



Indian Point Energy Center  
450 Broadway, GSB  
P.O. Box 249  
Buchanan, N.Y. 10511-0249  
Tel (914) 734-6700

**Fred Dacimo**  
Site Vice President  
Administration

June 8, 2006

Indian Point Unit Nos. 2 & 3  
Docket Nos. 50-247, 50-286  
NL-06-060

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
11555 Rockville Pike  
Rockville, Maryland 20852

**Subject: Response to Generic Letter 2006-03, Potentially Nonconforming Hemyc and MT Fire Barrier Configurations**

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 requesting facilities to confirm compliance with existing applicable regulatory requirements regarding potentially nonconforming Hemyc and MT fire barrier configurations and, if appropriate, to 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, the 2005 NRC Hemyc testing program has revealed that both materials failed to provide the protective function intended for compliance with existing regulations. The request for information is being made under the requirements of 10 CFR 50.54(f).

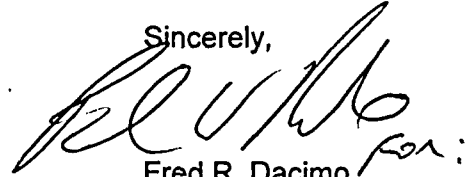
The Indian Point Unit 2 and Unit 3 responses to the requested information in GL 2006-03 are contained in Attachments 1 and 2, respectively, to this submittal. Attachment 3 contains the commitments made in this letter. If you have any questions or require additional information, please contact Patric W. Conroy, Manager, Licensing at 914-734-6668.

cc: see next page

A125

I declare under penalty of perjury that the foregoing is true and correct. Executed on  
6/8, 2006.

Sincerely,



Fred R. Dacimo  
Site Vice President  
Indian Point Energy Center

Attachment 1: Indian Point 2 Response to NRC Generic Letter 2006-03:  
Potentially Nonconforming Hemyc and MT Fire Barrier Configurations

Attachment 2: Indian Point 3 Response to NRC Generic Letter 2006-03:  
Potentially Nonconforming Hemyc and MT Fire Barrier Configurations

Attachment 3: Commitments made in Response to NRC Generic Letter 2006-03 for  
Indian Point 2 and 3

cc:

Mr. Samuel J. Collins, Regional Administrator, NRC Region I

Mr. John Boska, Senior Project Manager, NRC NRR DORL

NRC Resident Inspector's Office, Indian Point Energy Center

Mr. Paul Eddy, New York State Public Service Commission

Mr. Peter R. Smith, President, NYSERDA

**ATTACHMENT 1 TO NL-06-060**

**Indian Point 2 Response to NRC Generic Letter 2006-03:  
Potentially Nonconforming Hemyc and MT Fire Barrier Configurations**

**ENTERGY NUCLEAR OPERATIONS, INC  
INDIAN POINT NUCLEAR GENERATING UNIT 2  
DOCKET 50-247**

**Indian Point 2 Response to NRC Generic Letter 2006-03:  
Potentially Nonconforming Hemyc and MT Fire Barrier Configurations**

**1. Within 60 days of the date of this GL, provide the following:**

- a. A statement on whether Hemyc or MT fire barrier material is used at their NPPs 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).**

Indian Point 2 Response

MT fire barrier material is not in use at this time.

Hemyc fire barrier material is used in the construction of several Electrical Raceway Fire Barrier Systems (ERFBS) relied upon for separation and/or safe shutdown purposes for compliance with the requirements of 10 CFR 50 Appendix R (see Table in response to 2.a). Exemptions from the requirements of Appendix R have been granted in each case and each requires a fire resistance rating of 30 minutes.

- 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 issue.**

Indian Point 2 Response

The only other fire barrier material used in the construction of ERFBS relied on for separation of redundant trains located in a single fire area is 3M Interam E54C.

Aspects of the design control process were used to ensure that the 3M Interam E54C ERFBS is capable of providing the necessary level of protection. An engineering evaluation was performed at the time the 3M Interam E54C material was considered for use and subsequently reevaluated following the issuance of NRC Information Notice 95-52, Supplement 1 (Fire Endurance Test Results for Electrical Raceway Fire Barrier Systems Constructed from 3M Company Interam Fire Barrier Materials).

**2. Within 60 days of the date of this GL, for those addresses that have installed Hemyc or MT fire barrier materials, discuss the following in detail:**

**a. The extent of the installation (e.g., linear feet of wrap, areas installed, systems protected),**

Indian Point 2 Response

Area Installed	System Protected	Approximate Linear Feet <sup>1</sup>
Auxiliary Feedwater Pump Room	23 Auxiliary Feedwater Pump power cables	2
Piping Penetration Area	Isolation valves associated with alternate safe-shutdown 21 and 22 Steam Generator Wide Range Level and Pressurizer Pressure (one channel) and Level (one channel) pneumatic instrumentation. Note that the Hemyc ERFBS in this case provides protection for pneumatic instrument lines, not electrical cables.	50
CCW Heat Exchanger and Pump areas in PAB	23 CCW Pump power cables	50

<sup>1</sup> The total linear feet identified is the amount of wrap for the raceway protected and does not include any interferences or supports that had to be wrapped.

**b. 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,**

Indian Point 2 Response

Based on NRC testing, conformance with the licensing basis has been considered indeterminate and the Hemyc installations have been declared inoperable.

- c. *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, and***

Indian Point 2 Response

The following compensatory measures have been established in the areas containing Hemyc installations:

Instituted fire watch tours conducted at a frequency of once per hour;

Ensured detection systems are operable.

- d. *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.***

Indian Point 2 Response

Based on a review of the results of the 2005 NRC Hemyc testing program, it has been determined that the existing Hemyc ERFBS will require the installation of additional protection of the electrical raceway supports. The modification to accomplish this is scheduled to be installed prior to December 1, 2007. The modification will also be accompanied by an engineering evaluation that documents that the installed Hemyc ERFBS is capable of providing a fire resistance rating of at least 30 minutes, based in part, on comparison of the IP2 installed configurations to the results of the 2005 NRC Hemyc testing and other available industry Hemyc fire testing. Compensatory measures will remain in place until completion of the installation.

**ATTACHMENT 2 TO NL-06-060**

**Indian Point 3 Response to NRC Generic Letter 2006-03:  
Potentially Nonconforming Hemyc and MT Fire Barrier Configurations**

**ENTERGY NUCLEAR OPERATIONS, INC  
INDIAN POINT NUCLEAR GENERATING UNIT 3  
DOCKET 50-286**

**Indian Point 3 Response to NRC Generic Letter 2006-03:  
Potentially Nonconforming Hemyc and MT Fire Barrier Configurations**

1. ***Within 60 days of the date of this GL, provide the following:***
  - a. ***A statement on whether Hemyc or MT fire barrier material is used at their NPPs 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).***

**Indian Point 3 Response**

MT fire barrier material is not in use at this time.

Hemyc fire barrier material is used in the construction of several Electrical Raceway Fire Barrier Systems (ERFBS) relied upon in several locations for separation and/or safe shutdown purposes for compliance with the requirements of 10 CFR 50 Appendix R (see Table in response to 2.a). Exemptions from the requirements of Appendix R have been granted for each location, relative to the separation requirements of 10 CFR 50, Appendix R, Section III.G.

In addition to Hemyc fire barrier material used in the construction of ERFBS, Hemyc fire barrier material is also used as a radiant energy shield for separation of redundant safe-shutdown trains within the containment building.

- 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 issue.***

**Indian Point 3 Response**

No other fire barrier material is used in the construction of ERFBS relied on for separation of redundant trains located in a single fire area.



**2. Within 60 days of the date of this GL, for those addresses that have installed Hemyc or MT fire barrier materials, discuss the following in detail:**

- a. The extent of the installation (e.g., linear feet of wrap, areas installed, systems protected),**

Indian Point 3 Response

Area Installed	System Protected	Approximate Linear Feet <sup>1</sup>
Upper Electrical Penetration Area	T-Hot/T-Cold (Loop 4), Steam Generator Narrow Range Level (31, 32, 33, 34), Pressurizer Level (one channel), 34 Steam Generator Wide Range Level, RCS Pressure (Loop 4) instrumentation	15
Upper Electrical Penetration Area and Upper Electrical Tunnel	Source Range instrumentation (one channel)	240
Lower Electrical Tunnel	T-Hot/T-Cold (Loop 4), Steam Generator Narrow Range Level (31, 32, 33, 34), Pressurizer Level (one channel), 34 Steam Generator Wide Range Level, RCS Pressure (Loop 4) instrumentation, 31 & 34 Atmospheric Dump valves control cables	30
CCW Pump Area	33 CCW Pump power cables	10

<sup>1</sup> The total linear feet identified is the amount of wrap for the raceway protected and does not include any interferences or supports that had to be wrapped.

- b. 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,**

Indian Point 3 Response

Based on NRC testing, conformance with the licensing basis has been considered indeterminate and the Hemyc installations have been declared inoperable.

- c. *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, and***

Indian Point 3 Response

The following compensatory measures have been established in the areas containing Hemyc installations:

Instituted fire watch tours conducted at a frequency of once per hour;

Ensured detection systems are operable.

- d. *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.***

Indian Point 3 Response

A review of the installed Hemyc ERFBS has been performed relative to the necessary protection required given the fire hazards of the areas. A request for revision of two existing exemptions will be submitted to change the fire resistive rating of the Hemyc ERFBS in the table in the response to item 2.a from 1 hour to 30 minutes. This submittal should be made in July 2006.

Based on a review of the results of the 2005 NRC Hemyc testing program, it has been determined that the Hemyc ERFBS will require the installation of additional protection of the electrical raceway supports and certain metallic penetrating items. The modification to accomplish this is not currently scheduled as it is contingent upon NRC approval of the revision to the exemption requests. It is anticipated that the modification would not be installed prior to December 1, 2007. To support the installation, the modification will also be accompanied by an engineering evaluation that documents that the installed Hemyc ERFBS is capable of providing a fire resistance rating of at least 30 minutes, based in part, on comparison of the IP3 installed configurations to the results of the 2005 NRC Hemyc testing and other available industry Hemyc fire testing. Compensatory measures will remain in place until completion of the installation.

**ATTACHMENT 3 TO NL-06-060**

**Commitments made in  
Response to NRC Generic Letter 2006-03  
for Indian Point 2 and 3**

**ENTERGY NUCLEAR OPERATIONS, INC  
INDIAN POINT NUCLEAR GENERATING UNITS 2 & 3  
DOCKETS 50-247 AND 50-286**

This table identifies actions discussed in this letter for which Entergy commits to perform. Any other actions discussed in this submittal are described for the NRC's information and are not commitments.

Number	Commitment	Type	Scheduled Completion Date
1	Complete modification (including supporting engineering evaluation) to install additional protection of the electrical raceway supports associated with the existing Hemyc ERFBS at Indian Point 2	One-Time Action	October 31, 2007
2	Maintain compensatory measures in place at Indian Point 2 until completion of the installation of additional protection of the electrical raceway supports.	One-Time Action	October 31, 2007
3	Complete modification (including supporting engineering evaluation) to install additional protection of the electrical raceway supports and certain metallic penetrating items associated with the existing Hemyc ERFBS located outside containment at Indian Point 3	One-Time Action	Contingent upon NRC approval of revision to existing exemptions
4	Maintain compensatory measures in place at Indian Point 3 until completion of the installation of additional protection of the electrical raceway supports and certain metallic penetrating items	One-Time Action	Contingent upon NRC approval of revision to existing exemptions