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W3F1-2006-0028

June 7, 2006

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555-0001

Subject: Response to Generic Letter 2006-03, Potentially Nonconforming Hemyc and MT Fire Barrier Configurations
Waterford 3 SES
Docket No. 50-382
License No. NPF-38

References: 1. NRC letter dated April 10, 2006, Potentially Nonconforming Hemyc and MT Fire Barrier Configurations

Dear Sir or Madam:

Per Reference 1, the NRC issued Generic Letter (GL) 2006-03 to request facilities to confirm compliance with existing applicable requirements, and if appropriate, take additional actions. Specifically, although Hemyc and MT fire barriers may be relied on to protect electrical and instrumentation cables and equipment that provide safe shutdown capability during a fire, NRC testing in 2005 has revealed that both materials failed to provide the protective function intended for compliance with existing regulations. The requested information is being provided under the requirements of 10 CFR 50.54(f).

The Waterford 3 response to the requested information in GL 2006-03 is attached. No new commitments are contained in this submittal. If you have any questions or require additional information, please contact Oscar Pipkins at (504) 739-6707.

A125

I declare under penalty of perjury that the foregoing is true and correct.

Executed on June 7, 2006.

Sincerely,

J.A. Ridgel
Acting Nuclear Safety Assurance
Director

JAR/OPP/ssf

Attachment: Response to Generic Letter 2006-03 for Waterford 3 SES

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Attachment

W3F1-2006-0028

Response to Generic Letter 2006-03 for Waterford 3 SES

Requested Information

Addressees are requested to determine whether or not Hemyc or MT fire barrier material is installed and relied upon for separation and/or safe shutdown purposes to satisfy applicable regulatory requirements. In addition, licensees are asked to describe controls that were used to ensure the adequacy of other fire barrier types, consistent with the assessment requested in GL 92-08.

Addressees that credit Hemyc or MT for compliance are requested to provide information regarding the extent of installation, whether the material complies with regulatory requirements, and any compensatory actions in place to provide equivalent protection and maintain safe shutdown function of affected areas of the plant in light of the recent findings associated with Hemyc and MT. Licensees are requested to provide evaluations to support conclusions that they are in compliance with regulatory requirements for the Hemyc and MT applications. Licensees that cannot justify their continued reliance on Hemyc or MT are requested to provide a description of corrective actions taken or planned and a schedule for milestones, including when full compliance will be achieved.

Compensatory measures and corrective actions must be implemented in accordance with existing regulations commensurate with the safety significance of the nonconforming condition. The NRC expects all licensees to fully restore compliance with 10CFR50.48 and submit the required documentation to the NRC by December 1, 2007.

NRC Request 1(a):

Provide a statement on whether Hemyc or MT fire barrier material is used and whether it is relied upon for separation and/or safe shutdown purposes in accordance with the licensing basis, including whether Hemyc or MT is credited in other analyses (e.g., exemptions, license amendments, GL 86-10 analyses).

Waterford 3 Response to Request 1(a):

Waterford 3 Nuclear Station credited the Hemyc fire barrier system as a one hour fire rated barrier for Appendix R compliance purposes. Waterford 3 does not use the 3 hour fire rated MT configuration. The Hemyc system is also used in the containment building as a radiant energy shield.

NRC Request 1(b):

A description of the controls that were used to ensure that other fire barrier types relied on for separation of redundant trains located in a single fire area are capable of providing the necessary level of protection. Addressees may reference their responses to GL 92-08 to the extent that the responses address this specific issues.

Waterford 3 Response to Request 1(b):

Waterford 3 also uses the 3M Interam fire barrier system in 1 and 3 hour fire rated configurations. The 3M system is qualified by various fire tests conducted by

independent testing laboratories consistent with the guidance provided by Generic Letter 86-10 Supplement 1. This is the only fire barrier raceway system approved by Entergy for use in future installations at Waterford 3 Nuclear Station.

NRC Request 2(a):

For those addressees that have installed Hemyc or MT fire barrier materials, discuss the extent of the installation (e.g., linear feet of wrap, areas installed, systems protected).

Waterford 3 Response to Request 2(a):

Waterford 3 has approximately 2000 feet of Hemyc conduit wrap installed on conduits ranging in sizes from ¾ to 5 inches in diameter. In addition there are approximately 1200 feet of Hemyc wrap installed on 24" wide cable trays. Hemyc wrap is installed on 7 electrical/junction boxes and 5 containment electrical penetrations. Conduits, electrical/junction boxes and containment penetration boxes are directly wrapped with Hemyc. Tray wrap is installed using the standard vendor design consisting of Hemyc wrap installed on a frame assembly that provides an air space between the wrap assembly and the raceway. The Hemyc wrap is credited in 19 fire areas/zones.

NRC Request 2(b):

For those addressees that have installed Hemyc or MT fire barrier materials, discuss whether the Hemyc and/or MT installed in their plants is conforming with their licensing basis in light of recent findings, and if these recent findings do not apply, why not.

Waterford 3 Response to Request 2(b):

The Hemyc system was NRC approved for use at Waterford 3 by NUREG-0787 Supplement 5 Section 9.5.1.4. This document stated:

"By letter dated February 14, 1983, the applicant submitted results of tests conducted by an independent testing laboratory on an insulating blanket and wrap that will be used to protect shutdown-related cable trays and conduits. This material, in conjunction with area-wide smoke detection and fire suppression systems, is in compliance with Section III G.2 of Appendix R to 10 CFR 50. The blanket and wrap were tested in configurations representative of what is to be found in the plant, with unprotected tray supports, using cables representative of those used in the plant. As a result of the tests, the material has been demonstrated to protect cable from visible fire damage and to maintain circuit integrity during an ASTM E-119 1-hour fire exposure. The material is not adversely affected by a water hose stream and is capable of limiting temperature rise on the un-exposed side of trays and conduits to not more than 250F above ambient, which is well below the temperature at which similar IEEE-qualified cable began to fail in tests conducted independently for NRC at Underwriters Laboratories (report to be published). The Staff concludes that this protection, coupled with the other automatic and manual

fire protection available, will provide reasonable assurance that one train of safe shutdown cable remains free of fire damage and, therefore, is acceptable."

However, based on NRC testing, the Hemyc installed at Waterford 3 does not conform to the licensing basis and has been declared and remains inoperable at this time.

NRC Request 2(c):

For those addressees that have installed Hemyc or MT fire barrier materials, discuss the compensatory measures that have been implemented to provide protection and maintain the safe shutdown function of affected areas of the plant in light of the recent findings associated with Hemyc and MT installations, including evaluations to support the addressees' conclusions.

Waterford 3 Response to Request 2(c):

Waterford 3 Technical Requirements Manual (TRM) Section 3.7.11 applies to fire rated assemblies. The TRM action statement states:

"With one or more of the above required fire rated assemblies and/or sealing devices inoperable, within 1 hour either establish a continuous fire watch on at least one side of the affected assembly, or verify the OPERABILITY of the fire detectors on at least one side of the inoperable assembly and establish an hourly fire watch patrol, unless the inoperable assembly is inside the containment, then inspect that containment area at least once per 8 hours or monitor and record air temperature at least once per hour at each of the operable Containment Fan Cooler air intakes."

All credited Hemyc wrap, including Containment wrap used as a radiant energy shield, has been conservatively declared inoperable and the applicable TRM actions initiated pending resolution.

NRC Request 2(d):

For those addressees that have installed Hemyc or MT fire barrier materials, provide a description of, and implementation schedules for, corrective actions, including a description of any licensing actions or exemption requests needed to support changes to the plant licensing basis.

Waterford 3 Response to Request 2(d):

Entergy submitted to the NRC a letter of intent (ADAMs ML060030453, December 21, 2005) to adopt NFPA 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Generating Plants, " 2001 edition in accordance with the requirements of Title 10 of the Code of Federal Regulations (10 CFR), Paragraph 50.48 (c). The NRC responded in an April 13, 2006 letter recognizing a 36 month NFPA 805 transition period that included resolution of the Hemyc issue. Accordingly, the schedule for complete resolution of the Hemyc issue is December 31, 2008. The Hemyc resolution

plan includes qualification testing, resolution under NFPA 805, and partial replacement/upgrades.

NRC Request 3

No later than December 1, 2007, addressees that identified Hemyc and/or MT configurations are requested to provide a description of actions taken to resolve the nonconforming conditions described in 2.d.

Waterford 3 Response to Request 3:

The nonconforming Hemyc conditions will not be addressed prior to the December 1, 2007 date requested. As stated in the response to Request 2(d), Hemyc configurations will be addressed in the implementation of NFPA 805. To be effective, the implementation of NFPA 805 must be performed in an integrated fashion; therefore, it is not practical to address the Hemyc issue separately in advance of the project completion date. The complete resolution of this issue is not anticipated prior to December 2008.