

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

January 15, 1992

NRC INFORMATION NOTICE 92-06: RELIABILITY OF ATWS MITIGATION SYSTEM AND
OTHER NRC REQUIRED EQUIPMENT NOT CONTROLLED
BY PLANT TECHNICAL SPECIFICATIONS

Addressees

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

Purpose

The U.S. Nuclear Regulatory Commission (NRC) is issuing this information notice to alert addressees of the importance of maintaining the reliability of equipment required by NRC regulations but not addressed in plant technical specifications. It is expected that recipients will review this 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.

Background

In 1983, the Salem Nuclear Generating Station experienced an anticipated transient without scram (ATWS) event. Following this event, efforts then in progress to establish requirements to address ATWS events were completed, and the NRC issued, on June 1, 1984, Section 50.62 of Title 10 of the Code of Federal Regulations (10 CFR 50.62), "Requirements for reduction of risk from anticipated transients without scram (ATWS) events for light-water-cooled nuclear power plants." This regulation required that each reactor have equipment, diverse from the reactor trip system, that would automatically initiate actions to mitigate the consequences of an ATWS. The regulation also required that the equipment for this system be independent from the existing reactor trip system and be designed to perform its function in a reliable manner. The NRC did not require licensees to address the operability of this equipment in plant technical specifications nor did the NRC require that this equipment be designated as safety-related.

Description of Circumstances

To meet the requirements of 10 CFR 50.62, the Houston Lighting and Power Company, the licensee for the South Texas Project (STP), installed ATWS mitigation system actuation circuitry (AMSAC). In May and June of 1991,

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the NRC inspected the implementation of this system at STP, Units 1 and 2, and identified three situations in which the reliability of the ATWS mitigation system had been compromised.

While inspecting Unit 2, the NRC found that the licensee had left open the switches for the interface circuit between the AMSAC system and the auxiliary feedwater (AFW) system. These open switches disabled the automatic AFW flow initiation feature of the AMSAC, an important part of the ATWS mitigation system. The NRC also found that the licensee had bypassed the automatic initiation feature of the AMSAC system, causing the system to be inoperable, at least 15 percent of the time that the system was designed to be operable. While inspecting Unit 1, the NRC found that the licensee had bypassed the automatic initiation feature of the AMSAC system 36 percent of the time that the system was designed to be operable. The NRC issued the licensee a Severity Level III violation and assessed a civil penalty.

The NRC also issued the licensee for Comanche Peak a Severity Level IV violation because the ATWS mitigation system was bypassed for approximately 10 days while the reactor was operating at full power.

Discussion

In April 1985, the staff issued Generic Letter 85-06, "Quality Assurance Guidance For ATWS Equipment That Is Not Safety-Related," to provide explicit quality assurance guidance for the nonsafety-related equipment encompassed by the ATWS rule. Although much of the equipment required by 10 CFR 50.62 is not designated safety-related, it does perform an important safety function if the plant's primary reactor protection system fails. The regulation was issued to reduce the risk posed by such an event. The NRC considers the failure of licensees to comply with this regulation and to ensure that the ATWS mitigation system and equipment function reliably to be a significant regulatory concern.

The events described above indicate that licensees may not place an appropriate level of priority on resolving problems with the ATWS mitigation system because it is not a safety-related system and because the plant's technical specifications do not govern its operability. However, maintenance of this system is of high priority and appropriate because such action assures the important safety function of the system and satisfies the requirements of 10 CFR 50.62 for the system to function reliably. Actions taken by licensees to ensure the reliability of the ATWS mitigation system have included performing timely surveillance testing, completing repairs and preventive maintenance promptly, implementing necessary modifications, and updating procedures to reflect system changes.

Plant technical specifications only address the minimum personnel and equipment requirements for the various modes of plant operations. However, it is important that licensees maintain equipment and systems required by NRC regulations, to ensure their reliability, even though they are not addressed by a plant's technical specifications.

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

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

Technical contacts: R. Evans, RIV
 (512) 972-2507

C. Paulk, RIV
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 (301) 504-3248

Attachment: List of Recently Issued NRC Information Notices

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LIST OF RECENTLY ISSUED
 NRC INFORMATION NOTICES

Information Notice No.	Subject	Date of Issuance	Issued to
92-05	Potential Coil Insulation Breakdown in ABB RDH2 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.
91-86	New Reporting Requirements for Contamination Events at Medical Facilities (10 CFR 30.50)	12/27/91	All licensees authorized to use byproduct materials for human use.
91-85	Potential Failures of Thermostatic Control Valves for Diesel Generator Jacket Cooling Water	12/26/91	All holders of OLs or CPs for nuclear power reactors.
91-84	Problems with Criticality Alarm Components/Systems	12/26/91	All Nuclear Regulatory Commission (NRC) fuel cycle licensees, interim spent fuel storage licensees, and critical mass licensees.

OL = Operating License
 CP = Construction Permit

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Changes to final draft were discussed with S. Newberry and C. Berlinger on 1/8/92. A further change was made on 1/9/92 as a result of comments from J. L. Leberman
E. Rossi

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*OGCB:DOEA:NRR
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*C/OGCB:DOEA:NRR*RPB:ADM
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*DRS:RIV
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Add Jerry Mauch

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