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UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT
WASHINGTON, D.C. 20555

August 22, 1980

IE Supplement 3 to Bulletin No. 80-17: FAILURE OF CONTROL RODS TO INSERT DURING A SCRAM AT A BWR

NRC staff evaluation of a potential single failure mechanism of the control rod drive control air system has identified the need for licensee actions in addition to those requested by IEB 80-17 and Supplements 1 and 2.

The potential single failure was discussed in IE Information Notice 80-30, which was issued on August 19, 1980. It involves gradual or partial loss of control air system pressure, which could cause partial opening of scram outlet valves without rod motion. The resultant accumulated seal leakage could conceivably fill the scram discharge volume in a few minutes. Since not all operating BWR's have instrumentation presently installed to continuously indicate water level in the scram discharge volume headers and to provide a control room alarm or scram function, the possibility exists for the scram discharge volume to fill to a level which could prevent reactor scram before automatic protective action or before the operators could be warned.

In view of the possible single failure mechanism described above, the following actions are requested in addition to those specified in IE Bulletin 80-17, Supplements 1 and 2:

1. For those plants in which the scram discharge volume headers are connected to the instrument volume by a 2 inch pipe, within five days of the date of this Bulletin, provide or verify that procedures are in effect to:
 - a. Require an immediate manual scram on low control rod drive air pressure with a minimum 10 psi margin above the opening pressure of the scram outlet valves.
 - b. Require an immediate manual scram in the event of:
 - (1) Multiple rod drift-in alarms, or
 - (2) A marked change in the number of control rods with high temperature alarms.

Installation of water level instrumentation in the scram discharge volume with level alarm and continuous level indication in the control room, in response to Item B.1 of IEB 80-17 Supplement No. 1, may provide a basis for relaxation of the time for initiating a manual scram.

2. In addition, every BWR licensee is requested within five days of the date of this bulletin to provide and implement procedures which require a functional test using water for the instrument volume level alarm, rod block and scram switches after each scram event, before returning to power. This procedure should remain in effect until modifications in addition to Item B.1 of IEB 80-17 supplement No. 1 are completed to substantially increase reliability of water level indication in the scram discharge volume(s).

Licensees of all operating BWRs shall submit a report summarizing action taken in response to the above items within 10 days of the date of this Bulletin Supplement. Accordingly, you are requested to provide within 10 days as specified above, written statements of the above information signed under oath or affirmation. Reports shall be submitted to the Director of the appropriate NRC Regional Office and a copy forwarded to the Director, Division of Reactor Operations Inspection, NRC. Office of Inspection and Enforcement, Washington, D.C. 20555

Approved by GAO, B180225 (R0072); clearance expires July 31, 1980. (Application for renewal pending before GAO.) Approval was given under a blanket clearance specifically for identified generic problems.

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80-19	Failures of Mercury-Wetted Matrix Relays in Reactor Protective Systems of Operating Nuclear Power Plants Designed by Combustion Engineering	7/31/80	All nuclear power facilities having either an OL or a CP
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80-17	Failure of Control Rods to Insert During a Scram at a BWR	7/3/80	All BWR power reactor facilities holding OLs
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