August 23, 2004

LICENSEE: Indiana Michigan Power Company

FACILITY: Donald C. Cook Nuclear Plant, Units 1 and 2

SUBJECT: SUMMARY OF TELEPHONE CONFERENCE HELD ON JULY 29, 2004, BETWEEN THE U.S. NUCLEAR REGULATORY COMMISSION (NRC) AND INDIANA MICHIGAN POWER COMPANY (I&M) REPRESENTATIVES CONCERNING REQUESTS FOR ADDITIONAL INFORMATION ON DONALD C. COOK NUCLEAR PLANT, UNITS 1 AND 2, LICENSE RENEWAL APPLICATION (TAC NOS. MC1202 AND MC1203)

The U.S. Nuclear Regulatory Commission staff (the staff) and representatives of Indiana Michigan Power Company (the applicant) held a telephone conference call on July 29, 2004, to discuss requests for additional information (RAIs) concerning the Donald C. Cook Nuclear Plant (CNP) license renewal application (LRA). The conference call consisted of discussions on I&M's responses to previously submitted RAIs with which the staff had additional questions.

On the basis of the discussions, the applicant was able to better understand the staff's RAI. The conference call was also useful in clarifying the staff's questions. No staff decisions were made during the conference call.

Enclosure 1 provides a listing of the telephone conference participants. Enclosure 2 contains the RAIs discussed with the applicant, including a brief description on the status of the item. The applicant has had an opportunity to comment on this summary.

/RA/

Jonathan Rowley, Project Manager
License Renewal Section A
License Renewal and Environmental Impacts Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket Nos.: 50-315 and 50-316

Enclosures: As stated

cc w/encls: See next page

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Adams Accession no.: **ML042370375**

Document Name:C:\ORPCheckout\FileNET\ML042370375.wpd

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Amar Pal	NRC
Neil Haggerty	Indiana Michigan Power Company (I&M)
Larry Lindquist	I&M
Ralph Schlichter	I&M
Mark Rinckel	Framatome*
Matt Miller	Framatome
Allen Cox	Entergy*
Roger Rucker	Entergy

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REQUESTS FOR ADDITIONAL INFORMATION (RAIs) DISCUSSED FOR DONALD C. COOK (CNP), UNITS 1 AND 2, LICENSE RENEWAL DURING JULY 29, 2004 TELEPHONE CONFERENCE

Donald C. Cook (CNP) LRA Section 2.5, "Scoping and Screening Results: Electrical and Instrumentation and Controls Systems"

RAI 2.5-1:

Interim Staff Guidance (ISG)-2, "NRC Staff Position on the License Renewal Rule (10 CFR 54.4) as it relates to the Station Blackout Rule (SBO) (10 CFR 50.63)," states, in part, that, "The offsite power systems consist of a transmission system (grid) component that provides a source of power and a plant system component that connects that power source to a plant's onsite electrical distribution system which power safety equipment." For the purpose of the license renewal rule, the staff determined that the plant system portion of the offsite power system that is used to connect the plant to the offsite power source should be included within the scope of the rule. This path typically includes the switchyard circuit breakers that connect to the offsite system power transformers (startup transformer), transformers themselves, the intervening overhead or underground circuits between circuit breaker and transformer and between transformer and onsite electrical distribution system, and the associated control circuits and structures. In this regard, the portion of the SBO path indicated on the offsite power boundary drawing for license renewal does not include the transmission conductors and connections and the associated control cables from the first breaker (disconnect) from the 345 kV [kilovolt] and 765 kV switchyard buses to the 765 kV/34.5 kV and 345 kV/34.5 kV transformers. Please revise this drawing to include the above components indicating which components require an aging management review (AMR).

I&M Response to RAI 2.5-1:

The portion of the SBO path indicated on the license renewal offsite power boundary drawing, 12-LRA-Electrical1, includes the switchyard circuit breakers that connect to the offsite system power transformers (startup transformers), the transformers themselves, and the intervening overhead or underground circuits between circuit breakers and transformers and between transformers and the onsite electrical distribution system. As stated in LRA Section 2.5, switchyard items credited for the SBO path include the associated control circuits and structures in addition to the items shown on the boundary drawing. Consistent with the ISG excerpts in the RAI, the path from the switchyard circuit breakers that connect to the offsite power system transformers (startup transformers) to the 765 kV/34.5 kV and 345 kV/34.5 kV switchyard transformers is considered part of the transmission system (grid), which is not included in the scope of license renewal. Therefore, the transmission conductors and connections and the associated control cables from the first breaker (disconnect) from the 345 kV and 765 kV switchyard buses to the 765 kV/34.5 kV and 345 kV/34.5 kV switchyard transformers are not subject to aging management review. Therefore, no changes to the license renewal offsite power boundary drawing are required.

Status: The staff questioned how far the evaluation boundary was extended. For license renewal, the boundary should extend to the motor-operated disconnect feeding the switchyard transformer TR-5. The applicant stated that they understood the staff's position, and would evaluate their position to determine if a change would be appropriate. A revised response will be submitted, if deemed appropriate, following the applicant's evaluation of the staff's position.

RAI 2.5-4:

LRA Section 2.1.3.3, Long-Lived Screening, states that all electrical penetration assemblies are included in the environmental qualification (EQ) program and are not subject to aging management review. Please confirm if this statement is applicable to all safety as well as non-safety related electrical penetration assemblies.

I&M Response to RAI 2.5-4:

Based on the referenced LRA section title, this question applies to LRA Section 2.1.2.3.3. All electrical penetrations, which include the penetration assemblies, are safety-related and are included in the Environmental Qualification of Electric Components Program described in LRA Section B.2.1.

Status: The staff requested clarification as to whether cables outside containment where included in the EQ program. The applicant confirmed that all electrical penetrations were included in the EQ Program and that only cables connected to EQ components were included in the EQ Program. The staff indicated that they would notify the applicant if any additional information is required for their review.

CNP LRA Section 3.6, "Electrical and Instrumentation and Controls Systems"

RAI 3.6-1:

In response to audit team's question on fuse holders, you stated that you have completed an assessment to identify fuse holders that are subject to AMR based on requirements of license renewal and Interim Staff Guidance (ISG)-5, "Identification and Treatment of Electrical Fuse Holders For License Renewal." The assessment identified fuse holders in scope for license renewal, then screened in fuse holders in-scope based upon whether: (1) they are included in an active component (panels, switchgear, or cabinet), (2) they perform an intended function to meet the criteria of 10 CFR 54.4 (a) (i.e., isolate safety loads from non-safety loads or are used as protective devises to ensure the integrity of containment electrical penetrations), or (3) they have bolted connections, which are not subject to the same aging stressors (i.e., mechanical stress and fatigue) as spring loaded fuse holder clips. The assessment determined that fuse blocks are either an active component, and do not perform a license renewal intended function, or have bolted connections. With regard to the fuse holders that have bolted connections, please address the aging affects due to vibration, corrosion, and fatigue due to thermal cycling identified in the subject ISG and provide justification as to why an additional AMP for bolted connection fuse holders is not required.

I&M Response to RAI 3.6-1:

The CNP aging management review of electrical systems eliminated fuses with bolted connections, since bolted connections do not have the issue associated with metallic fuse clamps. Bolted connections on fuse holders are subject to the same aging effects as bolted connections included in the cables and connections commodity group. The CNP aging management review included bolted connections on fuse holders as connections in the cable and connections commodity group.

All of the fuse holders that were not part of an active component and that were screened solely on the bolted connection criterion have the system code "26KAC" (electrical distribution system, 26,000 VAC). The 26KAC system is within the scope of license renewal, based on the bounding approach used for scoping electrical systems, and is listed in LRA Table 2.2-1b. This system contains the components associated with the 26 kV bus, which is the electrical distribution associated with the main generator. The main generator and step-up transformers do not perform a license renewal intended function; therefore, these fuse holders were determined not to be subject to an aging management review.

Status: As requested by the staff, the applicant clarified its basis for including the second part of the response. The applicant also clarified that there were no clips on bolted fuse holders.

RAI 3.6-2:

With regard to non-EQ cables sensitive to a reduction in insulation resistence, please confirm consistency with the proposed ISG-15, Revision of Generic Aging Lessons Learned (GALL) Aging Management Program (AMP) XI.E2,"Electrical Cables Not Subject to 10 CFR 50.49 Environmental Qualification Requirements Used in Instrumentation Circuits."

I&M Response to RAI 3.6-2:

The exception to NUREG-1801, Section XI.E2, in LRA Appendix B, Section B.1.21, states, "…the first reviews will be performed before the period of extended operation and every 10 years thereafter. Calibrations or surveillances that fail to meet the acceptance criteria will be reviewed at the time of the calibration or surveillance." The intent of this exception is in agreement with the mark-up of ISG-15 provided to the NRC in the referenced Nuclear Energy Institute (NEI) letter dated December 15, 2003 (referenced below). The NRC has not yet issued a formal response to these industry comments. Therefore, it is the intent of this program to be consistent with NUREG-1801, Section XI.E2 with the stated exception, which is consistent with the draft of ISG-15 provided in the referenced NEI letter. Other elements of the Non-EQ Instrumentation Circuits Test Review Program are consistent with ISG-15.

Reference: Letter from A. Marion, NEI, to P. T. Kuo, NRC, "Industry Comments on License Renewal Interim Staff Guidance Documents," dated December 15, 2003. [ML033560253]

Status: The staff indicated that the applicant needed to provide a commitment to the final ISG-15, which has not yet been issued. Instead of committing to a future ISG resolution, the applicant requested the staff to review the stated exception to the GALL, including the

referenced NEI letter, on a plant-specific basis, similar to other proposed exceptions or enhancements.

RAI 3.6-3:

In response to an audit team's question on inaccessible medium voltage cables within the scope of license renewal that are exposed to significant moisture simultaneously with applied voltage, it was stated that the AMP for inaccessible medium voltage cables will test the cables as well as inspect for water in the manholes. It was also stated that inspection of water in the manholes associated the GALL XI.E3 AMP would be performed every 10 years. The frequency to inspect for water in manholes every 10 years may be too long. Justify the frequency of inspecting manholes for water every 10 years in addition, provide your current criteria for inspecting manholes for water.

I&M Response to RAI 3.6-3:

LRA Section B.1.20 states that the CNP Non-EQ Inaccessible Medium-Voltage Cable program will be consistent with NUREG-1801, Section XI.E3. NUREG-1801, Section XI.E3, Section 2, "Preventive Actions", states that, "Periodic actions are taken to prevent cables from being exposed to significant moisture, such as inspecting for water collection in cable manholes and conduit, and draining water, as needed. Medium-voltage cables for which such actions are taken are not required to be tested since operating experience indicates that prolonged exposure to moisture and voltage are required to induce this aging mechanism." This section implies that if periodic actions are not taken to prevent cable exposure to significant moisture, then testing is required. The Non-EQ Inaccessible Medium-Voltage Cable Program will require testing of all cables included in the program. The frequency of inspections for water is relevant only if it provides reasonable assurance that the cables are not exposed to significant moisture and therefore do not require testing. Since testing is to be performed regardless of inspection results, the inspection frequency is not relevant. The proposed testing frequency in the CNP aging management program is consistent with NUREG-1801, Section XI.E3, for cables that are exposed to significant moisture.

Status: The staff questioned the licensee about the current status of inspection for water in manholes. The applicant asserted that the status of current inspections is a current licensing basis (CLB) issue, and that the issue of manhole inspections is not a license renewal issue, because they committed to testing 100 percent of the cables, whether the inspections found them to be wet or dry. The staff also asked the licensee for the technical basis for establishing a 10-year inspection interval. The licensee indicated this frequency was specified in GALL, and provided a brief discussion on the basis for this inspection interval. Following this discussion of the applicant's response to the RAI, the staff concluded that there was confusion with the question. The staff agreed to send a revised question. The question was revised and sent as follows:

> In response to an audit team's question on inaccessible medium voltage cables within the scope of license renewal that are exposed to significant moisture simultaneously with applied voltage, it was stated that the AMP for inaccessible medium voltage cables will test the cables as well as inspect for water in the manholes. It was also stated that inspection of water in the manholes associated with the GALL XI.E3 AMP would be performed every 10 years. The frequency to

inspect for water in manholes every 10 years may be too long. Justify the frequency of inspecting manholes for water every 10 years. In addition, provide your current criteria for inspecting manholes for water. If you do not inspect for water in the manholes at all, then how do you assure that the cables are not submerged in water for an extended period of time?

RAI 3.6-5:

The updated FSAR [final safety analysis report] supplement description in the LRA for the Non-EQ cable AMP does not provide an adequate description of the program as required by 10 CFR 54.21(d). The description of FSAR supplement for aging management of electrical and instrumentation and controls system should be consistent with Table 3.6-2 of NUREG-1800. Please submit a revised FSAR supplement that is consistent with NUREG-1800 to satisfy 10 CFR 54.21(d).

I&M Response to RAI 3.6-5:

Based on a review of NUREG-1800, Table 3.6-2, and NUREG-1801, Section XI.E1, the Non-EQ Insulated Cables and Connections Program description for the Updated Final Safety Analysis Report is revised as follows:

A.2.1.25 Non-EQ Insulated Cables and Connections

The Non-EQ Insulated Cables and Connections Program will apply to accessible insulated electrical cables and connections installed in structures that are within the scope of license renewal and prone to adverse localized environments. An adverse localized equipment environment is a condition in a limited plant area that is significantly more severe than the specified service condition for the electrical insulated cable or connection. The program will visually inspect at least once every 10 years a representative sample of accessible insulated cables and connections for cable and connection jacket surface anomalies, such as embrittlement, discoloration, cracking, swelling, or surface contamination. The Non-EQ Insulated Cables and Connections Program will be implemented prior to the period of extended operation.

Status: Although not explicitly stated in the RAI, the staff indicated that the intent of the RAI was to request the applicant to provide an adequate description for all three Non-EQ programs in the revised FSAR supplement in accordance with Table 3.6-2 of NUREG-1800. The applicant agreed to revise the response to include all three Non-EQ programs in the FSAR supplement.

CNP LRA Section 4.4, "Environmental Qualification of Electrical Equipment"

RAI 4.4-1:

The environmental qualification [EQ] of electrical equipment results in Section 4.4 indicate that the aging effects of the EQ of electrical equipment identified in the Time Limited Aging Analysis (TLAA) will be managed during the extended period of operation under 10 CFR 54.21(c)(1)(iii). However, no information is provided on the attributes for reanalysis of an aging evaluation to extend the qualification life of electrical equipment identified in the TLAA. The important attributes of a reanalysis include analytical methods, data collection and reduction methods, underlying assumptions, acceptance criteria and corrective actions. Provide information on the important attributes for reanalysis of an aging evaluation of electrical equipment identified in the TLAA to extend the qualification under 10 CFR 50.49(e).

I&M Response to RAI 4.4-1:

LRA Appendix B, Section B.2.1, states, "The CNP program is consistent with the program described in NUREG-1801, Section X.E1." NUREG-1801, Section X.E1, provides a discussion of the important attributes of a reanalysis. The information on these attributes that is discussed in NUREG-1801, Section X.E1, is applicable to the CNP EQ program discussed in LRA Section 4.4.

Status: The applicant is requested to submit a discussion of how they met the ten elements of GALL regarding environmental qualification of electrical components. This should include how the applicant applied the reanalysis attributes.

RAI 4.4-2:

Section 4.4 of the LRA identified Environmental Qualification of Electric Equipment as a TLAA requiring an evaluation by 10 CFR 54.21(c)(1). The provisions of 10 CFR 50, Appendix A, General Design Criteria (GDC) 4 require that all equipment related to safety be designed to accommodate the environmental effects of postulated accidents. Similarly, NRC SRP 3.11 (NUREG-0800) applies equally to mechanical and electrical equipment. For mechanical equipment in the LRA that are required to be evaluated as a EQ TLAA, provide a discussion on the materials that are sensitive to environmental effects (e.g., seals, gaskets, lubricants, fluids for hydraulic systems, diaphragms, and wear cycle aging from lubricant deterioration) and the aging analyses that will or have been conducted to satisfy the requirements of 10 CFR 54.21(c)(1) for the period of extended operation.

I&M Response to RAI 4.4-2:

The license renewal rule requires the evaluation of TLAAs. In accordance with 10 CFR 54.3, TLAAs are licensee calculations and analyses, not equipment. During performance of the integrated plant assessment, calculations and analyses that met the TLAA definition in 10 CFR 54.3 were identified as TLAAs and addressed in LRA Section 4.0. LRA Section 4.4 specifically addresses TLAAs for environmentally qualified electrical equipment, which are regulated by 10 CFR 50.49.

Status: I&M indicated to the staff that the requested information on mechanical equipment could be found in the CNP LRA in Section 2.1.2.4, page 2.1-18. The staff indicated that they would review the information in the LRA Section 2.1.2.4, and would inform the applicant if any additional information is required.

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