

DEC 1 1978

Docket No. 50-10

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Commonwealth Edison Company  
ATTN: Mr. Cordell Reed  
Assistant Vice President  
Post Office Box 767  
Chicago, Illinois 60690

Gentlemen:

We have reviewed your response dated March 8, 1978 to our letter dated February 1, 1978 regarding the need for a feedwater pump trip on reactor high water level. Based upon our review of your submittal we have determined that a feedwater trip on high reactor level is not necessary to assure safe operation of Dresden Station, Unit No. 1.

Our Safety Evaluation containing the details of the Regulatory Staff's review is enclosed.

Sincerely,

Original Signed by:  
Dennis L. Ziemann

Dennis L. Ziemann, Chief  
Operating Reactors Branch #2  
Division of Operating Reactors

Enclosure:  
As stated

cc:  
See next page

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SAFETY EVALUATION OF THE  
PROPOSED ACTIONS  
REGARDING BWR FEEDWATER  
PUMP TRIP ON REACTOR HIGH WATER LEVEL

Introduction

An NRC letter dated February 1, 1978, regarding a concern of flooding of main steam lines or lines to other safety related equipment on BWRs, was transmitted to the licensees of the following six BWR units: Big Rock Point - 1, Dresden - 1, Oyster Creek, Nine Mile Point - 1, Millstone - 1, and Pilgrim - 1. The letter referenced a report entitled "Evaluation of Incidents of Primary Coolant Release from Operating Boiling Water Reactors" issued by the U. S. Atomic Energy Commission on October 30, 1972 in which the regulatory staff reported the results of a study of eight incidents involving the unintentional discharge of primary coolant through safety and relief valves during reactor operation. One of the staff recommendations resulting from this study was that the BWR feedwater control system should be designed to automatically control reactor vessel water level during anticipated transients without flooding of the main steam line or the lines to safety-related equipment. The installation of an automatic feedwater pump trip function on reactor vessel high water level for that operating BWR-3 and BWR-4 facilities has satisfied the intent of the staff's recommendation in this regard.

The February 1, 1978 letter requested that the licensors for the above six sited facilities transmit their plans for addition of the automatic feedwater pump trip. Commonwealth Edison (CECo) responded to our request by a letter dated March 8, 1978. In their response CECo indicated that they do not plan to install a feedwater pump trip because their technical review indicated that such a trip is neither necessary or desirable. Our evaluation of CECo's submittal is detailed below.

Discussion

Until the HPCI system is installed the primary feedwater system at Dresden - 1 is required to perform the high pressure coolant injection function in the event of a break in the primary coolant system too small to depressurize the system before the core is uncovered. Even after the HPCI system is installed, the fire system would provide a backup, HPCI function in the event offsite power were available after a LOCA. Addition of high drum level trip to feedwater systems would tend to decrease the reliability of the feedwater system to perform under LOCA conditions.

The existing feedwater control circuitry does provide flood control by stopping the flow of feedwater into the vessel by automatically closing the feedwater regulating valve on high primary steam drum level. High drum level also trips the turbine and alarms in the main control room. The physical arrangement of the Dresden - 1 safety-relief valves in relation to the reactor vessel and containment is different than the physical arrangement of a BWR-3 or BWR-4 design. This configuration has safety valves on the top of the steam drum and low capacity relief valves on the steam line and thus potential releases from these locations will not impinge on any safety equipment.

Based on our review, we find the action taken by Commonwealth Edison acceptable.

#### Conclusion

In the report entitled "Evaluation of Incidents of Primary Coolant Release from Operating Boiling Water Reactors" issued by the U. S. Atomic Energy Commission on October 30, 1972, the following suggested performance objectives for the feedwater control system were identified by the staff:

1. The maximum water level attained should not initiate isolation of any safety feature such as the high pressure coolant injection system, or disable any system or component required for the orderly shutdown of the reactor and
2. The minimum level attained should not require the activation of any safety system.

The primary feedwater system of Dresden - 1 is required to perform the high pressure coolant injection function during certain LOCA events. Hence the positions taken by CECO in not tripping the feedwater pump on reactor high level is consistent with performance objective (1) above.

Therefore we conclude that CECO's decision not to install a feedwater pump trip is acceptable.