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10 CFR 50.54(f)

RS-06-083

June 6, 2006

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

Braidwood Station, Units 1 and 2
Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456 and STN 50-457

Byron Station, Units 1 and 2
Facility Operating License Nos. NPF-37 and NPF-66
NRC Docket Nos. STN 50-454 and STN 50-455

Clinton Power Station, Unit 1
Facility Operating License No. NPF-62
NRC Docket No. 50-461

Dresden Nuclear Station, Units 2 and 3
Renewed Facility Operating License Nos. DPR-19 and DPR-25
NRC Docket Nos. 50-237 and 50-249

LaSalle County Station, Units 1 and 2
Facility Operating License Nos. NPF-11 and NPF-18
NRC Docket Nos. STN 50-373 and STN 50-374

Limerick Generating Station, Units 1 and 2
Facility Operating License Nos. NPF-39 and NPF-85
NRC Docket Nos. 50-352 and 50-353

Oyster Creek Generating Station
Facility Operating License No. DPR-16
NRC Docket No. 50-219

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Peach Bottom Atomic Power Station, Units 2 and 3
Renewed Facility Operating License Nos. DPR-44 and DPR-56
NRC Docket Nos. 50-277 and 50-278

Quad Cities Nuclear Power Station, Units 1 and 2
Renewed Facility Operating License Nos. DPR-29 and DPR-30
NRC Docket Nos. 50-254 and 50-265

Three Mile Island Nuclear Station, Unit 1
Facility Operating License No. DPR-50
NRC Docket No. 50-289

Subject: 60-Day Response To Generic Letter 2006-03, "Potentially Nonconforming Hemyc and MT Fire Barrier Configurations"

Reference: Letter from Christopher I. Grimes (U. S. NRC) to Addressees, "NRC Generic Letter 2006-03: Potentially Nonconforming Hemyc and MT Fire Barrier Configurations," dated April 10, 2006

On April 10, 2006, the NRC issued Generic Letter (GL) 2006-03, "Potentially Nonconforming Hemyc and MT Fire Barrier Configurations." The GL requested a written response within 60 days in accordance with 10 CFR 50.54, "Conditions of licenses," paragraph (f). The GL requested information regarding the use of Hemyc and MT fire barrier materials and whether they are relied upon for separation and/or safe shutdown purposes. Additionally, the GL requested a description of the controls used to ensure other fire barrier types were capable of providing the necessary level of protection.

The Attachment to this letter provides the Exelon Generation Company, LLC (EGC) and AmerGen Energy Company, LLC (AmerGen) 60-day response with the requested information for Braidwood Station, Byron Station, Clinton Power Station, Dresden Nuclear Power Station, LaSalle County Station, Limerick Generating Station, Oyster Creek Generating Station, Peach Bottom Atomic Power Station, Quad Cities Nuclear Power Station, and Three Mile Island Nuclear Station Unit 1.

As stated in the Attachment, the EGC and AmerGen review of the fire barriers relied on for separation of redundant trains located in a single fire area determined that none of the 10 sites listed above utilize the Hemyc or MT fire barrier material. Therefore, the follow-up information requested in items (2) and (3) of the GL are not applicable to the EGC and AmerGen fleet and no response to these items is provided.

There are no regulatory commitments contained in this letter. Should you have any questions concerning this letter, please contact David Gullott at (630) 657-2819.

I declare under penalty of perjury that the foregoing is true and correct. Executed on the 6th day of June 2006.

Respectfully,

Thomas S. O'Neill
Vice President, Regulatory and Legal Affairs
Exelon Generation Company, LLC
AmerGen Energy Company, LLC

Attachment: 60-day Response to Generic Letter 2006-03

cc: Regional Administrator - NRC Region I
Regional Administrator - NRC Region III
NRC Senior Resident Inspector - Braidwood Station
NRC Senior Resident Inspector - Byron Station
NRC Senior Resident Inspector - Clinton Power Station
NRC Senior Resident Inspector - Dresden Nuclear Power Station
NRC Senior Resident Inspector - LaSalle County Station
NRC Senior Resident Inspector - Limerick Generating Station
NRC Senior Resident Inspector - Oyster Creek Generating Station
NRC Senior Resident Inspector - Peach Bottom Atomic Power Station
NRC Senior Resident Inspector - Quad Cities Nuclear Power Station
NRC Senior Resident Inspector - Three Mile Island Nuclear Station, Unit 1

ATTACHMENT
60-day Response to Generic Letter 2006-03

On April 10, 2006, the NRC issued Generic Letter (GL) 2006-03, "Potentially Nonconforming Hemyc and MT Fire Barrier Configurations." The GL requested a written response within 60 days in accordance with 10 CFR 50.54, "Conditions of licenses," paragraph (f). The GL requested that licensees answer the following questions and provide the information to the NRC with respect to each of their nuclear power plants (NPPs).

(1) 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).
   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.

(2) For those addressees 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),
   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,
   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
   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.

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

Response 1.a

Hemyc or MT fire barrier materials are not used at any of the plants within the Exelon Generation Company, LLC (EGC) and AmerGen Energy Company, LLC (AmerGen) fleet (i.e., Braidwood Station, Byron Station, Clinton Power Station, Dresden Nuclear Power Station, LaSalle County Station, Limerick Generating Station, Oyster Creek Generating Station, Peach Bottom Atomic Power Station, Quad Cities Nuclear Power Station, and Three Mile Island Nuclear Station Unit 1). Since the EGC and AmerGen fleet does not use Hemyc or MT fire barrier materials, the follow-up information requested in items (2) and (3) of the GL are not applicable and no response to these items is provided.

Response 1.b

The site specific responses are limited to fire barriers installed on electrical raceways and cable trays relied on to separate redundant trains. This is based on the scope of previous Generic Letters (i.e., Generic Letter 92-08 and Generic Letter 86-10) and a May 10, 2006, conference call between EGC and AmerGen (David Gullott, Chris Pragman, et al.) and the NRC (Dan Frumkin, Sunil Weerakkody, et al.).

Braidwood Station

Braidwood Station uses 3M Interam material on electrical raceways where a fire barrier is required to ensure separation of redundant trains in the same fire zone. The 3M Interam fire barrier system was installed during original plant construction in accordance with Braidwood specifications. These fire barrier systems were installed and are maintained to the manufacturer's instructions and quality assurance guidelines. Periodic inspections of the fire barrier systems are performed, and repair work is performed in accordance with an approved Quality Assurance Program. As a result of NRC Information Notice 95-52 and Information Notice 95-52, Supplement 1, "Fire Endurance Test Results for Electrical Raceway Fire Barrier Systems Constructed from 3M Company Interam Fire Barrier Materials," the installed 3M Interam fire barrier configurations were evaluated and determined to be capable of providing the necessary level of protection.

Byron Station

Byron Station uses Darmatt KM-1 fire barrier on all electrical raceways where a fire barrier is required to ensure separation of redundant trains in the same fire zone. The Darmatt KM-1 fire barrier was installed as a qualified replacement for the Thermo-Lag 330-1 fire barrier as part of Byron Station's corrective actions in response to Generic Letter 92-08, "Thermo-Lag 330-1 Fire Barriers." The NRC's closeout of Byron Station's GL 92-08 actions is documented in References 1 and 2. References 1 and 2 provide reference to additional Byron Station and NRC correspondences that document the controls, evaluations, and analyses used to demonstrate the installed Darmatt KM-1 fire barriers' ability to provide the necessary level of protection.

Clinton Power Station

Clinton Power Station (CPS) uses Thermo-Lag and 3M Interam fire barriers on electrical raceways where a fire barrier is required to ensure separation of redundant trains in the same fire zone.

In response to Generic Letter 92-08, CPS developed and implemented a Thermo-Lag corrective action program. This program documented the evaluations to ensure Thermo-Lag raceway fire barriers relied upon to provide separation of redundant safe shutdown trains within the same fire area provided the necessary level of protection. In Reference 3, the NRC issued a Confirmatory Order directing CPS to complete final implementation of this corrective action program. The Confirmatory Order referenced the GL 92-08 correspondences describing the actions and extent of the program. CPS completed the Thermo-lag corrective action program as documented in Reference 4.

The 3M Interam fire barrier system was installed in the late 1990s in accordance with CPS specifications and the design modification process. The engineering evaluation conducted for this installation included a review of the fire barrier design, materials, and installation configuration to ensure the capability to provide the necessary level of protection.

Dresden Nuclear Power Station

Dresden Nuclear Power Station (DNPS) uses 3M fire barrier systems on all electrical raceways where a fire barrier is required to ensure separation of redundant trains in the same fire zone. In 1994, DNPS commissioned an independent review of the 3M fire barrier system installation and fire tests. In part, this review compared the installed configurations to the 3M fire tests that met industry standards or selected acceptance criteria of NRC Generic Letter 86-10 Supplement 1, "Fire Endurance Test Acceptance Criteria for Fire Barrier Systems used to Separate Redundant Safe Shutdown Trains within the Same Fire Area (Supplement 1 to Generic Letter 86-10, 'Implementation of Fire Protection Requirements)," to determine if the 3M fire tests bound the installed configurations. For those that did not, this independent review also documented the DNPS and 3M acceptance evaluations.

LaSalle County Station

LaSalle County Station (LCS) uses Darmatt KM-1 and Kaowool fire barriers in areas where a fire barrier is required to ensure separation of redundant trains in the same fire zone.

The Darmatt KM-1 fire barrier was installed as a qualified replacement for the Thermo-Lag 330-1 fire barrier as part of LCS' response to GL 92-08. In Reference 5, the NRC concluded that the LCS fire test to qualify the Darmatt KM-1 fire barrier met the acceptance criteria specified in GL 86-10, Supplement 1. Subsequently, the NRC's closeout of the LCS GL 92-08 actions is documented in References 6 and 7. References 6 and 7 provide reference to additional LCS and NRC correspondences documenting the evaluations and acceptance of the Darmatt KM-1 fire barrier.

The Kaowool fire barrier is used in one reactor building fire zone to augment the approximately 40-foot spatial separation between cabling of redundant trains, and extends protection out to approximately 50-feet from the redundant cable. This configuration is an NRC-approved deviation due to the lack of automatic suppression in the area. The barrier configuration consists of a cable tray insulated on all four sides with 3-inches of Kaowool. There is no committed rating for this barrier, however similar designs have demonstrated acceptable performance for up to approximately 90 minutes, in accordance with the provisions of American Society of Testing and Materials Standard E-119, "Standard Method of Fire Tests of Building Construction and Materials." This LCS Kaowool application has been reviewed and accepted by the NRC as discussed in References 8 and 9.

Limerick Generating Station

Limerick Generating Station (LGS) uses Darmatt KM-1, Thermo-Lag 330-1 and Thermo-Lag 770-1 where a fire barrier is required to ensure separation of redundant trains in the same fire area. In response to GL 92-08, LGS developed and implemented a Thermo-Lag corrective action program. This program documented the controls used, including analysis, testing, and modifications, to ensure raceway fire barriers relied upon to provide separation of redundant safe shutdown trains within the same fire area provide the necessary level of protection. This

corrective action program addressed all raceway fire barrier types used at LGS. In Reference 10, the NRC issued a Confirmatory Order directing LGS to complete final implementation of this corrective action program. The Confirmatory Order referenced the GL 92-08 correspondences describing the actions and extent of the program. LGS completed the Thermo-Lag corrective action program on September 16, 1999 as documented in Reference 11.

Oyster Creek Generating Station

Oyster Creek Generating Station (OCGS) uses Thermo-Lag and Mecatiss, stand-alone Mecatiss, and 3M Interam fire barrier materials. In response to GL 92-08, OCGS developed and implemented a Thermo-Lag fire barrier corrective action program. This fire barrier corrective action program addressed all raceway fire barrier materials used at OCGS. For the fire barrier applications at OCGS, bounding fire tests were performed utilizing guidance provided in GL 86-10, Supplement 1. Any deviations from the fire tests were documented and evaluated using guidance from GL 86-10.

In Reference 12, the NRC issued a Confirmatory Order directing OCGS to complete final implementation of this corrective action program. The Confirmatory Order referenced the GL 92-08 correspondence describing the actions and extent of the program. OCGS completed the Thermo-Lag fire barrier corrective action program on December 31, 2000 as documented in Reference 13.

Peach Bottom Atomic Power Station

Peach Bottom Atomic Power Station (PBAPS) uses Darmatt and Thermo-Lag where a fire barrier is required to ensure separation of redundant trains in the same fire area. In response to GL 92-08, PBAPS developed and implemented a Thermo-Lag fire barrier corrective action program. This program documented the controls used, including analysis, testing, and modifications, to ensure raceway fire barriers relied upon to provide separation of redundant safe shutdown trains within the same fire area provided the necessary level of protection. This corrective action program addressed all raceway fire barrier types used at PBAPS. In Reference 14, the NRC issued a Confirmatory Order directing PBAPS to complete final implementation of this corrective action program. The Confirmatory Order referenced the GL 92-08 correspondences describing the actions and extent of the program. PBAPS completed the Thermo-Lag corrective action program in October 1999 as documented in Reference 15.

Quad Cities Nuclear Power Station

Quad Cities Nuclear Power Station (QCNPS) uses Darmatt KM-1, Versa Wrap, and 3M Interam fire barriers in areas where a fire barrier is required to ensure separation of redundant trains in the same fire zone.

In 1994, QCNPS commissioned an independent review of the 3M Interam fire barrier system installation and fire tests. In part, this review compared the installed configurations to the 3M Interam fire tests that met industry standards or selected acceptance criteria of GL 86-10 Supplement 1 to determine if the 3M Interam fire tests bound the installed configurations. For those that did not, a plant modification was performed to ensure the installed fire barrier was bounded by a tested configuration.

The Versa Wrap and Darmatt KM-1 fire barriers were installed as 1 hour fire barriers in the late 1990s. The modifications followed the QCNPS design change process which included procurement, design, and installation controls. The engineering evaluation for the modifications included a review of the fire barrier endurance testing to ensure the capability of the new fire barriers.

Three Mile Island Unit 1

Three Mile Island (TMI) Unit 1 uses Thermo-Lag, Thermo-Lag and Mecatiss, Mecatiss, and Rockbestos fire barriers in areas where a fire barrier is required to ensure separation of redundant trains in the same fire zone.

In response to GL 92-08, TMI developed and implemented a Thermo-Lag corrective action program. This program included requesting exemptions for some Thermo-Lag applications or upgrading/replacing Thermo-Lag with Mecatiss. The program documented the controls used, including analysis, testing, and modifications, to ensure raceway fire barriers relied upon to provide separation of redundant safe shutdown trains within the same fire area provide the necessary level of protection. The NRC issued two Confirmatory Orders directing TMI to complete final implementation of this corrective action program (References 16 and 17). The Confirmatory Orders referenced the GL 92-08 correspondences describing the actions and extent of the program. The NRC closed out the TMI GL 92-08 actions and associated Confirmatory Orders in Reference 18.

In Reference 19, the NRC approved an exemption allowing TMI to utilize the Rockbestos fire resistant cable in lieu of a 1 hour fire barriers in specified applications.

References

1. Letter from George F. Dick (U. S. NRC) to Irene M. Johnson (Commonwealth Edison Company), "Completion of Licensing Action for Generic Letter 92-08 – Byron Station, Units 1 and 2," dated May 13, 1997
2. Letter from George F. Dick (U. S. NRC) to Oliver D. Kingsley (Commonwealth Edison Company), "Thermo-Lag Related Ampacity Derating Issues; Byron Station, Units 1 and 2, and Braidwood Station, Units 1 and 2," dated November 2, 1999
3. Letter from Jon B. Hopkins (U. S. NRC) to Joseph V. Sipek (Clinton Power Station), "Confirmatory Order Modifying License for Clinton Power Station, Unit 1," dated June 26, 1998
4. Letter from John P. McElwain (Illinois Power Company) to U. S. NRC, "Completion of Activities Related to Confirmatory Order Modifying License for the Clinton Power Station, Unit 1," dated April 27, 1999
5. Letter from Robert M. Latta (U. S. NRC) to D. L. Farrar (Commonwealth Edison Company), "Safety Evaluation of 1-Hour Fire-Rated Darmatt KM-1 Fire Barrier System Application at the LaSalle County Station," dated November 20, 1995
6. Letter from Donna M. Skay (U. S. NRC) to Irene Johnson (Commonwealth Edison Company), "Completion of Licensing Action for Generic Letter 92-08, 'Thermo-Lag 330-1 Fire Barriers' – LaSalle County Station," dated April 23, 1997
7. Letter from Donna M. Skay (U. S. NRC) to Oliver D. Kingsley (Commonwealth Edison Company), "Closure of Ampacity Derating Issues for Fire Barriers at LaSalle County Station, Units 1 and 2," dated December 22, 1999

8. Letter from L. O. DelGeorge (Commonwealth Edison Company) to A. Schwencer (U. S. NRC), "LaSalle County Station Units 1 and 2 Fire Protection Program Deviations From 10 CFR 50, Appendix R," dated November 3, 1981
9. NUREG-0519, Supplement No. 2, "Safety Evaluation Report related to the operation of LaSalle County Station, Units 1 and 2," February 1982
10. Letter from Bartholomew C. Buckley (U. S. NRC) to Garrett D. Edwards (PECO Energy Company), "Confirmatory Order Modifying License Nos. NPF-39 and NPF-85 for Limerick Generating Station, Units 1 and 2," dated May 19, 1998
11. Letter from Joseph J. Hagan (PECO Energy Company) to U. S. NRC, "Limerick Generating Station (LGS), Units 1 and 2 Final Close-out Regarding Confirmatory Order Modifying License," dated September 17, 1999
12. Letter from Ronald B. Eaton (U. S. NRC) to Michael B Roche (GPU Nuclear, Inc.), "Confirmatory Order Modifying License No. DPR-16 for Oyster Creek Nuclear Generating Station," dated May 22, 1998
13. Letter from R. J. DeGregorio (AmerGen Energy Company, LLC) to U. S. NRC, "Notification of Project Completion – ThermoLag 330-1 Fire Barriers," dated January 30, 2001
14. Letter from Mohan C. Thadani (U. S. NRC) to Garrett D. Edwards (PECO Energy Company), "Confirmatory Order Modifying Licenses," dated May 19, 1998
15. Letter from Joseph J. Hagan (PECO Energy Company) to U. S. NRC, "Peach Bottom Atomic Power Station (PBAPS), Units 2 and 3 Final Close-out Regarding Confirmatory Order Modifying License," dated October 12, 1999
16. Letter from Timothy G. Colburn (U. S. NRC) to James W. Langenbach (GPU Nuclear, Inc.), "Confirmatory Order Modifying License No. DPR-50, Three Mile Island Nuclear Station, Unit No. 1," dated May 22, 1998
17. Letter from Timothy G. Colburn (U. S. NRC) to James W. Langenbach (GPU Nuclear, Inc.), "Confirmatory Order Modifying License No. DPR-50, Three Mile Island Nuclear Station, Unit No. 1," dated August 11, 1999
18. Letter from Timothy G. Colburn (U. S. NRC) to John B. Cotton (AmerGen Energy Company), "Completion of Licensing Action for Generic Letter 92-08, 'Thermo-Lag 330-1 Fire Barriers,' dated December 17, 1992, for Three Mile Island, Unit 1," dated December 27, 1999
19. Letter from John F. Stolz (U. S. NRC) to Henry D. Hukill (GPU Nuclear Corporation), "Fire Protection for TMI-1," dated December 30, 1986