



December 20, 2011

L-2011-558  
10 CFR 50.4  
10 CFR 50.36.b  
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 Date: December 3, 2011  
Unusual or Important Environmental Event - Turtle Mortality

On December 3, 2011 a dead female juvenile green sea turtle (*Chelonia mydas*) was recovered from the east side of the St. Lucie Plant intake cooling canal five-inch barrier net. A gross necropsy was performed on December 5, 2011. The preliminary determination is that the mortality was causal to plant operation due to drowning.

The attached report is being submitted pursuant to the requirements of Section 4.1 of the St. Lucie Units 1 and 2 Environmental Protection Plans to provide the description of a reportable sea turtle mortality that was causal to plant operations at the St. Lucie Plant.

Sincerely,  
  
Eric S. Katzman  
Licensing Manager  
St. Lucie Plant

ESK/kdr

Attachment

CC: FDEP Siting Office

IE23  
NRR

## DESCRIPTION OF THE EVENT

On December 3, 2011 a dead juvenile green sea turtle (*Chelonia mydas*) was recovered from the east side of the St. Lucie Plant intake canal five-inch turtle barrier net. The sea turtle was sent to the Loggerhead Marinelife Center located in Juno Beach, Florida for a necropsy.

The preliminary gross necropsy determined that the sea turtle mortality was likely due to forced submergence, thus causal to plant operations.

The limits for sea turtle injuries and mortalities resulting from plant operations were set by the National Marine Fisheries Incidental Take Statement, issued and clarified by the NRC in 2001. These limits have not been exceeded.

## CAUSE OF EVENT

The probable cause of death was the entrainment of the sea turtle in the plant intake cooling system at the end of a breath cycle. The flow rate through the plant intake pipe is reduced by half due to outage conditions. The longer time required to traverse the intake pipe at the end of a breathing cycle exceeded the turtle's air reserve.

## CORRECTIVE ACTIONS

The five-inch turtle barrier net was inspected by the staff biologists directly after the event. No irregularities were identified. A thorough inspection of the area east of the five inch net was conducted to identify and capture other at risk sea turtles. None were identified.

## ACTIONS TO PRECLUDE FUTURE EVENTS

The staff biologists maintain a repetitive inspection protocol on the five-inch net during daylight hours. Also, an aggressive campaign to either dip net or hand capture entrained sea turtles continues at St. Lucie in the area east of the five-inch turtle net. This effort significantly reduces the residence time of the sea turtles in the canal, thus increasing their safety margin.

## AGENCIES NOTIFIED

The Florida Fish and Wildlife Conservation Commission were notified of this event on December 3, 2011 in accordance with Marine Turtle Permit # MTP-11-125, and the Site Environmental Protection Plan.

A notification was made to the NRC on December 3, 2011 per the requirements of 10 CFR 50.72(b) (2) (xi).