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 FACIL:50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana & 05000315
 50-316 Donald C. Cook Nuclear Power Plant, Unit 2, Indiana & 05000316
 AUTH.NAME AUTHOR AFFILIATION
 ALEXICH,M.P. Indiana & Michigan Electric Co.
 RECIP.NAME RECIPIENT AFFILIATION
 DENTON,H.R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Forwards revised justifications for continued operation re
 electrical equipment environ qualification program.Rev
 corrects schedule for proposed corrective actions &
 accurately describes operability of hot & cold leg temps.

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 TITLE: OR/Licensing Submittal: Equipment Qualification

NOTES: 05000315
 OL:10/25/74
 OL:12/23/72 05000316

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INDIANA & MICHIGAN ELECTRIC COMPANY

P.O. BOX 16631
COLUMBUS, OHIO 43216

December 10, 1984

AEP:NRC:07750

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
ELECTRICAL EQUIPMENT ENVIRONMENTAL QUALIFICATION (10 CFR 50.49);
UPDATE TO LETTER NO. AEP:NRC:0775N

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

Dear Mr. Denton:

By letter dated October 18, 1984 [AEP:NRC:0775N, Mr. M. P. Alexich, Indiana & Michigan Electric Company (IMECo), to Mr. H. R. Denton, NRC], IMECo responded to an NRC staff request and provided additional information with regard to the Donald C. Cook Nuclear Plant electrical equipment environmental qualification program. This information was intended to form the basis for your staff's final review of the Cook Plant 10 CFR 50.49 environmental qualification program, allowing for the issuance of a Safety Evaluation Report on this topic.

As noted in IMECo letter No. AEP:NRC:0775N, the Plant Nuclear Safety Review Committee and the Nuclear Safety Design Review Committee had not yet reviewed the technical Justifications for Continued Operation (JCOs) at the time of transmittal. These reviews have now been completed, and as a result revisions have been prepared for two of the JCOs previously submitted.

The two revised JCOs are provided in the attachment to this letter, and update JCO Nos. 6 and 8 contained in Attachment 2 to AEP:NRC:0775N. In the case of JCO No. 6, the revision corrects the schedule for proposed corrective actions to agree with the AEP:NRC:0775N cover letter. For JCO No. 8, the revision more accurately describes the operability of the hot and cold leg Reactor Coolant System resistance-temperature detectors and, as back-up indication, the use of the main steam pressure transmitters in conjunction with saturated steam tables. The two attached JCOs supersede the two JCOs which were previously submitted for these equipment items.

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Mr. Harold R. Denton

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AEP:NRC:07750

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

Very truly yours,



M. P. Alexich
Vice President

4/29/84
12:40:84

MPA/dam
Attachment

cc: John E. Dolan
W. G. Smith, Jr. - Bridgman
R. C. Callen
G. Bruchmann
G. Charnoff
NRC Resident Inspector - Bridgman

1. The first part of the document is a list of the names of the persons who were present at the meeting. The names are listed in alphabetical order.

2. The second part of the document is a list of the topics that were discussed at the meeting.

3. The third part of the document is a list of the actions that were taken at the meeting.

4. The fourth part of the document is a list of the conclusions that were reached at the meeting.

5. The fifth part of the document is a list of the recommendations that were made at the meeting.

ATTACHMENT TO AEP:NRC:07750
REVISIONS TO JUSTIFICATIONS FOR CONTINUED OPERATION

JUSTIFICATION FOR CONTINUED OPERATION (10 CFR 50.49)

Donald C. Cook Nuclear Plant No(s).: Units 1 and 2

Equipment Manufacturer: Not Applicable

Equipment Model/Item No(s).: Not Applicable

Equipment Description: Cable Termination at Reactor Coolant System Vents
Solenoid-Operated Valve

System Component Evaluation Worksheet No(s).: TC-16

Plant Identification No(s).: Not Applicable

Outstanding Equipment Qualification Deficiencies: Steam and Chemical Spray

Justification For Continued Operation (check one or more of the following, and explain on the next page):

- ☐ (a) The safety function may be accomplished by some designated alternative equipment if the principal equipment has not been demonstrated to be fully qualified.
- ☐ (b) The validity of partial type test data in support of the original qualification has been considered.
- ☐ (c) There is limited use of administrative controls over equipment that has not been demonstrated to be fully qualified.
- ☐ (d) The safety function will be completed prior to exposure to the accident environment resulting from the design basis event, and subsequent failure of the equipment will not degrade any safety function or mislead the operator.
- ☒ (e) Failure of the equipment under the accident environment resulting from the design basis event will not lead to significant degradation of any safety function or misleading information to the operator.

JUSTIFICATION FOR CONTINUED OPERATION (continued):

Explanation of Justification For Continued Operation Noted on Previous Page:

The Reactor Coolant System vents are a post-TMI lessons learned require-
ment. Equipment installation without proof of qualification was NRC-mandated.
When the environmental qualification test configuration details became availa-
ble during the spring of 1984, we realized that our installation did not con-
form with the qualified installation.

In their qualification test, Westinghouse used a Conax connector to pre-
clude the possibility of steam and chemical spray from entering the solenoid
enclosure and reacting with the electrical terminations. Since we had not
been made aware of the details of the test configuration, the solenoid valves
were installed with a metal conduit with no protection against a steam envir-
onment. In order to change the installed electrical connections to agree
with those used by Westinghouse in their qualification test, a plant design
change is in process.

The electrical connection should be modified during the 1985 refueling
outages for each unit of the D. C. Cook Nuclear Plant (i.e., those outages
anticipated to begin in March 1985 for Unit 1 and in November 1985 for Unit
2).

JUSTIFICATION FOR CONTINUED OPERATION (10 CFR 50.49)

Donald C. Cook Nuclear Plant No(s).: Units 1 and 2

Equipment Manufacturer: S. Moore, Boston Insulated Wire, Cerro Wire & Cable

Equipment Model/Item No(s).: 3075, 3077

Equipment Description: Cables for Resistance Temperature Detectors (RTDs)
In Reactor Coolant System Hot and Cold Legs

System Component Evaluation Worksheet No(s).: CI-3, CI-5 (Unit 1); CI-8,
CI-9, CI-11 (Unit 2)

Plant Identification No(s).: Not Applicable

Outstanding Equipment Qualification Deficiencies: Submergence

Justification For Continued Operation (check one or more of the following, and explain on the next page):

- ☒ (a) The safety function may be accomplished by some designated alternative equipment if the principal equipment has not been demonstrated to be fully qualified.
- ☐ (b) The validity of partial type test data in support of the original qualification has been considered.
- ☐ (c) There is limited use of administrative controls over equipment that has not been demonstrated to be fully qualified.
- ☐ (d) The safety function will be completed prior to exposure to the accident environment resulting from the design basis event, and subsequent failure of the equipment will not degrade any safety function or mislead the operator.
- ☐ (e) Failure of the equipment under the accident environment resulting from the design basis event will not lead to significant degradation of any safety function or misleading information to the operator.

JUSTIFICATION FOR CONTINUED OPERATION (continued):

Explanation of Justification For Continued Operation Noted on Previous Page:

NTR-110, -120, -130, -140, -210, -220, -230, and -240 are Resistance Temperature Detectors (RTDs) located in the hot and cold leg piping of the four reactor coolant loops. The cables for six of the eight NTRs were inadvertently routed below the maximum containment flood level elevation in each unit. The remaining two NTR cables (coolant loop Nos. 1 and 3 hot leg) in each unit were, however, routed above the maximum flood level plane.

Hot leg temperature information is therefore available for coolant loop Nos. 1 and 3 in both units of the D. C. Cook Nuclear Plant. Additionally, the average coolant loop temperature, T_{ave} , can be obtained by using the main steam pressure transmitters outside containment in conjunction with saturated steam tables. The cold leg temperature for coolant loop Nos. 1 and 3 may then be computed from T_{hot} and T_{ave} for these loops.

The six NTR cables routed below the maximum containment flood level plane in each unit will be rerouted. A design change has been issued to cover this work, and is expected to be completed during the 1985 refueling outages for each unit of the D. C. Cook Nuclear Plant (i.e., those outages anticipated to begin in March 1985 for Unit 1 and in November 1985 for Unit 2).