
Draft Generic Letter on Hemyc and MT Fire Barriers



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Public Meeting
Rockville, MD
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Presentation Summary

- Regulatory Overview and Introduction
- The Issue
- History
- Current Status
- Generic Letter Contents
- Public Comments & Comment Resolution
- Conclusion



Regulatory Overview

US Nuclear Regulatory Commission (NRC)

- Mission
 - To protect US public health, safety, and the environment with nuclear reactor regulation and oversight
- Generic Letters
 - Tool for resolution of generic technical issues affecting nuclear reactors – i.e., matters with safety, safeguards, or environmental significance
 - Can request action and/or information deemed warranted by the NRC staff without extensive prior interaction



Purpose of Meeting

- To present the proposed Generic Letter 2006-XX: “Impact of Potentially Degraded Hemyc and MT Fire Barriers on Compliance with Fire Protection Programs”
- To present public comments and planned resolution of those comments
- Answer questions



Fire Protection Issue

- Fire Protection Regulations ensure protection of electrical equipment required for safe shutdown of the reactor in the event of a fire
- Hemyc & MT failed to meet acceptance criteria as a 1-hour fire barrier



What are Hemyc and MT fire barriers?

- Hemyc –
 - Mats of 2-inch Kaowool ceramic fiber insulation inside an outer covering of Refrasil high-temperature fabric.
- MT –
 - Four layers, with the first (closest to the conduit) as 1 inch of Kaowool ceramic fiber wrapped in a fiberglass fabric, the second as a 2-mil sheet of stainless steel, the third as a hydrate packet composed of aluminum trihydrate packets in a fiberglass-coated fabric, and the fourth as a 1.5-inch Kaowool blanket wrapped in Refrasil. Structural supports don't have the second or third layers.



History

- Fire barrier issues raised in the 1980's
- Generic Letter 92-08 issued: called for re-assessment of all fire barrier types
- Recent NRC inspections of Hemyc raised NRC concern
- NRC initiated Hemyc and MT confirmatory tests



Recent Background

- NRC Hemyc and MT tests revealed previously-unidentified failure mode
- Information Notice 2005-07
- Public petitions filed (2)
- Plant-specific assessments needed
- Generic Letter underway



Generic Letter – Purpose

- To request that addressees identify whether Hemyc/MT is relied on for separation and/or safe shutdown
- To request that affected addressees provide a --
 - Description of the installation
 - Discussion of whether installation is in compliance
 - Description of compensatory measures
 - Corrective action schedule
- To require a written response in accordance with 10 CFR 50.54(f)



Generic Letter – Requested Action

- Within 60 days, provide a statement on whether Hemyc or MT fire barrier material is used at their NPP and whether it is relied on for separation and/or safe shutdown purposes in accordance with 10 CFR 50.48 or other regulatory commitments, including whether Hemyc or MT is credited in other analyses (e.g., exemptions, license amendments, GL 86-10 analyses)



Generic Letter – Requested Information

- Within 60 days, affected licensees are requested to address the following:
 - Whether the Hemyc and/or MT is degraded. If not, the basis for why not. And plans for compensatory measures and corrective actions.
 - Justification for no corrective actions
 - Detailed description of Hemyc and/or MT installation
 - Detailed description of compensatory measures
 - Corrective actions implementation schedule, including intended licensing actions or exemptions



Generic Letter – Requested Information

- After implementing corrective actions, but no later than December 1, 2007, affected licensees are requested to provide the following—
 - Confirmation of compliance via corrective actions
 - A summary of the evaluation used for the “safety assessment”
 - Programmatic controls to assess other fire barrier types



Staff Actions to Date

- Hemyc/MT test information provided on NRC Website -- <http://www.nrc.gov/reactors/operating/ops-experience/fire-protection/fire-barriers.html>
- Information Notice 05-07 issued on April 1, 2005
- Regulatory Issue Summary 05-07 issued on April 19, 2005
- Draft generic letter published for public comment on July 25, 2005

(Note: At least two of the 10 plant sites affected [14 units] have already begun fixes)



Public Comments

- PCI Promatec
- Progress Energy
- Nuclear Energy Institute
- Duke Power
- STARS
- Exelon/AmerGen



Public Comments

Bin #	Description	# Rec'd
1	Comment on Backfit Determination	4
2	Comment on Schedule	4
3	Comment on Hemyc Testing	5
4	Comment on Risk-informing	3
5	Comment on GL 86-10, Supp. 1	5
6	Miscellaneous Comment	3
7	Comment on Details—e.g., wording, ref's	11
8	Comment on Burden Estimate	0



Public Comments -- Major Issues

- Backfit Determination – Public Comment
 - Application of GL 86-10, Supp. 1
- Backfit Determination – Staff Response
 - Waterford has staff-approved licensing basis
 - Compliance exception to Backfit Rule



Public Comments -- Major Issues

- Schedule – Public Comment
 - Insufficient time to respond
- Schedule – Staff Response
 - Plants already taking actions at this time



Public Comments -- Major Issues

- Hemyc Testing – Public Comment
 - NRC test configuration
 - Consideration of recent industry tests
- Hemyc Testing – Staff Response
 - Consistency between NRC and industry test results



Public Comments -- Other Issues

- Risk-Informed Methods – Public Comment
 - Options for plants w/NFPA 805 commitments
 - Need for license amendment or exemption
- Risk-Informed Methods – Staff Response
 - NFPA 805 plants need no prior approval
 - Non-805's must submit request



Public Comments -- Other Issues

- GL 86-10, Supp. 1
 - Clarification on acceptance on past evaluations
- Miscellaneous Comments – Public Comment
 - Limiting number of addressees
 - Additional public meeting
- Miscellaneous Comments – Staff Response
 - Potentially affected addressees
 - Additional public meeting



Public Comments -- Other Issues

- Wording & Specific References in the GL text
 - Clarify cited number of Hemyc failure modes
 - Clarify the two fire barrier types discussed
 - “Programmatic controls”
 - Reference to manufacturer
 - Include GL title in text reference
 - “Confusing paragraph” regarding exemptions & license amendments
 - Typo of “fire ratings” versus “fire barriers”



Conclusions

- Ensure Compliance with fire protection requirements
- Evaluate plant-specific issues on a case-by-case basis
- Assure compensatory measures are in place until corrective actions are implemented



Questions?



Thank you for coming.

