

U.S. Nuclear Regulatory Commission (NRC) Staff Resolution of Public Comments
on the Draft Generic Letter (GL) on Potentially Non-Compliant Hemyc/MT Fire Barriers
(by category and bin number)

Table 1. Key for Resolution of Comments

Source of Comments (ADAMS Accession Number)	Comment Designator	Remarks
PCI Promatec (ML052420492)	P	Received 8-23-05
Progress Energy (ML052660204)	E	Received 9-22-05
Duke Power (ML052860138)	D	Received 9-23-05
Nuclear Energy Institute (NEI) (ML052860142)	N	Received 9-26-05
Strategic Teaming and Resource Sharing (STARS) (ML052790367)	S	Received 10-5-05
Exelon/AmeriGen (ML052780386)	X	Received 10-4-05

Table 2. Key to Categories of Comments

Bin No.	Description
1	Comments on backfit determinations and justifications
2	Comments on schedule
3	Comments on Hemyc testing
4	Comments on use of risk-informed methods
5	Miscellaneous comments
6	Comments on wording and specific references in GL text
7	Comments on the burden estimate

BIN 1 - COMMENTS ON BACKFIT DETERMINATION AND JUSTIFICATIONS

Comment:

Duke Power Comment (D-1), Nuclear Energy Institute (NEI) Comment (N-1a), and Exelon/AmeriGen Comment (X-1) - The criteria of GL 86-10 Supplement 1 are not applicable to Hemyc installations that were previously accepted. Application of GL 86-10, Supplement 1 to previously accepted configurations should be evaluated under the backfit rule, 10 CFR 50.109. The application of GL 86-10, Supplement 1 is a new regulatory position.

Staff Response:

NRC staff agrees with these comments - The NRC has clarified that this GL is requesting licensees to describe their plant's compliance with their approved licensing basis, and does not require licensees to apply the methodology contained in GL 86-10, supplement 1, to previously accepted fire barrier installations. Licensees are requested to show that, based on the information gathered during the NRC testing, the assumptions used in the licensee's and NRC's acceptance of the existing configurations are still valid. GL 86-10, supplement 1, does not contain criteria for acceptance of fire barriers, acceptance criteria are contained in the rules and license commitments.

Comment:

Duke Power Comment (D-2) - The proposed GL does not accurately convey the McGuire Nuclear Station Hemyc qualification. Also, the excerpts from the above referenced inspection report do not completely describe the conclusions from the inspection report.

Staff Response:

NRC staff does not agree with this comment - The NRC is using the discussion of the McGuire inspection in the Background section of the GL to illustrate that the staff began to raise concerns regarding Hemyc after 1999. No conclusions regarding the acceptance of the McGuire specific configurations are being made in this GL, only restating portions of the inspection report to show that Hemyc concerns had been raised.

Comment:

Duke Power Comment (D-3) - Duke asks that the NRC provide clarification on the acceptance of '86-10 evaluations' that meet the same qualitative standards used in the past.

Staff Response:

NRC staff agrees in part with this comment - GL 86-10 evaluations that are not based on risk analysis are still applicable and acceptable for post-79 plants. See Bin 4 for more discussion on evaluations.

BIN 2 - COMMENTS ON SCHEDULE

Comment:

Progress Energy Comment (E-2), Strategic Teaming and Resource Sharing (STARS) Comment (S-12), and NEI Comment (N-4) - Some plants have significant amounts of Hemyc making the December 1, 2007, date for restoring compliance is unduly burdensome. NEI suggests the date be changed to December 1, 2008, would be needed to support additional testing as well.

Staff Response:

NRC staff does not agree with these comments – The NRC staff expects all licensees to fully restore compliance by December 1, 2007. This date was selected to allow at least one outage so work may not have to be performed in the vicinity of safety-related equipment during power operations. However, the NRC staff will consider extension requests to accommodate plant-specific needs related to design modifications and outage schedules. The NRC does not expect additional testing to be needed due to the recent NRC and industry testing that has been completed.

Comment:

Progress Energy (E-3) - Flexibility for compliance schedule is requested for those plants committed to NFPA 805 (10 CFR 50.48(c) - voluntary rule).

Staff Response:

NRC staff agrees with this comment - NFPA 805 discretion applies to the Hemyc/MT issue for those licensees that properly adopt 10 CFR 50.48(c). Licensees should propose their approach to resolving the Hemyc/MT issue, with the proposed schedule for resolution including reference to their letter of intent, in their response to the GL.

Comment:

Strategic Teaming and Resource Sharing (STARS) Comment (S-11) - 'Requested Actions' and 'Requested Information' – the 60-day time period for the initial response is arbitrary, and it may not allow sufficient time for licensees who are affected by this issue to adequately respond and provide the requested information. STARS recommends extending the initial response period to 90 days at a minimum so that an adequate and complete response can be developed by the licensee.

Staff Response:

NRC staff does not agree with this comment - With the public release of this draft GL and publication of Information Notice (IN) 05-07 in April 2005, licensees have had time to evaluations and corrective actions. Therefore, the NRC staff considers a 60-day response time from the issuance of the GL sufficient.

BIN 3 - COMMENTS ON HEMYC TESTING

Comment:

Progress Energy (E-1) - The NRC should review the Hemyc users' group test that was performed in August 2005. The results of that testing could have an impact on the application of some or all of the GL.

Staff Response:

NRC staff agrees with this comment - The NRC has considered the results of the recent industry testing in this generic letter. After carefully reviewing the industry tests, the NRC staff concludes that concerns about Hemyc performance have been confirmed by these test results. Therefore, the NRC staff intends to maintain the current course of action.

Comment:

Duke Power Comment (D-5) and NEI Comment (N-2) - Hemyc as used primarily throughout nuclear plants has an outer covering made of either Siltemp or a two-part blanket with Siltemp and Klevers. The GL should therefore note the original construction in this description section and note the material used in the NRC test to be a modified construction.

Staff Response:

NRC staff does not agree with this comment - The NRC confirmatory test results are consistent with the industry test results and with the installation procedure, the NRC staff considers the noted difference in construction insignificant and intends to maintain the current course of action. The details of the NRC tests are provided in IN 05-07 and on the NRC public Web site. The GL is intended not to replicate those details, but to focus on the implications and application of the test results.

Comment:

STARS Comment (S-2) - The NRC fire tests were performed in accordance with Generic Letter 86-10, Supplement 1. GL 86-10, Supplement 1 contains standards that are much more restrictive than those that were required for the initial testing and qualification of these fire barrier systems. The proposed generic communication should clearly indicate that the fire tests performed by the NRC did not duplicate the original fire tests that were performed to originally certify the HEMYC and MT fire barrier system product line.

Staff Response:

NRC staff does not agree with this comment - The NRC testing was based on a 1 or 3-hour fire rating, and using a fire that follows the NFPA 251 time-temperature curve. This is the same as was used during the original fire testing. The NRC requires the cables to remain free of fire damage. The test used a temperature threshold to demonstrate cable functionality. Other methods are available and discussed in NRC guidance documents.

Comment:

STARS Comment (S-5) - What configuration standard was used during the tests for protection of intruding steel, and consider limiting the discussion to the tested configuration.

Staff Response:

NRC staff does not agree with this comment - NRC tests did not include support structures or the barrier configurations within the furnace. Supports for the assemblies were located outside the furnace due to the concern that fire barrier penetration by supports inside the furnace might cause premature failure of the fire barrier system, with a resulting loss of

data. Supporting steel configurations were tested separately and did not affect the Hemyc and MT test results. Data can be taken from the supporting steel configurations that were tested and applied to plant specific configurations.

Comment:

STARS Comment (S-6) - It is inappropriate to declare the entire product line of Hemyc and MT fire barrier systems deficient based on limited samples.

Staff Response:

NRC staff agrees with this comment - The GL has been modified to consistently state that the NRC test results apply “for the configurations tested.”

BIN 4 – COMMENTS ON RISK INFORMED METHODS

Comment:

Duke Power Comment (D-3), NEI Comment (N-3) and STARS Comment (S-9) - The NRC should accept a risk assessment approach for making changes to the approved fire protection program using a licensee’s standard license condition without need for a license amendment. Also does the NRC intend to require a license amendment for risk-informed approaches that are applied to NFPA 805 transition?

Staff Response:

NRC staff does not agree with this comment - Currently the NRC has not approved risk assessment approaches for fire protection, therefore applications of these approaches should be submitted as part of a license amendment or exemption request as appropriate. As reflected in other risk-informed rules, such as 10 CFR 50.69, the NRC staff obtains assurance that licensees possess appropriate PRA capabilities before allowing licensees to use risk-informed methods without prior NRC approval. NRC staff encourages the use of risk insights in all regulatory matters, but using risk methods exclusively for self-approval of fire protection changes using the standard license condition is not considered acceptable by the staff at this time based on the reason previously stated.

Regarding application to NFPA 805 transition, this information has not yet been finalized, the NRC will publish this information as part of the planned regulatory guide for implementation of 10 CFR 50.48(c).

BIN 5 – MISCELLANEOUS COMMENTS

Comment:

NEI Comment (N-1b) - The utilities that use this system for compliance with NRC regulatory requirements have implemented compensatory and corrective actions in accordance with existing regulations commensurate with the safety significance of this issue, and plan to fully address this issue while maintaining defense-in-depth and the safety margins associated with currently approved fire protection programs.

Staff Response:

NRC staff agrees with this comment – This comment is consistent with the points included in the NRC’s information request.

Comment:

NEI Comment (N-6) – A public meeting is requested with the licensees that use the Hemyc/MT fire barrier system to discuss specific compensatory and corrective actions, and schedules for resolution of NRC concerns.

Staff Response:

NRC staff agrees with this comment - The NRC staff held a public meeting September 29, 2005, following the September 23, 2005, closure of the public comment period. During that meeting NEI indicated that the September 29, 2005, meeting was sufficient and no additional meeting was needed.

Comment:

STARS Comment (S-1) A limited number of licensees use Hemyc or MT, therefore the proposed generic communication distribution should be limited to only those licensees that use these fire barrier systems, and that the draft generic letter should be revised accordingly to minimize the impact on those licensees that are not impacted by this issue.

Staff Response:

NRC staff does not agree with this comment - The NRC staff is concerned that other licensees unknown to NEI and the manufacturer may have installed these materials, due to the material’s specifications being publicly available and based on the barriers reliance on generally available construction materials.

Also, the NRC staff is requesting information from all plants to ensure that other fire barriers have adequate programmatic controls in place to demonstrate compliance with applicable requirements. In GL 92-08, the NRC expected licensees to resolve all fire barrier issues. New issues identified with Hemyc and MT suggest to the NRC that a complete resolution had not been performed.

BIN 6 – COMMENTS ON WORDING AND SPECIFIC REFERENCES IN GL TEXT

Comment:

Duke Comment (D-4), Exelon Comment (X-2), and NEI Comment (N-5) – The GL is requesting a description of the existing programmatic controls that will insure that other fire barrier types will be assessed for potential degradation and resultant adverse effects. This request is too broad, instead the GL should specifically state that the licensee should describe the evaluation of other electrical raceway fire barrier systems (ERFBS) that may be subject to similar deficiencies. Also, more clearly define what is meant by ‘programmatic controls.’

Staff Response:

NRC staff does not agree with these comments - GL 92-08 requested the evaluation of other fire barrier systems. The recent NRC tests revealed that these fire barriers may not function as intended, therefore the performance of other fire barrier systems may also be

suspect, since the same evaluation that missed potential problems with Hemyc and MT may have been applied to the other barrier materials.

A programmatic control is a program (plan or procedure) in place to ensure that all fire barriers will perform as intended, especially in light of new information that could affect their performance. Programmatic controls use some means of checking, testing, or verifying by evidence or experiments. For these reasons, the NRC staff did not include a description of the existing programmatic controls.

Comment:

STARS Comment (S-3) – The paragraph on Hemyc Construction is confusing. It appears that two different fire barrier configurations are being discussed. Please clarify, and provide additional information regarding the use and configuration of the second fire barrier.

Staff Response:

NRC staff does not agree with this comment - The paragraph in question discusses two configurations of Hemyc—i.e., the 2-inch mat used for direct wrap conduit and the 1½-inch mat used in the air gap design.

Comment:

STARS Comment (S-4) – The GL discusses ‘three failure modes’ of the fire barriers, but it implies only two ‘types’ of failures, i.e., shrinkage of the outer material, and inadequate protection of intruding steel members. Please provide additional information regarding the ‘three failure modes,’ or clarify that only two ‘types’ of failures were observed.

Staff Response:

The NRC staff agrees with this comment – The draft GL has been corrected to reflect two failure modes rather than three.

Comment:

STARS Comment (S-7) – The paragraph, beginning with ‘NRC regulations’ appears to be misplaced, and its meaning is unclear. Is the intent to state that an exemption or license amendment is an acceptable approach to resolving this issue?

Staff Response:

NRC does not agree with this comment - The intent is to state that properly justified exemptions or amendment requests, prepared in accordance with the plant-specific licensing basis, are acceptable approaches.

Comment:

STARS Comment (S-8) – In the paragraph beginning with ‘NRC regulations,’ should the word ‘ratings’ more appropriately be ‘barriers’ at the end of paragraph.

Staff Response:

The NRC staff agrees with this comment – The existing wording has been replaced with the wording proposed in the draft GL.

Comment:

STARS Comment (S-10) – In the Applicable Regulatory Guidance section, first paragraph, first reference to “GL 86-10” – The reference to ‘GL 86-10’ is incomplete, it should read “Generic Letter (GL) 86-10, ‘Implementation of Fire Protection Requirements.’”

Staff Response:

NRC staff agrees with this comment - The suggested change has been made.

Comment:

PCI Promatec Comment (P-1) – Regarding the GL reference to the Hemyc manufacturer, Promatec Inc.; clarification is requested specifying that Peak Seals, Inc. purchased the assets of the manufacturer in 1997; but that Peak Seals, Inc. (now known as PCI Promatec) never marketed the Hemyc and MT technologies.

Staff Response:

NRC staff agrees with this comment - The GL reference to the manufacturer has been removed from the draft document because the NRC staff could not assure that Promatec, Inc manufactured all Hemyc materials installed in plants.

BIN 7 – COMMENTS ON BURDEN ESTIMATE

None