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EISENHUT,D.G. Division of Operating Reactors

SUBJECT: Forwards supplemental response to NRC 790913 ltr re implementation schedule for requirements of NUREG-0578.

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P.O. BOX 529100, MIAMI, FL 33152

FLORIDA POWER & LIGHT COMPANY

November 21, 1979
L-79-327

Office of Nuclear Reactor Regulation
Attention: Mr. Darrell G. Eisenhut, Acting Director
Division of Operating Reactors
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Mr. Eisenhut:

Re: St. Lucie Unit 1
Docket No. 50-335
NUREG-0578 Short Term Requirements

Pursuant to Mr. Denton's letter of October 30, 1979 and subsequent telephone conversations with members of the NRC Staff, Florida Power & Light Company has re-evaluated its response to your letter dated September 13, 1979. Based on the foregoing and having additional time available in the interim to more clearly define schedules regarding the purchase and installation of hardware necessary to meet the requirements of NUREG-0578, FP&L has supplemented its response to your September 13th letter. Our supplementary response is attached to this letter, which is also intended to serve as a response to Mr. Denton's letter.

Very truly yours,

Robert E. Uhrig

Robert E. Uhrig
Vice President
Advanced Systems & Technology

REU/DKJ/cph

Attachments

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

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ATTACHMENT 1

Re: St. Lucie Unit 1

Docket No. 50-335

NUREG-0578 Short Term Requirements

As described below, the implementation schedules for many of the NUREG-0578 short term requirements have been improved in comparison with the schedules initially presented in our letter dated October 22, 1979 (L-79-292). Wherever possible, scheduled plans have been advanced. Please understand that the schedules herein represent our best estimate of the earliest possible implementation dates, given the constraints of manufacturers' ability to meet delivery schedules, limited manpower resources throughout the industry, and system load requirements relative to the operation of three nuclear units on the Florida Power & Light Company (FPL) grid.

Procurement and manpower constraints (as explained in greater detail in Attachment 2) prevent implementation of a few of the NUREG-0578 short-term requirements until after January 1, 1980 (January-February time frame). Since 1977, the FPL systemwide winter demand peaks have approached and sometimes exceeded the summer demand peaks. Given the certainty of a major winter peak, it is unavoidable that the short-term NUREG-0578 modification schedule be closely coordinated with the overall FPL load management projections for 1980. Consideration of procurement and manpower exclusive of load management would not accurately represent the situation that must be considered relative to installation of the NUREG items. For proper assessment FPL must consider all three items and their overall effect on FPL customers and the Florida

economy given the simultaneous shutdown of three nuclear plants (Turkey Point Units 3 & 4, and St. Lucie Unit 1) during January and February.

Turkey Point Unit 3 is scheduled to refuel during the period December 2, 1979 to February 1, 1980. FPL load management projections of total system capability and South Florida area capability show that outages of Turkey Point Unit 4 and/or St. Lucie Unit 1 in addition to Turkey Point Unit 3 would cause serious deficiencies in our ability to generate the expected winter loads.

For example, if St. Lucie Unit 1 is removed from service concurrent with Turkey Point Unit 3, there will be a projected systemwide deficiency of 489 Mw and a South Florida area deficiency of 90 Mw (the South Florida deficiency is significant from the standpoint of system stability). If both St. Lucie Unit 1 and Turkey Point Unit 4 are removed from service concurrent with Turkey Point Unit 3, there will be a projected systemwide deficiency of 1185 Mw and a South Florida area deficiency of 786 Mw. In accordance with standard operating practices mandated by the National Energy Reliability Council, a "single contingency alowance" has been factored into (1) the systemwide projections to allow for the loss of the next largest unit and (2) the South Florida projections to allow for the loss of the Andytown-Orange River 500 kV transmission line. It should be noted that these figures assume peaking of all normally available gas turbines.

The shortfalls in generation caused by concurrent NUREG-0578 shutdowns would lead to selective, rotating outages within the FPL service area. We believe that this can be justifiably avoided by maintaining the current planned-outage schedules for St. Lucie Unit 1 and Turkey Point Unit 4, since our improved

modification schedule shows that almost all NUREG-0578 short-term requirements requiring a plant shutdown can be met by January 1, 1980. The only items of this type for which we cannot fully meet the short-term date involve direct indication of valve position (2.1.3.a), subcooling margin monitor (2.1.3.b), and auxiliary feedwater initiation and flow indication (2.1.7).

Furthermore, the interim operation period beyond the critical January-February period would be minimal because St. Lucie Unit 1 is scheduled for a refueling outage beginning March 30, 1980 and a Turkey Point Unit 4 outage is tentatively scheduled for late April, 1980. Concurrent or overlapping outages during the Spring are acceptable from a load management standpoint.

Finally, if any unscheduled outages of sufficient duration were to occur during the interim period, we would use that time to work on uncompleted items that required plant shutdown, given the availability on-site of necessary materials.

ATTACHMENT 2

Re: St. Lucie Unit 1

Docket No. 50-335

NUREG-0578 Short Term Requirements

2.1.1 Emergency Power Sources

The pressurizer heaters can be loaded onto the 1A3 and 1B3 busses from the Control Room. This was not explicitly stated in our initial response.

2.1.3.a Direct Indication of Valve Position

The St. Lucie Unit 1 primary system relief and safety valves will be provided with direct position or flow indication devices that meet the functional requirements of NUREG-0578, item 2.1.3.a. Action has been initiated to implement this requirement:

(1) Purchase orders have been placed for the necessary material and equipment.

(2) Equipment delivery at the plant, based on the manufacturer's promise to deliver, is scheduled to be completed by January 1, 1980.

(3) Complete implementation of this requirement is scheduled for approximately March, 1980, based on the justification provided in Attachment 1.

2.1.3.b Instrumentation for Inadequate Core Cooling

A subcooling margin monitor will be installed in the St. Lucie Unit 1 Control Room. The monitor will continuously display the margin to saturation in terms of either temperature or pressure through the use of a selector switch. Action has been initiated to implement this requirement:

(1) A vendor has been selected and advised of our decision to purchase a subcooling monitor.

(2) A portion of the material required is available at the plant site.

(3) Purchase orders have been placed for the remainder of the necessary material and equipment.

(4) Equipment delivery at the plant is scheduled to be completed by January 1, 1980. This is the best available delivery date based on negotiation with the manufacturer of the subcooling meter.

(5) Complete implementation of this requirement is scheduled for approximately March, 1980, based on the justification provided in Attachment 1.

(6) The procedures to be used by the operators as backup for recognizing inadequate core cooling are being developed based on analyses performed in response to Item 2.1.9, Transient and Accident Analysis - Analysis of Inadequate Core Cooling. The guidelines for the procedures have been developed by the C-E Owners Group and will be incorporated into plant procedures by January 1, 1980.

2.1.6.a Systems Integrity for High Radioactivity

FPL is currently developing a program which will identify and minimize leakage in systems outside containment that could possibly contain highly radioactive fluids during a serious transient or accident. The program will identify applicable systems, develop procedures, and establish inspection frequencies and acceptance criteria as well as ensure that required maintenance is performed. Our preliminary evaluations indicate that applying this program to gaseous systems will be considerably more difficult than to the liquid systems, however, we plan to implement the leak reduction program by January 1, 1980.

2.1.6.b Plant Shielding Review

Our Architect/Engineer (A/E) is reviewing the St. Lucie Unit 1 plant design to identify locations where additional shielding may be required in order to conduct post-accident operations. This review will be completed prior to January 1, 1980. Dose calculations affecting personnel access and sensitive equipment will be completed by July 1, 1980. Any additional shielding that may be needed as a result of the shielding review will be installed on a schedule that cannot be developed until completion of the review. We do not have sufficient information at this time to make a firm schedular commitment, however, we intend to make every reasonable effort to meet the January 1, 1981 date.

2.1.7 Auxiliary Feed Modifications

A Plant Change/Modification (PCM) has been engineered which provides for automatic starting of all three auxiliary feedwater pumps installed at St. Lucie Unit 1. This PCM provides a safety-grade system which allows use of the steam generator low level trip to initiate the pump start. Initial investigations into equipment procurement indicate that delivery schedules for qualified components will severely delay implementation of the PCM. Additionally, the PCM, which was generated as a result of commitments made in response to IE Bulletin 79-06B, does not presently incorporate the automatic opening of the AFW pump flow control valves. A preliminary engineering design has been generated by our A/E to resolve this

matter, but this effort may prove extensive due to the requirements for complex circuitry (and possible new safety analyses) required to address postulated accidents such as main steam line break and reactivity restart.

Based on the extensive redesign, procurement, and installation effort that will be needed for implementation of a safety-grade system for automatic initiation of auxiliary feedwater, we do not believe that we can supply a realistic implementation schedule at this time. Implementation of a control-grade system can provide no relief due to the long lead time for procural of Class 1E isolators which would be required to interface a control grade system to the presently installed Class 1E auxiliary feedwater circuitry.

Design of the fully automatic, Class 1E auxiliary feedwater modifications is expected to be finalized prior to January 1, 1980. We believe that a realistic schedule for implementation of the design modification could be provided at that time. For the interim period, we believe that the concept of a designated operator, as committed to in our response to I&E Bulletin 79-06B, provides adequate assurance that auxiliary feedwater flow, if required, will be initiated and verified under transient or accident situations.

2.1.8.a <u>Post Accident Sampling</u>

(1) A generic design for automatic sampling and analysis, including the additional shielding, can be completed by our

A/E by January 1, 1980. We anticipate the need for a major modification.

(2) Since development of procedures and plant modifications logically follow the design review, they are scheduled to begin approximately January 1, 1980.

(3) We will make every reasonable effort to meet the January 1, 1981 modification date.

2.1.8.b <u>High Range Radiation Monitors</u>

FPL is proceeding with the design and procurement of high range in-containment radiation monitoring instrumentation and effluent monitoring instrumentation. However, we do not have sufficient information at this time to make a firm commitment regarding scheduled implementation of these modifications. Since the unit is scheduled for a routine refueling otuage in the Spring of 1981, we intend to make every reasonable effort to implement the modifications at that time.

Since the January 1, 1980 procedural requirements related to the monitoring of noble gases, radioiodine, and particulate effluents was not contained in NUREG-0578, we are just beginning our effort to comply. Given the short time frame and our short-term manpower limits, we can only approximate an April 1, 1980 completion date. We

will make every reasonable effort to advance that date as much as possible.

2.1.8.c Improved In-Plant Iodine Instrumentation

Based on the best available equipment procurement schedule, we can have a permanent installation by June of 1980. Associated training and procedures are being developed in parallel with procurement to the greatest practicable degree, however, they could not be finalized until approximately two months beyond the installation date (August, 1980).

If required during the interim period, we can draw air samples through a charcoal filter, purge the noble gases bypassing air over the charcoal, and analyzing for Iodine on a GeLi detector.

2.1.9 Analysis of Design & Off-Normal Transients & Accidents

(1) Transient and Accident Analysis:

No change from initial response.

(2) Containment Pressure Monitor:

(3) Containment Water Level Monitor:

(4) Containment Hydrogen Monitor:

Items 2, 3, and 4 are being engineered by our A/E and our preliminary planning (assuming no equipment procurement problems) is for installation by the Spring 1981 refueling outage.

(5) RCS Venting:

The engineering design by our A/E will be completed by January 1, 1980. Since the details involving analysis, procurement, and installation remain to be resolved, we are unable to make a firm schedular commitment at this time. However, since the unit is scheduled for a routine refueling outage in the Spring of 1981, we intend to make every reasonable effort to implement the modification by that time.

2.2.1.b Shift Technical Advisor

The primary function of the Shift Technical Advisor (STA) will be one of assessment and diagnosis during accidents or abnormal transients. He may be assigned other collateral duties that will not interfere with his primary function. Training of technical advisors is scheduled to be completed by January 1, 1981, contingent on the availability of simulator training time.

FPL believes that the STA responsibility can be appropriately discharged over the short term by utilizing an "on call" system as

described in our original response. Over the long term, FPL believes that upgrading of the shift supervisor responsibility to include the STA function is the best alternative.

Nevertheless FPL is endeavoring to establish an on-shift technical advisor program by January 1, 1980. Establishing the on-shift technical advisor will require additional staff at the plant. In this regard we are actively recruiting candidates from outside the company and screening in-house personnel. If all STA positions are not filled by January 1, 1980, personnel from various corporate departments will be assigned to this position during the interim until all STA positions are formally filled.

Operational experience evaluation and assessment may be performed by the technical advisor or other functional organizations either on-site or at FPL's General Office. At such time that the man-machine interface is improved as a result of such activities as improved control room design and/or operator qualification, FPL may elect to designate a qualified member of the operating shift to perform the accident/transient function.

2.2.2.b <u>Onsite Technical Support Center</u>

(1) The training and classroom area (formerly intended as the Unit 2 Control Room) will be used to house the Technical Support Center (TSC) by January 1, 1980.

(2) Design details to upgrade the TSC to meet all requirements will be provided by our A/E as soon as possible in an effort to meet the January 1, 1981 implementation date.