May 31, 2002

Mr. A. Christopher Bakken III, Senior Vice President
and Chief Nuclear Officer
Indiana Michigan Power Company
Nuclear Generation Group
500 Circle Drive
Buchanan, MI 49107

SUBJECT: DONALD C. COOK NUCLEAR PLANT, UNITS 1 AND 2 - REQUEST FOR ADDITIONAL INFORMATION, REGARDING CONTAINMENT STRUCTURE CONFORMANCE TO DESIGN-BASIS REQUIREMENTS (TAC NOS. MB3603 AND MB3604)

Dear Mr. Bakken:

The Nuclear Regulatory Commission (NRC) staff performed a design audit of the structural calculations and other documentation to verify conformance with the design-basis requirements for various structural elements within the containment structure. Based on its review of the design records, the NRC staff has identified that it does not have adequate technical information in sufficient detail to enable the staff to make an independent assessment regarding the containment structure conformance to design-basis requirements. The NRC staff finds that the additional information is needed as identified in the enclosed request for additional information (RAI).

Draft questions were discussed with Mr. Toby Woods et al., of your staff on May 28, 2002. The questions in the enclosed RAI are the same as the draft questions with the exception of minor modifications that were made to provide clarification. A mutually agreeable target date of July 02, 2002, for your response was established.

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: RAI

cc w/encl: See next page

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REQUEST FOR ADDITIONAL INFORMATION FOR

DONALD C. COOK, UNITS 1 AND 2

CONTAINMENT STRUCTURAL ISSUES

1. During the audit, the Nuclear Regulatory Commission (NRC) staff discovered the use of yield strength values for steel rebar obtained from certified mill test reports (CMTRs) in structural calculations. These values are, respectively, 19 percent and 26 percent higher than the code-required minimum guaranteed design-basis yield strength of 40 ksi. The NRC staff has, in principle, not accepted the use of material CMTR properties (e.g., yield strength) in lieu of nominal specified code properties. The licensee provided information concerning the acceptance of the use of CMTR values at Crystal River Unit 3. At Crystal River, the licensee used rebar minimum yield strengths which exceeded code requirements by only 1 percent.

   Provide additional justification for using material CMTR yield strength values for rebar in the reevaluation of the containment structures. The justification should include all assumptions and starting points. Provide the specific areas inside the containment where the CMTR values are used in the structural calculations. In addition for each structural element where CMTR values are necessary to be used to meet the load combinations listed in the updated final safety analysis report, provide the percentage in reduction in margin when the CMTR values are not used.

2. During the audit, the NRC staff discovered the use of a computer code “SOLVIA” for some of the structural element calculations. The NRC staff is unfamiliar with the use of the SOLVIA code.

   Provide a list of all areas where the code was used. Provide detailed documentation for the validation of the use of the SOLVIA code. The documentation should include all assumptions used in the code. In addition, the documentation should include bench marking data to provide a comparison to a code which has been approved by the NRC staff.

3. During the audit, the NRC staff found that in some calculations, the size of subcompartment openings has been increased based on the localized effects a design-basis accident (DBA) will have on duct work and other objects passing through the openings. The increase in subcompartment openings results in a reduction in subcompartment pressure following a DBA. The NRC staff has not accepted the use of localized effects to increase the size of subcompartment openings.

   Provide justification for increasing the actual measured opening between subcompartments following a DBA. Specifically, provide all assumptions, calculations, computer analysis, and codes used in justifying what the localized effects of a DBA will have on duct work and other object trays passing through the openings between subcompartments.

ENCLOSURE

Donald C. Cook Nuclear Plant, Units 1 and 2

cc:

Regional Administrator, Region III
U.S. Nuclear Regulatory Commission
801 Warrenville Road
Lisle, IL 60532-4351

Attorney General
Department of Attorney General
525 West Ottawa Street
Lansing, MI 48913

Township Supervisor
Lake Township Hall
P.O. Box 818
Bridgman, MI 49106

U.S. Nuclear Regulatory Commission
Resident Inspector's Office
7700 Red Arrow Highway
Stevensville, MI 49127

David W. Jenkins, Esquire
Indiana Michigan Power Company
One Cook Place
Bridgman, MI 49106

Mayor, City of Bridgman
P.O. Box 366
Bridgman, MI 49106

Special Assistant to the Governor
Room 1 - State Capitol
Lansing, MI 48909

Drinking Water and Radiological
Project Division
Michigan Department of
Environmental Quality
3423 N. Martin Luther King Jr. Blvd.
P. O. Box 30630, CPH Mailroom
Lansing, MI 48909-8130

Scot A. Greenlee
Director, Nuclear Technical Services
Indiana Michigan Power Company
Nuclear Generation Group
500 Circle Drive
Buchanan, MI 49107

David A. Lochbaum
Union of Concerned Scientists
1616 P Street NW, Suite 310
Washington, DC 20036-1495

Michael J. Finissi
Plant Manager
Indiana Michigan Power Company
Nuclear Generation Group
One Cook Place
Bridgman, MI 49106

Joseph E. Pollock
Site Vice President
Indiana Michigan Power Company
Nuclear Generation Group
One Cook Place
Bridgman, MI 49106