

April 10, 2008

MEMORANDUM TO: Those on the Attached List

FROM: Frederick D. Brown, Director **/RA/**
Division of Inspection and Regional Support
Office of Nuclear Reactor Regulation

SUBJECT: CLOSEOUT ACTIVITIES OF GENERIC LETTER 2006-03,
"POTENTIALLY NONCONFORMING HEMYC AND MT FIRE
BARRIER CONFIGURATION"

The purpose of this memorandum is to (1) provide Division of Inspection and Regional Support (DIRS) and Division of Risk Assessment (DRA) plans to close out Generic Letter (GL) 2006-03¹ in accordance with Office of Nuclear Reactor Regulation (NRR) Office Instruction LIC-503², and (2) request regional assistance to implement the closeout plan. DRA and DIRS staff has discussed the details about the planned activities with the appropriate staff within the regions.

Background

The U.S. Nuclear Regulatory Commission (NRC) issued GL 2006-03 on April 10, 2006. Consequently, the NRC received and reviewed responses to the GL from all licensees. A staff memorandum³ dated December 21, 2007, provides a synopsis of licensee responses to GL 2006-03. Out of the 104 nuclear reactor units, 16 units informed the NRC that their facilities use Hemyc and/or MT as a fire barrier. All 16 of these units indicated that they planned to maintain compensatory measures until the Hemyc and/or MT fire barrier issue was fully resolved.

Requested Actions

The following ten reactor units committed to resolve their Hemyc and/or MT issues using their transition to Title 10, Section 50.48(c), of the *Code of Federal Regulations* (10 CFR 50.48(c)).

- (1) Arkansas Nuclear One Units 1 and 2
- (2) Catawba Units 1 and 2
- (3) R.E. Ginna
- (4) McGuire Units 1 and 2
- (5) Shearon Harris Unit 1
- (6) St. Lucie Unit 2
- (7) Waterford Unit 3

¹ GL 2006-03, "Potentially Nonconforming Hemyc and MT Fire Barrier Configuration," dated April 10, 2006.

² Office of Nuclear Reactor Regulation (NRR) Office Instruction LIC-503, Rev. 2, "Generic Communications Affecting Nuclear Reactor Licensees."

³ Memorandum from Thanh Dinh to Alex Klein, "Electrical Raceway Fire Barrier Systems Used at Nuclear Power Plants per Responses to Generic Letter 2006-03," Agencywide Documents Access and Management System (ADAMS) Accession No. ML073470708, December 21, 2007.

Memorandum from Frederick D. Brown dated April 9, 2008

MEMORANDUM TO: Marsha K. Gamberoni, Director
Division of Reactor Safety
Region I

David C. Lew, Director
Division of Reactor Projects
Region 1

Kriss M. Kennedy, Director
Division of Reactor Projects
Region II

Joseph Shea, Director
Division of Reactor Safety
Region II

Roy J. Caniano, Director
Division of Reactor Safety
Region IV

Dwight D. Chamberlain, Director
Division of Reactor Projects
Region IV

No action is requested for St. Lucie Unit 2 for the reasons provided in Enclosure 1. For the remaining nine units, the regions are requested to confirm that the licensees have established compensatory measures during their next quarterly fire protection inspection, by September 30, 2008, using Inspection Procedure (IP) 71111.05AQ, "Fire Protection." IP 71111.05AQ directs the resident inspectors to walk down four to six plant areas important to plant safety during each calendar quarter. At least one area containing Hemyc should be included in this sample. Enclosure 1 provides additional information that may minimize the burden to the resident inspectors.

The resident inspectors may request additional support from DRA before closing out the inspection for these plants.

Enclosure 2 provides a suggested template that the inspectors may use to document their findings and observations.

The following six reactor units relied upon design modifications, engineering evaluations, and exemptions from Appendix R to 10 CFR Part 50, to reestablish compliance:

- (1) James A. Fitz Patrick
- (2) Indian Point Unit 2
- (3) Indian Point Unit 3
- (4) H.E. Robinson Unit 2
- (5) Comanche Peak Units 1 and 2

NRR has coordinated the closeout activities for each of these reactor units with the regional Division of Reactor Safety staff to ensure that licensees have reestablished compliance. Enclosure 3 provides the details of the planned or completed closeout activities for each of the six reactor units.

If you have questions on this matter, please contact Tim Kobetz of my staff.

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DISTRIBUTION:

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ADAMS Accession No.: ML080930608

OFFICE	NRR/DRA/AFP	NRR/DRA/DD	NRR/DIRS/IRIB	NRR/DIRS/IRIB
NAME	AKlein	MCunningham	TKobetz	FBrown
DATE	4/9/08	4/9/08	4/9/08	4/10/08

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Reactor Unit	Possible Fire Area/Zones for Walkdown ⁴	ADAMS Accession No(s). of Licensee Response Letter(s)	ADAMS Accession No. of NRC Closeout Letter
Arkansas Nuclear One Unit 1	Fire Zone 149-S; Fire Zones 20-Y and 34-Y; Intake; Fire Zones 34-YV, 40-Y, and 73-W; Fire Zone 38-Y	ML061720459	ML062620115
Arkansas Nuclear One Unit 2	Intake, Fire Zone 2006-LL, Fire Zone 2040-JJ, Fire Zone 2073-DD	ML061720459	ML062620115
Catawba Unit 1	AFW Pump Room	ML061640310	ML071430127
Catawba Unit 2	AFW Pump Room	ML061640310	ML071430127
Ginna ⁵	Battery Room, Intermediate Building Clean Side Basement, Auxiliary Building Intermediate Floor and Basement Level	ML061650026	ML070940337
McGuire Unit 1	Turbine-Driven AFW Pump Room	ML061640310	ML071430162
McGuire Unit 2	Turbine-Driven AFW Pump Room	ML061640310	ML071430162
Shearon Harris	Reactor Auxiliary Building	ML061240052 ML061710062	ML062900541
St. Lucie Unit 2	No regional confirmatory actions necessary ⁶	ML061640269 ML062680162	ML063070029
Waterford Unit 3	Has approximately 2000 feet of in 19 fire areas/zones. ⁷	ML061600210	ML062300315

⁴ Resident inspectors may choose one of these areas to confirm that compensatory measures are in place.

⁵ Ginna also uses a Hemyc system in the containment building as a radiant energy shield, which the licensee considered as operable since the Hemyc system is noncombustible.

⁶ St. Lucie informed the Office of Nuclear Reactor Regulation (NRR) that it uses Hemyc inside containment as a flame impingement shield. It also informed the agency that the installation is outside the original licensing basis. Because NRR had granted an exemption to a similar configuration at Unit 1 where there are no flame impingement shields, St. Lucie informed NRR that it did not implement compensatory measures.

⁷ Waterford Unit 3 did not provide specific fire areas in its response to the generic letter. Resident inspectors should request that information from the licensee before the walkdown. Waterford Unit 3 stated that it uses Hemyc as a radiant energy shield inside containment. Therefore, the resident inspector may confirm that the licensee is following its Technical Requirements Manual requirement to monitor containment area temperature at least once every 8 hours or to monitor and record air temperature at least once every hour at each of the operable containment fan cooler air intakes.

Inspection Scope

The resident inspector inspected one fire area/zone to ensure that the licensee has established compensatory measures in accordance with the licensee's response to U.S. Nuclear Regulatory Commission Generic Letter 2006-003, "Potentially Nonconforming Hemyc and MT Fire Barrier Configuration," dated April 10, 2006.

Findings and Observations

The resident inspector confirmed that the licensee continues to track Hemyc installations as fire protection system impairments and that compensatory measures (e.g., 1-hour fire watch in affected fire areas or alternate compensatory measures using staff guidance provided in Regulatory Issue Summary 2005-07, "Compensatory Measures To Satisfy the Fire Protection Program Requirements," dated April 19, 2005) remain in place pending completion of the modifications and evaluations.

Planned or Completed Closeout Activities for Units that Do Not Rely on NFPA 805

Licensees for units that do not rely on National Fire Protection Association (NFPA) Standard 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants, 2001 Edition," have the following planned or completed closeout activities:

- FitzPatrick: On September 27, 2006, the U.S. Nuclear Regulatory Commission (NRC) issued a safety evaluation (SE) approving FitzPatrick's request for an exemption from Title 10, Section 50.48, "Fire Protection," of the *Code of Federal Regulations* (10 CFR 50.48) (Agencywide Documents Access and Management System (ADAMS) Accession No. ML062190377). The Office of Nuclear Reactor Regulation shared the SE with Region I. The regional integrated inspection (Inspection Report (IR) 05000333/2006005, ADAMS Accession No. ML070190021) documents the inspector's verification of the Hemyc issue for FitzPatrick. The NRC staff has no further follow up actions regarding Hemyc for FitzPatrick and considers the issue closed for that plant.
- Indian Point Unit 2: In response to Generic Letter (GL) 2006-03, "Potentially Nonconforming Hemyc and MT Fire Barrier Configuration," dated April 6, 2006, the licensee committed to install additional protection of the electrical raceway supports associated with the existing Hemyc electrical raceway fire barrier systems (ERFBS) at Indian Point 2 by October 31, 2007. Furthermore, Indian Point Unit 2 indicated that it relies on Hemyc as a radiant energy shield (RES) and that it is in compliance with its licensing basis. In a letter dated November 28, 2007 (ADAMS Accession No. ML073390309), the licensee informed the NRC that it has completed the modification and removed the compensatory measures. Division of Risk Assessment (DRA) staff will coordinate with the Division of Reactor Safety (DRS) staff in Region I to verify that the licensee has fully established compliance by completing the modifications before September 30, 2008.
- Indian Point Unit 3: On September 28, 2007, the NRC issued an SE approving the request from Indian Point Unit 3 for an exemption from 10 CFR 50.48 (ADAMS Accession No. ML072410254). The exemption is contingent upon a commitment to install additional protection regarding a revision to the existing electrical raceway support exemptions and certain metallic penetrating items associated with the existing Hemyc ERFBS located outside containment at Indian Point Unit 3. In response to GL 2006-03, the licensee has committed to complete the design modification by December 1, 2008. On March 17, 2008, Region I documented its recent inspection and confirmed that the licensee has established compensatory measures (IR 05000286/2008007, ADAMS Accession No. ML080770172). DRA staff will coordinate with the DRS staff in Region I to verify that the licensee has fully established compliance, expeditiously, after the licensee completes the planned modifications.
- Robinson Unit 2: In response to GL 2006-03, the licensee committed to install new fire wrap (3M barrier material) that provides a 1-hour rating. In a supplemental response submitted on August 2, 2007 (ADAMS Accession No. ML072250063), the licensee informed the NRC that it has completed the committed design changes.

As a part of the Region II triennial fire protection inspection, the region has verified the licensee's installation of the 3M (IR 05000261/2007007, ADAMS Accession No. ML073620541). DRA staff will review the inspection report and coordinate with the DRS staff in Region II to verify that the licensee has fully established compliance by completing the modifications before September 30, 2008.

- Comanche Peak Units 1 and 2: The licensee informed the NRC that it uses Hemyc as an RES inside the containment building and committed to evaluate the NRC test results and testing configurations for applicability to its existing design. In addition, Comanche Peak committed to inform the NRC if it determines that the installed Hemyc RES was nonconforming and take compensatory and corrective actions as appropriate. On December 20, 2007, the licensee informed the NRC that, after evaluating new information regarding the NRC's testing, it concluded that Comanche Peak's use of Hemyc as RES continues to meet its licensing basis (ADAMS Accession No. ML073620447). DRA staff will coordinate with the DRS staff in Region IV to verify that licensee has appropriately dispositioned the issue.