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FLORIDA POWER & LIGHT COMPANY

June 25, 1979
L-79-173

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
Docket Nos. 50-250 & 50-251
IE Bulletin 79-06A

In response to a verbal request from the NRC staff, supplementary information applicable to questions 2, 9, and 10 is attached.

Very truly yours,

Robert E. Uhrig
Vice President
Advanced Systems & Technology

REU/MAS/cph

Attachment

cc: Robert Lowenstein, Esquire

Response 2

We have reviewed our operating procedures for coping with transients and accidents and find that the actions required by these procedures are sound; however, specific mention of the possibility for core voiding is lacking for the most part. Therefore, we have issued a Special Instruction to the operators specifying the instrumentation to use in aiding the detection of voiding in determining whether or not natural circulation exists if reactor coolant pumps are inoperable, in taking corrective action to prevent void formation, and in enhancing core cooling under the natural circulation mode of operation. A saturation curve for each unit has been placed in the Control Room for additional aid to help the operator maintain the reactor coolant in a subcooled state.

The Special Instruction tells the operator that natural circulation cooling can be enhanced when the primary water inventory is maintained and the reactor coolant is subcooled. To accomplish this, the pressurizer level should be at the normal no load level and not decreasing and the pressurizer pressures should be at $\geq$ 2000 psig. This pressure will result in at least 15°F subcooling at the core outlet at the maximum anticipated T_{HOT} of 620°F for natural circulation following a trip from 100% power.

Under these conditions, voids due to steam or noncondensible gas formation will not be present, so the operator knows that, with indicated level in the pressurizer, the reactor coolant system is in a non-voided condition.

The operator has been instructed that, for natural circulation to occur, a heat sink must be present and that this heat sink is maintained by maintaining the level in the steam generators at a point above the top of the tubes - that is, in the narrow range. After assuring that the above conditions exist, the operator has been instructed to verify that natural circulation exists by determining the RCS ΔT, which should be less than the full load ΔT of 56°F. This is done by using the wide range temperature indication and subtracting T_{cold} from T_{hot}. A constant T_{hot} and T_{cold} also tells the operator that heat is being removed. Another indication that natural circulation is being maintained is steam pressure remaining constant or decreasing at the same rate as primary temperatures while maintaining steam generator level with continuous auxiliary feedwater flow. If natural circulation stopped, steam pressure would fall rapidly as the steam generator cooled, and steam generator level would rise, assuming continuous auxiliary feedwater flow.

If natural circulation is not indicated, measures to take to restore circulation flow include repressurization above T_{hot} saturation pressure by the use of pressurizer heaters and reestablishing steam generator level to the narrow range level in at least one steam generator.

The operators have also been instructed in the use of T_{hot} and in-core thermocouples in determining maximum saturation pressure for use in depressurizing to the degree necessary to achieve safety injection flow to the

core, if necessary t restore pressurizer level. This instruction applies to the situation where a leak has occurred which, combined with coolant pump seal leakage, exceeds charging pump capacity.

We are currently investigating the use of the source range nuclear instrumentation to detect core voiding.

Operating procedures are currently being revised to reflect the special instructions already given to the operators and it is expected that at least one new procedure dealing with natural circulation and with small LOCA's will be written. These procedure revisions and preparations will be completed by July 31, 1979.

Response 9

Updated response 9 in letter L-79-168 of June 18, 1979 should be revised to read:

> Prior to the start-up of Turkey Point Unit 4, a special interim instruction will be implemented to require:
>
> (1) that controllers for the sump pump discha ge valves will be placed in the shut position prio to re-setting phase A containment isolation,
>
> (2) that the controllers for the containment purge and instrument airbleed isolation valves will be placed in the shut position prior to resetting containment ventilation isolation, and
>
> (3) that the main steam isolation valves' control switches will be placed in the closed position after any valid MSIV isolation signal.

NOTE: Response 9 (1) has been revised and response 9 (3) has been added because MSIV closure is not related to phase A containment isolation. Placing the control switches in the closed position will prevent these valves from re-opening, even in the absence of the steam line isolation signal, and the absence of a pressure differential across the valves.

Response 10

We have completed our procedure review (reference letter L-79-100, dated April 24, 1979) and have identified only a few areas where the procedures may be enhanced. However, the staff concerns in Items a, b, and c are addressed generically in AP 0103.4, "In-Plant Equipment Clearance Orders" and AP 0190.19, "Control of Maintenance on Nuclear Safety Related Systems".

The changes identified in our review to enhance the procedures are being processed. All of these revisions should be completed no later than July 31, 1979.

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a. Plant procedures have been reviewed to ensure that they require verification of the operability of redundant safety related systems prior to the removal of any safety related system from service.

All clearances requested on nuclear safety related systems, or equipment listed in Technical Specification 3.0, Limiting Conditions for Operations, are given a review before issuing. This review is conducted by the Nuclear Plant Supervisor or the Nuclear Watch Engineer and a member of the plant operating staff, holding an active Senior Reactor Operator's License. This review ensures that the Minimum Equipment List for the Limiting Conditions for Operation remains satisfied.

The Minimum Equipment List is reviewed each shift and completed to indicate those components/systems which are operable and available. The status of the component/system, i.e., operability, is based on the interpretation by the USNRC that performance of a surveillance requirement within the specified time interval shall constitute compliance with operability requirements for a Limiting Condition for Operation and associated action statements unless otherwise required by the specification. Surveillance Requirements do not have to be performed on inoperable equipment.

b. Plant procedures have been reviewed to ensure that they require verification of the operability prior to being declared ready-for-service/operable. The procedures require:

1. All clearances to be properly released.

2. All tags to be removed and valves, switches, etc. to be in their normal lineup.

3. The system has been tested to the extent that it is evaluated safe to return to service. Specifically:

(1) for pumps and valves which fall under the Inservice Inspection Program, that appropriate retests are performed satisfactorily, and

(2) for equipment which falls under the Technical Specification Limiting Conditions for Operation, that appropriate surveillance tests are performed satisfactorily.

c. Refer to Updated Response to IE Bulletin 79-06A dated June 18, 1979 (L-79-168).