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UNITED STATES
NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555

January 30, 1992

NRC INFORMATION NOTICE 92-09: OVERLOADING AND SUBSEQUENT LOCK OUT OF ELECTRICAL BUSES DURING ACCIDENT CONDITIONS

Addressees

All holders of operating licenses or construction permits for nuclear power reactors.

'92 FEB 13 A8:49

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to alert addressees to a particular scenario identified by a licensee whereby electrical buses could be overloaded during accident conditions, deenergized, and prevented from being reenergized. It is expected that recipients will review the information for applicability to their facilities and consider actions, as appropriate, to avoid similar problems. However, suggestions contained in this information notice are not NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances

On November 21, 1991, the Power Authority for the State of New York, the licensee for Indian Point Nuclear Generating Unit 3, reported that the vital buses could become overloaded during a loss-of-coolant-accident (LOCA) as a result of emergency operating procedures directing operators to restore non-essential loads to the buses if offsite power is not lost. The procedure would result in both emergency and non-emergency loads being powered concurrently from the same bus. The licensee's recent calculations reveal that performing this procedure could have overloaded buses. The resulting overcurrent condition could lock out a bus (i.e., deenergize the bus and prevent it from being reenergized from any source including the associated emergency diesel generator).

Discussion

A LOCA is generally analyzed as the most limiting condition in power demand for onsite electrical systems. When non-essential loads are added to the power system under this most demanding condition, electrical buses and breakers could be overloaded. The electrical protection system recognizes such an overloaded condition as an electrical fault on a bus and locks out the bus. The dc-powered breaker controls retain the faulted condition, and the emergency diesel generator will not be able to energize the bus until protective relays are manually reset. The scenario could result in disabling redundant trains of safety-related equipment.

This information notice requires no specific action or written response. If you have any questions about the information in this notice, please contact the technical contact listed below or the appropriate Office of Nuclear Reactor Regulation (NRR) project manager.

Charles E. Rossi, Director
Division of Operational Events Assessment
Office of Nuclear Reactor Regulation

Technical contact: Thomas Koshy
(301) 504-1176

Attachment: List of Recently Issued NRC Information Notices

LIST OF RECENTLY ISSUED NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
92-08	Revised Protective Action Guidance for Nuclear Incidents	01/23/92	All fuel cycle and materials licensees authorized to possess large quantities of radioactive material.
92-07	Rapid Flow-Induced Erosion/ Corrosion of Feedwater Piping	01/09/92	All holders of OLs or CPs for pressurized water reactors.
92-06	Reliability of ATWS Mitigation System and Other NRC Required Equipment Not Controlled by Plant Technical Specifications	01/15/92	All holders of OLs or CPs for nuclear power reactors.
92-05	Potential Coil Insulation Breakdown in ABB RXMH2 Relays	01/08/92	All holders of OLs or CPs for nuclear power reactors.
92-04	Potter & Brumfield Model MDR Rotary Relay Failures	01/06/92	All holders of OLs or CPs for nuclear power reactors.
92-03	Remote Trip Function Failures in General Electric F-Frame Molded-Case Circuit Breakers	01/06/92	All holders of OLs or CPs for nuclear power reactors.
92-02	Relap5/Mod3 Computer Code Error Associated with the Conservation of Energy Equation	01/03/92	All holders of OLs or CPs for nuclear power reactors.
92-01	Cable Damage Caused by Inadequate Cable Installation Procedures and Controls	01/03/92	All holders of OLs or CPs for nuclear power reactors.
91-87	Hydrogen Embrittlement of Raychem Cryofit Couplings	12/27/91	All holders of OLs or CPs for nuclear power reactors.

L = Operating License
CP = Construction Permit