



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 96 TO FACILITY OPERATING LICENSE NO. DPR-58  
AND AMENDMENT NO. 83 TO FACILITY OPERATING LICENSE NO. DPR-74  
INDIANA AND MICHIGAN ELECTRIC COMPANY  
DONALD C. COOK NUCLEAR PLANT, UNIT NOS. 1 AND 2  
DOCKET NOS. 50-315 AND 50-316

INTRODUCTION

By letter dated November 4, 1985, the licensee proposed certain changes to Technical Specification (TS) 3/4.6.4.1 concerning containment hydrogen monitors. This change request constitutes the licensee's response to NUREG-0737 Item II.F.1.6, Containment Hydrogen Monitors, and the guidance provided in Generic Letter (GL) 83-37 which recommended that licensees provide continuous indication of hydrogen concentration in the control room with a capability to measure hydrogen concentrations over a range of 0 to 10%. Generic Letter 83-37 provided guidance on technical specifications related to containment hydrogen monitors as noted below:

"Two independent containment hydrogen monitors should be operable at all times when the reactor is operating in Power Operation or Startup modes. LCO for these monitors should include the requirement that with one hydrogen monitor inoperable, the monitor should be restored to operable status within 30 days or the plant should be brought to at least hot standby condition within the next 6 hours. If both monitors are inoperable, at least one monitor should be restored to operable status within 72 hours or the plant should be brought to at least hot standby condition within the next 6 hours."

Generic letter 83-37 also provides surveillance requirements for calibration testing of hydrogen monitors at 92 day intervals with two sample gas mixtures, one containing one volume percent hydrogen (balance nitrogen) and the other containing four volume percent hydrogen (balance nitrogen).

Additional guidance on the matter of containment hydrogen monitoring is provided in Regulatory Guide 1.97 which recommends a measurement capability over a range of 0-30% hydrogen for ice condenser containments.

EVALUATION & CONCLUSIONS

In accordance with the recommendations of Item II.F.1.6 and Regulatory Guide 1.97 the licensee has installed hydrogen monitors to provide continuous indication of hydrogen concentrations inside containment following an

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accident. The hydrogen monitors have a range of 0 to 30 volume percent hydrogen. The licensee has also proposed technical specifications which fully comply with the guidance of Generic Letter 83-37 insofar as the limiting conditions for operation and action items are concerned.

However, with regard to the surveillance requirements for the hydrogen monitors, the licensee has proposed to calibrate the monitors using sample gas mixtures containing four and fifteen volume percent hydrogen (balance nitrogen) rather than the recommended compositions of one and four volume percent hydrogen. The licensee's rationale for choosing alternative sample gas mixtures is that the new hydrogen monitors have a wider operating range and would be better calibrated using mixtures spanning a wider range of hydrogen concentrations than by the samples recommended in GL 83-37 and the Westinghouse Standard Technical Specifications. The staff has considered the licensee's proposal and has discussed this matter with the vendor for the hydrogen monitors, Comsip Inc., and concludes that the calibration approach suggested by the licensee is acceptable. Therefore, the staff finds the proposed revisions to TS 3/4.6.4.1 to be acceptable.

#### ENVIRONMENTAL CONSIDERATION

These amendments involve a change in the installation or use of the facilities' components located within the restricted areas as defined in 10 CFR 20. The staff has determined that these amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that these amendments involve no significant hazards consideration, and there has been no public comment on such finding. Accordingly, these amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR Sec 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of these amendments.

#### CONCLUSION

The Commission made a proposed determination that the amendments involve no significant hazards consideration which was published in the Federal Register (50 FR 51625) on December 18, 1985, and consulted with the state of Michigan. No public comments were received, and the state of Michigan did not have any comments.

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: C. Tinkler

Dated: June 11, 1986

