

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

July, 25, 1985

IE INFORMATION NOTICE NO. 85-63: POTENTIAL FOR COMMON-MODE FAILURE OF STANDBY
GAS TREATMENT SYSTEM ON LOSS OF OFF-SITE
POWER

Addressees:

All nuclear power reactor facilities holding an operating license (OL) or a construction permit (CP).

Purpose:

This information notice is being provided as a notification of a potentially significant problem pertaining to the standby gas treatment system (SBGT). This problem could result in the loss of all SBGT trains following a loss of all off-site power. This supplements information provided in IE Information Notices 83-25 and 84-81 on other SBGT problems. It is expected that recipients will review the information for applicability to their facilities and consider actions, if appropriate, to preclude a similar problem from occurring at their facilities. However, suggestions contained in this information notice do not constitute NRC requirements; therefore, no specific action or written response is required.

Description of Circumstances:

On May 14, 1985, Carolina Power and Light (CP&L) reported a logic design error in the SBGT at Brunswick 1 and 2 which would result in the inoperability (i.e., failure to automatically start) of both trains of the system following a loss of off-site power. Design of Brunswick's SBGT requires automatic initiation when any of the following signals are received: high radiation in the reactor building ventilation exhaust, high pressure in the drywell, or low reactor water level. The system is designed to operate from either on-site or off-site power sources. However, because of a design error, the instrument that senses the SBGT heater temperature deenergizes a relay on loss of off-site power, seals in the signal, and prevents automatic initiation of SBGT until manually reset.

At Brunswick, indications and reset are available in the control room. CP&L is considering a modification to the circuit to install a time-delay relay to allow time for the system to switch to on-site power. This effectively provides automatic reset for situations where a cause for lockout does not exist.

Discussion:

The signals that trip SGBT are unique to each plant; however, automatic lock-outs are generally associated with the electric heaters. The events described in IE Information Notices 83-25 and 84-81 provide examples where heater trips have locked out systems and rendered them inoperable. Based on a review of several licensee event reports, it appears that this design feature is fairly common.

For designs such as Brunswick, with indication and reset in the control room, the operators might be able to diagnose and correct a problem. If indication and reset are not available in the control room, significant difficulties might be encountered if an accident requiring filtration were accompanied by a loss of off-site power. In either event, however, the requirement for automatic start generally necessitates the ability to start automatically even after a loss of off-site power.

No specific action or written response is required by this information notice. If you have any questions about this matter, please contact the Regional Administrator of the appropriate regional office or this office.



Edward L. Jordan, Director
Division of Emergency Preparedness
and Engineering Response
Office of Inspection and Enforcement

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Attachment:
List of Recently Issued IE Information Notices

Attachment
IN 85-63
July 25, 1985

LIST OF RECENTLY ISSUED
IE INFORMATION NOTICES

Information Notice No.	Subject	Date of Issue	Issued to
85-62	Backup Telephone Numbers to the NRC Operations Center	7/23/85	All power reactor facilities holding an OL and certain fuel facilities
85-61	Misadministrations to Patients Undergoing Thyroid Scans	7/22/85	All power reactor facilities holding an OL and certain fuel facilities
85-60	Defective Negative Pressure Air-Purifying, Fuel Facepiece Respirators	7/17/85	All power reactor facilities holding an OL or CP
85-59	Valve Stem Corrosion Failures	7/17/85	All power reactor facilities holding an OL or CP
85-58	Failure Of A General Electric Type AK-2-25 Reactor Trip Breaker	7/17/85	All power reactor facilities designed by B&W and CE holding an OL or CP
85-57	Lost Iridium-192 Source Resulting In The Death Of Eight Persons In Morocco	7/16/85	All power reactor facilities holding an OL or CP; fuel facilities; and material licensees
85-56	Inadequate Environment Control For Components And Systems In Extended Storage Or Layup	7/15/85	All power reactor facilities holding an OL or CP
85-55	Revised Emergency Exercise Frequency Rule	7/15/85	All power reactor facilities holding an OL or CP
85-54	Teletherapy Unit Malfunction	7/15/85	All NRC licensees authorized to use teletherapy units

OL = Operating License
CP = Construction Permit