



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

September 21, 1988

Docket No. 50-298

Mr. George A. Trevors, Division Manager -
Nuclear Support
Nebraska Public Power District
P.O. Box 499
Columbus, NE 68601

Dear Mr. Trevors:

SUBJECT: COOPER EMERGENCY OPERATING PROCEDURE INSPECTION (50-298/88-200)

This letter forwards the report and the executive summary of the emergency operating procedures (EOPs) inspection conducted by Mr. J. E. Cummins of this office and NRC consultants from June 27 through July 15, 1988. The activities involved are authorized by NRC Operating License No. DPR-46 for the Cooper Nuclear Station. The team discussed the findings with Mr. J. M. Meacham and other members of your staff at the conclusion of the inspection.

The purpose of the inspection was to verify that the EOPs were technically accurate; that their specific actions could be physically carried out in the plant using existing equipment, instrumentation, and controls; and that the plant staff could correctly perform the procedures.

The inspection included: review of the EOPs, the documents used to develop the EOPs, the EOP validation and verification program, the EOP training program, and the EOP ongoing evaluation program; walkdown of the EOPs in the control room and plant; observation of operator performance of table-top EOP exercise scenarios; and performance of a human factors evaluation of the EOPs. The inspection consisted of selective examination of procedures and representative records, interviews with personnel, plant walkdowns, and observations by the NRC inspectors. The inspection findings are documented in the enclosed inspection report.

The team determined that the EOPs meet the above criteria. However, the team identified a number of weaknesses relating to the development and implementation of the EOPs. These weaknesses involved the need for further evaluation of containment venting capabilities, including equipment limitations and coordination of releases with emergency plan activities; the need for further evaluation of limitations on personnel access to the reactor building under accident conditions; and the fact that the EOPs were cumbersome to use because of the numerous concurrent actions that the operators must perform and track during certain events. These and other specific deficiencies are discussed in the enclosed report.

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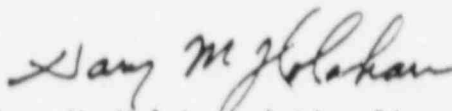
September 21, 1988

No response to this letter is required, however, you should direct your attention to the three unresolved items identified in paragraph 3.1.1 of the enclosed inspection report to ensure that you have provided adequate justification for technical differences between your EOPs and the owners' group emergency procedures generation guidelines. In addition, the weaknesses discussed above involving the adequacy of your containment venting procedures, the ability to reenter the reactor building to perform the EOPs during an accident, and the cumbersome nature of your EOPs, are areas which will require your attention.

In accordance with 10 CFR 2.790(a), a copy of this letter and enclosures will be placed in the NRC Public Document Room.

Should you have any questions concerning this inspection, please contact me or Mr. J. Cummins (301-492-0957) of this office.

Sincerely,



Gary M. Holahan, Acting Director
Division of Reactor Projects III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:

1. Executive Summary
2. Inspection Report 50-298/88-200

cc w/enclosures: See next page

cc w/enclosures:

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EXECUTIVE SUMMARY

INSPECTION REPORT 50-298/88-200 COOPER NUCLEAR STATION

From June 27 through July 15, 1988, an NRC team consisting of six inspectors performed an inspection of the emergency operating procedures (EOPs) at the Cooper Nuclear Station (CNS) in order to verify: that the CNS EOPs were technically accurate; that their specified actions could be physically carried out in the plant using existing equipment, instrumentation, and controls; and that the plant staff could correctly perform the procedures. The inspection was conducted in accordance with the guidelines in Temporary Instruction 2515/92, "Emergency Operating Procedures Team Inspections."

SCOPE OF INSPECTION

During the inspection the team:

- reviewed the EOPs
- reviewed the documents used to develop the EOPs
- reviewed the EOP validation and verification program
- reviewed the EOP training program
- walked down the EOPs in the control room and the plant
- observed operator performance of tabletop EOP exercise scenarios
- performed a human factors evaluation of the EOPs.

SUMMARY OF SIGNIFICANT FINDINGS

The EOPs were technically accurate and, with a few exceptions, had been developed in accordance with the owners' group emergency procedure guidelines. Even though the EOP format was in accordance with the guideline recommendations, tracking and placekeeping (finding and keeping the correct place in the EOPs) could be major problems during their performance.

The licensee did not submit the plant-specific technical guidelines as part of the procedures generation package to the NRC for review as required by NUREG-0737, Supplement 1, Item 7.2.b. This omission appeared significant because the licensee, in developing the EOPs, deviated in several instances from the NRC-approved Boiling Water Reactor Owners' Group (BWROG) emergency procedure guidelines (EPGs) without providing adequate documented justification.

The licensee's method of determining the entry-level temperature for drywell temperature control (DW/T) for EOP-2 did not strictly adhere to the method recommended in the BWROG EPGs. The team believed that the method used by the licensee for determining the entry-level temperature could have resulted in a higher than warranted entry condition temperature.

The team determined that plant equipment, instrumentation, and controls were adequate for carrying out the EOPs. However, tools required to perform certain actions in the EOPs were not staged as dedicated tools and were not always in the most convenient location for performing the required actions.

The effects of accident radiation levels in the reactor building on the operators' ability to perform local operations had not been analyzed. NUREG-0737, item 11.B.2 required the evaluation of personnel access to the reactor building during emergencies. In its response, prepared before the current symptom-based EOPs were issued, the licensee concluded that radiation levels would preclude reactor building entry, but that the previous event-based EOPs and plant design would support accident mitigation without reactor building reentry. The symptom-based EOPs required entry to compensate for equipment failures but the licensee had not reevaluated its former position and analysis.

The procedures for containment venting provided only minimal venting capability because the licensee had not completed all the engineering evaluation it believed necessary to support venting through large diameter flow paths. Further, the venting procedure and completed evaluations did not address several significant considerations such as vent equipment design limitations, and coordination of radioactive releases with emergency plan activities. Licensee evaluation of containment venting methods was continuing at the end of this inspection.

The plant was clean and orderly, and habitability conditions, such as normal lighting and ample work space, were generally good. However, it did not appear that the emergency lighting in the control room would be adequate for reading the EOPs.

With the exception of training in the areas of tracking and placekeeping, the operators appeared to be well trained and capable of performing the EOPs.

CONCLUSION

It appeared to the team that the EOPs could be cumbersome to use because of the numerous concurrent actions that must be performed at once and the large volume of material that has to be read. Placekeeping would be difficult in a fast-moving event. However, it also appeared that the EOPs, when used by trained knowledgeable operators, would serve to mitigate the consequences of an accident.

The team was concerned that the cumbersome EOPs could encourage the operators to take actions in response to plant parameters from memory, before they could find and follow the steps in the EOPs. In this case, the operators could be making conclusions as to the required actions without benefit of the accident mitigation strategy and supplemental information (i.e., cautions, notes, and special operator instructions) contained in the EOPs that were developed on the basis of the operation of the entire plant and its interrelated systems.