

December 1, 1986

Docket Nos. 50-335 and 50-389

MEMORANDUM FOR: Edward Tourigny, Project Manager  
 PWR Project Directorate No. 8  
 Division of PWR Licensing-B

FROM: Dennis M. Crutchfield, Assistant Director  
 Division of PWR Licensing-B

SUBJECT: ST. LUCIE UNITS 1 AND 2, PROPOSED LICENSE AMENDMENT FOR SPENT  
 FUEL TRANSFER - REQUEST FOR ADDITIONAL INFORMATION - PLANT,  
 ELECTRICAL, INSTRUMENTATION AND CONTROL SYSTEMS BRANCH -  
 (TAC NOS. 61938 AND 61939)

The enclosed request for additional information concerns the July 2, 1986 license submittal regarding the transfer of spent fuel from St. Lucie Unit 1 to St. Lucie Unit 2. This submittal includes a proposed revision to Section 2.B.5 of the St. Lucie Unit 2 license NPF-16 to permit St. Lucie Unit 2 to possess byproduct and special nuclear material produced by the operation of St. Lucie Unit 1.

A prompt response to the enclosure is requested from the licensee in order that we may complete our evaluation in accordance with the agreed upon schedule. Our efforts on TAC Nos. 61938 and 61939 are continuing.

*original signed by  
 Dennis M. Crutchfield*

Dennis M. Crutchfield, Assistant Director  
 Division of PWR Licensing-B

Enclosure:  
 As stated

cc w/enclosure:  
 C.E. Rossi  
 G. Lainas  
 W. Minners  
 E. Butcher  
 R. Bosnak  
 W. Regan  
 R. Kendall

Distribution  
 Docket File PEICSB Rdg. File  
 DCrutchfield JACalvo  
 JWermiel LBeltracchi  
 JMinns ISpickler  
 CNichols

CONTACT:  
 J. Raval, PEICSB/NRR  
 49-27895

PEICSB *JMR*  
 JRaval:as  
 11/26/86

PEICSB *JK*  
 JACalvo  
 11/26/86

PEICSB *JMR*  
 JMinns  
 11/26/86  
 WRM 12/1/86  
 DCrutchfield  
 12/1/86

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 PEICSB  
 ISpickler  
 11/26/86

*for*  
 PEICSB  
 CNichols  
 11/26/86

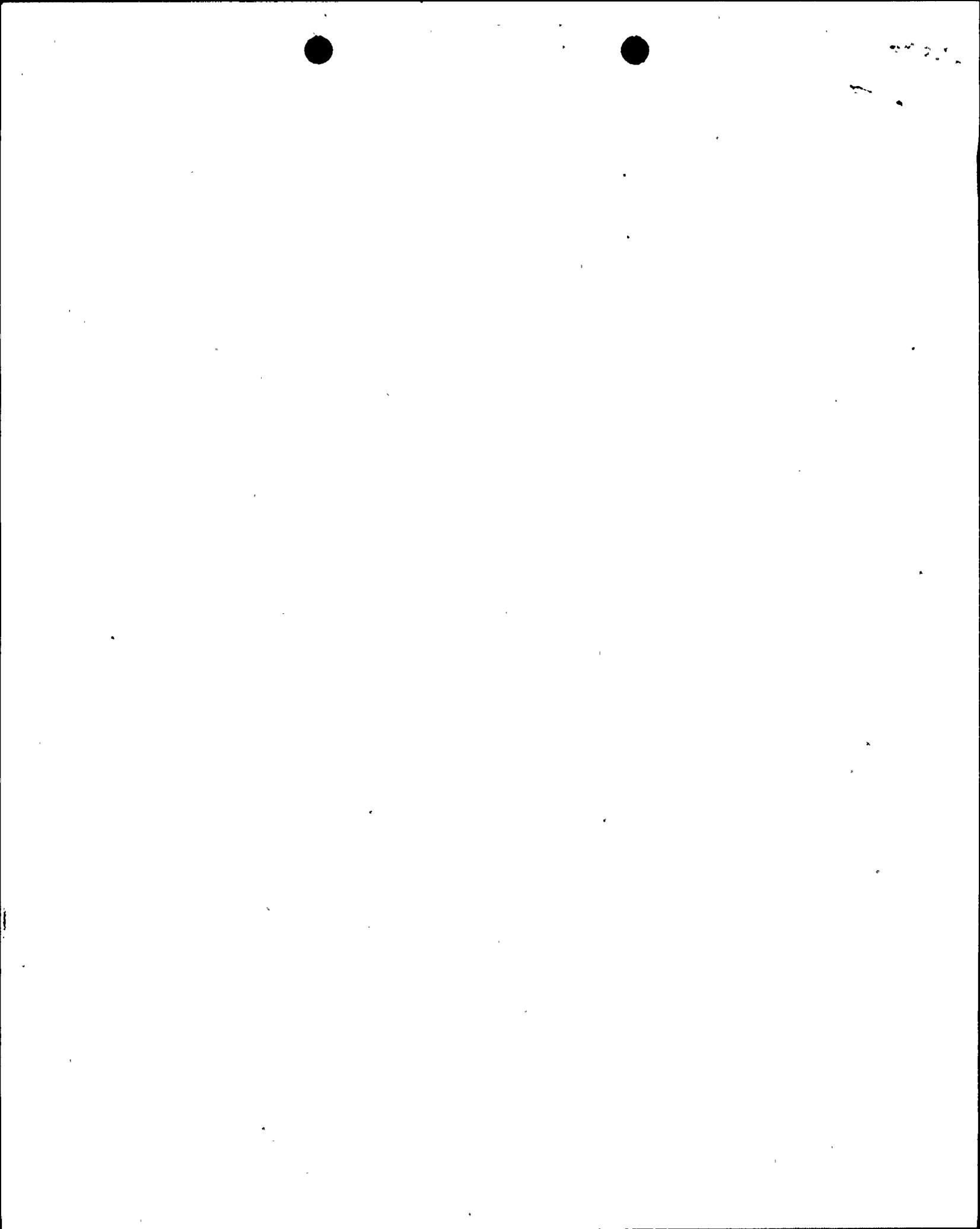
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6. Provide a description of the dose rate at the surface of the pool water for both Units 1 and 2 from the fuel assemblies, control rods, burnable poison rods or any miscellaneous materials stored in the pool. Also, provide the dose rate from individual fuel assemblies as they are being transferred to the cask, and specify the depth of water shielding the fuel assemblies as they are being transferred. If the depth of water shielding over a fuel assembly during transfer is less than 10 feet, or the dose rate 3 feet above the SFP water is greater than 5 mR/hr above ambient radiation levels, then propose a technical specification specifying the minimum depth of water shielding to be maintained over the fuel assembly as it is being transferred in order to maintain ALARA limits, and identify the measures taken to assure that this minimum depth will be maintained.
7.
  - a. Describe the manner in which occupational exposure will be kept ALARA during the transfer, including the need for and the manner in which cleaning of the crud on SFP walls will be performed to reduce exposure rates in the SFP area. Also, describe the means to be utilized to ensure that doses to divers are maintained ALARA.
  - b. Describe the manner in which occupational exposure will be kept ALARA during cleanup operations after completion of the spent fuel transfer.
8. Discuss the extent of damage that the SFP may incur from a dropped spent fuel shipping cask, and confirm that sufficient borated make-up water is available to maintain the minimum SFP water level for any resulting leakage.
9. Provide an evaluation of the total dose to members of the public resulting from the proposed transfer considering the following:
  - a. time required to move each fuel assembly from the Unit 1 SFP to the Unit 2 SFP;
  - b. releases of radioiodines and other radionuclides during this time;
  - c. direct radiation;
  - d. transfer and cleanup operations; and
  - e. other sources of exposure at the site.
10. Describe the provisions for monitoring releases of radioactive materials, environmental radiological monitoring, and calculating and reporting effluents and offsite doses from the proposed transfer operations and subsequent clean-up operations, or justify not providing such monitoring, calculating, and reporting.



ENCLOSURE  
REQUEST FOR ADDITIONAL INFORMATION  
FLORIDA POWER AND LIGHT COMPANY  
ST. LUCIE UNITS 1 AND 2  
SPENT FUEL TRANSFER BETWEEN UNITS  
PLANT, ELECTRICAL, INSTRUMENTATION AND CONTROL SYSTEMS BRANCH

In your submittal dated July 2, 1986, you proposed a licensing amendment to establish the option of transferring and storing spent fuel assemblies (SFAs) from the St. Lucie Unit 1 spent fuel pool (SFP) to the St. Lucie Unit 2 SFP in order to permit full core off-load capability at Unit 1, should it be required, due to loss of Unit 1 full core reserve storage capacity following the 1987 refueling outage. Provide the following additional information with respect to this proposal:

1. Provide further details regarding the Unit 1 SFAs to be stored in the Unit 2 SFP. The details should include number, type and age of existing SFAs to be transferred to Unit 2 and the SFA locations in the Unit 2 storage racks to be utilized. Also provide any necessary drawings to clarify your response.
2. Confirm that you will handle no more than one SFA at a given time in a shipping cask, and that only one type of shipping cask will be used....
3. Provide a summary of the evaluation performed concerning the shipping cask load path between the units. This summary should include a discussion of the means utilized to confirm that safety related equipment including piping, components, and electric conduits that are located near the load path and those that are buried under the load path will not be adversely affected with regard to their capability to perform their intended safety functions during normal spent fuel transfer from Unit 1 to Unit 2 and in the event of an accident such as a cask drop. Also, provide any necessary drawings to clarify your response.
4. Provide the details of the spent fuel shipping cask and verify that it meets the requirements of 10 CFR Part 71.
5. According to the technical specification for St. Lucie Unit 1, the spent fuel storage cask can be moved into the spent fuel storage pool area when the spent fuel in the pool has aged more than 1190 or 1490 hours, depending on the amount of spent fuel in the pool. The technical specifications also allow new spent fuel to be moved into the spent fuel storage area after the reactor has been shutdown for 72 hours. However, there is no basis provided for the minimum shutdown time that would be required if new spent fuel were transferred by a shipping cask to the St. Lucie Unit 2 SFP. Therefore, provide an analysis for the minimum shutdown time that would be required for a postulated design basis cask drop accident occurring outdoors between Units 1 and 2 and confirm that the resulting off-site doses are less than 10% of the 10 CFR Part 100 guideline dose values.