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 AUTH. NAME      AUTHOR AFFILIATION  
 STALL, J.A.      Florida Power & Light Co.  
 RECIP. NAME      RECIPIENT AFFILIATION

SUBJECT: NPDES noncompliance notification: on 970614 & 30, discovered one dead sea turtle on each date. Caused by five-inch barrier net loaded w/algae. Removed algae from net & hand drudged silt to allow net to return to original position.

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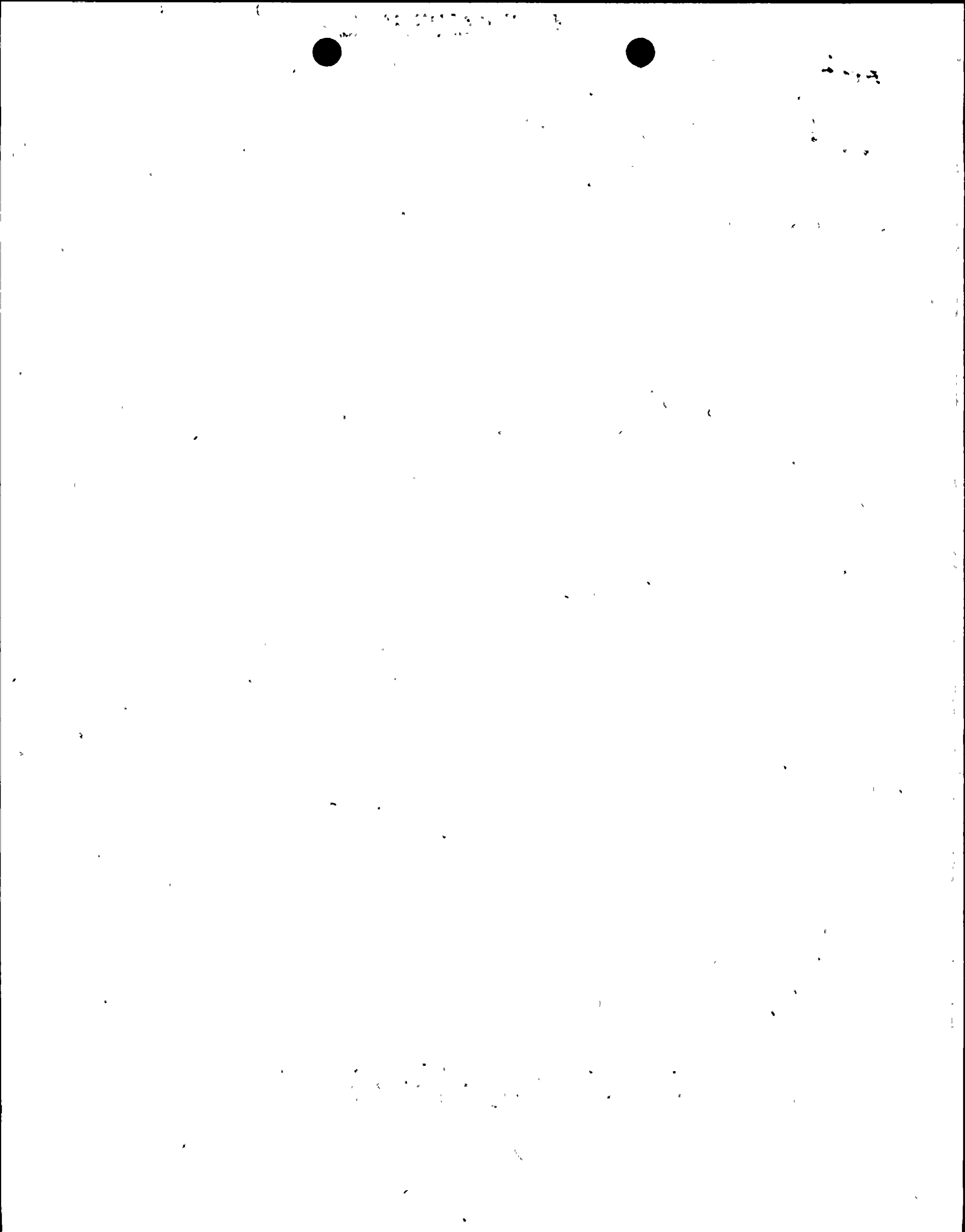
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July 7, 1997

L-97-172  
10 CFR 50.36b  
EPP 4.1

U. S. Nuclear Regulatory Commission  
Attn: Document Control Desk  
Washington, DC 20555

RE: St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
Environmental Protection Plan Report  
Event Dates: June 14, 1997 and June 30, 1997  
Unusual or Important Environmental Events

The attached Report is being submitted pursuant to the requirements of Section 4.1 of the St. Lucie Unit 1 and Unit 2 Environmental Protection Plans (EPP) to provide a description of reportable green sea turtle mortalities at the St. Lucie Plant.

Should you have any questions on this information, please contact us.

Very truly yours,

J. A. Stall  
Vice President  
St. Lucie Plant

JAS/GRM

Attachment

cc: Regional Administrator, Region II, USNRC  
Senior Resident Inspector, USNRC, St. Lucie Plant

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St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
L-97-172 Attachment Page 1

### **Mortality of Green Sea Turtles in the St. Lucie Plant Intake Canal**

**EVENT DATES:** June 4, 1997 and June 30, 1997

**EVENT DESCRIPTION:**

A dead small green sea turtle weighing 5.6 pounds was removed from the 5-inch mesh barrier net at approximately 1410 hours on June 4, 1997. The turtle was found just under the water near the top of the net. The apparent cause of death was drowning. The turtle appeared to be in good condition otherwise. Another green sea turtle weighing 20 pounds was found on the bottom of the canal 50 feet west of the end of the 16-foot diameter headwall catwalk structure at approximately 1345 hours on June 30, 1997. This turtle had become entangled in fishing line that was snagged on the rocky bottom in this area and drowned. It too appeared to be in good condition otherwise. From the condition of the carcass, the turtle appeared to have drowned the day before.

These are the third and fourth mortalities for this species in 1997. The proposed limits for mortalities for this species in the National Marine Fisheries Biological Opinion, which was transmitted to FPL by the NRC on May 30, 1997, is 3 or 1.5% of the total captured whichever is greater. In order to allow the fourth mortality, FPL would have to capture 267 or more green turtles. As of June 30, 1997, we have captured 141 green turtles.

**CAUSE OF THE EVENT:**

The root cause of the first event was the condition of the 5-inch barrier net. Since early in the week of May 26, the net had been heavily loaded with a fine, filamentous algae that had caused the current to stretch the net so it was in a more vertical plane. The net was originally built to a 1:1 slope to allow the water current to help carry weak or injured turtles to the surface. The stretching of the net could have held the turtle in place thereby drowning it. It cannot be certain that this was the cause of death because the turtle did not appear to be entangled or held in place by the net. Therefore, it was possible that it could have drowned on its 3 to 5 minute trip through the intake pipe and then came to rest against the net where it was found. In addition to the loading on the net from the algae, divers also found the bottom of the net was being held down by a layer of silt that had been deposited on the bottom and that the nylon net strands had been stretched out of shape. This was the first event of this magnitude for this type of algae since the 5-inch mesh net was installed in January 1996. Divers were initially delayed in removing the algae due to plant operational considerations. It was thought that during the algae removal

additional algae would be released into the intake canal and could cause increased blockage of the intake cooling water system strainers.

The root cause of the second event was the presence of the fishing line in that area of the canal. The fishing line most likely resulted from hook and line fishing by the Land Utilization Department as part of a fish tagging and release program. This is a voluntary, mitigative program to remove fish entrained in the canal and return them to the wild. Both fish traps and hook and line fishing have been used to remove the fish from the canal. The catwalk that forms part of the headwall structure is the best area to fish with hook and line, but the rocky bottom in that area tends to snag fishing tackle. Part of the line remains when either the line breaks in trying to retrieve the tackle or is cut loose when the tackle cannot be freed.

#### **ACTIONS TAKEN TO CORRECT THE REPORTED EVENTS:**

For the first mortality:

1. The filamentous algae was removed from the 5-inch net.
2. To correct the siltation holding down the bottom of the net, divers have hand dredged the silt allowing the net to return to its original position.

For the second mortality:

1. The immediate area where the turtle was found was surveyed by the diver that found the turtle and any other tackle in that vicinity was removed. All use of hook and line tackle for the fish tagging and release program was immediately suspended until completion of the analysis of the event.
2. Other areas of the canal with similar bottom characteristics or that were known to contain other possible hazards; such as rope, pieces of netting, or other similar debris, were surveyed by divers and the material removed.

#### **CORRECTIVE ACTIONS TO PRECLUDE REPETITION OF THE EVENTS:**

1. The Land Utilization Department has an existing inspection and maintenance program for the 5-inch mesh barrier net. This program will be enhanced in the following ways:
  - A. A means has been developed to determine the slope of the net during future inspections and to measure any significant deviation from the as-built conditions.

The new methods will be incorporated into the net inspection process by July 30, 1997.

- B. Land Utilization will maintain closer communication with Operations and increased vigilance in the intake canal to provide earlier information about the onset of potential net fouling conditions. When conditions are found that indicate the need for immediate corrective action, Land Utilization Department will more actively pursue support through the Work Control Group.
2. The two primary methods used to capture fish for the tag and release program are hook and line and fish traps. Use of hook and line was immediately discontinued; however, even the traps have a large enough opening that a small turtle could be caught and drowned. For that reason, since the fish tagging and release program is a voluntary program, it will be discontinued except under very controlled conditions; such as the active netting that is used by several aquariums that are obtaining specimens from the intake canal. These nets are manned by divers who immediately remove anything caught in them so that if a turtle were caught, it would not have a chance to drown.
  3. Since the number of green turtle mortalities for 1997 is now over the proposed limit of the Incidental Take Statement included with the National Marine Fisheries Service Biological Opinion dated February 7, 1997, FPL requests the NRC to begin the necessary steps to reinstate formal consultation under Section 7 of the Endangered Species Act.

**AGENCIES NOTIFIED:**

In accordance to the requirements in the Florida Department of Environmental Protection's Marine Turtle Permit #099, their local office in Tequesta, FL was notified within 12 hours of when each of the turtles were found. Their preliminary response was a request to place the carcasses in a freezer for later pick up and possible evaluation of cause of death. This was done.

A 72-hour notification for the first mortality was made to the NRC at 1330 hours on June 6, 1997. This notification was made to Mr. L. A. Wiens, the NRC Project Manager. The second mortality was reported to Mr. R. E. Martin, NRC-NRR, at 1335 hours on July 1, 1997. Both of these notifications were per the Environmental Protection Plan, Section 4.1.