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September 26, 1979

Mr. Harold R. Denton, Director  
 Office of Nuclear Reactor Regulation  
 U. S. NUCLEAR REGULATORY COMMISSION  
 Washington, D. C. 20555

Attention: Mr. A. Schwencer, Chief  
 Operating Reactors Branch 1

Gentlemen:

DOCKET NOS. 50-266 AND 50-301  
REVISION TO SUPPLEMENTAL INFORMATION  
FOR IE BULLETIN 79-06A  
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

Our September 20, 1979, letter forwarded to you supplemental information which addressed outstanding concerns which the NRC had expressed regarding our responses to IE Bulletins 79-06A and 79-06A Revision 1. Included with this information was a Point Beach Nuclear Plant Operations Group Special Order on the topic of voiding and natural circulation. As a result of concerns expressed by your Staff regarding the allowed margin to saturation conditions permitted in this Special Order and as a result of discussions with the IE Inspector on this matter, we are providing the attached Revision 1 to Special Order PBNP 79-18.

This change revises the minimum recommended reactor coolant pressure margin over the saturation pressure for the reactor coolant thermocouple temperature from 100 psi to 400 psi in order to preclude void formation. We trust this revision satisfies your concern in this matter.

Very truly yours,

C. W. Fay, Director  
 Nuclear Power Department

Attachment

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ADD: P OREILLY

Special Order

OPERATIONS GROUP  
VOIDING AND NATURAL CIRCULATION

This special order is being issued to give interim guidance to all operators on the problems and action required in recognition of core voiding and to recognize and take proper operational steps to maximize natural circulation.

The permanent changes to EOP's will be developed using this, Westinghouse input, and any other pertinent data. It is anticipated that the procedure changes will be made in the next couple months.

Background

Three Mile Island has shown the inherent problems that exist in a PWR when control of water inventory is lost. The problems of the Babcock and Wilcox design in establishment of natural circulation certainly made Three Mile Island significantly worse. However, a major lesson to be learned, if it isn't already known, is the overriding importance of water mass inventory and control in all PWR designs.

Guidance

The following guidance is promulgated both as operator instructions and as additional thought provoking areas.

Void Recognition

The prime instrumentation we have to insure prevention of a void condition are the pressurizer levels. It is, therefore, a basic thrust of all accident operations involving the loss of coolant that we establish a plant condition where reactor coolant pressure is greater than 400 psi over the saturation pressure (using reactor coolant thermocouples versus the temperature pressure charts to obtain saturation pressure) and with a known pressurizer level.

This condition is, therefore, the first and mandatory condition we must be in before any consideration be given to securing safety injection. As a general rule in the PBNP design, safety injection pumps should not be secured on a loss of coolant accident until stable plant conditions are achieved and verified through redundant plant instrumentation. No primary system overpressurization problem should exist on the PBNP design in view of safety injection system pump pressure design.

Natural Circulation

The establishment of natural circulation in the PBNP design has been verified by startup testing and other tests and will initiate in the case of loss of AC or reactor coolant pump tripping. The basic parameters to be watched in

this case are the delta "T" between core outlet thermocouples and wide range "T" cold, steam generator pressure and verification of proper auxiliary feed-water flow and proper steaming of the steam generators.

Guidance

If the reactor incore thermocouple temperature minus the loop cold leg temperature is 60 degrees or less and holding steady or decreasing, natural circulation has been established. If the delta "T" is increasing, or steam generator pressure is abnormally low, (steam generator pressure less than saturation temperature for the coolant real Tav<sub>g</sub>) operator action should be immediately directed to two areas:

1. Verify auxiliary feedwater flow and verify steaming on the steam generators, increase it if possible, insure steam generator level is on the narrow range; i.e., above the tube bundle.
2. Reverify as soon as possible that a loss of mass inventory has been corrected or is in the process of being corrected.

F. T. Rhodes

cc: Mr. G. A. Reed  
Mr. J. Greenwood  
Mr. F. T. Rhodes  
Mr. G. J. Maxfield  
Mr. G. R. Helgeson  
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Group Heads  
Licensed Personnel  
COT's  
Plant: 11.5.7.2

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