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TO: Mr. Edson G. Case

FROM:
Indiana & Michigan Power Co.
New York, N.Y. 10004
John Tillinghast

DATE OF DOCUMENT: 04/21/78

DATE RECEIVED: 04/26/78

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DESCRIPTION

Confirming Applicant's 04/20/78 telecon conversations with NRC...Furnishing info concerning changes in elec equipment to be made in Subject Facility, Units 1 & 2. during current outages...Notarized 04/21/78...

ENCLOSURE

PLANT NAME: Cook Units 1 & 2 ml
jcm 04/26/78

FOR ACTION/INFORMATION

| | |
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| PROJECT MANAGER: | MLYNCZAK |
| LICENSING ASST: (LTR) | B. SCOTT |
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April 21, 1978

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

Mr. Edson G. Case, Acting Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

REGULATORY DOCKET FILE COPY

Dear Mr. Case:

This letter confirms our telephone conversations of April 20, 1978 with Miss Mlynczak and Mr. Reeves of your Staff and Mr. Keppler of NRC Region III, informing them of changes in electrical equipment to be made in the Donald C. Cook Nuclear Plant, Units 1 and 2 during current outages. The changes are:

1) Replacement, inside the containment, of all terminations in safety-related circuits presently connected to Penn-Union Terminal Blocks with previously qualified splices (Raychem NCSF heat shrinkable tubing with N class adhesive).

2) Replacement, inside the containment, of all Continental Wire and Cable Company twisted shielded pair instrument cable on safety-related circuits with cable manufactured by Samuel Moore Company that has been previously qualified.

3) Reconnecting through flood-up tubes, inside the containment, all safety-related instruments that are required for long term post accident monitoring.

We have determined that these modifications do not require changes to technical specifications nor do they involve any unreviewed safety questions. Therefore prior Commission approval to implement these changes is not required.

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The reasons for our decision to implement these changes now are inconclusive results to date on confirmatory tests being conducted to satisfy condition 4.B of Amendment No. 4 to Unit 2's Facility Operating License, No. DPR-74, complete confidence in the replacement equipment, and the convenience of plant schedule.

Condition 4.B of Amendment No. 4 requires Indiana & Michigan Power Company to provide by June 6, 1978, for staff review, the results of qualification testing performed in conformance with IEEE 323-1971 requirements for all electrical terminations in all safety-related circuits inside containment for postulated steamline break and/or loss of coolant accident conditions. In addition to prior test results and documentation on electrical equipment, we have undertaken additional sequential testing of electrical terminations employing more severe environmental conditions than are required for our application. The results to date are inconclusive. We anticipate with additional sequential testing at conditions sufficient for qualification of this equipment for post accident conditions, but less severe than have been employed in our testing program to date, that the existing equipment's qualification would be reconfirmed. At the same time, however, the Plant schedule now allows an opportunity to replace existing equipment with equipment (in the form of splices and Moore cable) whose qualifications have already been accepted. In this way we avoid unnecessary and expensive additional testing and provide totally qualified equipment which requires no additional testing.

Specifically, during our recent testing under conservative conditions a number of observations were made which contributed to our decision to make the changes.

Penn Union Type 6000 Control Terminal Blocks have exhibited mixed results with respect to equipment qualification. Several individual termination points have exhibited excessive leakage current that post-test analysis revealed may have been caused by damaged wires connected to these points or by the residue of paint that dripped off the enclosure in which the block was mounted. In addition, in one test, all of the termination points and terminal blocks exhibited excessive leakage current apparently due to extreme distortion of the block. During the same test series, an identical terminal block exhibited no leakage current. Thus only some of the terminal block points

have failed, and some of those failures can be attributed to factors other than the block itself. More testing would be necessary to resolve these differences in results.

Continental Wire and Cable Company twisted shielded pair instrument cable has failed when subjected to the overly conservative combination of 150 megarads of radiation associated with LOCA plus the 340° F maximum temperature of a postulated steam line break. Rather than retest to more realistic conditions, it is our decision to replace this cable with the Moore Cable which is qualified in excess of the above conditions.

Although Kapton insulated conductors were not a subject of our recent tests, the Kapton conductors were used as test leads on test specimens in the severe test environment and we have had indications that these conductors were the cause of several test failures. The type of failures experienced were incurred following a long period of direct exposure to the test environment. It is our current belief that the failure mechanism involves direct exposure to caustic spray and high temperature plus physical stressing on the Kapton insulation. When encased in floodup tubes simulating their physical configuration in the Plant, no failures of Kapton insulated wire occurred during testing.

On the basis of the above information, we deem it prudent to implement the previously described changes during the current short outage of Unit 2 and the current refueling outage of Unit 1.

Very truly yours,

Indiana & Michigan Power Company

John Tillinghast

John Tillinghast
Vice President

JT:p

Sworn and Subscribed to before
me this 21st day of April 1978 in
New York County, New York

Kathleen Barry
Notary Public

KATHLEEN BARRY
NOTARY PUBLIC, State of New York
No. 41-4606792
Qualified in Queens County
Certificate filed in New York County
Commission expires March 30, 1979

cc: (Attached)

cc: G. Charnoff
R. W. Steketee
R. C. Callen
R. J. Vollen
R. Walsh
D. V. Shaller-Bridgman
R. W. Jurgensen