CATEGORY 1

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SUBJECT: Submits info in response to RAI re ISI Plan Second Ten-Yr Interval Relief Request 14, providing addl justification on rescheduling of exams in relief request.

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CATEGORY 1 DOCUMENT

Florida Power & Light Company, 6501 South Ocean Drive, Jensen Beach, FL 34957

March 13, 1997

L-97-65
10 CFR 50.4
10 CFR 50.55a

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

RE: St. Lucie Unit 2
Docket No. 50-389
Inservice-Inspection Plan
Second Ten-Year Interval
Relief Request 14 Supplement

By letter dated May 4, 1995, NRC transmitted the safety evaluation approving the Second-Ten-Year Interval Inservice Inspection (ISI) Plan for St. Lucie Unit 2. Relief request 14 was identified as an open item in that evaluation and was to be resolved by separate correspondence. Subsequent conference calls with the NRC Project Manager and the NRC contractor, INEL, identified the need for FPL to provide additional justification on the rescheduling of examinations in the relief request. The additional schedule justification was submitted by FPL Letter, L-95-310A, dated November 20, 1995.

In February 1996, the NRC Project Manager for St. Lucie provided FPL with a telecopy request for additional information based on the review of FPL Letter, L-95-310A. The requested information is attached.

Please contact us if there are any questions about this submittal.

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

NRC Request 1:

Deferring the reactor pressure vessel (RPV) examinations from the first or second period to the third period was included in Request for Relief 14. How will allowing greater than 10 years between examinations provide an acceptable level of quality and safety? Provide technical justification on the acceptability of deferral of RPV examinations.

FPL Response 1:

FPL will perform the required RPV examinations during the scheduled March 1999 refueling outage. This schedule will have FPL performing the examinations 10 years after the March 1989 outage.

FPL has reviewed the originally submitted schedule to determine the effect of moving the RPV examinations forward one period. By doing this, Program B requirements would be exceeded by having too many examinations scheduled during the second period. The review showed the pressurizer welds were examined during the first period. The pressurizer examinations met the maximum requirements of Program B and Code Category B-D for the first period. Steam Generators A and B (with 12 B-D areas) were scheduled for the second period and the RPV examinations (with 12 B-D areas) for the third period to meet the Program B requirements. By moving the RPV examinations forward one period, 100% of the Category B-D examinations would be completed by the end of the second period, with no examinations scheduled for the third period. In order to correct this, the steam generator examinations would have to be moved to the third period. However, steam generator B was already delayed one period. By delaying it a second period, it would mean 14 to 17 years between examinations. FPL felt these examinations should not be delayed any further. For steam generator A, FPL can delay one period and still be approximately 10 years between examinations. This would still result in the second period having more examinations scheduled than allowed by Program B, but is a reasonable alternative that will not affect the safety and quality of the plant. FPL plans to use the following schedule:

Category B-D Examination Schedule				
Component	No. of Areas	Period Schedule		
		1	2	3
Reactor Pressure Vessel	12	0	12	0
Steam Generator	12	0	6	6
Pressurizer	12	12	0	0
Totals	36	12 = 33%	+18 = 83%	+6 = 100%

NRC Request 2:

A paragraph has been added to this relief entitled *Substitutions*, however, the explanation is brief and incomplete. Provide a thorough explanation of how St. Lucie plans to do substitutions. Include the process which is used to determine which examinations are to be replaced and which examinations will replace them.

FPL Response 2:

FPL will schedule substitute welds for examination in accordance with Section XI selection and scheduling requirements. When substitute welds are selected, they will be similar in configuration to those originally scheduled, if possible. Terminal end welds and high stress welds will be selected, if available. The substituted welds will be on the same or similar lines as close as possible to the originally scheduled welds. Substitute welds will be selected only when a significant reduction in overall exposure or costs can be achieved, or the originally scheduled weld is no longer accessible or has been removed from service. Program B requirements will be followed.

NRC Request 3:

Examination Category C-A has six new items added during this interval. What are these new items? Why were they not examined in the prior interval? It appears that these new items are to be scheduled in the third period; when were they last examined? Provide justification for why it is technically prudent to wait until the third period to examine these new items.

FPL Response 3:

The six new items are reinforcement plate welds around the nozzles of the Shutdown Cooling Heat Exchanger. These pressure retaining nozzle welds are inaccessible from the outside surface. This note should have been listed under category C-B.

Reinforcement plates were not addressed in the previous Code edition (1980 Edition with Addenda through Winter 1980.) The 1989 Edition added Item Numbers for the associated welds, so there are now six additional listings. FPL did perform surface examinations on two reinforcement plate to pipe welds as a best effort in accordance with the methods of the previous Code Edition. These examinations exceeded the requirements of the previous Code and were performed during the third period of the first interval. By examining them during the third period of the second interval, approximately ten years will elapse between subsequent examinations.

The following three questions refer to Attachment 2 of FPL Letter, L-95-310A.

NRC Request 4:

Response number 3 states that "The RPV studs, nuts and washers were replaced in 1994, so the next scheduled examination is 2004, Third Inspection Interval." The RPV nuts and washers require a sample each period and cannot be examined for credit all at the same time. Only the RPV stud examinations, performed when removed, may be deferred until the end of the interval. Provide the examination schedule for RPV studs, nuts and washers for the second interval.

FPL Response 4:

The St. Lucie plant currently owns three sets of RPV studs, nuts, and washers. During each refueling outage, the RPV bolting is removed and replaced with the set in storage. Since this practice began (1993), FPL has examined every RPV stud, nut, and washer in its inventory according to the requirements of Code Category B-G-1, item numbers B6.30, B6.40, and B6.50 with one exception. Stud number 44 in St. Lucie Unit 2 has not been removed or examined this interval. If stud number 44 cannot be removed during a future outage, it will be examined in place according to item number B6.20.

Since FPL now moves RPV bolting from one unit to the other, examining the bolting on an expedited schedule was necessary for the first period. This was done to assure that every bolt was examined during the interval. Having performed these examinations once

for the interval, FPL felt that examining them a second time during the interval was unnecessary.

FPL will examine approximately 1/3 of the RPV nuts and washers during each period. The remaining RPV stud examinations will be deferred to the end of the interval. Since it is not possible to plan for every event, unforseen changes in plant scheduling may require FPL to move the stud examinations forward to an earlier outage in the interval. If this happens, FPL will follow all Code Category B-G-1 and Program B requirements.

NRC Request 5:

Table 14-11 list Examination Category B-G-1 as in accordance with ASME Section XI. However, when questioned about the RCP Bolting in Attachment 2, FPL responded that "The intent of FPL is that the pump selected will be based on pump disassembly for maintenance under B-L-2 or end of inspection interval, whichever comes first . . . " Although pumps can be deferred until the end of the interval in accordance with Table IWB-2500-1 Examination Category B-L-2, deferral of the associated bolting is not permissible according to Examination Category B-G-1. Provide the examination schedule for pump bolting for the second interval.

FPL Response 5:

FPL will perform examinations on Category B-G-1 Reactor Coolant pump studs on one pump during the interval. A total of 16 studs will be examined. If the required number of studs cannot be examined on one pump due to limitations or restrictions, studs on other pumps will be examined until a total of 16 studs have been completed.

Pump 2A1 - no examination scheduled
Pump 2A2 - no examination scheduled
Pump 2B1 - 2nd period
Pump 2B2 - no examination scheduled

NRC Request 6:

When questioned about examination schedules for valve bolting examinations, FPL's response stated that "The intent of FPL is that valves selected shall be based on valve disassembly for maintenance under B-M-2 or end of inspection interval, whichever comes first." Although valves can be deferred until the end of the interval in accordance with Table IWB-2500-1 Examination Category B-M-2, deferral of the associated bolting is not permissible according to Examination Category B-G-2. Provide the examination schedule for valve bolting for the second interval.

FPL Response 6:

FPL will perform examinations on the B-G-2 bolting of one valve within each group of valves greater than 4 inch nominal pipe size that are of the same size, constructional design (such as globe, gate, or check valves) and manufacturing method, and that perform similar functions in the system. These examinations will consist of a VT-3 examination, as described below, of the bolting either in place under tension, or when the connection is disassembled. If the bolting is removed or replaced, a VT-1 examination will be performed on the existing or new bolting. B-G-2 bolting will be examined in accordance with Program B requirements.

Proposed B-G-2 Examination Schedule			
No. of Areas	Period Schedule		
	1	2	3
44	15	14	15

VT-1 examinations require very clean surfaces. Cleaning the insulation residue, rust, and other foreign material from valve bolting is a time consuming process that involves significant radiation exposure and costs, and is a hardship without a compensating increase in safety. A VT-3 examination on all category B-G-2 bolting would provide a reasonable safety margin instead of the VT-1. The types of flaws found during VT examinations are typically found during the system leakage test performed during plant startup, and are of the type found during VT-3 examinations (loose parts, abnormal corrosion products, wear, etc.) The personnel who perform these examinations are qualified VT-3 examiners. In addition, a VT-2 examination is performed on each bolted connection on systems borated for purposes of controlling reactivity. If leakage is detected, FPL is required to remove the bolt closest to the source of leakage and perform a VT-1 examination in accordance with Relief Request # 18. System engineers perform walkdowns of the entire class one system whenever the plant comes down for refueling. The scheduled VT-2 examinations and system engineer walkdowns performed during each refueling outage along with VT-3 examinations on all Category B-G-2 bolting performed during the interval will find problems if they exist and provide a reasonable level of quality and safety.