December 27, 2000

Mr. Robert P. Powers, Senior Vice President
Indiana Michigan Power Company
Nuclear Generation Group
500 Circle Drive
Buchanan, MI 49107

SUBJECT: DONALD C. COOK NUCLEAR PLANT, UNITS 1 AND 2 - ACCEPTANCE REVIEW REGARDING LICENSE AMENDMENT REQUEST, "REACTOR COOLANT PUMP SEAL LEAK-OFF TWO-PHASE FLOW," DATED SEPTEMBER 26, 2000 (TAC NOS. MB0154 AND MB0155)

Dear Mr. Powers:

On September 26, 2000, Indiana Michigan Power Company (I&M) submitted a license amendment request that would revise the current licensing basis in the Updated Final Safety Analysis Report by requiring operator action to mitigate the effects of a loss of seal injection (LOSI) cooling to the reactor coolant pumps (RCPs).

The Nuclear Regulatory Commission (NRC) staff has reviewed your request and concluded that it does not provide technical information in sufficient detail to enable the staff to make an independent assessment regarding the acceptability of the proposal in terms of regulatory requirements and the protection of public health and safety.

Draft questions were provided to your staff on November 1, 2000, and were discussed with Mr. S. Greenlee, et al, on December 13, 2000, and with Mr. D. Hafer, et al, of your staff on December 20, 2000. The delay between providing the draft questions and the discussions was due to the unavailability of your staff while supporting the restart of Unit 1. The questions in the enclosure to this letter are the same as the draft questions, with the exception that a portion of one question was deleted regarding the classification of the RCP seal leak-off piping as service level D. A mutually agreeable target date of February 1, 2001, for your response was established. The staff will begin review of your amendment application when your response to the enclosed questions is received. If circumstances result in the need to revise the target date, please contact me at (301) 415-1345 at the earliest opportunity.

Sincerely,

/RA/

John F. Stang, Senior Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket Nos. 50-315 and 50-316

Enclosure: As stated

cc w/encl: See next page

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ACCEPTANCE REVIEW FOR

D. C. COOK UNITS 1 AND 2

SUBMITTAL C0900-20 (RCP LOSI), DATED SEPTEMBER 26, 2000

1. The submittal provided a general description of the process used to analyze the scenario and determine the proposed operator actions. The licensee indicated that a detailed engineering analysis had been done, and that the analysis concluded that there was a need for new operator actions to mitigate the LOSI event. However, the analysis was not provided for review, nor was a description of how the conclusion was reached and the justification for how the proposed operator actions would mitigate the event.

   In order to begin its review, the staff requests that you describe in detail and justify the analyses performed, the assumptions made in the analyses, the results of the analyses, and how the proposed operator actions mitigate the event.

2. The licensee indicates that a risk assessment is not needed to support the proposed change because it can be concluded, based on industry experience, that there is no significant increase in risk. However, the staff cannot reach the same conclusion without the benefit of additional information and analysis. It is the staff's position that the determination of risk significance should be based on the magnitude of risk change between the current licensing basis and the new (proposed) licensing basis. The current licensing basis assumes capability to cool the reactor coolant pump (RCP) seals through the thermal barrier heat exchanger (TBHX) by using component cooling water (CCW) over the full range of Westinghouse recommended seal leak-off rates. Thus, the current licensing basis assumes two redundant and diverse means to cool the RCP seals with no need for operator intervention. The proposed (new) licensing basis recognizes that, under certain conditions, RCP seal cooling through the TBHX may not be possible unless the RCP is tripped by the operator. The results of a risk/reliability analysis can be used to show that the reliability of the RCP seal cooling function is not being significantly degraded and that the proposed change is a good alternative to the initial licensing basis.

   The staff requests the following information: (1) an estimate of the frequency of losing seal injection; (2) an estimate of the probability of "low leak-off" rate; (3) an estimate of the probability of operator failing to trip the pump(s) given loss of seal injection with low "leak-off" rate; (4) assumed failure mechanisms (e.g., "pop-open" of primary seals) and associated leak rates; and (5) the assumed number of pumps affected.

3. Provide summaries of your evaluations of the RCP seal leak-off piping. The summaries should describe in detail the method of analysis, including the assumptions used in the analysis, loads and load combinations considered, and maximum calculated stress in the piping. You should also discuss the bases for acceptance criteria used for the evaluations and how it meets the licensing basis criteria for D.C. Cook.

ENCLOSURE