

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

June 7, 1979

IE Information Notice No. 79-15

EFICIENT PROCEDURES

Summary

On June 2, 1979, at Arkansas Nuclear One - Unit 1, while observing conditions in the control room, an NRC inspector discovered an operational deficiency that could have resulted in the emergency feedwater system remaining isolated during subsequent power operation.

Description of Circumstances

On June 2 while Arkansas Nuclear One - Unit 1 was preparing for startup, an NRC inspector in the control room found that during a surveillance test of the main feedwater check valves, the controls of the emergency feedwater system were positioned so that the system could not automatically respond if needed. The NRC inspector found that the test procedure being used by the licensed operators did not include, as it should have, instructions either to bypass the emergency feedwater system or to return it to normal. The plant operators, without approved procedures covering this aspect of the test, bypassed the controls that would have started the feedwater system automatically. Lacking a procedural requirement to return the system to normal, there was no assurance that emergency feedwater would be provided automatically if needed.

Following the Three Mile Island accident, the NRC required that operators be trained to initiate promptly the emergency feedwater system manually if it does not come on automatically. Thus, while no immediate safety hazard existed at the Arkansas Unit 1 plant because of the improper action, the NRC staff is concerned about the potential safety hazard of leaving the emergency feedwater system in the bypassed condition, about the possibility that other procedures at the Arkansas plant may be deficient and about the fact that the operators deviated from procedures in performing the surveillance test.

Arkansas Power and Light Company has returned the plant to cold shutdown. The June 2, 1979, NRC Order confirmed the requirement for a cold shutdown until the Commission staff is satisfied with the utility's method of controlling the development of operating procedures, the adequacy of existing procedures, and until there is assurance that operators will not deviate from those procedures.

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The need for including the actions of operators and other staff members in the safety related procedures of nuclear power plants is identified in the Technical Specifications and in Appendix B to 10 CFR Part 50, Criterion V., Instructions, Procedures, and Drawings:

"Activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished."

Further, Regulatory Guide 1.33, "Quality Assurance Program Requirements (Operation)", endorses American National Standard ANSI N18.7-1976, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants", which provides extensive guidance on preparation, contents and use of procedures. This standard reiterates the Appendix B statement in section 5.3, "Preparation of Instructions and Procedures", and further states:

"These procedures shall provide an approved preplanned method of conducting operations. Procedures shall be prepared and approved prior to implementation..."

NRC thus requires that anticipated actions involving safety related equipment be planned and prescribed in written procedures. Therefore, steps should have been included in the test procedures to cover all actions. Recognizing that emergency conditions do not always follow an expected course of events, ANSI N18.7 in Section 5.39, "Emergency Procedures", states: "Since emergencies may not follow anticipated patterns, the procedures should provide sufficient flexibility to accommodate variations."

NRC recognizes that unforeseen conditions may be encountered that require quick action and judgement and could involve deviations from established procedures for the safety of the public. These deviations should be documented and reviewed after-the-fact and procedures formally changed if necessary.

While circumstances in an emergency can dictate the need to depart from procedures, such action cannot be justified on a routine basis. Rote following of deficient procedures is not proper. When a question on procedural requirements arises, the licensee's temporary change procedure should be used whereby the matter should be referred immediately to the proper authorities for resolution and appropriate changes made if needed. Departures from procedures, either additions or deletions, cannot be allowed for any routine situation.

Each licensee should review his procedures and administrative controls for procedures to assure that methods and procedures exist to control safety related actions. Enclosed is a copy of the Order issued to Arkansas Power and Light Company.

This Information Notice provides details of a significant occurrence. No written response is required. If you desire additional information regarding this matter, contact the Director of the appropriate NRC Regional Office.

Enclosure:
Order Issued to Arkansas
Power and Light Company

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

In the Matter of)
)
ARKANSAS POWER AND LIGHT COMPANY)
(KANSAS Nuclear One - Unit No. 1))

ORDER

I.

The Arkansas Power and Light Company (the "licensee") is the holder of Facility Operating License No. DPR-51 (the "license") which authorizes operation of the Arkansas Nuclear One Unit No. 1 (the "facility") at steady reactor power levels not in excess of 2568 megawatts thermal (rated power). The license was issued on May 21, 1974, and has an expiration date of December 6, 2008. The facility consists of a Babcock and Wilcox designed pressurized water reactor (PWR), located at the licensee's site in Pope County, Arkansas.

II.

In the course of authorized return to power from a cold shutdown condition, operators deviated from the established but apparently deficient procedure for routine surveillance test of the check valves in the main feedwater system. The procedure was deficient because it did not specify that operators bypass and return the emergency feedwater system to normal. The plant staff bypassed the controls to automatically start EFS by placing the control switches in a position that would defeat emergency feedwater. The plant was in a hot shutdown condition preparing for startup and the operators apparently took this action because pumping of emergency feedwater for this test would be undesirable and unnecessary. Lacking a procedural requirement to return these switches to normal there was no assurance that emergency feedwater would be provided automatically, if needed, later during power operation. In view of these circumstances, which were discovered by an NRC inspector, the facility should be temporarily placed in a cold shutdown condition.

In a telephone conversation on June 2, 1979, the licensee Vice President, Mr. William Cavanaugh, III, agreed to immediately proceed to a cold shutdown condition and to remain in that condition until confirmation by the Acting Director, Office of Inspection and Enforcement, that the conditions for startup set out in Part III below, have been satisfied. It is desirable to confirm by order the licensee's agreement to proceed to cold shutdown.

III.

In light of Part II above, IT IS HEREBY ORDERED THAT, pursuant to 10 CFR Parts 2 and 50, the licensee shall proceed to, and remain in, a cold shut-down condition and shall not restart until the Acting Director, Office of Inspection and Enforcement, has confirmed in writing, that the following actions have been satisfactorily accomplished:

- (1) the licensee shall evaluate and modify as appropriate its methods for the development, review and approval of procedures for all modes of plant operation;
- (2) the licensee shall evaluate existing procedures to assure that such procedures include all actions necessary for safety; and,
- (3) the licensee shall take appropriate steps to assure that all plant personnel adhere to approved procedures and do not add unauthorized steps to any procedures.

FOR THE NUCLEAR REGULATORY COMMISSION

John G. Davis
Acting Director
Office of Inspection
and Enforcement

Dated at Bethesda, Maryland
this ____ day of June, 1979.

LISTING OF IE INFORMATION NOTICES
ISSUED IN 1979

Information Notice No.	Subject	Date Issued	Issued To
79-01	Bergen-Paterson Hydraulic Shock and Sway Arrestor	2/2/79	All power reactor facilities with an OL or a CP
79-02	Attempted Extortion - Low Enriched Uranium	2/2/79	All Fuel Facilities
79-03	Limiter Valve Geared Limit Switch Lubricant	2/9/79	All power reactor facilities with an OL or a CP
79-04	Degradation of Engineered Safety Features	2/16/79	All power reactor facilities with an OL or a CP
79-05	Use of Improper Materials in Safety-Related Components	3/21/79	All power reactor facilities with an OL or CP
79-06	Stress Analysis of Safety-Related Piping	3/23/79	All Holders of Reactor OL or CP
79-07	Rupture of Radwaste Tanks	3/26/79	All power reactor facilities with an OL or CP
79-08	Interconnection of Contaminated Systems with Service Air Systems Used As the Source of Breathing Air	3/28/79	All power reactor facilities with an OL and Pu Processing fuel facilities
79-09	Spill of Radioactively Contaminated Resin	3/30/79	All power reactor facilities with an OL
79-10	Nonconforming Pipe Support Struts	4/16/79	All power reactor facilities with a CP

LISTING OF IE INFORMATION NOTICES
ISSUED IN 1979

Information Notice No.	Subject	Date Issued	Issued To
79-11	Lower Reactor Vessel Head Head Insulation Support Problem	5/7/79	All Holders of Reactor OL or a CP
79-12	Attempted Damage to New Fuel Assemblies	5/10/79	All Fuel Facilities research reactors, and Power Reactors with an OL, or CP
79-13	Indication of Low Water Level in the Oyster Creek Reactor	5/29/79	All Holders of OL or CP
79-14	NRC Position of Electrical Cable Support Systems	6/11/79	All Power Reactor facilities with an OL or CP