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AUTH.NAME AUTHOR AFFILIATION
UHRIG,R.E. Florida Power & Light Co.
RECIP.NAME RECIPIENT AFFILIATION
EISENHUT,D.G. Division of Licensing

SUBJECT: Forwards justification for not installing source range nuclear instrumentation isolation device & containment flame impingement shields in fire protection sys prior to core load.

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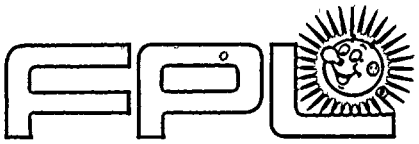

FLORIDA POWER & LIGHT COMPANY

February 25, 1983
L-83-99

Office of Nuclear Reactor Regulations
Attention: Mr. Darrell G. Eisenhut, Director
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Eisenhut:

Re: St. Lucie Unit No. 2
Docket No. 50-389
Fire Protection System

FP&L letter L-83-65 dated February 9, 1983 provided responses to NRC questions regarding the St. Lucie Unit 2 Fire Protection system and a schedule for completion of all work. Subsequent discussions between the staff and FP&L regarding that submittal have resulted with the staff requesting additional detailed information regarding the justification for not installing the Source Range Nuclear Instrumentation Isolation device and the Containment Flame Impingement Shields prior to core load.

Attached is FP&L's justification for interim operation for these two areas. Please contact us if you have any questions regarding this matter.

Very truly yours,

Robert E. Uhrig
Vice President
Advanced Systems and Technology

REU/RJS/PPC/mp

Attachment

cc: J.P. O'Reilly, Region II
Harold F. Reis, Esquire

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ATTACHMENT

The following two items will not be completed by core load. Each justification below includes a description, the reason that it is not complete, the schedule for completion and the justification for operation until it is complete.

I. RCB Cable Tray Flame Impingement Shields

a. FP&L has committed to install horizontal flame impingement shields in the Reactor Containment Building on all redundant cable trays containing safe shutdown cables. These shields will be installed below the lowest tray in each stack.

b. The reason that this modification will not be completed by core load is construction/design oriented. Separating the redundant cable trays in the RCB will affect approximately two hundred cable tray supports. The work involved in completing this task includes; (1) compilation of as-built data on two hundred affected cable tray supports; (2) re-analysis of fifty typical tray supports (determined from (1) above) to ensure that the seismic qualification of the trays is maintained (3) detailed design of the flame shield support frame; (4) development of reinforcing details on an estimated 30 typical cable tray support designs needing modification and(5) upgrade of drawings, issue of sketches and plant change modifications. In addition to the effort described above, the following construction schedule constraints exist; (1) the craft necessary to install these shields are being utilized to install other items that have been committed to be completed prior to core load (i.e. tray riser fire stops, conduit plugging, conduit wrapping, conduit seismic supports and analyses); (2) At this stage of the project schedular windows are not available to install these shields without severe impact on the upcoming major milestone (i.e. safeguards testing, core load and initial criticality) and; (3) once the core is loaded, construction activities within the RCB are going to be restricted due to cleanliness and security requirements.

c. The flame impingement shields in the RCB will be installed by the end of the first refueling.

d. Operation of the reactor prior to installing the flame impingement shields is justified for the following reasons:

1. Administrative controls on site require a high degree of cleanliness in containment prior to plant operation. This criteria stems from requirements regarding sump clogging, seismic and missile analyses. However, this cleanliness requirement will also ensure that the number of fire hazards are reduced. Containment surveys are performed before operation to insure all materials are removed which are not designed for in-containment. This will necessitate the removal of any potential transient combustibles before reactor operation. Because of this requirement, the probability of a transient combustible fire is minimal.

2. Smoke detectors are located in the area where the flame impingement shields are to be installed. The likelihood of an undetected fire is thereby reduced.

3. Hose stations are located in containment such that any location can be reached by a fire hose. In conjunction with the trained fire brigade, this reduces the possibility of a fire causing severe damage to any equipment and cables.

4. The floor areas under the cable trays contain floor drains which go to a control sump. If a liquid combustible were to be present, all but a small portion would be harmlessly drained to the sump. This reduces the likelihood of there being a large transient combustible fire.

5. All cable trays are of the solid bottom design. These solid bottom trays act as flame impingement shields for small or short duration fires. This also reduces the likelihood of a fire damaging any cables.

6. All cables in the RCB are IEEE-383 qualified regarding flame retardation properties. In conjunction with the solid bottom trays, this essentially removes the cable as a source of fuel for combustion in the containment. This reduces the likelihood of a fire being propagated or sustained in the containment.

7. The containment contains 2.5 million cubic feet of free volume. This massive area basically categorizes the containment as an outdoor area with regard to a fire. It prevents hot gas stratification and reduces radiant heating effects thus greatly reducing the potential damage of a fire.

8. The reactor coolant pumps have an oil collection system. With the exception of the cables the reactor coolant pump oil system is the only other major source of in-situ combustibles in containment. The system is designed to remove the combustible as a fire hazard in containment.

In conclusion, FP&L believes that with the present equipment configuration and installed fire protection devices, the probability of a fire in containment capable of reducing the safety of the plant is sufficiently low as to warrant delaying the installation of the cable tray stack flame impingement shields until the end of the first refueling.

II. Source Range Nuclear Instrumentation

a. Florida Power & Light is committed to provide remote source range nuclear instrumentation existing at the Hot Shutdown Panel with isolation from the control room instrumentation.

b. The reason why this modification to the existing system cannot be completed prior to core load is construction/design oriented. In order to implement a design change which will provide redundancy between the control room and the Hot Shutdown Panel area, the design concept and details must be completed, implemented, parts ordered and installed. At this time, FP&L has not yet completed the final design and has not fully procured all the necessary hardware for this modification to proceed.

c. This modification will be completed by the end of first refueling.

d. Operation of the reactor prior to completion of this modification is justified since the existing neutron source range instrumentation will be operational within the control room and the Hot Shutdown Panel area before core load without the isolation capability. The only means by which this capability could be eliminated would be by a significant fire. Additionally, there are alternate means to insure reactor shutdown if all neutron instrumentation is incapacitated, namely boron sampling. Finally, plant operators do not rely heavily on the information provided by the neutron source range monitor for securing plant shutdown, but use this information as an alternate status of plant condition.