

INDIANA & MICHIGAN ELECTRIC COMPANY

P. O. BOX 18
BOWLING GREEN STATION
NEW YORK, N. Y. 10004

February 23, 1981
AEP:NRC:0516

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74


Mr. James G. Keppler, Regional Director
U.S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region III
Glen Ellyn, Illinois 60137

Reference: NRC IE Inspection Reports
Nos. 50-315/80-20 and 50-316/80-16
Dated January 23, 1981

Dear Mr. Keppler:

This letter and the enclosed attachment are in response to the NRC IE Inspection report referenced above and addresses the two action items noted in Appendix A to the Inspection Report. Following the telephone conversation between our Mr. Castresana and your Mr. Heishman on February 17, 1981, an extension of one week was granted to us to respond to the referenced Inspection Report.

Very truly yours,


R. S. Hunter
Vice President

cc: R. C. Callen
G. Charnoff
John E. Dolan - Columbus
R. W. Jurgensen
D. V. Shaller - Bridgman (w/attachment)
Region III Resident Inspector at Cook Plant - Bridgman (w/attachment)

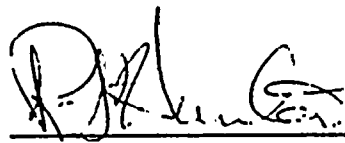
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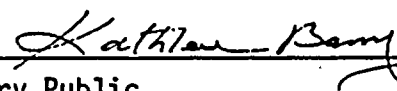
STATE OF NEW YORK)
COUNTY OF NEW YORK)

R. S. Hunter, being duly sworn, deposes and says that he is a Vice President of licensee Indiana & Michigan Electric Company, that he has read the foregoing response to IE Inspection Reports Nos. 50-315/80-20 and 50-316/80-16 and knows the contents thereof; and that said contents are true to the best of his knowledge and belief.



Sworn and subscribed to before me this

25th day of February, 1981



Notary Public

KATHLEEN BARRY
NOTARY PUBLIC, State of New York
No. 41,407,1792
Qualified in Queens County
Commissioned in New York County
Commission Expires March 30, 1981



ATTACHMENT TO AEP:NRC:0516

The following is our response to the items noted in Appendix 'A' of the subject NRC IE Inspection Report.

Appendix A, Item 1.

Under the direction of the Plant Operations Superintendent, all procedures relative to safety-related pump operability were reviewed to verify inclusion of the 15 minute criterion on the pump operation. As a result of this review, eight procedures were identified which did not specifically note the 15 minute criterion. Temporary change sheets to these procedures were initiated, and reviewed by the Plant Nuclear Safety Review Committee and approved by Plant Manager on February 10, 1981. Full compliance has been achieved as of the date of this letter.

Appendix A, Item 2.

This item of non-compliance states that, "...the licensee's ISI pump operability test program did not establish reference values for pump inlet pressure as required by ASME Section XI Article IWP-3110." Indiana & Michigan Electric Company agrees that proper pump inlet pressure is critical for determining pump operability. Plant procedure 12-THP-4030-STP-222, "ISI Pump Test Program" requires inlet pressure be measured before and after pump startup and during testing. However, we do not agree with the Inspection Report conclusion that reference values be set for inlet pressure for the following reasons. Article IWP-3110 of ASME Section XI states that the test quantities stated in Table IWP-3100-1 shall be measured and compared with the reference values. Any deviations determined shall be compared with the limits given in Table IWP-3100-2 and, if necessary, specified corrective action must be taken. Table IWP-3100-2 specifies no limits to the test quantity P_i (inlet pressure). However, footnote (1) to the table states that the measured value of the inlet pressure P_i shall be within the limits specified by the owner in the pump record. Our Plant Procedure No. 12-THP-4030-STP-222, "ISI Pump Test Program," requires that inlet pressure be measured before and after pump startup and during test.

In particular, Article IWP-3110, "Reference Values," states in its entirety:

"Reference values are defined as one or more fixed sets of values of the quantities shown in Table IWP-3100-1 as measured or observed when the equipment is known to be operating acceptably. All subsequent test results shall be compared to these reference values or to new reference values established in accordance with paragraphs IWP-3111 and IWP-3112. Reference values shall be determined from the results of an inservice test which may be run during preoperational testing or from the results of the first inservice test run during power operation. Reference values shall be at points of operation readily duplicated during subsequent inservice testing."

Our interpretation of the last sentence in the above article requires that reference values must be duplicated during all subsequent pump tests. Below are possible suction sources for the subject pumps tested per ASME Section XI:

- Refueling Water Storage Tank
- Condensate Storage Tank
- Screenhouse Forebay
- Reactor Coolant System
- Volume Control Tank
- Boric Acid Storage Tank
- Component Cooling Water Surge Tank

The inlet pressure parameter for all these sources is a function of system conditions at the time of the test. To change the system conditions to produce a duplicate suction pressure for each pump test would not be practical or possible. Reference values for pump inlet pressure, as described in ASME Section XI, Article IWP, do not provide any useful information with regard to pump performance. Section XI Article IWP is only concerned with degradation in pump performance. Pump performance is properly indicated by ΔP , provided the inlet pressure is maintained at or above the NPSHR*. Therefore, in this regard, the only value that need be set for pump suction pressure is the NPSHR which is the base limit below which the pump could not operate properly. The NPSHR value is already incorporated in all of the plant pump test procedures. The ΔP values measured in each test are documented and compared with ΔP_{ref} values obtained during normal operation.

Plant procedure 12-THP-4030-STP-222, "ISI Pump Test Program" specifies reference values be obtained by one of three methods:

- 1) preoperational testing
- 2) first inservice run during power operation
- 3) after a pump has been replaced, a new set or sets of reference values shall be determined from the results of the first inservice test run after the pump is put into service (reference IWP-3111).

It is our concern as well as that of the NRC inspector's that subsequent pump data be accurate in identifying degrading trends based on the reference values. It is the NRC inspector's interpretation that measurement accuracy is assured by establishment of reference values, although the code does not state this. The plant procedure for ISI Pump Testing relies on the stated requirements of IWP-4113 in ASME Section XI, "Calibration." This article states:

"All instruments, together with their transmitters where used, shall be calibrated prior to the establishment of reference quantities. All new or repaired instruments shall be calibrated prior to test use. A system of calibration records shall be used to identify each instrument and its date of calibration, or alternatively each instrument may contain an attached tag

*NPSHR - Net positive suction head required.



or sticker that records the date of last calibration. Except as required above, all instruments used for these tests shall be verified for calibration validity on a regular basis as established by the Owner'

TABLE IWP-4110-1
NOMINAL MAXIMUM INSTRUMENT ERRORS

Pressure	+ 2% of full scale
Differential pressure	± 2% of full scale
Flowrate	± 2% of full scale
Speed	± 2% of full scale
Temperature	± 5% of full scale
Vibration amplitude	± 5% of full scale

Indiana & Michigan Electric as the Owner has established a program to verify calibration validity on a regular basis by plant procedure 12 THP 6030 IMP.045, 'Instrument Calibration System'. The objective of this procedure is to ensure routine instrumentation measuring, and test instruments are routinely calibrated. ISI instruments are classified 'Priority B' per the plant procedure. Priority B states:

'Priority B shall include the instrumentation and controls from which indication is required by the Technical Specifications but a channel calibration is not specified. The calibration frequency of priority B Instrumentation and Controls shall be 18 months with an allowable extension not to exceed 25% (i.e. 4.5 months).'

Based on the above technical reasons we strongly feel that reference value for the inlet pressure is not the critical test quantity to accurately identify degrading trends in the pump operability.