



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

INDIANA MICHIGAN POWER COMPANY

DONALD C. COOK NUCLEAR PLANT, UNIT NOS. 1 AND 2

DOCKET NOS. 50-315 AND 50-316

1.0 INTRODUCTION

By letter dated May 2, 1990, the NRC issued a safety evaluation (SE) dispositioning several fire protection items of concern at the D. C. Cook Nuclear Power Plant. By letter dated December 2, 1991, the licensee provided additional information to the NRC concerning fire protection issues at D. C. Cook. In the letter the licensee indicated that there were inconsistencies between the SE and the as-installed fire alarm systems at D. C. Cook.

2.0 EVALUATION

In the SE dated May 2, 1990, item 2.3.1 stated that only two circuits from local fire alarm control panels to the control room were unsupervised. The SE concluded, based on the fact that the circuits were confirmed operable on a regular basis per the Technical Specification requirements, that the unsupervised circuits were acceptable. In the December 2, 1991, letter, the licensee indicated that the number of unsupervised circuits between local fire alarm control panels and the control room was more than two. The following is a specific list of the groups of local fire alarm control panels where the remote alarm and trouble indications between the local panel and the control room are not supervised:

1. CO₂ system Cardox and Alison control panels
2. Reactor coolant pump (RCP) control panels
3. Containment cable tray control panels
4. Halon system Alison and Pyrotronics control panels
5. Sprinkler water flow alarms
6. Sprinkler systems tamper switches and low air alarms
7. Fire pump signals

The above control panel alarm circuits, with the exception of the RCP control panel circuit, are tested to verify operability once per 6 months. The RCP system is functionally tested approximately once per 18 months because the circuits are located inside containment and are therefore available for

testing only during reactor refueling outages. Operators visually examine each control panel for alarm or abnormal conditions once per 24 hours.

Failure of any of the above annunciation circuits will not affect the discharge of any of the above automatic suppression systems. All local control panels have been installed in accordance with the intent of the National Fire Protection Association (NFPA) code requirements, specifically NFPA 72D.

The water flow alarms and tamper and trouble signal for the automatic and manual sprinkler systems are not supervised in accordance with NFPA 72D requirements. Failure of these annunciation circuits will not prevent the operation of any of the sprinkler systems. Generally, in areas where the sprinkler systems have been installed an independent smoke detection system is also installed. The smoke detector annunciation circuitry is supervised both locally and back to the control room in accordance with NFPA 72D. If there were a failure of an unsupervised sprinkler system annunciation circuit, the smoke detection system would provide backup detection capability to alert the control operators as to the specific location of a fire, and in most cases would provide faster response to anticipated fires. In addition, the valve positions of sprinkler system control valves are verified to be in the correct position once a month in addition to the annunciation provided by the tamper switches.

In 1993 the licensee installed new fire pumps at D.C. Cook in accordance with the Branch Technical Position CMEB 9.5-1. In addition the new fire pumps alarms were installed in accordance with NFPA 20. The staff finds this acceptable.

3.0 CONCLUSION

Based on the regular testing to confirm operability, the daily monitoring of the alarm panels, the fact the circuits have not experienced integrity problems, and the circuits only provide secondary annunciation of local fire alarms in the control room, the staff finds these additional unsupervised circuits acceptable. Therefore, item 2.3.1 from the May 2, 1990, staff SE concerning unsupervised circuits is considered resolved.

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