



May 2, 2003

AEP:NRC:3311-03
10 CFR 50.90

Docket No.: 50-315
50-316

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Mail Stop O-P1-17
Washington, DC 20555-0001

Donald C. Cook Nuclear Plant Units 1 and 2
FINAL SUPPLEMENT TO RESPONSE TO NRC REQUEST FOR
ADDITIONAL INFORMATION FOR LICENSE AMENDMENT REQUEST
TO EXTEND REACTOR TRIP SYSTEM AND ENGINEERED SAFETY
FEATURES ACTUATION SYSTEM SURVEILLANCE TIME
REQUIREMENTS AS EVALUATED IN WCAP-15376
(TAC Nos. MB6324 and MB6325)

- Reference: 1) Letter from H. K. Chernoff, Nuclear Regulatory Commission, to A. C. Bakken III, Indiana Michigan Power Company, "Donald C. Cook Nuclear Plant, Units 1 and 2 - Request for Additional Information Regarding, 'License Amendment Request to Extended Reactor Trip System and Engineered Safety Features Actuation System Surveillance Time Requirement as Evaluated in WCAP-15376' (TAC MB6324 and MB6325)," dated March 27, 2003.
- 2) Letter from A. C. Bakken III, Indiana Michigan Power Company, to U. S. Nuclear Regulatory Commission Document Control Desk, "Response to NRC Request for Additional Information for License Amendment Request to Extend Reactor Trip System and Engineered Safety Features Actuation System Surveillance Requirements as Evaluated in WCAP-15376 (TAC Nos. MB6324 and MB6325)," AEP:NRC:3311-01, dated April 7, 2003.
- 3) Letter from A. C. Bakken III, Indiana Michigan Power Company, to U. S. Nuclear Regulatory Commission Document Control Desk, "Supplement to Response to NRC Request for

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Additional Information for License Amendment Request to Extend Reactor Trip System and Engineered Safety Features Actuation System Surveillance Requirements as Evaluated in WCAP-15376 (TAC Nos. MB6324 and MB6325)," AEP:NRC:3311-02, dated April 29, 2003.

- 4) Letter from J. E. Pollock, Indian Michigan Power Company, to U. S. Nuclear Regulatory Commission Document Control Desk, "Donald C. Cook Nuclear Plant Units 1 and 2 Docket Nos 50-315 and 50-316 License Amendment Request to Extend Reactor Trip System and Engineered Safety Features Actuation System Surveillance Requirements as Evaluated in WCAP-15376," AEP:NRC:2311, dated August 30, 2002.

This letter provides Indiana Michigan Power Company's (I&M) response to the remaining Nuclear Regulatory Commission (NRC) questions regarding a proposed license amendment to revise the Donald C. Cook Nuclear Plant (CNP) reactor trip system (RTS) and engineered safety features actuation system (ESFAS) surveillance requirements.

By Reference 1, the NRC requested additional information pertaining to I&M's license amendment request. I&M provided its response to the NRC request in Reference 2. After review of Reference 2, the NRC had additional questions pertaining to the response to NRC's request. Reference 3 transmitted a partial response to the additional questions. In Reference 3, I&M committed to provide additional information in a subsequent letter. On April 29, 2003, during a telephone conference call with the NRC, I&M obtained clarification on the remaining issue.

This letter fulfills I&M's commitment made in Reference 3 to provide additional information on the review I&M has performed on reliability/availability data for the CNP reactor protection system. Enclosure 1 provides an affirmation pertaining to the statements made in this letter. Attachment 1 provides additional information on the reliability and unavailability data comparison of the CNP reactor protection system to previous generic evaluations for extending surveillance test intervals, completion times, and bypass times.

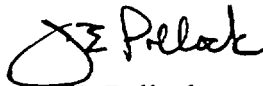
During a telephone conference call on April 30, 2003, the NRC staff requested that I&M clarify an apparent discontinuity between CNP Technical Specifications (TS), Functional Unit 5, Intermediate Range, Neutron Flux, and surveillance requirement 3.3.1.8 as described in Technical Specifications Task

Force (TSTF) Traveler TSTF-411, Revision 1, "Surveillance Test Interval Extension for Components of the Reactor Protection System." The differences between TSTF-411 and the proposed changes for the CNP TS represent differences in format and required surveillance between CNP current TS and NUREG-1431, Revision 2, "Standard Technical Specifications Westinghouse Plants." The proposed changes to CNP TS adopt the requirement to perform a channel functional test (CFT) on startup if not performed within the last 184 days. CNP TS do not have a requirement to perform a CFT on a periodic frequency after the startup surveillance. The remaining requirements for surveillance requirement 3.3.1.8 of NUREG-1431 were not within the scope of WCAP-15376-P-A, "Risk-Informed Assessment of the RTS and ESFAS Surveillance Test Intervals and Reactor Trip Breaker Test and Completion Times," dated March 2003.

The information provided in this letter consists of supporting information for the amendment request submitted by Reference 4. The information in this letter does not alter the validity of the original evaluation of significant hazards considerations performed in accordance with 10 CFR 50.92 documented in Enclosure 2 to Reference 4. The environmental assessment provided in Enclosure 2 to Reference 4 also remains valid.

Should you have any questions, please contact Mr. Brian A. McIntyre, Manager of Regulatory Affairs, at (269) 697-5806.

Sincerely,



J. E. Pollock
Site Vice President

KAS/rdw

Enclosure: Affirmation

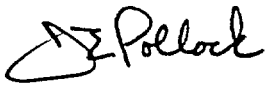
Attachment: CNP Reactor Protection System Unavailability and Reliability Comparison

c: H. K. Chernoff, NRC Washington, DC
K. D. Curry, Ft. Wayne AEP
J. E. Dyer, NRC Region III
J. T. King, MPSC
MDEQ - DW & RPD
NRC Resident Inspector
J. F. Stang, Jr., NRC Washington, DC

AFFIRMATION

I, J. E. Pollock, being duly sworn, state that I am Site Vice President of Indiana Michigan Power Company (I&M), that I am authorized to sign and file this request with the Nuclear Regulatory Commission on behalf of I&M, and that the statements made and the matters set forth herein pertaining to I&M are true and correct to the best of my knowledge, information, and belief.

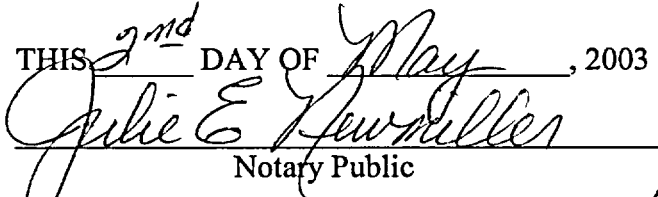
Indiana Michigan Power Company



J. E. Pollock
Site Vice President

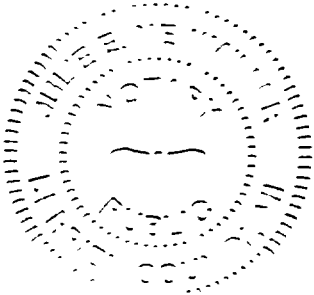
SWORN TO AND SUBSCRIBED BEFORE ME

THIS 2nd DAY OF May, 2003


Notary Public

My Commission Expires 8-22-2004

JULIE E. NEWMILLER
Notary Public, Berrien County, MI
My Commission Expires Aug 22, 2004



CNP REACTOR PROTECTION SYSTEM UNAVAILABILITY AND RELIABILITY COMPARISON

This review encompasses reactor protection system (RPS) design information and unavailability data of WCAP-10271-P-A, "Evaluation of Surveillance Frequencies and Out of Service Times for the Reactor Protection Instrumentation System," dated May 1986; WCAP-14333-P-A, "Probabilistic Risk Analysis of the RPS and ESFAS Test Times and Completion Times," dated October 1998; WCAP-15376-P-A, "Risk-Informed Assessment of the RTS and ESFAS Surveillance Test Intervals and Reactor Trip Breaker Test and Completion Times," dated March 2003; and NUREG/CR-5500, "Reliability Study: Westinghouse Reactor Protection System, 1984-1995," Volume 2 dated September 1998, to demonstrate that the Donald C. Cook Nuclear Plant (CNP) RPS is applicable to WCAP-15376.

CNP RPS was upgraded with the Foxboro Spec 200 / Spec 200 Micro equipment in 1994. The upgrade was limited to replacing power supplies and process signal conditioning instrumentation. The Spec 200 equipment design is consistent with that of the original equipment Foxboro H Line and was designed to IEEE Standard 279-1971, Criteria for Protection Systems for Nuclear Power Generating Stations. The Foxboro Spec 200 system added redundancy features and a high degree of availability. The availability numeric for the Foxboro Spec 200 is better than 0.9997 on a 0.00 to 1.000 scale as compared to 0.9990 or better for the Foxboro H Line equipment. Unity (1.000) would represent 100 percent availability. A Mean Time Before Failure (MTBF) for the Foxboro Spec 200 limiting loop was calculated to be greater than four years which compares favorably to the Foxboro H Line equipment MTBF calculation of as low as one year. Nuclear Regulatory Commission staff reviewed the upgrade with emphasis on replacement system features that differed from the previously approved design. The staff concluded, as documented in a Safety Evaluation amending the facility operating licenses on February 7, 1994, that the modification is consistent with the current plant licensing design basis and will provide appropriate RPS function as required.

CNP RPS design consists of analog channel inputs to the Foxboro Spec 200 signal conditioning instruments which input to the logic cabinets, and reactor trip breakers, and is consistent with the three WCAPs evaluating surveillance test interval, completion time, and bypass time extensions. The unavailability study in NUREG/CR-5500 is based on reactor protection system (RPS) operating experience data reported in the Nuclear Plant Reliability Data System (NPRDS) and Licensee Event Reports (LERs). CNP RPS failures are included in this unavailability study. Unavailability assumptions used in these WCAPs and NUREG/CR-5500 are reasonable to apply to CNP RPS design based on the similarity in design to that assumed in the WCAPs, the improved availability for CNP RPS due to the Foxboro Spec 200 process signal conditioning instrumentation modification, and since failure data reported by CNP to NPRDS is included in the study documented in NUREG/CR-5500. As stated in WCAP-15376, calculated unavailability values for WCAP-15376 compare favorably to NUREG/CR-5500 and the WCAP-14333 analysis for reactor trip signals from diverse sources.

System Engineering has reviewed the RPS design described in the WCAPs and confirmed that the CNP RPS design is consistent with the WCAP descriptions. CNP method of testing reduces unavailability time by tripping the channel during testing. Additionally, Indiana Michigan Power Company limits unavailability to 48 hours per train in a 24 month period as scoped through the Maintenance Rule Program. The 48 hours equates to the cumulative time a train is bypassed to perform reactor trip breaker testing. This 48 hour Maintenance Rule allowable unavailability has never been exceeded at CNP Unit 1 or Unit 2 since restart of the units in 2000.

Based on the above, CNP RPS design is consistent with the designs assumed in WCAP-10271, WCAP-14333, and WCAP-15376 and unavailability assumptions used in support of these WCAPs are reasonable to apply to CNP.