



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
61 FORSYTH STREET, SW, SUITE 23T85  
ATLANTA, GEORGIA 30303-8931

August 15, 2005

Mr. Kenneth Bowers

SUBJECT: ALLEGATION REPORT RII-2005-A-0056

Dear Mr. Bowers :

This letter is a follow up to our letter of May 17, 2005, in which we advised you that we would initiate actions to review your concerns that were identified during your telephone conversation with Mr. Steven Sanchez, Resident Inspector at the St. Lucie Nuclear Plant on April 18, 2005. You expressed concerns regarding the spent fuel pool and your subsequent termination after reporting your concerns to your supervisor.

As discussed in our letter of May 17, 2005, we referred your concerns regarding the spent fuel pool to Florida Power and Light (FPL) for their review. We have received their response and have completed our review of the information they have provided to us.

Your concern identified as Concern Two in our letter of May 17, 2005, regarding spent fuel pool issues at St. Lucie was not substantiated. Additional information for the basis of our determination is provided in the detailed Allegation Evaluation Report which is enclosed.

Your concern identified as Concern One in our letter of May 17, 2005, regarding your termination for reporting safety concerns was not accepted for Alternative Dispute Resolution (ADR). FPL chose not to participate in the ADR program. Therefore, the NRC Office of Investigations will contact you regarding further investigation of your concern.

Thank you for informing us of your concerns. We feel that our actions in this matter have been responsive to your concerns. We take our safety responsibilities to the public very seriously and will continue to do so within the bounds of our lawful authority.

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Unless the NRC receives additional information that suggests that our conclusions regarding Concern Two should be altered, we plan no further action on this matter. You will be advised of our findings at the completion of Concern One. Should you have any additional questions, or if I can be of further assistance in this matter, you may contact me at 800-577-8510 or 404-562-4560 or by mail at P. O. Box 845, Atlanta, Georgia 30301.

Sincerely,

*/RA/*

Joel T. Munday, Chief  
Reactor Projects Branch 3  
Division of Reactor Projects

Enclosure: As stated

**ALLEGATION EVALUATION REPORT**  
**FLORIDA POWER AND LIGHT COMPANY (FPL)**  
**ST. LUCIE NUCLEAR PLANT UNITS 1 AND 2**  
**SPENT FUEL POOL ISSUES**  
**ALLEGATION RII-2005-A-0056**

**CONCERN 2:**

The NRC received information regarding the spent fuel pool (SFP) at the St. Lucie Nuclear Plant. The following information was provided:

- a. The spent fuel pool level appeared below that of the heat exchanger nozzle and this may be a Technical Specifications violation.
- b. There is a lack of emergency egress out of the spent fuel pool building during fuel movement given that the vital door is known to be frequently inoperable and required plant security assistance to unlock.
- c. There was an audible alarm going off in the spent fuel pool building (possibly due to low water level in the pool).
- d. There is a lack of emergency lighting in the spent fuel pool building.

**DISCUSSION:**

Review of Item a. of the concern has been completed. The SFP level is maintained between plus or minus one-half inch from the 60' level. There is no heat exchanger near the 60' level of the SFP. One of two heat exchangers located in the SFP is located near the 43' elevation, and another is located near the 19' 5" elevation, near the bottom of the SFP.

There is no "nozzle" on the SFP heat exchangers, however there is a discharge (pipe) line extending from the heat exchanger into the east wall of the SFP, well below the SFP water level. The discharge line has an "anti-siphon" hole from which water is always flowing (into the pool). Cognizant personnel stated that they believe this is the "nozzle" the concerned individual may be referring to. Each stated that a low water level alarm is set to activate well above the "anti-siphon" hole.

Regarding the Technical Specification (T. S.) 3/4 9.11 - SPENT FUEL STORAGE states in part:

**LIMITING CONDITION FOR OPERATION**

***2.9.11 The Spent Fuel Pool shall be maintained with:***

Enclosure

- a. *"The fuel storage pool water level greater than or equal to 23 ft. over the top of the irradiated fuel assemblies seated in the storage racks..."*

### SURVEILLANCE REQUIREMENTS

- 4.9.10 *"The water level in the spent fuel storage pool shall be determined to be at least its minimum required depth at least once per 7 days when irradiated fuel assemblies are in the fuel storage pool..."*

SPEAKOUT reviewed OPS procedure OP-1-0010125, Paragraph 13. Surveillances are performed daily on the midnight shift. The following is stated in part:

*"Perform a walkdown of the fuel pool operating deck (62' elevation) and ensure Spent Fuel Pool water level is within operating limits..."*

The daily surveillance results of the Unit 2 SFP water level during the dates of the outage were reviewed. The water level for each day was measured and documented to be between 59' 5" and 60' 5" (the level needed to meet or exceed the T.S. minimum noted above).

According to cognizant OPS personnel, should the level of the SFP not remain within the set high/low range at any time, a high or low level alarm will sound in the Control Room and an investigation would ensue. If an alarm were to sound indicating that the water level had risen above or dropped below the set alarm point, this fact would be documented in the Operations Department Chronological Log book. A review of the log book revealed no low or high water level notations during the SL2-1 5 outage.

Refueling Sequencing Guidelines, 2-GOP-365, Paragraph 4.6 PREREQUISITES states:

*"Prior to initial fuel movement, for a core off load, the fuel pool level shall be greater than 60' 0" and less than 60' 5". Once off load is commenced, fuel pool level shall be maintained within normal operating band."*

Surveillance reports required to be performed per shift during Mode Six (during refueling) in accordance with 2-GOP-365, noted above, were reviewed. These surveillance reports revealed that the SFP water level measurements did not drop below or exceed the required limits.

Item a. of the concern was not substantiated.

Review of Item b. of the concern regarding lack of emergency egress has been completed. There are three doors that may be accessed via card reader into the Unit 2 SFP area. Only two of these doors are normally utilized by plant personnel other than Security to ingress/egress the SFP area. A fourth door is utilized to move fuel in/out of the SFP area. In the event of an emergency, any of the four doors leading out of the SFP area can be opened from the inside. Each door is equipped with either a handle/arm or an emergency door open switch that allows the door to open from the inside. Utilizing a card reader in such a situation is not required to push these doors open from the inside.

When fuel is being loaded or unloaded, three doors from which to exit the SFP area are available, if needed. During the recent Unit 2 outage, there were a number of occurrences

where SFP area doors, including the two normally used by personnel, had minor problems. Minor door problems, such as latch repair/replacement are not required to be worked with a Plant Work Order (PWO), because these repairs are considered minor maintenance. A review of the PWO database for work orders that were written to document repairs during the outage to the Unit 2 SFP area doors normally used for personnel ingress/egress, identified four work orders. The work orders found were for one door only, two relating to card reader problems, and one each for a faulty lock and latch mechanism. The documentation indicated the doors were successfully repaired.

A review of the Security Shift Specialists (SSS) Daily Log Book for the outage period, to determine if any door issues required posting of guards, revealed no log entries.

Item b. of the concern was not substantiated.

Review of Item c. of the concern regarding an alarm sounding in the SFP building has been completed. There are three types of alarms that may be heard by personnel in the SFP building. One of the three alarms that may be heard by personnel in the SFP building is the radiation monitors, which is also audible in the Control Room. When the radiation level in the SFP building rises to the monitor's setpoint the alarm is sounded. (It should be noted that High and Low water level alarms can only be heard in the Control Room.)

A review of the Unit 2 Operations Department Chronological Logs, maintained daily by the department for the outage period, revealed that at 10:12 AM on 01/19/05, one of the SFP area radiation monitors signaled an unexpected alarm. According to the Chronological log entry, Health Physics (HP) investigated and "confirmed that no personnel were in the fuel pool area". The alarm continued and HP personnel reported that there were no elevated dose rates in the SFP building, but that the monitor was registering 10 times higher than the other radiation monitor. Instrumentation and Control (I&C) personnel confirmed that the alarm was invalid, that the alarm had failed and repairs were made to the monitor. No other alarms associated with the SFP building were documented in the Chronological Logs during the outage period.

A portable radiation monitor was also positioned at the bridge in the SFP area during the outage. The alarm on this portable monitor is also audible in the SFP if activated.

Portable "friskers" are utilized in the SFP building and these friskers also produce an audible sound when personnel contamination is detected, or when the battery is low.

Item c. of the concern was partially substantiated. There was one instance where an alarm occurred, however the response to the alarm was appropriate and it was determined that the alarm had failed.

Review of Item d. of the concern regarding lack of emergency lighting in the SFP building has been completed. Personnel who work in the SFP building or are cognizant of the issue were interviewed about this item of concern. None stated during interviews that they were personally aware of, or had any reports of a lack of adequate (normal or emergency) lighting in the SFP building during the outage. It was noted that during Safeguards testing, the level of lighting in the SFP is low, but an individual can see well enough to enter and exit the SFP building safely.

An interview with the Electrical Maintenance Department Supervisor revealed that during any outage there are occasions when the normal SFP area lighting is lost, due to temporary power interruptions, or when problems with electrical busses occur. There is only a slight momentary lapse/pause while the emergency power lighting is activated. It was noted that during refueling operations and other work that is required in the SFP, additional lighting is lowered into the pool to enhance worker's ability to better see the task they are performing.

A review of the Condition Report database for the outage period revealed no CRs were written to address poor lighting issues in the SFP building.

Item d. of the concern was not substantiated.

**CONCLUSION:**

This concern was not substantiated. There was an instance where an alarm sounded in the SFP building but it was determined to be an alarm failure and the response to the alarm was appropriate. No violations of NRC requirements were identified.

K. Bowers

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Distribution:

Oscar de Miranda, EICS

**Allegation Documents not Placed in ADAMS**

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