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Sent: Wednesday, February 1, 2023 2:51 PM
To: 'audra.livergood@noaa.gov'
Cc: Briana Arlene; Falkiewicz, Timothy; Jennifer Schull - NOAA Federal; Munne, Vince
Subject: [External_Sender] FPL St. Lucie Plant Biological Opinion SERO-2019-03494 - Submittal
Attachments: Monitoring Plan - PSL PLANT INTAKE PIPE CLEANING_2023.pdf

Follow Up Flag: Follow up
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Hi Audra,

Per Reasonable and Prudent Measure #2, Term and Condition #6, attached is the Intake Monitoring and Maintenance Plan. A similar plan was submitted in 2017 in compliance with the 2016 Biological Opinion. Please let me know if you have any questions.

Thanks,

Kristin (Peekstok) Eaton
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Created By: Kristin.Eaton@fpl.com

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Options

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St. Lucie Nuclear Power Plant (SLNPP) Monitoring and Maintenance Plan to Inspect and Remove Debris and Biofouling Organisms from Ocean Intake System

Introduction

The portion of the ocean intake system subject to this monitoring and maintenance plan are the three velocity cap structures, three ocean intake pipes and the two headwall structures where the pipes enter the canal. The monitoring is intended to identify changes or anomalies in flow through the intake pipes as well as adverse trends in the number of fresh scrapes on turtles. Based on this monitoring, corrective actions shall be taken to identify and address the potential cause of the flow anomalies or adverse trend in fresh scrapes on turtles.

Biological Opinion's Action Threshold

Florida Power and Light Company (FPL) is required to record the number of captured turtles with fresh causal scrapes and categorize them as minor, moderate or severe. **FPL shall start the process for inspecting the Ocean Intake System within one month if:**

1. If the number of turtles with severe fresh scrapes reaches 0.5 percent of the number of captured turtles during two consecutive years or;
2. If the number of turtles with moderate or severe fresh scrapes reaches 15 percent of the number captured during two consecutive years.

Additionally, FPL will monitor flow through the intake pipes to identify flow anomalies that may identify potential blockages and increased flow velocities that may cause turtle injuries.

Inspection Discussion

Due to flow velocities in the ocean intake pipe, the pipes are required to be isolated prior to performing an inspection of the interior of the pipes. Isolation of a single pipe requires taking at least one of the Nuclear Reactors off line. The two Nuclear Reactors are on alternating 18 month refueling cycles that results in one unit being shutdown, approximately every 9 months.

FPL will schedule the commencement of the inspection and associated corrective actions at the next available outage (or outages) of sufficient duration, provided there is sufficient time to safely plan for the inspection and mobilize the required contractors and equipment.

Because of the amount of equipment, safety concerns, weather/sea state issues, specialized inspection contractors, scheduling and budget, it is recommended that the process for identification of the potential cause of the turtle injuries be started early in the process of the identification of a potential negative trend. As a minimum, within one month of reaching a regulatory required action threshold, FPL shall submit and co-ordinate a schedule for inspection of the ocean intake system with the Nuclear Regulatory Commission (NRC) and National Marine Fisheries Service (NMFS).

FPL shall submit report(s) on the as found and as left condition of the pipes. All reports and supporting documentation on the inspection and inspection results will be submitted to NRC and NMFS for review, as required.

Maintenance/Corrective Actions

Based on results of the pipe inspection, FPL will consult with regulatory agencies to determine appropriate corrective actions. Based on past operating experience, numerous conditions could result in an increase in negative trend in turtle injuries:

1. Structural failure of pipe or velocity caps
2. Wide spread build-up of marine growth
3. Localized marine growth at entrance to pipe or transition area
4. Miscellaneous trash or debris that enters the pipe

The cause of the adverse trend will impact the timing of the implementation of the corrective action. Items such as the removal of localized marine growth or trash can most likely be addressed during the same outage as the inspection. Repair of structural failures, modifications to the pipe, or removal of wide spread marine growth may take multiple outages to implement and complete.

Based on inspection findings, maintenance or inspection requirements shall be reviewed and coordinated with agencies, as required.

Inspection Implementation Requirements:

1. Within 48 hours of the quantity and severity of scrapes exceeding a Biological Opinion (BO) action threshold, a Condition Report shall be entered into FPL corrective action program.
2. The Condition Report disposition shall document apparent cause, required inspections, and corrective actions, as required, with responsible department and due dates.
3. If corrective actions require the inspection of the interior of the Ocean Intake Piping, the inspection shall be scheduled for the next available outage of sufficient duration, provided there is sufficient time to safely prepare and schedule the inspection.
 - a. A milestone schedule for inspection shall be submitted to NMFS for review and comment within one month of exceeding a *regulatory required action threshold*.
 - b. Based on inspection results, corrective actions shall be scheduled as soon as they can be safely prepared and scheduled.
4. Proposed schedule and maintenance/corrective action(s) to address a *regulatory required action threshold* shall be coordinated with NMFS.