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 AUTH.NAME AUTHOR AFFILIATION
 HLINTER,R.S. Indiana & Michigan Electric Co.
 RECIP.NAME RECIPIENT AFFILIATION
 DENTON,H.R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Submits update re compliance w/Items II.E.4.2 & II.F.1
 of NUREG-0737.Design mod initiated to replace existing
 NESW CIVS w/air-operated valves of superior leak tightness
 & corrosion resistance characteristics.

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 TITLE: Response to NUREG -0737/NUREG-0660 TMI Action Plan Remts (OL's)

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INDIANA & MICHIGAN ELECTRIC COMPANY

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

July 9, 1982
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Donald C. Cook Nuclear Plant Unit Nos. 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
NUREG-0737 - Item II.E.4.2 and Item II.F.1, Attachment 6

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Denton:

- References: (1) Letter AEP:NRC:0253 dated October 24, 1979
(2) Letter AEP:NRC:0334B dated March 10, 1980

The reference letters provided information to the Staff regarding the Cook Plant's compliance with various requirements contained in NUREG-0737. At the time of the above referenced submittals, our responses concerning Item II.E.4.2, "Containment Isolation Dependability", correctly stated that each containment isolation valve (CIV) in the Cook Plant was controlled by its own control switch. However, subsequent to planned modifications, the Non-Essential Service Water System (NESW) and the Post-Accident Containment Hydrogen Monitoring System (PACHMS) will use one switch to control more than one CIV. We have re-reviewed the criteria set forth in NUREG-0737 and, for reasons summarized below, have concluded that the use of one switch to control more than one CIV in the NESW and PACHM systems is acceptable. This letter is being submitted in order to update the record with regard to our compliance with Item II.E.4.2 of NUREG-0737.

A design modification has been initiated to replace the existing NESW CIVs (56 valves per Unit) with air-operated valves of superior leak tightness and corrosion resistance characteristics. Fourteen of the valves being replaced are check valves. Thus, the scope of the design modification includes providing controls for an additional fourteen air-operated valves.

This design modification, which we plan to implement during the 1982 refueling outage for each Unit of the Cook Plant, represents our corrective action to the difficulties experienced with 10 CFR 50 Appendix J leak rate testing of certain valves. Upon completion of the design modifications, two train oriented, air-operated CIVs will be

provided in-series on each NESW supply and return line to and from the containment.

The control switches for the existing forty-two (42) air-operated NESW CIVs are located on the IV panel in the main control room. The IV panel, the panels on either side immediately adjacent to the IV panel and the NESW system panel contain insufficient space for the additional switches. Therefore, the decision was made to control two CIVs from the same switch. Although one switch does control more than one valve, no flow path (supply or return line) can be opened by a single switch. We believe that the operation of more than one CIV with a single control switch in the manner described above is acceptable and does not violate the requirements of Item II.E.4.2 of NUREG-0737.

The PACHMS is being installed in fulfillment of the requirements of Item II.F.1, Attachment 6, of NUREG-0737. Each of the two redundant trains of the PACHMS is a closed loop system designed to Seismic Class I standards and is capable of withstanding exposure to containment design pressure.

The PACHMS, which is described in our AEP:NRC:0631 letter dated January 11, 1982 (*), utilizes nine sampling lines, each with two in-series CIVs. Four sampling lines are associated with the Train 'A' hydrogen analyzer and five sampling lines are associated with the Train 'B' hydrogen analyzer. Such an arrangement assures that failure of a single electrical train would not result in closure of all PACHMS CIVs with a resultant loss of hydrogen monitoring capability. PACHMS operation requires that the two air-operated CIVs in each sample inlet line and the air operated CIV in the return line be opened at the same time. The control switches for the PACHMS are of the spring return type to prevent inadvertent valve opening and for the operator to obtain a sample, three valve control switches would have to be held in the open position simultaneously. Therefore, one switch was chosen to operate both the two CIVs on the sampling inlet line and the CIV in the return line. It should be noted that, prior to reset of the containment isolation signal each PACHMS CIV is capable of being tripped on a containment isolation signal from either a Train 'A' or a Train 'B' containment isolation signal. In addition, the PACHMS CIVs are designed to fail closed on loss of air and further, failure of the control circuits would also normally cause the valve to close. However, since the PACHMS is fully capable of withstanding exposure to containment design pressure, the hypothetical failure of the PACHMS CIVs to close would not constitute a threat to containment integrity. Based on the above considerations, we have concluded that operation of more than one PACHMS CIV with a single control switch is acceptable.

(*) Due to a typographical error the letter was dated January 11, 1981.

This document has been prepared following Corporate Procedures which incorporate a reasonable set of controls to insure its accuracy and completeness prior to signature by the undersigned.

Very truly yours,



R. S. Hunter
Vice President

/md

cc: John E. Dolan - Columbus
R. W. Jurgensen
W. G. Smith, Jr. - Bridgman
R. C. Callen
G. Charnoff
Joe Williams, Jr.
NRC Resident Inspector at Cook Plant - Bridgman

