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IN 86-64, Supplement 1

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

April 20, 1987

NRC INFORMATION NOTICE NO. 86-64, Supplement 1: DEFICIENCIES IN UPGRADE
PROGRAMS FOR PLANT
EMERGENCY OPERATING
PROCEDURES

Addressees:

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

Purpose:

This notice is to alert recipients to significant problems that are continuing with plant emergency operating procedures (EOPs). Although a previous Information Notice was issued on this subject, indications are that many utilities continue to inadequately develop and implement upgraded EOPs and are failing to meet commitments made to the NRC. Deficiencies continue to be identified in all the major aspects of utility EOP upgrade programs.

It is expected that recipients will review this information for applicability to their facility and consider actions, if appropriate, to correct or preclude similar problems occurring at their facilities. However, suggestions contained in this notice do not constitute NRC requirements; therefore, no specific action or written response is required.

Background:

IE Information Notice 86-64, "Deficiencies in Upgrade Programs for Plant Emergency Operating Procedures," was issued on August 14, 1986. The Information Notice described the results of four audits of emergency operating procedures implementation. Based upon the deficiencies identified by those audits, the staff concluded that other utilities may not have appropriately developed and implemented upgraded EOPs in accordance with their commitments based on NUREG-0737, Supplement 1, Requirements for

Emergency Response Capability.

In that Information Notice, the staff stated that it would continue audits to determine the scope and safety significance of the deficiencies identified in the notice and would conduct inspections at all plants to evaluate the implementation of the licensees' commitments to develop and implement upgraded EOPs. This Information Notice reports the results of those efforts to date.

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IN 86-64, Supplement 1
April 20, 1987
Page 2 of 3

Description of Circumstances:

Evaluations, using audits and inspections of emergency operating procedure implementation at six additional facilities have revealed that failures to implement upgraded emergency operating procedures in accordance with the facility commitments contained in their PGP appear to be widespread. Specifically, eight of the ten licensees evaluated to date had: (1) not adequately documented deviations from the NRC approved generic technical guidelines and, in some cases, have deviated significantly from the generic guideline without any evaluation; (2) not adequately implemented their own EOP writer's guide; (3) not adequately verified and validated their EOPs; (4) not adequately trained and evaluated the operating staff on their use of the upgraded EOPs; and (5) failed to apply operational quality assurance procedures or controls to the EOP upgrade process to assure licensing commitments have been met.

The development of high quality EOPs is subject to the quality assurance requirements of 10 CFR ,50 Appendix B. Licensees are required to develop written procedures for carrying out safety related activities including combatting emergencies. The industry standard supporting this program is ANSI/ANS 3.2, "Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants."

Other evidence of continuing problems with the EOP upgrade program include poor performance on NRC licensing and requalification examinations and the slow resolution of open issues in the owners' group generic technical guidelines.

As mentioned in the previous information notice, the staff has been

evaluating the safety significance of deficiencies identified with utility EOP upgrade programs. Inspection and audit findings have resulted in enforcement actions and have required corrective actions for some plants prior to operation at full power. The attached list of inspection and audit reports is provided for your information. Failure to meet commitments set forth in the PGPs has resulted in deficient EOPs which has led to more complex operator actions that could have resulted in serious threats to public health and safety. The observed failures have been the result of (1) technically incorrect procedures, (2) unclear and poorly presented actions and information, and (3) a failure of operators to use EOPs due to a lack of understanding and confidence in the procedures.

Examples of safety significant procedural deficiencies are illustrated by all three events investigated by Incident Investigation Teams (IITs). A significant lesson from the loss of feedwater event at Davis-Besse Nuclear Power Plant was that feed and bleed cooling was not initiated immediately upon reaching plant conditions where feed and bleed cooling was called for by the EOPs. The EOP Upgrade Program failed to identify that the action points for initiating feed and bleed cooling in the EOP could not be clearly identified by the operators using available instrumentation. In addition, the operators wanted to use the margin they believed available to await other recovery actions, i.e., restoration of feedwater. This event pointed out the inadequacy of the EOP Upgrade Program and raised the question of whether the operator would have initiated feed and bleed cooling in time to avoid core damage.

IN 86-64, Supplement 1
April 20, 1987
Page 3 of 3

The loss of power and water hammer event at San Onofre Unit 1 on November 21, 1985 showed that the plant's EOPs were inadequate with regard to the loss of AC power and that operator training was deficient in a number of areas.

The loss of the Integrated Control System (ICS) power and overcooling transient at Rancho Seco on December 26, 1985 revealed a serious flaw in the procedures upgrade program in that, although the owner's group generic guidelines included an explicit procedure for failure of the ICS, the EOPs did not include this procedure.

Discussion:

In light of the potential for safety significant consequences of procedural deficiencies, the Staff is concerned about licensees continuing failure to

meet all the commitments made in their PGPs for developing, implementing and maintaining high quality, upgraded EOPs. Clearly, it is necessary for operators to have confidence in the technical accuracy of procedures and to understand and be able to carry out the actions required. The development of high quality EOPs, including their validation and verification, and the effective training of operators in their use, are needed to ensure that operators can follow the EOPs during accident conditions and take proper mitigating action.

In recognition of INPO's role in the accreditation of training programs and continuing evaluation of the effectiveness of training, the staff has provided information to INPO relating to training problems with upgraded EOPs.

To address the safety significance of the deficiencies identified with utility EOP upgrade efforts, the staff is accelerating its inspection program and will inspect all plants for compliance with PGP commitments. The staff will contact Owners' groups to discuss problems with EOP upgrade programs that are specific to their member plants.

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Attachments:

1. List of Inspection and Audit Reports
2. List of Recently Issued IE Information Notices