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DBVassallo

FJWilliams

JStolz

LEngle

EHylton

ACRS (16)

ELD

IE (3)

HSmith

bcc: JRBuchanan, NSIC

TBAbernathy, TIC

MAR 17 1977

Docket No.: 50-346

Toledo Edison Company
 ATTN: Mr. Lowell E. Roe
 Vice President, Facilities
 Development
 Edison Plaza
 300 Madison Avenue
 Toledo, Ohio 43652

POOR
 ORIGINAL

Gentlemen:

SUBJECT: ROUTING OF CLASS 1E WIRING WITH NON-CLASS 1E WIRING WITHIN
 CLASS 1E LOGIC CABINETS AND PANELS

We stated in Section 7.9.3 of the Safety Evaluation Report for Davis Besse, Unit 1 (DB-1) that the separation criteria did not include separation requirements between Class 1E and non-Class 1E wiring inside the Class 1E logic cabinets.

You were requested to verify that faults (i.e., grounding, shorting, application of high voltage, or electromagnetic interference (noise)) on non-Class 1E circuits would not propagate to the safety grade circuits and degrade them below an acceptable level. Subsequently, you agreed to submit test procedures and test results which would demonstrate that such faults would not degrade the safety systems below an acceptable level.

In response to our concern, you submitted tests in December, 1976 which described various qualification procedures conducted by the Class 1E safety systems suppliers (i.e., the Reactor Protection System supplier and the Engineered Safety Features Actuation System supplier). Although these qualification procedures described the methodology used (via analysis and/or test) to qualify several isolation devices, and demonstrate that certain selected pieces of equipment on a component or subchannel level were immune to simulated electromagnetic interference (noise), the information and tests presented did not adequately demonstrate that faults (such as described above) would not degrade the safety systems (as implemented and wired at the plant site) below an acceptable level. Therefore, we found your response to our concerns

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regarding the adequacy of the implemented design (i.e., non-separation of Class 1E and non-Class 1E wiring inside the Class 1E logic cabinets and associated panels) to be incomplete and unacceptable.

As you know, in various communications we requested that you reevaluate the design and provide the information identified in Paragraph II of this letter. In addition, we indicated to you that an acceptable demonstration of your design should be provided and include:

1. Provide definition of the maximum credible voltage, current and electromagnetic disturbance that could be imposed in these circuits,
2. Define fault duration and a description of the fault detection or fault termination devices used to limit faulted conditions (include primary and back-up devices, if any),
3. A description of the adequacy of the cable wiring and/or connectors required to sustain the above faulted conditions without degradation, or which could lead to degradation or faulted conditions in the safety channels, and
4. Provide test procedures and test results which demonstrate that faults identified in the previous three items would not degrade the installed safety systems below acceptable levels.

As you know, the staff will be meeting with you, the Consumers Power Company, and the appropriate contractor agents on March 17, 1977, to discuss these matters (as identified above).

Do not hesitate to call us at any time if you deem it necessary to obtain further definition of our concerns. It is our desire to obtain resolution on the tests and information required in order that we may identify these matters as resolved in our forthcoming Supplement 1 to the Safety Evaluation Report for DB-1.

Sincerely,

Original Signed by:
John F. Stolz

John F. Stolz, Chief
Light Water Reactors Branch No. 1
Division of Project Management

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cc: (See next page)

OFFICE	LWR-#1	LWR-#1				
SURNAME	L. Engle	J. Stolz				
DATE	3/16/77	3/17/77				

Toledo Edison Company

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MAR 17 1977

cc: Donald H. Hauser, Esquire
Cleveland Electric Illuminating
Company
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