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DTE Energy



10 CFR 50.54(f)

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NRC-07-0005

U. S. Nuclear Regulatory Commission
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- References:
- 1) Fermi 2
NRC Docket No. 50-341
NRC License No. NPF-43
 - 2) Detroit Edison Letter to NRC, "Submittal of Deviations from Staff Interpretations of Fire Protection Features in 10CFR50, Appendix R and Justification," EF2-72717, dated August 3, 1984
 - 3) Detroit Edison Letter to NRC, "Transmittal of Fire Protection Information," EF2-69218, dated August 4, 1984
 - 4) Detroit Edison Letter to NRC, "Qualification of 3M Fire Wrap," EF2-72266, dated October 22, 1984
 - 5) NUREG-0798, Supplement 5, dated March 1985
 - 6) NRC Generic Letter 2006-03, "Potentially Nonconforming HEMYC and MT Fire Barrier Configurations," dated April 10, 2006
 - 7) Detroit Edison Letter to NRC, "Detroit Edison Response to Generic Letter 2006-03, Potentially Nonconforming HEMYC and MT Fire Barrier Configurations," NRC-06-0042 dated June 9, 2006

Subject: Detroit Edison's Response to Request for Additional Information Regarding Generic Letter 2006-03, Potentially Nonconforming HEMYC and MT Fire Barrier Configurations

A125

The purpose of this letter is to provide Detroit Edison's response to NRC Request for Additional Information (RAI) regarding resolution of Detroit Edison's response to Generic Letter 2006-03 (Reference 7) during a teleconference on November 1, 2006.

The Fermi 2 response is as follows:

REQUESTED INFORMATION

The NRC current guidance for raceway protection is contained in Generic Letter 86-10, Supplement 1. The staff is interested if the fire barriers 3M M-20 and CS-195 (as installed in the plant) were tested and evaluated (for deviations from the testing) in accordance with the GL 86-10, Supplement 1 guidance. If not, the staff is interested in the following:

- a) Is the support protection and penetrating item protection for these barriers in the plant representative of the protection provided during the testing? If not, how were deviations evaluated?

Response:

The fire wrap on the supports and penetrating items was installed in accordance with the manufacturer's installation instructions, as documented in the Detroit Edison installation specification, Engineering Design Packages, and controlled drawings.

Quality Assurance oversight was provided by vendor quality control and technical representatives onsite during the installation to witness and verify that the installation met their quality control and technical requirements. Detroit Edison quality control representatives provided oversight of the project to verify that the installation was in accordance with Detroit Edison requirements.

The referenced barrier systems were tested at several laboratories using the standard time-temperature curve of NFPA 251 [ASTM E-119]. Underwriters Laboratories Inc. and the manufacturer reviewed the test results and provided an evaluation which concluded that the fire barrier material provided an equivalent level of protection as a one hour fire barrier. A deviation for the fire barrier was submitted in References 2 and 3 with additional information provided in Reference 4. Reference 5 approved the deviation and accepted the results provided in the References 2 through 4.

- b) Does the testing encompass or bound the installed configurations? If not, how was bounding evaluated?

Response:

The CS-195 and M20A tested barrier consisted of 1 layer of M20A and a unistrut frame with CS-195 attached. Protected supports outside the CS-195/M20A barrier had 2 layers of M20A wrapped a minimum of 12 inches with 2 layers of M20A. All heat transferring items in contact with a protected support required 2 layers of M20A for a minimum of 12 inches.

The multiwrap M20A cable tray system consisted of 4 layers of M20A overlapped with the supports requiring 3 layers of M20A. All supports, support plates, and cross braces in contact with a protected support require a minimum of 12 inches of wrap with 2 layers of M20A. All heat transferring items in contact with a protected support required 2 layers of M20A for a minimum of 12 inches.

The installed fire barriers meet or exceed these requirements. Therefore, the testing bounds the installed configuration.

- c) Is the plant cable loading (the thermal mass) of the installed configurations bounded by the tested configurations? If not, how were raceways having less thermal mass evaluated?

Response:

The thermal mass of the tested configuration consisted of a combination of 1C-300MCM, 7C-12AWG, and 2C-16AWG cables arranged in a single layer of cables across the entire width of four inches by twenty-four inches cable tray system.

The thermal mass of the lightest loaded installed configuration consists of a combination of multi-conductor #12 AWG cables in six inches by twenty-four inches cable tray. This mass is larger than that tested. Therefore, the installed configuration thermal mass bounds the tested configuration.

- d) Was the ASTM E-119 time temperature curve used during testing of these barriers? If not, what temperatures were used?

Response:

The ASTM E-119 time temperature curve was used during the testing of these barriers.

- e) What measure was used to determine that the protected cables would be free of fire damage (temperature, operations during fire conditions, meggering, etc)?

Response:

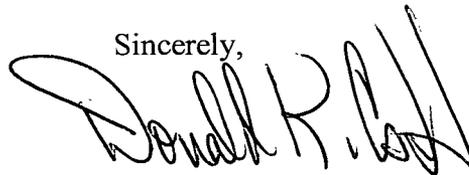
During the fire test, instrumentation installed inside the barrier monitored the temperatures of the cables. The temperatures measured were used by Underwriters Laboratories Inc. to determine adequacy of the barrier.

In addition, each conductor of each cable in each electrical circuit protective system was energized and monitored for circuit integrity throughout the fire endurance test.

Following the test, a hose stream was applied to the exposed surface of the assembly. Each conductor of each cable in each electrical circuit protective system was energized and monitored for circuit integrity throughout the hose stream test. No electrical faults developed in any of the electrical circuit protective systems during the hose stream test.

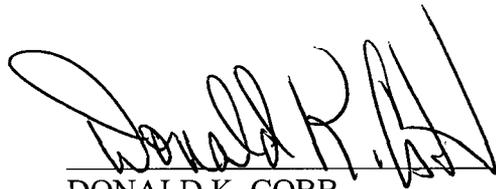
Should you have any questions or require additional information, please contact Mr. Ronald W. Gaston of my staff at (734) 586-5197.

Sincerely,

A handwritten signature in black ink, appearing to read "Donald R. Gaston". The signature is written in a cursive, flowing style with a large initial "D".

cc: NRC Project Manager
Reactor Projects Chief, Branch 4, Region III
NRC Resident Office
Regional Administrator, Region III
Supervisor, Electric Operators,
Michigan Public Service Commission

I, DONALD K. COBB, do hereby affirm that the foregoing statements are based on facts and circumstances which are true and accurate to the best of my knowledge and belief.



DONALD K. COBB
Assistant Vice President, Nuclear Generation

On this 22nd day of February, 2007 before me personally appeared Donald K. Cobb, being first duly sworn and says that he executed the foregoing as his free act and deed.



Notary Public

ROSALIE ARMETTA
NOTARY PUBLIC MONROE CO., MI
MY COMMISSION EXPIRES Oct 11, 2007

