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From:
Frederick Emerson

TACs:
MC5445

To:
Sunil Weerakkody

*** YELLOW ***

For Signature of:

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Sheron
Carpenter
NRR Mailroom

Description:
Testing the Hemyc and MT fire wrap material: PROJECT NUMBER:689

Assigned To:
DSSA

Contact:
BLACK, SUZANNE C

Special Instructions:

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NUCLEAR ENERGY INSTITUTE

Frederick A. Emerson
SENIOR PROJECT MANAGER,
ENGINEERING DEPARTMENT
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December 21, 2004

Mr. Sunil Weerakkody
Fire Protection Section Chief, DSSA
U.S. Nuclear Regulatory Commission
Mail Stop O11-A11
Washington, DC 20555-0001

PROJECT NUMBER: 689

Dear Mr. Weerakkody:

On December 6, 2002, NEI provided by letter comments on NRC plans for testing the Hemyc and MT fire wrap material. On November 18, 2004, NRC provided by letter the NRC's current test plan for performing this testing in early 2005. We are enclosing comments on this test plan.

Since it is important for these tests to provide unambiguous results and conclusions, we have worked with NRC for the past several years to help assure that the test configurations adequately represent or bound the installed configurations. We believe that the opportunity for industry users of the Hemyc and MT material to review the constructed test configurations and observe the tests themselves would have been an asset to achieving useful results. While we appreciate the opportunity to provide the enclosed industry comments on the test plan, the staff decision not to allow industry representatives to observe the tests is of concern.

If the industry representatives do not observe the tests, we request the opportunity to review and comment on the detailed construction drawings of each test specimen. This becomes very important with respect to joint details, fastener type and details, termination details, etc. as originally explained as Comment 3.a of NEI's letter of December 6, 2002. We are prepared to perform this review expeditiously to support the NRC test schedule. We also request that the comments in the enclosure to this letter be addressed prior to the conduct of the tests.

1776 I STREET, NW SUITE 400 WASHINGTON, DC 20006-3708 PHONE 202.739.8086 FAX 202.785.4019 fae@nei.org

Please contact me (202-739-8086; fae@nei.org) with any questions about this transmittal.

Sincerely,

F. A. Emerson

Frederick A. Emerson

Enclosure

c: Mr. John Hannon, NRC
Mr. David Lew, NRC
Mr. Mark Salley, NRC

Enclosure

Comments on NRC Test Plan for Hemyc and MT Fire Barrier Material

1. The NRC does not plan to test a 24" wide cable tray even though this size is the predominant one used in industry. If the 12" tray fails and the 36" tray passes, it would be difficult to apply the results to 24" tray. The failure to test the 24" tray is a serious flaw in the test plan and should be addressed.

2. The listing of materials shows the use of Klevers 600/6 fiberglass mat as being optional. If it is not tested, NRC should state the criteria for accepting its use on the unexposed side.

3. Banding materials have not been identified in the Hemyc List of Materials but do appear on the MT Wrap List of Materials. Please address the use of banding materials in the Hemyc test plan as well.

4. The sizes of the Unistrut support members to be tested are not detailed. Prior industry comments identified the use of 1-5/8" x 1-5/8" P-1000 Unistrut, 2" x 2" x 1/4" steel angle iron, 4" x 4" x 3/8" angle iron, and 4" x 6" x 3/8" angle iron. The test plan should provide additional information about the sizes of the Unistrut support members to be tested.

5. The NRC should justify the provision of raceway fill using bare conductors. The use of insulated cable for raceway fill is far more consistent with actual field configurations.

6. The test plan shows a metal deck with the tested items penetrating the metal deck. Industry representatives are more familiar with using a concrete slab on the test furnace. The use of a metal deck precludes testing of the concrete/wrap interface, and thus a key piece of qualification information would be missing.

7. The size of the junction box to be tested has increased from 12" x 24" x 10" to 18" x 24" x 10". Since this is the only box size tested, the bounding of smaller boxes using the principles of larger mass and larger surface area would not appear to be possible. The industry provided the NRC with a range of box sizes, and a smaller box size should be used to bound as many installations as possible.

8. NRC should provide in advance of the testing the evaluation criteria for the configurations not tested. These criteria should include guidelines for bounding qualifications, thermal mass issues, grouped cable trays, and conduits within the same wrap enclosure, varying box sizes, varying support member sizes, etc. The "separate more complete report" that will be issued six months after the completion of the testing should also include this information. Without this information it will be difficult to close issues related to Hemyc and MT materials.