November 8, 2002

Mr. A. C. Bakken III
Senior Vice President
Nuclear Generation Group
American Electric Power Company
500 Circle Drive
Buchanan, MI 49107

SUBJECT: NOTICE OF ENFORCEMENT DISCRETION FOR INDIANA MICHIGAN POWER COMPANY REGARDING D.C. COOK, UNIT 2 (NOED 02-3-058)

Dear Mr. Bakken:

By letter dated November 6, 2002, you requested that the NRC exercise discretion not to enforce compliance with the actions required in Technical Specification (TS) 3.8.1.1 regarding diesel generator operability. Your letter documented information previously discussed with the NRC in a telephone conference which occurred on November 4, 2002. At the time of the telephone conference, both units were operating in Mode 1 at 100 percent power and stable.

The principal NRC staff members who participated in the telephone conference included: Geoffrey Grant, Director, Division of Reactor Projects (DRP), RIII; Anton Vegel, Branch Chief, Reactor Projects Branch 6, DRP, RIII; Bob Daley, Reactor Engineer, Electrical Engineering Branch, Division of Reactor Safety (DRS), RIII; Sonia Burgess, Senior Reactor Analyst, DRS, RIII; Brian Kemker, Senior Resident Inspector, D.C. Cook; Keith McConnell, Acting Director, Project Directorate-III, Division of Licensing Project Management (DLPM), Office of Nuclear Reactor Regulation (NRR); John Stang, Senior Project Manager, DLPM, NRR; L. Raghavan, Section Chief, Section I of Project Directorate-III, DLPM, NRR; Cornelius Holden, Section Chief, Electrical and Instrumentation and Controls Branch, Division of Engineering, NRR; Om Chopra, Senior Electrical Engineer, Technical Staff, Division of Engineering, NRR; Mark Rubin, Section Chief, PRA Branch, Safety Programs, NRR; and See-Meng Wong, PRA Reviewer, Technical Staff, NRR.

The decision to forego enforcement action is discretionary. The NRC is under no obligation to exercise that discretion. Each request for a Notice of Enforcement Discretion (NOED) is carefully considered on a case-by-case basis and only granted if the NRC staff is clearly satisfied that such action is warranted from a public health and safety standpoint. NRC takes the issuance of an NOED seriously and expects that licensees do the same, including conducting a thorough review of the issue and providing NRC staff with all pertinent information. In this particular case, while all of the necessary information was eventually discussed and considered, the NRC's ability to make an informed decision to grant enforcement discretion was unnecessarily complicated by an apparent lack of preparation and initially incomplete responses to the staff's questions.

Your staff requested enforcement discretion to preclude a required entry into Mode 3 (Hot Standby) for Unit 2 by 2:27 p.m. on November 5, 2002. (All times discussed in this letter refer to Eastern Standard Time). Your staff initially requested that the 72-hour allowed outage time for TS 3.8.1.1 Action "b" be extended by 108 hours based on your probabilistic risk evaluation indicating a net zero risk. After deliberations between you and the NRC staff, you revised your request to extend the 72-hour allowed outage time for TS 3.8.1.1 Action "b" by 72 hours to 8:27 a.m. on November 8, 2002, to return the Unit 2 CD Diesel Generator (EDG) to an operable status. With this extended allowed outage time, Unit 2 would have been required to enter Mode 3 (Hot Standby) by 2:27 p.m. on November 8, 2002, if the Unit 2 CD EDG had not been restored to an operable status.

Technical Specification 3.8.1.1.b states that "As a minimum, the following A.C. electrical power sources shall be OPERABLE: Two separate and independent diesel generators, each with (1) A separate day fuel tank containing a minimum of 70 gallons of fuel; (2) A separate fuel storage system containing a minimum indicated volume of 46,000 gallons of fuel; and (3) A separate fuel transfer pump."

This specification is applicable in MODES 1, 2, 3, and 4.

TS 3.8.1.1 Action "b", further states that "With a diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; and if the diesel generator became inoperable due to any causes other than an inoperable support system, an independently testable component, or preplanned preventative maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours, unless the absence of any potential common mode failure for the remaining diesel generator is demonstrated; restore diesel generators to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours."

At 8:27 a.m. on November 2, 2002, TS 3.8.1.1 Action "b" was entered to perform testing in accordance with TS surveillance requirement 4.8.1.1.2 for the Unit 2 CD EDG. During performance of the surveillance test, the EDG load began oscillating approximately 150 kilo-watts (kW) within 10 minutes of the EDG reaching full load (3500 kW). Subsequently, operators reduced EDG load to 2500 kW and the oscillations ceased.

On November 2, 2002, at approximately 9:20 p.m., attempts were made to "tune" the Unit 2 CD EDG governor, and the EDG was again loaded to 3500 kW. The load on the EDG began oscillating approximately 200 kW. The load was again reduced to 2500 kW and the oscillations ceased. At this time, based on an apparent cause evaluation that indicated the control circuitry of the 2 CD EDG to be the probable cause of the equipment malfunction, the decision was made to replace both the Electronic Governing Module (EGM) and Governor Hydraulic Actuator (EGB) of the Unit 2 CD EDG governor.

Replacement of the governor components was completed at 11:08 a.m. on November 3, 2002, and post-maintenance testing (PMT) was performed. During governor tuning in preparation for the PMT run, the Unit 2 CD EDG speed was increased using the EGB. The EGM was then placed in service and the EDG speed began to swing, causing high field amperage and voltage. The Unit 2 CD EDG was then tripped and a second EGM was installed at 3:18 a.m. on November 4, 2002. Preparations for paralleling the CD EDG to the "A" train of the 4 kilo-volt distribution system to perform a full load test of the diesel were commenced. However, a 1-ampere fuse opened in the EDG synchronizing circuit and the EDG run was stopped at 9:42 a.m. on November 4, 2002.

Due to the unavailability of a spare 1-ampere fuse, a decision was made to install a 0.5-ampere fuse in the synchronizing circuit to allow testing of the Unit 2 CD EDG. Recognizing that the synchronizing circuit does not affect the safety-related function of the EDG, your staff concluded that the fuse substitution was acceptable to expedite the testing to minimize the time that the EDG would be unavailable. Prior to considering the EDG operable, your staff replaced the 0.5-ampere fuse with a 1-ampere fuse. During testing, the EDG load began oscillating approximately 500 kW with the EDG at 3500 kW. In addition, local EGB indication of governor oil level was not visible. The CD EDG was subsequently tripped at 5:49 p.m. on November 4, 2002. The apparent cause of this failure was attributed to an infant mortality failure of an oil seal on the newly-installed EGB.

At approximately 8:15 p.m. on November 4, 2002, your staff requested enforcement discretion to preclude a required entry into Mode 3 (Hot Standby) by 2:27 p.m. for Unit 2 on November 5, 2002. You initially requested that the 72-hour allowed outage time for TS 3.8.1.1 Action "b" for Unit 2 be extended by approximately 108 hours. However, discussions between you and the NRC staff regarding the necessary amount of time to restore EDG operability beyond the TS allowed outage time resulted in a revision to your request. You subsequently requested an extension to the TS 3.8.1.1 Action "b" allowed outage time by 72 hours to 8:27 a.m. on November 8, 2002, to accomplish restoration of the Unit 2 CD EDG to an operable status. At the time of the request for enforcement discretion, a replacement for the EDG hydraulic actuator was not available and a new actuator was en route.

At the time that enforcement discretion was requested, a formal root cause of the Unit 2 CD EDG governor failure had not been completed. Your staff had performed a supporting/refuting evaluation, which identified the apparent cause of the governor failure to be the failure of the EGM. The possibility of a common-mode failure with respect to the EGM failure was also evaluated. Your staff concluded that no act was taken or condition established that presented a common-mode failure threat to the redundant Unit 2 AB EDG. This conclusion was based on the fact that no maintenance or testing common to both the Unit 2 AB and CD EDGs was performed and no other common work activity in the vicinity of the Unit 2 AB and CD EDG speed regulators was performed. In addition, the Unit 2 AB and CD EDG EGMs were not installed at the same time.

Regional enforcement discretion was verbally granted at 10:35 p.m. on November 4, 2002.

On November 6, 2002, the Unit 2 CD EDG governor was repaired and the diesel was declared operable at 12:49 a.m. At that time, Unit 2 exited TS 3.8.1.1 Action "b" and the NOED was no longer required.

Your staff requested this NOED after consideration of the safety significance and potential consequences of such an action. Your staff determined that extending the 72-hour allowed outage time for TS 3.8.1.1 by an additional 72 hours, to restore the Unit 2 CD EDG to an operable status, would allow for the plant to remain at power and would not result in an undue risk to the health and safety of the public. The conclusion was based on risk insights that quantitatively indicated that the risk associated with maintaining the plant at power with the Unit 2 CD EDG inoperable is lower than the risk associated with performing a reactor shutdown.

Your staff indicated that the Middle Hotwell Pump was the only major piece of equipment not in service on Unit 2. During the time that this NOED was in effect, your staff committed to the following compensatory measures: (1) No Unit 2 safety-related equipment would be removed from service for maintenance; (2) No Unit 2 vital secondary equipment would be removed from service for maintenance, or returned to service; (3) No switchyard work would be performed; (4) No work would be performed on unit-shared safety significant systems; and (5) The Unit 2 AB EDG and the switchyard equipment would be guarded. In addition, during the period that the Unit 2 CD EDG was inoperable, any forecast of severe weather would be evaluated by your staff for potential impact on offsite power sources. If such an impact was identified, Unit 2 would be shutdown in an orderly manner. The Resident Inspector staff verified that these compensatory measures were properly implemented while this NOED was in effect.

The NRC reviewed your written request for enforcement discretion dated November 6, 2002, and verified consistency between your oral and written requests. The NRC's basis for this discretion considered: (1) the availability of the redundant Unit 2 AB EDG; (2) the availability of offsite and onsite electrical power; (3) the compensatory measures to reduce the probability of a plant transient while ensuring the availability of other safety-related equipment; and (4) the quantitative risk assessment of the condition which indicated that the risk associated with increasing the allowed outage time an additional 72 hours for a total of 144 hours was lower than the risk associated with performing a plant shutdown.

Although the NRC does not have a plant specific shutdown risk analysis, we did perform a qualitative evaluation of this issue. The NRC determined that the risk of continued operation with your compensatory measures for the additional 72 hour period of the NOED would not result in an increased risk over shutting down Unit 2 with the Unit 2 CD EDG inoperable. The basis of our decision was that there was no net increase in risk associated with extending the allowed outage time for TS 3.8.1.1 Action "b" from 72 hours to a total of 144 hours. Based on this qualitative evaluation the NRC accepted your staff's safety rationale.

Based on the above considerations, the NRC staff concluded that Criterion B.2.1.1.a and the applicable criteria in Section C.4 to NRC Manual Chapter 9900, "Technical Guidance, Operations - Notices of Enforcement Discretion" were met. Criterion B.2.1.1.a states that for an operating plant, the NOED is intended to avoid unnecessary transients as a result of compliance with the license condition and, thus, minimize potential safety consequences and operational risks.

On the basis of the NRC staff's evaluation of your request, we have concluded that issuance of this NOED is consistent with the Enforcement Policy and staff guidance, and had no adverse impact on public health and safety. Therefore, we exercised discretion at 10:35 p.m. on November 4, 2002, not to enforce compliance with Unit 2 TS 3.8.1.1 Action "b" for entry into Mode 3 by 2:27 p.m. on November 5, 2002, until 2:27 p.m. on November 8, 2002.

As stated in the Enforcement Policy, action may be taken, to the extent that violations were involved, for the root cause that led to the noncompliance for which this NOED was necessary.

Sincerely,

/RA/

Geoffrey E. Grant, Director
Division of Reactor Projects

Docket Nos. 50-315; 50-316
License Nos. DPR-58; DPR-74

cc w/encl: J. Pollock, Site Vice President
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Michigan Department of Environmental Quality
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