 4 establishes the method for capture netting in the intake canal. It also specifically defines the minimum number of required hours, the conditions to increase netting activities, and the criteria for deviating from these requirements.

Item 5 directs capture efforts if a turtle is observed west of the eight-inch barrier net.

Item 6 requires FPL to implement a monitoring program of the intake wells for sea turtles and specifies the FPL staff responsible to conduct intake well monitoring and the provisions for notifying response personnel if a turtle is detected in the intake well.

Item 7 requires that FPL propose a plan for a study of the effect of various factors on turtle entrapment. It also requires that the study be approved by NMFS. NMFS originally requested a study using remote videography or a similarly designed methodology that would not interfere with turtle behavior while the study is being performed. Based on the meetings at the site, NMFS and FDEP agreed with FPL that such a study was not feasible, however, a different type of study would be acceptable. On June 17, 1998, NRC issued a letter to FPL containing revisions to the ITS, including a discussion of a study to be performed to elucidate the effect of various factors on turtle entrapment. After initiation of the study, FPL is to report quarterly on progress and provide a final report approximately one year after initiation. FPL submitted a request for proposal for the study in letter dated August 26, 1998. NMFS reviewed the request for proposal and determined that it met the intent of the BO as indicated by letter dated February 22, 1999, from NRC to FPL approving the study.

Item 8 requires that FPL continue to participate in the Sea Turtle Stranding and Salvage Network under FDEP authority and permits. This is to assess any possible delayed lethal impacts of capture as well as to provide background data and health of local turtles. Stranded turtles will not be counted against the authorized level of lethal incidental takes for St. Lucie.

Item 9 requires that FPL continue to conduct, under FDEP permit, the ongoing sea turtle nesting program and public service turtle walks.

Item 10, "Routine Reports," requires copies of monthly reports covering various aspects of the sea turtle program be furnished to NMFS. It also requires that FPL furnish the annual environmental operating report which includes information related to the inspection and maintenance of barrier nets and the operation of the Taprogge condenser tube cleaning system to NMFS. This section also requires biennial meetings between FPL, NRC, and NMFS to discuss endangered and threatened species information and developments at St. Lucie, beginning January 2000.

Items 1 through 10 listed above are consistent with the NMFS BO dated, May 8, 1998, and ITS. Therefore, these changes are acceptable.

Section 4.2.3, "Studies to Evaluate and/or Mitigate Intake Canal Mortality" - There is no similar requirement in the current Unit 1 EPP. This section is to be deleted for Unit 2. This section originally discussed the requirement to perform studies to evaluate and/or mitigate intake canal mortality. These studies were documented in FPL letter dated November 20, 1995, and were discussed in the BA and resulting BO. Many of these mitigation measures are captured in separate sections of the EPP. Because these original studies were completed and mitigation measures are discussed in other sections of the EPP, deleting this section is acceptable.

Section 4.2.4, "Light Screen to Minimize Turtle Disorientation" - This section has been renumbered to Section 4.2.3 and modified. The St. Lucie, Unit 1, EPP has a similar Section 4.2, which will also be renumbered to Section 4.2.3, and modified as discussed. The State of Florida has an ongoing program to replace nonindigenous species of plants with native varieties of plants as light screens along the beaches. The Australian pine is not a native plant species. Therefore, the reference to "Australian pine" has been deleted and generalized to "suitable plants" for light screen along the beach dune. The requirement for the shielding perimeter lights from Unit 1 License Condition 2.F.(1) will be deleted from the Unit 1 license and added to Section 4.2.3 of the Unit 1 and Unit 2 EPP. This shielding requirement is not currently in the Unit 2 License and is being moved to generate consistency between the Unit 1 and Unit 2 Licenses and EPPs. These changes are consistent with Information Notice 97-043, dated July 1, 1997. These changes are acceptable.

Section 4.2.5, "Capture and Release Program" - There is no similar requirement in the current Unit 1 EPP. This section is to be deleted for Unit 2. This section originally outlined the requirements of the capture and release program for sea turtles removal from the intake canal. The section has been deleted in its entirety because the capture and release program is now covered by Section 4.2.2.2, Item 3. These changes are acceptable.

Section 4.3, "General Exceptions" - There is no similar requirement in the current Unit 1 EPP. This section has been changed to highlight that the environmental conditions of the EPP Section 4 are contingent upon FPL obtaining the required FDEP permits to take, handle, or experiment with sea turtles. These changes are acceptable.

Section 5.0, "Administrative Procedures" - There is no similar requirement in the current Unit 1 EPP. This section is new for Unit 1 and remains the same as the current EPP for Unit 2. This section provides requirements for the review and audit of the EPP (Section 5.1), records retention (Section 5.2), the process for changing the EPP (Section 5.3) and plant routine

reporting (Section 5.4 and Section 5.4.1). This change for Unit 1 makes the EPPs for both units to be consistent, therefore, these changes are acceptable.

Section 5.4.1.1, "Monthly Reports" - This section is new for Unit 1 and is modified for Unit 2. This section requires that monthly reports on the sea turtle program be provided to NMFS. This monthly reporting requirement is also identified in Section 4.2.2.2, Item 10. The reporting requirements are consistent with the ITS and therefore are acceptable.

Section 5.4.1.2, "Annual Environmental Operating Report" - This section is new for Unit 1. This was Section 5.4.1 for Unit 2 and has been modified and renumbered. It outlines what types of information should be included in the annual environmental operating report. FPL proposed deletion of the requirement referencing the initial annual report covering the period of time from operating license issuance date to December 31, 1983. The initial report has been completed. FPL also added a new section, (d), which requires a summary of the monthly reports to NMFS be included in the annual environmental operating report. The annual environmental operating report should be furnished to NMFS and NRC. This change is consistent with the ITS requirement to furnish NMFS an annual report. Therefore, these changes are acceptable.

Section 5.4.2, "Nonroutine Reports" - This section outlines the schedule and information to be included in the nonroutine written event reports submitted to NRC. This section was modified and renumbered from the original Section 4.1 for Unit 1. This section was modified for Unit 2. Several editorial changes were made to Section 5.4.2 to clarify reporting requirements for reports required by NRC and reports required by other agencies. Section 4.1 refers to this section for written reports. For written reports required by NRC, they shall be submitted within 30 days of the occurrence of a nonroutine event in accordance with 10 CFR 50.4.

For written reports of nonroutine events required by other Federal, State, or local agencies, they shall be submitted in accordance with those reporting requirements in lieu of the requirements of this section. A copy of these written reports shall be submitted to NRC within 30 days of the date that they are submitted to the other agency. These changes are acceptable.

### 3.0 STAFF CONCLUSION

The staff has reviewed the FPL proposed changes to the St. Lucie, Units 1 and 2, Operating License, Appendix B, "Environmental Protection Program (Non-Radiological) Technical Specifications." The licensee's proposed additions and modifications to the current EPPs meet the intent of the relevant review criteria and the requirements of the NMFS Incidental Take Statement and Biological Opinions that resulted from the Section 7 consultation under the Endangered Species Act of 1973. Therefore, the proposed modifications to St. Lucie, Unit 1 and 2, Operating Licenses, Appendix B, are acceptable.

### 4.0 STATE CONSULTATION

By Letter dated March 8, 1991, Mary E. Clark of the State of Florida, Department of Health and Rehabilitative Services, informed Deborah A. Miller, Licensing Assistant, U.S. NRC, that the State of Florida does not desire notification of issuance of license amendments.

## 5.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32 and 51.35, an environmental assessment and finding of no significant impact was published in the Federal Register on June 29, 1999 (64 FR 34833). Accordingly, based upon the environmental assessment, the Commission has determined that issuance of this amendment will not have a significant effect on the quality of the human environment.

## 6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

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