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

SUBJECT: Forwards response to NRC 790913 ltr re followup actions resulting from NRC review of TMI Requirements re emergency operations ctr unsufficiently defined to designate dedicated primary & alternate locations.

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FLORIDA POWER & LIGHT COMPANY

October 22, 1979
L-79-292

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

We have reviewed your letter of September 13, 1979 regarding the followup actions resulting from NRC staff review of the TMI-2 event, and our response for St. Lucie Unit 1 is attached. While we are attempting to meet the staff's proposed schedule, this will not be possible in every instance. We believe that the commitments made in our response represent a realistic and reasonable schedule.

Very truly yours,

for Robert E. Uhrig
Vice President
Advanced Systems & Technology

REU/MAS/cph

Attachment

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

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ATTACHMENT

2.1.1 EMERGENCY POWER SOURCES

The pressurizer heaters are fed from the 480 volt pressurizer heater busses 1A3 and 1B3 with one-half of the backup heaters and one-half of the proportional heaters on each bus. Following diesel start and load sequencing, the two pressurizer heater busses can be manually loaded onto the 4.16 KV emergency diesel busses 1A3 and 1B3 respectively via the closure of class 1E circuit breakers. Power to the two power operated relief valves (PORV) is supplied from the 125 VDC 1A and 1B battery busses. The blocking valves (2) are powered from 480 VAC vital busses 1A5 and 1B5 respectively and are automatically reloaded onto the 1A5 and 1B5 busses as part of the diesel loading automatic sequencing. Pressurizer level instruments LT-1110X and LT-1110Y are powered from vital busses 1A6 and 1B6 (via power panels PP-101 and PP-102) which upon loss of power are also automatically sequenced onto the diesel generators. In view of the above, St. Lucie Unit 1 is considered to be in compliance with the intent of Recommendation 2.1.1.

2.1.2 RELIEF AND SAFETY VALVE TESTING

A program for testing power operated relief valves and safety valves used for primary system pressure control under design basis operating conditions is being developed by the C-E Owners Group. This program includes definition of test conditions and qualification requirements for all specified valves in operating reactors designed by Combustion Engineering (C-E). The results of this program will be made available to the generic efforts being undertaken by the industry (through for example the Electric Power Research Institute, EPRI, and the Nuclear Safety Analysis Center, NSAC) no later than January 1, 1980. These results will also be available for discussions with the NRC Staff to establish generic resolutions no later than January 1, 1980. St. Lucie Unit 1 will comply with the schedule for completion of the test program which is agreed to during these generic resolutions meetings.

2.1.3.a DIRECT INDICATION OF VALVE POSITION

St. Lucie Unit 1 will comply with the intent of recommendation 2.1.3.a. We currently intend, pending final design review, to install acoustic-type (accelerometer) flow monitors on each pressurizer code safety and power operated relief valve and are currently evaluating vendor proposals. The final design will be submitted for implementation review by January 1, 1980. Should other methods for indication become available, consideration will be given to such designs.

2.1.3.b INSTRUMENTATION FOR INADEQUATE CORE COOLING

St. Lucie Unit 1 is proceeding with the purchase of a Subcooling Meter for installation in the control room. The meter will continuously display the margin to saturation in units of either temperature or pressure through the use of a selector switch. A vendor has been selected and advised of our decision in order to expedite delivery in parallel with the processing of documents required for the purchase of the equipment.

The procedures to be used by an operator to recognize inadequate core cooling will be developed based on analyses being performed as required by Item 2.1.9, Transient & Accident Analysis, Analysis of Inadequate Core Cooling. The guidelines for the procedures are being developed by the C-E Owners Group and will be available for discussions with the NRC Staff to establish generic resolutions no later than January 1, 1980.

Both the need for and feasibility of reactor vessel water level instruments are being evaluated by the C-E Owners Group. The functional requirements and a conceptual design for a reactor vessel level measurement device are being developed as part of this effort. A survey of currently available technology and assessment of the feasibility of various alternatives will be included in the overall evaluation. If required as a result of the generic resolutions discussions with the NRC Staff, the functional requirements and conceptual design will be submitted for proposal review by the NRC Staff prior to implementation. The installation schedule for such a device, should it be deemed necessary, will be established during the Proposal Review.

2.1.4 DIVERSE CONTAINMENT ISOLATION

The original plant design provides for containment isolation on the receipt of either a high containment pressure signal or a high containment radiation signal. Additionally, the design has been changed to add the Safety Injection Actuation Signal (SIAS) as an input to the containment isolation circuitry (CIAS). Receipt of SIAS will now automatically initiate containment isolation. Neither SIAS nor CIAS can be reset while an initiating signal is present, and resetting of either SIAS or CIAS will not result in the reopening of any valves. Therefore St. Lucie Unit 1 complies with the intent of recommendation 2.1.4.

2.1.5.a DEDICATED PENETRATIONS FOR EXTERNAL HYDROGEN RECOMBINERS

St. Lucie Unit 1 is equipped with 2 hydrogen recombiners located within the containment. This recommendation is therefore not applicable.

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2.1.5.c HYDROGEN RECOMBINER OPERATING PROCEDURES

A detailed review of the existing bases and procedures for recombiner use at St. Lucie Unit 1 has been conducted in response to NUREG-0578 and other NRC documents. Our review has concluded that no changes are necessary at this time, and that St. Lucie Unit 1 complies with the intent of this item.

2.1.6.a SYSTEMS INTEGRITY FOR HIGH RADIOACTIVITY

FP&L is currently developing a program which will identify leaks 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. Our preliminary evaluations indicate that applying this program to gaseous systems will be considerably more difficult than to the liquid systems, however, our intent is to complete the short term leakage reduction program during the unit's 1980 refueling outage.

2.1.6.b PLANT SHIELDING REVIEW

Ebasco is reviewing the St. Lucie Unit 1 plant design to identify locations where additonal shielding may be required in order to conduct post-accident operations. This review is scheduled for completion prior to January 1, 1980. Dose calculations affecting personnel access and sensitive equipment will be completed by July 1, 1980. Any additional shielding which may be required as a result of these reviews will be installed on a schedule which will be submitted following the completion of the reviews.

2.1.7.a AUTO INITIATON OF AUXILIARY FEED

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 for 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 may 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 incorporate the automatic opening of the AFW pump flow control valves. Engineering efforts to resolve this matter are in progress, but may prove extensive due to potential requirements for complex circuitry and/or new safety analyses relative to postulated accidents such as main steam line break and the reactivity restart analyses. It is anticipated that such analyses would be performed on a generic basis through the C-E Owners Group. We expect that the complete safety-grade system could be installed and operational prior to returning to power operation following the scheduled 1981 refueling outage. The concept of a dedicated operator such as is currently in effect at St. Lucie Unit 1 is considered to be an adequate interim measure.

2.1.7.b AUXILIARY FEED FLOW INDICATION

The St. Lucie Unit 1 design incorporates safety-grade auxiliary feedwater flow indication in the control room which currently meets the intent of this recommendation.

2.1.8.a POST ACCIDENT SAMPLING

In conjunction with Section 2.1.6.b above, a design review is in progress to identify areas where the post-accident sampling capability can be improved. This review is scheduled for completion by January 1, 1980. Additionally, plant procedures are undergoing a detailed review in order to accomplish the same end including the minimization of personnel exposure. Procedure revisions are scheduled for completion by July 1, 1980. If plant modifications are required, a description of any such modifications and a schedule for implementation will be submitted to the NRC.

If the radiological spectral analysis cannot be performed in a prompt manner with existing equipment, design modifications, equipment procurement, or contractural arrangement will be undertaken to accomplish a spectral analysis. The two hour time restriction is considered to be neither practical nor critically essential. It should be noted that we anticipate complex and potentially insurmountable difficulties in complying with the requirements regarding chlorine and boron analyses. Our investigations indicate that a highly-radioactive chloride and boron analysis could not be performed on-site. A contractural arrangement is being investigated along with on-line boron-monitoring capabilities. Following the resolution of these specific requirements, an implementation schedule will be submitted to the NRC.

2.1.8.b HIGH RANGE RADIATION MONITORS

Florida Power & Light is proceeding to design, procure and install noble gas monitors in plant effluent lines and high range containment radiation monitors. We anticipate that installation of this system can be accomplished during or prior to the unit's scheduled 1981 refueling outage.

2.1.8.c IMPROVED IN-PLANT IODINE INSTRUMENTATION

In view of the lead time involved in obtaining the equipment necessary to comply with this requirement, as well as the time needed to engineer and install the modification, we estimate that we will be unable to meet implementation schedule date of January 1, 1980. FP&L will, however, make every effort to accomplish the installation of this system at the earliest date practical.

2.1.9 TRANSIENT AND ACCIDENT ANALYSIS

The response to Transient and Accident Analysis requirements is being developed by the C-E Owners Group in conjunction with generic resolution meetings with the NRC Bulletins and Orders Task Force.

These responses will be submitted on the schedule agreed to by that task force and the C-E Owners Group and will be referenced for specific application to St. Lucie Unit 1.

CONTAINMENT PRESSURE MONITOR

A system for the monitoring of St. Lucie Unit 1 containment pressure is currently in the design stage. Installation of the complete system is scheduled for completion prior to returning to power operation following the unit's scheduled 1981 refueling outage.

CONTAINMENT WATER LEVEL MONITOR

A system for the monitoring of St. Lucie Unit 1 containment water level is currently in the design stage. Installation of the complete system is scheduled for completion prior to returning to power operation following the unit's scheduled 1981 refueling outage.

CONTAINMENT HYDROGEN MONITOR

A system for the monitoring of St. Lucie Unit 1 containment hydrogen concentration is currently in the design stage. Installation of the complete system is scheduled for completion prior to returning to power operation following the unit's scheduled 1981 refueling outage.

RCS VENTING

The functional requirements and conceptual design of a system for remote venting of the RCS are being developed by both the C-E Owners Group and our Architect-Engineer (Ebasco, Inc.). These requirements and a conceptual design will be available for discussions with the NRC Staff to establish generic resolutions no later than January 1, 1980. A decision concerning installation of an RCS venting system in St. Lucie Unit 1 will be made following completion of the generic resolution meetings.

2.2.1.a SHIFT SUPERVISOR RESPONSIBILITIES

Plant procedures and practices in this area are undergoing review to ensure that reactor operations command and control responsibilities and authority are properly defined. Procedure revisions or other changes required as a result of this review will be incorporated by January 1, 1980. An operational policy directive specifying the duties, responsibilities, authority and lines of command covering the control room operators, the shift technical advisor and the shift supervisor will be issued by FP&L's corporate management by January 1, 1980.

2.2.1.b SHIFT TECHNICAL ADVISOR

FP&L will establish technical advisors, either on call or on each shift; during periods when St. Lucie Unit 1 is operating in Modes 1 through 4 as defined in the Technical Specifications. A minimum of 2 qualified individuals would be on call at all times and would be

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capable of responding within 45 minutes. Each individual on call will be supplied with two-way radios to enable communications with the plant. Coverage will commence on January 1, 1980. The technical advisor's primary function 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, but this schedule may be impacted by the availability of simulator training time. 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, FP&L may elect to designate a qualified member of the operating shift to perform the accident/transient function. Operational experience evaluation and assessment may be performed by the technical advisor or other functional organizations either onsite or at FP&L's General Office.

2.2.1.c SHIFT TURNOVER PROCEDURES

An existing plant procedure is being revised to incorporate a shift turnover checklist for shift supervisors. This revised procedure will become effective no later than January 1, 1980. The need to extend this checklist concept to other operations, technical, and/or maintenance personnel is being evaluated.

2.2.2a CONTROL ROOM ACCESS

An existing plant procedure is being revised to limit control room access consistent with the recommendations of NUREG-0578. The revised procedure will become effective no later than January 1, 1980.

2.2.2.b ONSITE TECHNICAL SUPPORT CENTER

St. Lucie Unit 1 has designated the training classroom area (formerly the Unit 2 control room located adjacent to the Unit 1 control room) as the onsite Technical Support Center. Control room communications and as-built drawings for Unit 1 will be available in the Technical Support Center by January 1, 1980. Specific instrumentation, additional communication, and data requirements are undergoing evaluation with the intent to begin installation of selected equipment by January 1, 1980. An overall scope and implementation schedule will also be submitted at this time.

2.2.2.c ONSITE OPERATIONAL SUPPORT CENTER

St. Lucie Unit 1 has designated the first floor maintenance area of the service building as the on-site Operational Support Center. Communications equipment to and from the control room presently exists in this area. The Emergency Plan will be revised to reflect the existence of this center and to establish the methods and lines of communication and management by January 1, 1980.

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Encl. 8 NEAR TERM EMERGENCY PREPAREDNESS IMPROVEMENTS

Florida Power & Light is in general agreement with the required improvements contained in Enclosure 8 to your September 13, 1979 letter. We believe we can implement these improvements consistent with the NRC schedule with the exceptions noted in Section 2.1.8 in addition to three other areas of concern as discussed in the following paragraphs.

Each of our sites has, in the past, routinely conducted site test exercises in conjunction with local, State, and Federal officials on an annual basis. The 1980 tests are scheduled to be conducted during August/September. As the improvements to the emergency plan are not scheduled for completion until June, 1980, we believe the present test exercise schedule is reasonable and can commit to meeting this requirement by October 1, 1980.

Regarding the upgrading of the emergency plans, we agree in principle with the recommendation to upgrade to Regulatory Guide 1.101. However we cannot at this time commit to the action level criteria as contained and described in that document and in NUREG-0610, DRAFT EMERGENCY ACTION LEVEL GUIDELINES FOR NUCLEAR POWER. We require additional time to review the draft criteria. We believe we can forward our position on this item to the NRC by January 1, 1980.

With respect to the Emergency Operations Center, we believe that specific requirements are not sufficiently defined to enable FP&L to designate dedicated primary and alternate locations at this time. Considering the level of construction underway on Unit 2 we believe that more than adequate space would be available if required. Once the criteria are firm, we will provide the NRC with primary and alternate locations and a schedule for implementation of upgrading requirements.

[illegible]

STATE OF FLORIDA)
) ss.
COUNTY OF DADE)

E. A. Adomat, being first duly sworn, deposes and says:

That he is Executive Vice President of Florida Power & Light Company, the Licensee herein;

That he has executed the foregoing document; that the statements made in this said document are true and correct to the best of his knowledge, information, and belief, and that he is authorized to execute the document on behalf of said Licensee

E. A. Adomat

E. A. Adomat

Subscribed and sworn to before me this 22 day of October, 1979

Theresa M. Muranda

NOTARY PUBLIC, in and for the County of Dade, State of Florida

NOTARY PUBLIC STATE OF FLORIDA AT LARGE
MY COMMISSION EXPIRES MAY 8 1981
BONDED THRU MAYNARD

My commission expires: May 8, 1981