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FLORIDA POWER & LIGHT COMPANY

May 8, 1980
L-80-148

Central File
50-250
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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 80-04

We have reviewed the subject bulletin and our response is attached.

Very truly yours,

Robert E. Uhrig

Robert E. Uhrig
Vice President
Advanced Systems & Technology

REU/MAS/cph

Attachment

cc: Harold F. Reis, Esquire

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RESPONSE TO NRC IE BULLETIN 80-04

Item 1

A review of the original analysis by our NSSS Vendor has indicated that essentially no mass/energy contributions from continued auxiliary feed flow or other energy sources were assumed. The Turkey Point FSAR, Section 14.2.5, describes the protective logic and the feedwater isolation actions taken. The analysis resulted in a calculated containment pressure of 42 psig, as compared to the containment design pressure of 59 psig (a 28.8% margin to design pressure). Additionally, the Turkey Point containments have been structurally tested to withstand 65 psig (a 35.4% margin).

A review of FSAR Figure 10.2-2 shows that the damaged steam generator can be isolated from both feedwater and auxiliary feedwater flows by valves located outside containment. The steam generator instrumentation described in the FSAR Section 7 is sufficient to detect and identify the steam generator which has suffered the Main Steam Line Break.

Item 2

Westinghouse has reviewed the assumptions made for main and auxiliary feedwater flow as they apply to licensing basis steamline break transients. Several of the relevant assumptions used in all core transient analyses follow, and are further explained in the Turkey Point FSAR.

1. The reactor is assumed initially to be at hot shutdown conditions, at the minimum allowable shutdown margin.

2. For the Condition IV breaks, i.e., double-ended rupture of a main steam pipe, full main feedwater is assumed from the beginning of the transient at a very conservative cold temperature.

3. All auxiliary feedwater pumps are initially assumed to be operating, in addition to the main feedwater. The flow is equivalent to the rated flow of all pumps at the steam generator design pressure.

4. Feedwater is assumed to continue at its initial flow rate until feedwater isolation is complete, approximately 10 seconds after the break occurs, while auxiliary feedwater is assumed to continue at its initial flow rate.

5. Main feedwater flow is completely terminated following feedwater isolation.

Based on the manner in which the analysis is performed for Westinghouse plants, the core transient results are very insensitive to auxiliary feedwater flow. The first minute of the transient is dominated entirely by the steam flow contribution to primary-secondary heat transfer, which is the forcing function for both the reactivity and thermal-hydraulic transients in the core. The effect of auxiliary feedwater runout is minimal. Greater feedwater flows during the large steamline breaks serve to reduce secondary pressure, accelerating the automatic safeguards actions, i.e. steamline isolation,

feedwater isolation and safety injection. The assumptions described above are therefore appropriate ad conservative for the short-term aspect of the steamline break transient.

The auxiliary feedwater flow becomes a dominant factor in determining the duration and magnitude of the steam flow transient during later stages in the transient. However, the limiting portion of the transient occurs during the first minute, both due to higher steam flows inherently present early in the transient and due to the introduction of boron to the core via the safety injection system.

In conclusion, Westinghouse has evaluated the effect of runout auxiliary feedwater flows in the core transient for steamline break, and based on this evaluation, has determined that the assumptions presently made are appropriate for use as a licensing basis. The concerns outlined in the introduction to IE Bulletin 80-04 relative to, 1) limiting core conditions occurring during portions of the transient where auxiliary feedwater flow is a relevant contributor to plant cooldown; and 2) incomplete isolation of main feedwater flow, are not representative of the Westinghouse NSSS designs and associated Balance of Plant requirements.

Westinghouse remains cognizant of its responsibility to identify analytical or equipment shortcomings which will violate the safety criteria under which its plants are licensed.

Item 3

Florida Power & Light Company expects to contract with our NSSS vendor to evaluate the effects of runout flow of Auxiliary Feedwater System and other energy sources as described in IE Bulletin 80-4. This evaluation is expected to show the adequacy of the Turkey Point Containment design and is presently targeted for completion no later than August 1, 1980.

As stated in Item 2, the reactor-return-to-power response is not significantly affected by the added assumptions described in IE Bulletin 80-04. No further action is anticipated for the return-to-power response.