EDO Principal Correspondence Control

FROM: DUE: 06/27/05 EDO CONTROL: G20050379
DOC DT: 05/12/05
FINAL REPLY:

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TO:

Reyes, EDO

FOR SIGNATURE OF : ** GRN ** CRC NO:

Dyer, NRR

DESC:

2.206 - Inoperable Hemyc/MT Fire Protection Systems

ROUTING:

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DATE: 05/23/05

ASSIGNED TO: CONTACT:

NRR Dyer

SPECIAL INSTRUCTIONS OR REMARKS:

Ref. G20050361.

Template: EDO-01

EDATS: EDO-01

May 12, 2005

Mr. Luis A. Reyes
Executive Director for Operations
Mail Stop 016E15
U.S. Nuclear Regulatory Commission
Washington, DC 20555

By email: Office of the Secretary, < SECY@nrc.gov >
Donna Skay, Petition Manager 10 CFR 2.206, < DMS6@nrc.gov >

Request for Emergency Enforcement Action under 10 CFR 2.206 to address inoperable Hemyc/MT fire protection systems at Shearon Harris H.B. Robinson Unit 2, McGuire Units 1 and 2, Catawba Units 1 and 2, Ginna, Fitzpatrick, Indian Point Units 2 and 3, Vermont Yankee, Waterford, Arkansas Nuclear One Unit 1 and 2

Dear Mr. Reyes:

On behalf of Nuclear Information and Resource Service (NIRS), Citizens Awareness Network (CAN), the Indian Point Safe Energy Coalition (IPSEC), North Carolina Waste Awareness and Reduction Network (NCWARN), Alliance for Affordable Energy (AFE), and the Blue Ridge Environmental Defense League (BREDL), hereafter referred to as the Petitioners, we request that the United States Nuclear Regulatory Commission (NRC) engage emergency enforcement actions to modify and/or suspend operating licenses at the following nuclear power stations---Shearon Harris, H.B. Robinson Unit 2 , McGuire Units 1 and 2 , Catawba Units 1 and 2 , Ginna, Fitzapatrick, Indian Point Units 2 and 3, Vermont Yankee, Waterford, and Arkansas Nuclear One Unit 1 and 2---with regard to violations of NRC fire code established under 10 CFR 50 requirements that each operating nuclear power station have a fire protection plan that satisfies General Design Criteria 3 of Appendix A and Section 50.48 which requires that all nuclear power stations with operating licenses issued prior to January 01, 1979, satisfy the requirements of Section G of Appendix R to 10 CFR 50 and requires nuclear power stations licensed post-1979 comply with the fire protection provisions of their licenses.

The petitioners are aware that NRC is in receipt of an emergency enforcement petition per 10 CFR 2.206 dated May 03, 2005 from the New England Coalition regarding degraded fire protection systems that is specific to Entergy Nuclear Vermont

Yankee Power Station. This petition is submitted for requested emergency enforcement to be inclusive of all other licensees identified herein.

On April 29, 2005, the Nuclear Regulatory Commission held a "stakeholders' briefing" on a recent set of failed fire tests for fire barriers in 1-hour (brand name Hemyc) and 3-hour (brand name MT) wrap systems designated to protect safe shutdown power, instrumentation and control circuits from fire damage in the event of a significant fire per requirements in 10 CFR 50.48, Appendix A, Branch Technical Position 9.5.1, and Appendix R III.G.2. For additional information see: http://www.nrc.gov/reactors/operating/ops-experience/fire-protection/technical-issues.html#kaowool

These fire tests were conducted by Omega Point Laboratory and Sandia National Laboratory in March and April 2005 and demonstrated that generally applicable configurations of Hemyc/MT fire barrier wrap systems are subject to rapid failure (as early as 15 minutes for 1-hour configurations and 54 minutes for 3-hour applications). According to the NRC published test results "All configurations tested failed to meet acceptance criteria."[1] The material is identified to shrink (as much as 5%) under standardized fire test conditions, opening seams and exposing electrical circuits vital to the safe shut down of the reactor to fire damage potentially rendering them inoperable as well as introducing electrical short circuits to safety significant associated circuits.

Petitioners contend that the same Hemyc/MT fire barrier wrap systems as installed in the named nuclear power stations fail to assure the protection of the control room operations for achieving safe shut down the reactor in the event of a significant fire. The materials are currently used in applications for junction boxes and where redundant safe shutdown electrical circuits appear in the same fire zone in the cited nuclear power stations per 10 CFR 50 Appendix R III.G.2 and per their licensed condition. Current regulations require that when redundant safe shutdown electrical circuitry appear in the same fire zone they must be maintained to be free from fire damage through the installation of qualified fire barriers in three-hour applications, 1-hour applications used

[1] Hemyc and MT Electrical Raceway Fire Barrier Systems Confirmatory Fire Performance Testing, Presentation at the U.S. Nuclear Regulatory Commission, Hemyc and MT Public Meeting, Rockville, Maryland, April 29, 2005.

in conjunction with smoke detectors and automated sprinklers or a minimum separation of 20-feet between redundant with no intervening combustible and used in conjunction with detection and automated suppression. Fire barriers are to be qualified by independent tests to withstand standardized American Standard Test and Measure (ASTM) E-119 conditions that include a time/temperature curve for test furnace conditions and a hose stream test post-fire.

The Hemyc/MT fire safety issue was first discovered in 1999 after the agency issued an earlier Generic Letter (GL) 92-08 in 1992 as the result of identification of inoperable Thermo-Lag 330-1 fire barrier wrap systems. GL 92-08 requested the industry to evaluate other deployed fire barrier systems in the course of addressing widespread non-compliances with fire protection requirements.

Petitioner, NIRS, who participated in the April 29, 2005 stakeholders' briefing in questioning NRC staff identified that NRC has not quantified the full extent of the amount of Hemyc/MT fire barrier material in terms of linear and/or square footage deployed per fire protection regulations and furthermore NRC has not determined the safety significance of this deployment for safe shutdown systems which are not currently protected by the bogus fire barrier wrap system. Petitioner, NIRS, requested NRC to publicly identify the currently known affected sites on April 29, 2005.[See Attachment 1]

Given that repeated test of Hemyc/MT fire barriers resulted in failure and that NRC lacks an adequate analysis of the current condition of operation for these fire protection non-compliances, the Petitioners contend that the named nuclear power stations are operating in violation of NRC fire protection requirements and in an unanalyzed condition resulting in a degradation of defense-in-depth fire protection and safe shut down in the event of a significant fire.

The Petitioners therefore request emergency enforcement under 10 CFR 2.206 to include the following actions for the modification and/or suspension of operating licenses:

1. Given NRC has not adequately analyzed the extent to which this inoperable fire barrier wrap system is deployed throughout the identified reactors and that NRC has not analyzed the safety significance of inadequately protected safe shutdown systems that are currently not protected as a result of non-compliances through the

deployment of inoperable fire barrier the agency will conduct through generic communications with the nuclear industry and specifically to the named reactor sites to determine the extent of condition of the inoperable fire barriers; including the requirement that the licensees conduct a full inventory of the type of Hemyc/MT to include the amount in linear and square footage, its specific applications, and the identification of the safe shutdown systems which are currently unprotected by the non-compliances and an assessment of the safety significance of each application;

2. The requested NRC generic communication will also require at minimum that the above named sites provide justification in a timely manner for operation in non-compliance with all applicable fire protection regulations;
3. With the determination that any and/or all of the above mentioned sites are operating in an unanalyzed condition and/or that assurance of public health and safety is degraded, NRC will promptly Order a suspension of the license or a power reduction of the affected reactors until such time as it can be demonstrated that the licensees are operating in conformance with all other applicable fire protection regulations.

Sincerely,

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Attachment

1. Communications between NRC staff and Paul Gunter, NIRS pertaining to the identification of Hemyc/MT reactor sites

ATTACHMENT 1

>>>From: Chandu Pantel CPP@nrc.gov Sent: Fri 4/29/2005 1:38 PM >>>
To: Paul Gunter
Cc: Michael Marshall; Sunil Weerakkody
Subject: Re: List of Hemyc nuclear stations

Paul,

We have confirmed that the following plants have Hemyc Fire Barrier:

Shearon Harris, H.B. Robinson Unit 2, McGuire Units 1 and 2, Catawba Units 1 and 2, Ginna, Fitzapatrick, Indian Point Units 2 and 3. Vermont Yankee, Waterford, and Arkansas Nuclear One (ANO) Unit 1 and 2.

Only Harris and Ginna have MT to our knowledge. Please let me know if you have any other questions. Thanks

>>> "Paul Gunter" <pgunter@nirs.org> 04/29/05 01:06PM >>>
Mr. Patel,

Thank you for taking the time to send me the list of U.S. nuclear power stations that are the subject of the failed Hemyc fire barrier tests.

I will be back in touch with some additional written requests regarding information that the public interest community feels relevant for inclusion in the generic communications towards resolution of the this fire protection issue.

Thank you,
Paul Gunter, Director
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