SSINS No.: 6835
Accession No.:
801216002
IN 80-45

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

December 17, 1980

IE Information Notice No. 80-45: POTENTIAL FAILURE OF BWR BACKUP MANUAL SCRAM CAPABILITY

The primary purpose of this Notice is to advise BWR licensees that a mechanism exists which could defeat one of the backup manual scram (reactor trip) features normally available to the reactor operator. In some GE-designed reactors, placing the Mode Selector Switch (MSS) in "Shutdown" should actuate a scram. This feature is used at some facilities as part of a normal reactor shutdown, and for certain plant situations the Technical Specifications require placing the MSS in the "Shutdown" position as a means of attaining immediate shutdown. As described below, a situation may arise that blocks this scram.

The Pilgrim Nuclear Power Station has reported that following the loss of power from a vital M-G set and manual transfer to the alternate power source, the annunciator "Shutdown Scram Reset Permissive" came on and stayed on. Since such an annunciator may not be provided for all BWRs, some facilities may not be able to detect this condition. Subsequent investigation revealed that when one RPS bus power supply is lost and the MSS is in the "Run" mode, relay K-17 is immediately deenergized and after two seconds one of two series bypass contacts in the MSS scram circuit is closed. Upon restoration of RPS bus power, it is possible for relay K-16 to be energized before K-17 (i.e., a relay race). If this occurs, the following conditions will result: (1) the normally open K-16 contact in the MSS scram bypass circuit is closed, thereby bypassing the MSS in "Shutdown" Scram; and (2) relay K-17 will be kept deenergized.

Even with this condition (i.e., the bypass circuit made up and the MSS in "Run") a Scram should occur if the MSS is turned in a deliberate manner to "Shutdown" with a pause in either the "Startup" or "Refuel" mode; however, if the MSS is turned to "Shutdown" quickly such that relay K-17 is not energized, a Scram due to MSS manipulation may not occur.

We understand that General Electric has been informed of this potential for bypassing the MSS and that General Electric is preparing a Service Information Letter (SIL) containing recommendations for preventing such bypassing.

This Information Notice is provided as an early notification of a possibly significant matter that is still under review by the NRC staff. Recipients should review the information for possible applicability to their facilities. No specific action or response is requested at this time; however, if NRC evaluations so indicate, further licensee actions may be requested or required.

If you have any question regarding this matter, please contact the director of the appropriate NRC Regional Office.

RECENTLY ISSUED
IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
80-44	Actuation of ECCS in the Recirculation Mode While in Hot Shutdown	12/16/80	All PWR facilities with an OL or CP
80-43	Failures of the Continuous Water Level Monitor for the Scram Discharge Volume at Dresden Unit No. 2	12/5/80	All power reactor facilities with OL or CP
80-42	Effect of Radiation on Hydraulic Snubber Fluid	11/24/80	All power reactor facilities with OL or CP
80-41	Failure of Swing Check Valve in the Decay Heat Removal System at Davis-Besse Unit No. 1	11/10/80	All power reactor facilities with an OL or CP
80-40	Excessive Nitrogen Supply Pressure Actuates Safety-Relief Valve Operation to Cause Reactor Depressurization	11/10/80	All power reactor facilities with OL or CP
80-39	Malfunctions of Solenoid Valves Manufactured By Valcor Engineering Corporation	10/31/80	All light water reactor facilities with OLs or CPs
80-38	Cracking in Charging Pump Casing Cladding	10/30/80	All PWR facilities with an OL or CP
80-37	Containment Cooler Leaks and Reactor Cavity Flooding at Indian Point Unit 2	10/24/80	All power reactor facilities with OLs or CPs
80-36	Failure of Steam Generator Support Bolting	10/10/80	All power reactor facilities with OLs or CPs
80-35	Leaking and Dislodged Iodine-124 Implant Seeds	10/10/80	All categories G and G1 medical licensees

OL = Operating Licenses
CP = Construction Permits