



October 1, 1998

(SL)

L-98-250  
10 CFR 50.36b  
EPP 5.4.2

'93 OCT 13 P4:23

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

Re: St. Lucie Units 1 and 2  
Docket Nos. 50-335 and 50-389  
Environmental Protection Plan Report  
Date of Event: September 3 - 18, 1998  
Non-Routine Environmental Event

The attached report is being submitted pursuant to the requirements of Section 5.4.2 of the St. Lucie Units 1 and 2 Environmental Protection Plans to provide a description of a reportable occurrence of nuisance organisms, moon jellyfish, at the St. Lucie Plant. The attached report provides the 30 day written report for moon jellyfish intrusion events between September 3 - 18, 1998.

Very truly yours,

J. A. Stall  
Vice President  
St. Lucie Plant

JAS/GRM

Attachment

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

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## JELLYFISH INTRUSION IN THE ST. LUCIE PLANT INTAKE CANAL

### EVENT DESCRIPTION

An influx of jellyfish into the St. Lucie Plant intake canal increased to the point that the 5-inch mesh sea turtle barrier net had to be lowered on the afternoon of September 3, 1998. This barrier net was installed near the intake canal headwall to retain sea turtles in a small area of the canal so they can be quickly captured and removed. Large numbers of moon jellyfish, *Aurelia aurita*, accumulated on the net to the point that the net itself was in jeopardy of tearing away from its supports. When the net was lowered, at least two sea turtles passed behind the net, at which point sea turtle biologists increased capture efforts between the net and the plant intake wells. Increases in jellyfish occurred on several other occasions during the month of September, prompting the plant to lower the net. Each time, plant operations and security personnel were notified that there was an increased probability of a turtle being captured in the plant intake wells.

On several occasions, jellyfish loading increased differential pressure across the intake travelling screens of the plant. During the afternoon of September 8, 1998, Unit 2 responded to the increase in jellyfish by throttling the circulating water pump system and reducing unit power to approximately 96% for about half a day. On the evening of September 14, 1998, the breaker for the Unit 1 travelling screen 1A1 tripped due to excessive jellyfish buildup. The 1A1 circulating water pump was secured, and the unit down-powered to approximately 60% power. The unit was returned to full power the following day. During the early morning of September 18, 1998, Unit 1 was down-powered again to approximately 93% due to increasing differential pressure across the intake travelling screens. Actions taken included throttling three of the four circulating water pumps. The unit was returned to full power prior to noon that day.

A courtesy notification to the Florida Department of Environmental Protection, Division of Protected Species, concerning the sea turtle barrier net issue prompted a 4-hour notification to the NRC as per 10 CFR 50.72 on September 3, 1998. The increase of jellyfish and subsequent effect on plant operation prompted 72-hour notifications to the NRC, pursuant to the Environmental Protection Plan (EPP), Operating License Appendix B, on September 9, 14, and 18, 1998.

The increased incidence of jellyfish in the St. Lucie Plant intake system is a natural phenomenon that has occurred from time to time in the history of the plant. The 5-inch turtle barrier net was designed to be lowered under such circumstances and performed its function satisfactorily. Following a breach in the net, increased turtle capture efforts downstream toward the plant is the required protocol which is designed to reduce impact on protected

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species of sea turtles that have entered the plant intake canal system. Plant operations and maintenance personnel took appropriate action to mitigate the effect of jellyfish loading on plant intake systems.