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REGION II
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FLORIDA POWER & LIGHT COMPANY

April 24, 1979
L-79-99

50-335

Mr. James P. O'Reilly, Director, Region II
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
101 Marietta Street, Suite 3100
Atlanta, Georgia 30303

Dear Mr. O'Reilly:

Re: RII:JPO
50-335
IE Bulletins 79-06, 79-06B

Florida Power & Light Company has reviewed IE Bulletins 79-06 and 79-06B, and a response, numbered to correspond to Bulletin 79-06B, is attached.

Very truly yours,

Robert E. Uhrig
Vice President
Advanced Systems & Technology

REU/MAS/ms

Attachment

cc: Harold F. Reis, Esquire

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Response 1

A training program to address the concerns listed in items 1a, 1b, and 2 is being formulated. This training program will include:

(1) The potential of formation of voids in the primary coolant system, ways to identify these voids and the necessary instructions to provide alternate methods of cooling the core,

(2) Use of all available instrumentation during transient conditions,

(3) Philosophy of operating safeguards systems such that these systems will not be compromised by manual action unless continued operation could result in unsafe plant conditions,

(4) Review of apparent operational errors as identified during TMI incident, and

(5) Analyzing plant conditions during transient conditions.

In addition, those procedures addressing the above have been identified and will be included in the training program. All operators and plant management involved with operations will receive this training prior to return to Mode 1. Those on annual leave, etc., will perform this review prior to assuming shift operations responsibilities.

Response 2

Same as Response 1

Response 3

We believe the intent here (as stated more explicitly in Item 8) is to avoid inadvertent releases from containment in an event where SIAS (ECCS actuation signal) occurs without CIS.

The following list provides those lines penetrating containment which at the present are not isolated on a safety injection actuation signal:

(1) Steam Generator Blowdown (2 lines)
(2) Primary Makeup Water
(3) Instrument Air Supply
(4) Containment Pure Air Exhaust
(5) Containment Purge Supply
(6) Nitrogen Supply to Safety Injection Tanks
(7) Reactor Coolant Sample
(8) Pressurizer Surge Line Sample
(9) Pressurizer Steam Space Sample
(10) Steam Generator Blowdown Sample (2 lines)
(11) Containment Vent Header
(12) Reactor Drain Tank Pump Suction
(13) Reactor Coolant Pump Controlled Bleedoff
(14) Containment Atmosphere Radiation Monitoring System (3 lines)

All other lines penetrating containment are either essential to core cooling capability, have locked closed manual valves, or currently receive an isolation signal from SIAS.

We are proceeding with evaluation of changes necessary to allow isolation of the above lines upon receipt of a safety injection actuation signal.

For interim action until these design changes can be implemented, we propose directing operators to manually initiate CIS upon receipt of a (valid) SIAS. After verifying CIS had actuated the signal would be reset. This would not reposition any valves and would provide two positive benefits while still preventing inadvertent releases:

a. if the CIS setpoints were later reached the actuation signal and alarms would insure immediate operator attention to the changing condition, and

b. it would allow the operator to position valves if necessary to help evaluate and control the occurrence (i.e., sample RCS, containment, and/or steam generators for activity, cool the quench tank with primary water to delay or avoid tank rupture, or provide backup instrument air to the containment).

Response 4

The present St. Lucie Unit 1 (PSL #1) design does not provide for automatic initiation of Auxiliary Feed Water (AFW) due to various design features significantly different from the TMI plant. This is being evaluated and is discussed below.

The normal procedures require that the operator initiate AFW operation when plant conditions require it. The PSL #1 AFW system has full control and indication in the control room on one of the main reactor control panels. Prior to Mode 1 operation, instructions will be issued to further ensure that an operator is designated to ensure that AFW flow is initiated and verified, if needed, during transient or accident situations.

It should be noted that PSL #1 design does not require any manual valve repositioning for periodic surveillance testing. Also, as noted in the responses to Items #7 and #9, the few manually operated valves in the system are locked in the proper position, and are restored after maintenance. It is further intended to increase the routine surveillance of these valves to provide additional assurance that they are properly positioned.

The water inventory in PSL #1 steam generators (even when the reactor and turbine trip are initiated by low S/G level) is sufficient to control decay heat removal for at least 13 minutes. Further discussion of this topic can be found in PSL #1 FSAR section 10.5. It should be further noted that operational experience has demonstrated that adequate

time exists for manual initiation. The above facts and the designated operator provide effective interim action to meet the intent of this Item.

Florida Power and Light Company (FPL) is evaluating the necessity and feasibility of various schemes regarding automatic start and/or initiation of AFW flow.

Response 5

Existing procedures specifically address failure of a pressurizer relief or safety valve to reseat. Nonetheless, those procedures which are concerned with the off-normal operation of Power Operated Relief Valves are being re-evaluated. All instrumentation which would identify failure of a PORV to close is located on the Reactor Coolant System section of the main RTGB and is readily available to the operator. Available indications are: PORV solenoid condition indicating lights, in-line temperature indication on relief line, quench tank indications and alarms, RCS pressure and level and PORV isolation valves position. Existing procedures instruct the operator to close the PORV block valves when the PORV fails to reseat.

Please note that these procedures and any necessary changes will be incorporated into the training program being formulated to address Items 1 and 2. All licensed operators will review these procedures prior to proceeding to Mode 1. Licensed operators on leave, etc. will perform this review prior to assuming shift operational responsibilities.

Response 6

We have identified the procedures concerned with Engineered Safety Features actuations. These procedures are in the process of being reviewed and will be revised, if necessary, to comply with the intent of Items 6a, 6b, and 6d. Any changes to these procedures will be reviewed by the Facility Review Group and implemented prior to Mode 1. These procedures will be discussed as a part of the training sessions (Items 1a and 1b), and all licensed operators will participate in the training and review prior to Mode 1. Those operators on leave, etc., will perform this review prior to assuming shift responsibilities. Saturation pressure temperature curves have been prepared for posting in the Control Room.

It should be noted that, due to present design, full conformance to Para. 6.c. cannot be achieved. The cooling water to the RCP motors and seals is isolated on SIAS. PSL design does not allow reset of SIAS while the initiating condition exists and the pump cooling water valves cannot be overridden open. This condition and the underlying design basis, including the need for operating pumps, is being re-evaluated.

In connection with the re-evaluation and the procedure review described above, we have recently received related information from our NSSS vendor and other industry sources, and we are factoring this information into the re-evaluation and review process.

Response 7

Existing procedures do specifically address safety related valve positions, retest requirements for safety related equipment and valve position during operation. These procedures are being re-evaluated and, if required, will be revised and included in the training program as defined in the response to Items 1a and 1b.

Prior to Mode 1, all safety related valve positions will be verified.

Response 8

We have reviewed our present containment isolation design. Other than systems needed to assure core cooling capability only the 14 penetrations listed in Item #3 do not isolate on SIAS (and they do isolate on CIS). The interim operator action described in the response to Item #3 will preclude inadvertent transfer of fluids from containment on an interim basis. As noted in Item 3, we are evaluating actions needed for automatic isolation on SIAS of these penetrations. It should be specifically noted that our present design does isolate the containment sump pump discharge valves on both SIAS and CIS.

It should be further noted that:

(1) Neither containment isolation nor safety injection actuation can be reset with the associated actuation signal still present.

(2) All isolation valves will remain closed if containment isolation or safety injection actuation is reset.

(3) Periodic Testing as required by St. Lucie Unit 1 Technical Specifications will ensure continued operability of the above.

Response 9

Existing procedures address all 3 concerns. Nonetheless, the operability/retest program has been re-evaluated with the following results:

(1) Safety related systems are tested for operability per Technical Specifications and existing procedures on a routine basis. This test is adequate to demonstrate a specific operability requirement prior to removing the redundant item from service. However, if the item had been removed from service since its last scheduled test it could possibly not have been tested adequately due to deficient implementation of existing procedures. Therefore, PSL is changing its procedure for removing safety related equipment from service to require a review of the records (clearance log, Out-of-Service log) which would indicate a possible untested situation. If these records indicate the equipment had been removed since its last scheduled test, a review of the specific retest will be conducted to ensure adequacy, or a new test will be conducted

prior to removing the redundant equipment from service.

(2) Specific test procedures require restoration as part of the procedure. Operability following maintenance is specified in the Quality Instructions (QI-11 Series). In addition the equipment clearance procedure provides instructions for restoration (e.g. valves, fuses, breakers, etc.). No procedure changes are considered necessary.

(3) The on-shift licensed operators are the issuing and approving authority for all safety related equipment removed from service via the Equipment Clearance Procedure. In addition the senior operator on shift (Nuclear Plant Supervisor) must be notified of all equipment removed from service which affect the Technical Specifications. These items are entered in an Out-of-Service log. All licensed operators on shift are required to review (and initial) the Out-of-Service log upon shift turnover. No procedure changes are considered necessary.

Response 10

As FPL understands this item, it addresses situations associated with significant release of radioactive material. Such release of radioactive material would be expected to be preceded by damage to fuel assemblies in the reactor. The plant currently has the means to identify such conditions.

When a condition such as described above is identified, the St. Lucie Plant Emergency Plan is put into effect and the Emergency Control Officer or his designated alternate is notified by onsite personnel. These officers are always available by telephone or beeper.

The Emergency Control Officer, who is located offsite, would notify NRC-I&E and give a report of the situation. Practice drills indicate that such notification can probably be made within one hour. We have adopted this system in order to allow onsite operators to devote maximum effort toward bringing the plant to a stable condition. Plant personnel periodically update the Emergency Control Officer on the status of the plant. The Emergency Control Officer would then periodically update NRC-I&E.

Considering the TMI-2 incident and the communication problems encountered by the NRC, FPL recognizes the need for the NRC to be fully and accurately informed about conditions at nuclear plants which may adversely affect the public health and safety. We believe that our established notification procedure meets the NRC concern for prompt notification.

We will continue to assess our ability to establish an "open continuous communication channel" which establishes direct voice contact with a responsible representative of the NRC as suggested in Item 11, and will inform you of our conclusions.

Response 11

We are reviewing those procedures which are applicable to those conditions where Hydrogen gas could accumulate at various high points in the RCS. Our procedures currently address the release of Hydrogen to the containment atmosphere. Instructions to the operator to place the Hydrogen recombiners in operation as a subsequent action upon the identification of loss of reactor coolant are provided. Any instruction changes or new instructions will be included in the training package discussed in Item 1a and 1b and will be implemented before Mode 1 operation.

The following describes the capabilities at St. Lucie Unit 1 to deal with significant amounts of non-condensible gases that may be generated during a tranient or other accident in the primary system and released to containment.

Reactor Coolant System

(1) Venting the RCS - There are several potential high points within the reactor coolant system where non-condensible gases may accumulate.

In order to remove accumulated gases from various high points, the following methods are available:

a. The pressurizer steam space may be vented through the primary sample system steam space sample line. This line penetrates the containment, the fluid is cooled, and discharged to the volume control tank (VCT). The VCT vents to the gas waste management system (GWMS) for storage of the gas.

b. The reactor coolant pump seal cavity may be vented through the controlled bleedoff for each reactor coolant pump. This flow can be routed to the volume control tank or the reactor drain tank. These tanks can be vented to the GWMS.

c. The RCS pressurizer surge line and hot leg sample system connections may be used to partially vent the loops and reactor vessel head. The path for the venting is the same as that described for the pressurizer steam space in (a) above.

d. The reactor vessel head may be partially vented through the pressurizer as described in (a) or (c) above if the RCS fluid level permits. Complete removal of gas accumulated in the reactor vessel head requires redisolving it in the coolant and then degassing the coolant as described in (2) below.

e. Pressurizer motor operated relief valves can be used to vent gas in the pressurizer (and through the pressurizer other portions of the RCS) to the quench tank.

(2) Degassing the RCS - The existing systems typically have the following capabilities to degas dissolve hydrogen and/or non-condensible gases from the reactor coolant:

a. Degassing via the pressurizer: With this method all pressurizer heaters are energized, spray flow is adjusted to maintain a constant plant pressure, and the pressurizer is vented via the existing steam space primary sample connection to the VCT.

b. Degassing the RCS via the CVCS: With this method the reactor coolant passes through the letdown line to the Volume Control Tank (VCT). The VCT is vented directly to the GWMS.

c. Waste Gas Processing - The plant gaseous waste management system may be used to process or store the hydrogen and non-condensible gases collected from the RCS.

The approximate storage capacity of the plant gaseous waste management systems (GWMS) at St. Lucie Unit 1 is 5300 SCF.

d. Containment Hydrogen Control - In order to prevent excessive hydrogen buildup following a postulated LOCA, a hydrogen control system, consisting of hydrogen recombiners, is included in the plant design. The use of hydrogen recombination will allow control of hydrogen concentration in the containment without any release to the environment. The two recombiners are electrically powered thermal units inside containment. Each unit can process 100-120 SCFM of containment air. A hydrogen sampling system is provided to monitor the level of hydrogen concentration in the containment following a LOCA.

ATTACHMENT: PROCEDURES IDENTIFIED FOR REVIEW

PROCEDURE NUMBER	TITLE
0030140	BLACKOUT OPERATION
0030142	RCS COOLDOWN DURING BLACKOUT
0120040	LOSS OF REACTOR COOLANT FLOW
0120041	STM. GENERATOR TUBE FAILURE
0120042	LOSS OF REACTOR COOLANT
0700040	LOSS OF FEEDWATER OR STM. GENERATOR LEVEL
0810040	MAIN STEAM LINE BREAK
0030130	SHUTDOWN RESULTING FROM RX. TRIP OR TURBINE TRIP
0030131	PLANT ANNUNCIATOR SUMMARY
0120031	EXCESSIVE REACTOR COOLANT SYSTEM LEAKAGE
0120034	REACTOR COOLANT PUMP OFF-NORMAL OPERATION
0120035	PRESSURIZER LEVEL AND PRESSURE OFF NORMAL OPERATION
0120036	PRESSURIZER RELIEF/SAFETY VALVE OFF-NORMAL OPERATION
0310030	CCW OFF-NORMAL OPERATION
0410030	HPSI OFF-NORMAL OPERATION
0440030	SDC/LPSI OFF-NORMAL OPERATION
0510030	UNCONTROLLED RELEASE OF RADIOACTIVE LIQUIDS
0530030	WASTE GAS SYSTEM OFF-NORMAL OPERATIONS
0530031	UNCONTROLLED RELEASE OF RADIOACTIVE GAS
0010125	SCHEDULE OF PERIODIC TESTS, CHECKS AND CALIBRATIONS (WHICH INCLUDES TECH. SPEC. AND ASME SECTION XI PUMP AND VALVE TESTING)