

POLICY ISSUE (Information)

November 12, 2010

SECY-10-0150

FOR: The Commissioners

FROM: Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

SUBJECT: CLOSING FIRE PROTECTION ISSUES—SEMIANNUAL
UPDATE— NOVEMBER 2010

PURPOSE:

To provide the Commission with the semiannual update on the U.S. Nuclear Regulatory Commission (NRC) staff's progress in closing fire protection issues.

BACKGROUND:

In Staff Requirements Memorandum (SRM) M080717, "Briefing on Fire Protection Issues," dated July 29, 2008, the Commission directed the staff to provide a fire protection closure plan, including milestones and deliverables.

In response to SRM M080717, the staff prepared the Commission paper SECY-08-0171, "Plan for Stabilizing Fire Protection Regulatory Infrastructure," dated November 5, 2008. That stabilization plan delineated eight tasks with associated milestones and deliverables necessary to complete the stabilization of the regulatory infrastructure for those nuclear plants transitioning to the risk-informed, performance-based fire protection regulations and those remaining under the traditional deterministic fire protection regulations. On May 22, 2009 (SECY-09-0079, "Closing Fire Protection Issues—Semiannual Update"); November 2, 2009 (SECY-09-0161 (same title as SECY-09-0079)), and May 14, 2010 (SECY-10-0060 (same title as SECY-09-0079)), the staff updated the Commission on milestones that it had completed. This paper provides the fourth semiannual update of completed tasks in the stabilization plan.

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DISCUSSION:

The NRC staff has now closed six of the eight tasks in the stabilization plan and has made substantial progress on the remaining tasks since the last update. Specifically, since the NRC staff updated the stabilization plan on May 14, 2010, it has issued the Shearon Harris Nuclear Power Plant safety evaluation report for the adoption of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.48(c) and National Fire Protection Association Standard 805, "Performance-Based Standard for Fire Protection for Light-Water Reactor Electric Generating Plants, 2001 Edition" (NFPA 805), and has confirmed that guidance in the area of multiple spurious actuations is sufficient for licensees to resolve related issues in a timely manner.

The six completed tasks are Task 2 on electrical raceway fire barriers, Task 3 on fire-induced circuit failures, Task 4 on operator manual actions, Task 5 on regulatory effectiveness assessments, Task 7 on the development of an exemption database, and Task 8 on the evaluation of past fire protection issues.

The completion of Task 3 involved the validation of the implementing guidance for fire-induced circuit failures described in Regulatory Guide 1.189, "Fire Protection for Nuclear Power Plants," Revision 2, issued October 2009. Regulatory Guide 1.189 endorses portions of the implementing guidance in Nuclear Energy Institute 00-01, "Guidance for Post-Fire Safe Shutdown Circuit Analysis," Revision 2, issued January 2005, for fire-induced circuit failures. The NRC staff validated the guidance with inspections at Millstone Power Station and Vogtle Electric Generating Plant. Based on the results of those inspections, the staff is confident that the guidance is sufficient for licensees to implement. As with any complex technical issue, the staff expects to receive implementation issues from licensees and to disposition these issues. The disposition of implementing issues does not affect the NRC staff's conclusion that it has stabilized the regulatory framework for fire-induced circuit failures.

The completion of Task 4 was also reviewed as part of the inspections at Millstone Power Station and Vogtle Electric Generating Plant. The inspections concluded that the NRC had stabilized the regulatory framework in a manner that provided licensees with sufficient information to properly disposition the use of post-fire operator manual actions at their stations.

The summary below outlines the progress of the remaining tasks. The enclosure to this paper, entitled, "Plan for Stabilizing Fire Protection Regulatory Infrastructure," Revision 4, reflects the current status as follows:

- Task 1: Transition to 10 CFR 50.48(c) and NFPA 805. The staff has completed 19 of the 20 milestones and deliverables and expects to close Task 1 in the fourth quarter of calendar year (CY) 2010. Noteworthy accomplishments that have occurred since the last update to the Commission include the following:
 - The staff issued the safety evaluation report for Shearon Harris Nuclear Power Plant to adopt 10 CFR 50.48(c) and NFPA 805.
 - The staff performed significant work with industry stakeholders to develop license amendment request and safety evaluation templates.

- Only four frequently asked questions (FAQs) on fire protection remain are under staff review. There are no open FAQs related to probabilistic risk assessments on fire protection.
- Task 6: Fire Protection Lessons Learned. The staff has completed one of the five milestones and deliverables and expects to close Task 6 by the end of the first quarter of CY 2011. The staff has obtained input across agency offices to support this activity. Obtaining this input has taken more time than originally anticipated.

The enclosure to this paper provides the revised stabilization plan with changes made since the publication of the updated plan on May 14, 2010. The remaining tasks are all scheduled for completion by the end of the first quarter of CY 2011. The NRC staff plans to issue the next and final Commission paper on this topic when it has completed all the remaining tasks.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objections.

/RA by Michele Evans for/

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Enclosure:
Plan for Stabilizing Fire Protection
Regulatory Infrastructure, Revision 4

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- Task 6: Fire Protection Lessons Learned. The staff has completed one of the five milestones and deliverables and expects to close Task 6 by the end of the first quarter of CY 2011. The staff has obtained input across agency offices to support this activity. Obtaining this input has taken more time than originally anticipated.

The enclosure to this paper provides the revised stabilization plan with changes since the publication of the updated plan on May 14, 2010. The remaining tasks are all scheduled to be completed by the end of the first quarter of CY 2011. The NRC staff plans to issue the next and final Commission paper on this topic when all of the remaining tasks are completed.

COORDINATION:

The Office of the General Counsel has reviewed this paper and has no legal objections.

/RA by Michele Evans for/

Eric J. Leeds, Director
Office of Nuclear Reactor Regulation

Enclosure:
Plan for Stabilizing Fire Protection
Regulatory Infrastructure, Revision 4

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Enclosure

PLAN FOR STABILIZING FIRE PROTECTION REGULATORY INFRASTRUCTURE

Revision 4

(Schedule changes since May 14, 2010, the last update provided to the Commission, are highlighted in *blue*.)

PLAN FOR STABILIZING FIRE PROTECTION REGULATORY INFRASTRUCTURE

Revision 4

ACRONYMS

2Q	second quarter
3Q	third quarter
4Q	fourth quarter
CY	calendar year
CFR	<i>Code of Federal Regulations</i>
EGM	enforcement guidance memorandum
EPRI	Electric Power Research Institute
ERFBS	electrical raceway fire barrier system
GAO	U.S. Government Accountability Office
GL	generic letter
IN	information notice
LAR	license amendment request
NEI	Nuclear Energy Institute
NFPA	National Fire Protection Association
NRC	U.S. Nuclear Regulatory Commission
NUREG	NRC technical report designation
NUREG/CR	NUREG contractor report
OMA	operator manual action
RG	regulatory guide
RIS	regulatory issue summary
PRA	probabilistic risk assessment
SER	safety evaluation report
SRM	staff requirements memorandum

Task 1	Stabilize the Regulatory Infrastructure Supporting the Transition to Risk-Informed and Performance-Based Fire Protection Regulation—10 CFR 50.48(c) and National Fire Protection Association Standard 805, “Performance-Based Standard for Fire Protection for Light-Water Reactor Electric Generating Plants, 2001 Edition” (NFPA 805)
Objective	To develop and validate the regulatory processes that facilitate the predictable, efficient, and effective transition of operating nuclear power plants to the U.S. Nuclear Regulatory Commission (NRC) risk-informed and performance-based fire protection requirements.
Definition of Closure	Closure is achieved when the regulatory infrastructure is in place and when the NRC issues the safety evaluation reports (SERs) of the NFPA 805 pilot plants. The NRC considers the review and approval of subsequent license amendment requests (LARs) routine staff activities.
Status	The staff expects to complete this task in the fourth quarter (4Q) of calendar year (CY) 2010.
Background	The Commission approved the final rule incorporating the 2001 revision to the national consensus standard NFPA 805 into Title 10 of the <i>Code of Federal Regulations</i> (10 CFR) 50.48(c) by reference through Staff Requirements Memorandum (SRM)-SECY-04-0233, “Proposed Rulemaking—Post-Fire Operator Manual Actions,” dated May 11, 2004. The NRC published the rule on June 16, 2004, and it became effective on July 16, 2004. The Commission provided certain enforcement discretion as an incentive for licensees to adopt NFPA 805. Two licensees, Progress Energy and Duke Energy, volunteered the Shearon Harris Nuclear Power Plant (Shearon Harris) and Oconee Nuclear Station (Oconee), respectively, to become pilot plants for the transition to NFPA 805. The NRC issued regulatory guidance for licensees adopting NFPA 805 in Regulatory Guide (RG) 1.205, “Risk-Informed, Performance-Based Fire Protection for Existing Light-Water Nuclear Power Plants,” in May 2006. The NRC revised this guidance using lessons learned from its license amendment reviews for the pilot plants and issued Revision 2 to this guidance, incorporating insights from the pilot plant reviews, in December 2009. Also, the staff endorsed the industry proposal to establish a frequently asked questions program to promptly clarify issues emerging at plants in transition to NFPA 805. The staff holds monthly public meetings with the industry to discuss emerging issues. As of today, operators of 51 reactor units have sent letters of intent indicating their commitment to transition to NFPA 805. Monticello Nuclear Generating Station has withdrawn its intent to adopt NFPA 805, thus reducing the number of plants that are adopting NFPA 805 from 51 to 50.

STEPS TO CLOSURE	DUE CY QUARTER
Establish Regulatory Foundation	
NFPA 805 is issued.	Complete: January 2001
The NRC issues 10 CFR 50.48(c).	Complete: June 2004
Structure for Enforcement	
New enforcement policy for NFPA 805 under 10 CFR 50.48, "Fire Protection," provides a 2-year enforcement discretion period.	Complete: June 2004
The staff revises the NFPA 805 enforcement policy to address licensee budgetary cycles to the end of 2005 for existing noncompliances.	Complete: January 2005
The staff revises the NFPA 805 enforcement policy to provide a 3-year enforcement discretion period.	Complete: April 2006
The Commission approves the revised enforcement discretion policy, thus allowing discretion to extend 6 months past the issuance of the second pilot plant's SER.	Complete: September 2008
Develop Implementation Guidance	
The NRC and Electric Power Research Institute (EPRI) jointly issue NUREG/CR-6850, "EPRI/NRC-RES Fire PRA Methodology for Nuclear Power Facilities."	Complete: September 2005
The Nuclear Energy Institute (NEI) issues industry implementation guidance NEI 04-02, "Guidance for Implementing a Risk-Informed, Performance-Based Fire Protection Program under 10CFR50.48(c)," Revision 1.	Complete: September 2005
The staff issues RG 1.205 as guidance for plants adopting NFPA 805.	Complete: May 2006
The staff issues a draft of Section 9.5.1.2, "Risk-Informed, Performance-Based Fire Protection Program," of Chapter 9, "Auxiliary Systems," of NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," for public comment.	Complete: March 2009
The staff completes the triennial procedure for pilot testing.	Complete: March 2009
The staff issues draft RG 1.205 for public comment.	Complete: April 2009

The staff clarifies NUREG/CR-6850 to include the current issues identified through the frequently asked questions program.	Complete: December 2009
The staff issues a revised RG 1.205 and the Standard Review Plan for NFPA 805.	Complete: December 2009
Validate Implementation	
Duke Energy sends the first letter of intent (Oconee).	Complete: February 2005
Progress Energy sends the second letter of intent (Shearon Harris).	Complete: June 2005
The NRC receives the pilot plant LAR for Shearon Harris.	Complete: May 2008
The NRC reviews the pilot plant SER for Oconee.	Complete: June 2008
Final Closure	
The staff issues the pilot plant SER (Shearon Harris).	<i>Complete: June 2010</i>
The staff issues the pilot plant SER (Oconee).	<i>2010 4Q</i>

Task 2 Close Out Hemyc and MT Electrical Raceway Fire Barrier System (ERFBS) Issues for Plants Transitioning to NFPA 805

Objective To evaluate and document the actions taken to address ERFBS questions, including the specific actions taken to address issues related to Hemyc.

Definition of Closure The safety issue has been closed. This task remains open until the staff issues a report documenting the closeout of Hemyc and MT barrier issues.

Status The staff completed this task in December 2008.

Background To meet fire protection regulations, licensees often installed an ERFBS to achieve the required separation of redundant trains of cables and equipment located in the same room or fire area. The NRC found that two of these systems may be nonconforming and issued Generic Letter (GL) 2006-03, "Potentially Nonconforming Hemyc and MT Fire Barrier Configurations," dated April 10, 2006. GL 2006-03 asked licensees to describe how Hemyc, MT, and other fire barrier materials are capable of providing the appropriate fire resistance rating. By the end of CY 2007, the NRC had accepted all responses to GL 2006-03 and had approved all the licensing actions to address Hemyc issues of non-NFPA 805 plants.

On December 17, 2008, the NRC staff issued a memorandum describing the status of all plants that rely on Hemyc ERFBS. All plants have either resolved their Hemyc issues or are in transition to 10 CFR 50.48(c) and NFPA 805.

In May 2010, the NRC staff finalized NUREG-1924, "Electrical Raceway Fire Barrier Systems in U.S. Nuclear Power Plants," to document the history and to provide an overview of the use of electrical raceway fire barriers at U.S. nuclear power plants.

STEPS TO CLOSURE	DUE CY QUARTER
Establish Regulatory Foundation	
The staff issues Section III.G, "Fire Protection of Safe Shutdown Capability," of Appendix R, "Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities."	Complete: January 1980
Structure for Enforcement	
No enforcement discretion exists for barrier issues.	Not applicable
Develop Implementation Guidance	
The staff issues Information Notice (IN) 2005-07, "Results of HEMYC Electrical Raceway Fire Barrier System Full Scale Fire Testing."	Complete: April 2005
The staff issues GL 2006-03.	Complete: April 2006

Validate Implementation	
The staff responds to all GL 2006-03 information requests.	Complete: December 2007
The staff confirms closure through inspections related to GL 2006-03 (Hemyc and MT).	Complete: December 2008
Final Closure	
The staff issues final closeout documentation.	Complete: December 2008

Task 3 Stabilize Regulatory Infrastructure to Resolve Fire-Induced Circuit Failure Issue

Objective To implement a predictable, efficient, and effective process to ensure that licensees complete specific actions related to possible fire-induced circuit failures.

Definition of Closure Closure is achieved when the regulatory infrastructure is in place and when the staff completes the validation of an application of the circuit resolution methodology. The NRC considers the review and approval of the subsequent use of the circuit failure resolution methodology by individual licensees to be routine staff activities.

Status The staff completed this task in October 2010.

Background To meet fire protection regulations, nuclear power plants must be able to demonstrate that they can be safely shut down in the event of a fire. These rules include an important requirement to protect redundant equipment and cables necessary to place the plant in a safe-shutdown state and a requirement to protect circuits such that plant equipment does not fail or malfunction.

Beginning in 1997, a series of licensee event reports identified plant-specific problems related to potential fire-induced electrical circuit failures that could affect equipment necessary to achieve and maintain safe shutdown. The NRC staff issued IN 99-17, "Problems Associated with Post-Fire Safe-Shutdown Circuit Analyses," on June 3, 1999, to document additional problems.

In 2001, EPRI and NEI performed a series of cable functionality fire tests to enhance the nuclear industry's understanding of fire-induced circuit failures, particularly spurious equipment actuations initiated by circuit failures. Based on the test results and continued interactions with industry, the NRC staff concluded that regulatory expectations require clarification to ensure safety; to provide clear regulatory expectations in the area of fire-induced circuit failures; and, where appropriate, to make plant changes to mitigate such failures.

The completion of Task 3 involved the validation of the implementing guidance for fire-induced circuit failures described in Regulatory Guide 1.189, "Fire Protection for Nuclear Power Plants," Revision 2, issued October 2009. Regulatory Guide 1.189 endorses portions of the implementing guidance in Nuclear Energy Institute 00-01, "Guidance for Post-Fire Safe Shutdown Circuit Analysis," Revision 2, issued January 2005, for fire-induced circuit failures. The NRC staff validated the guidance with inspections at Millstone Power Station and Vogtle Electric Generating Plant. Based on the results of those inspections, the staff is confident that the guidance is sufficient for licensees to implement. As with any complex technical issue, the staff expects to receive implementation issues from licensees and to disposition these issues. The disposition of implementing issues does not affect the NRC staff's conclusion that it has stabilized the regulatory framework.

STEPS TO CLOSURE	DUE CY QUARTER
Establish Regulatory Foundation	
S. Collins (NRC) issues a letter to R. Beedle (NEI) on spurious actuations.	Complete: March 1997
Structure for Enforcement	
The staff issues Enforcement Guidance Memorandum (EGM) 98-002, "Disposition of Violations of Appendix R, Sections III.G and III.L, Regarding Circuit Failures."	Complete: March 1998
The staff issues an updated EGM, including Commission direction for fire-induced circuit failures.	Complete: May 2009
Develop Implementation Guidance	
EPRI and NEI complete circuit failure testing at Omega Point Laboratories, Inc., Elmendorf, TX.	Complete: June 2001
The staff and industry publish (through EPRI) EPRI Report No. 1006961, "Spurious Actuation of Electrical Circuits Due to Cable Fires: Results of an Expert Elicitation."	Complete: May 2002
The staff issues Regulatory Issue Summary (RIS) 2004-03, "Risk-Informed Approach for Post-Fire Safe-Shutdown Circuit Inspections," Revision 1.	Complete: December 2004
Industry publishes NEI 00-01, "Guidance for Post-Fire Safe-Shutdown Circuit Analysis," Revision 1.	Complete: January 2005
The staff issues RIS 2005-30, "Clarification of Post-Fire Safe-Shutdown Circuit Regulatory Requirements."	Complete: December 2005
The commission issues SRM-SECY-2006-0196, "Issuance of Generic Letter 2006-xx, 'Post-Fire Safe-Shutdown Circuits Analysis Spurious Actuations.'"	Complete: December 2006
The staff completes additional testing for RIS 2004-03 and issues NUREG/CR-6931, "Cable Response to Live Fire (CAROLFIRE)," Volume 1, "Test Descriptions and Analysis of Circuit Response Data"; Volume 2, "Cable Fire Response Data for Fire Model Improvement"; and Volume 3, "Thermally-Induced Electrical Failure (THIEF) Model."	Complete: April 2008
The staff transmits SECY-2008-0093, "Resolution of Issues Related to Fire-Induced Circuit Failures," to the Commission for action.	Complete: June 2008

The staff issues a draft of RG 1.189, "Fire Protection for Nuclear Power Plants," for comment.	Complete: April 2009
The staff publishes the RIS and attached draft RG clarification of circuit expectations.	Determined not to be needed
Industry revises NEI 00-01, Revision 2.	Complete: June 2009
The NRC issues the final RG for fire-induced circuit failures.	Complete: November 2009
Validate Implementation	
The staff establishes a method to validate the disposition of circuit issues.	Complete: December 2009
The staff informs the Commission of the status of circuit closure.	Complete: August 2009
Licensees begin work to resolve circuit issues.	Complete: December 2009
Final Closure	
The staff completes the validation of the circuit issue disposition method.	<i>Complete: October 2010</i>

Task 4 Stabilize Regulatory Infrastructure to Resolve Postfire Operator Manual Action (OMA) Issues

Objective To ensure that licensees complete appropriate actions related to the inappropriate crediting of postfire OMAs.

Definition Of Closure Closure is achieved when the regulatory infrastructure is in place and when the licensees submit LARs or exemption requests or when they complete modifications that validate the effectiveness of the infrastructure. The NRC considers the review and approval of those applications routine staff activities.

Status The staff completed this task in October 2010.

Background To meet fire protection regulations, licensees of nuclear power plants must demonstrate that the plant can be safely shut down in the event of a fire. An important requirement of these rules was the protection of redundant equipment and cables required to place the plant in a safe-shutdown state. In areas where redundant equipment could not be separated, the NRC permitted licensees, under certain conditions, to use postfire OMAs to mitigate the effects of the fire.

In 2000, NRC inspections found that some licensees relied on OMAs under conditions that were not permitted by the NRC to compensate for the lack of approved separation. On June 30, 2006, the NRC issued RIS 2006-10, "Regulatory Expectations with Appendix R, Paragraph III.G.2, Operator Manual Actions," dated June 30, 2006, to clarify expectations.

The NRC issued enforcement discretion for licensee-identified unapproved postfire OMAs with the intention of giving licensees an opportunity to find and correct unapproved postfire OMAs. This discretion provided a period of time for licensees to self-identify unapproved postfire OMAs and also allowed them time to bring those unapproved postfire OMAs into compliance without the NRC's taking enforcement action. The NRC expects licensees to resolve the unapproved postfire OMAs through reanalysis, procedure changes, or modifications or through a request for approval from the NRC. Facilities in transition to NFPA 805 will address OMAs as part of the transition.

In October 2007, the NRC issued NUREG-1852, "Demonstrating the Feasibility and Reliability of Operator Manual Actions in Response to Fire," to assist NRC staff in reviewing postfire OMA applications under conditions permitted by the agency. NUREG-1852 is publicly available to allow licensees to examine the factors that the NRC staff will review.

The enforcement discretion for manual actions related to single spurious actuations described in EGM 07-004, "Enforcement Discretion for Post-Fire Manual Actions Used as Compensatory Measures for Fire-Induced Circuit Failures," dated June 30, 2007, ended on March 6, 2009, for plants that did not have exemptions or had not submitted license amendments to the NRC for review.

The completion of Task 4 was reviewed as part of the inspections at Millstone Power Station and Vogtle Electric Generating Plant. The inspections concluded that the NRC had stabilized the regulatory framework in a manner that provided licensees with sufficient information to properly disposition the use of post-fire operator manual actions at their stations.

STEPS TO CLOSURE	DUE CY QUARTER
Establish Regulatory Foundation	
The Commission issues SRM-SECY-04-0233, "Proposed Rulemaking—Post-Fire Operator Manual Actions," dated December 23, 2004.	Complete: December 2004
The staff issues "Fire Protection Program—Post-Fire Operator Manual Actions," <i>Federal Register</i> (FR) notice (71 FR 11169; March 1, 2005); the proposed rule is withdrawn.	Complete: March 2005
Structure for Enforcement	
The staff issues enforcement discretion for OMAs as part of EGM 07-004 for OMAs; enforcement discretion ends March 2009.	Complete: June 2007
Develop Implementation Guidance	
The staff publishes RIS 2006-10.	Complete: June 2006
The staff publishes NUREG-1852.	Complete: October 2007
Validate Implementation	
Licensees complete corrective actions, LARs, or requests for exemptions.	Complete: March 2009
The staff develops a plan to validate the effectiveness of the closure of OMA issues for utilities that are not transitioning to NFPA 805 and that do not have an active licensing action.	Complete: December 2009
The staff validates the effectiveness of the infrastructure by completing a review of one licensee's resolution of the issue.	Complete: October 2010
Final Closure	
The infrastructure is stabilized and validated.	Complete: October 2010

Task 5 Assess Regulatory Effectiveness

Objective To assess the effectiveness of the ongoing improvements to the fire protection regulatory framework.

Definition Of Closure Closure is achieved when a monitoring process is in place and when the baseline is established. The NRC considers the ongoing implementation of the process a routine staff activity.

Status The staff completed this task in the 4Q of CY 2009.

Background On July 29, 2008, the Commission directed the staff in SRM M080717, "Briefing on Fire Protection Issues," to provide it with a plan to assess the effectiveness of the ongoing improvements to the fire protection regulatory framework, using recent plant data to establish a baseline. Such a baseline could be, for example, the number and general types of all open fire protection deficiencies that were compensated and the manner of compensation used in 2007.

U.S. Government Accountability Office (GAO) 08-747, "Nuclear Safety: NRC's Oversight of Fire Protection at U.S. Commercial Nuclear Reactor Units Could Be Strengthened," issued June 2008, includes a recommendation to "develop a central database for tracking the status of exemptions, compensatory measures, and manual actions in place nationwide and at individual commercial nuclear units."

The NRC Chairman responded to GAO 08-747 in a letter to Congress dated September 11, 2008. The letter committed to "implement a Fire Protection Closure Plan to resolve the issues contributing to the long-term use of compensatory measures. The Commission has directed the staff to include meaningful metrics to gauge progress in implementation of the Closure Plan." This action will resolve the issues of long-term compensatory measures and unapproved manual actions that have associated compensatory measures.

STEPS TO CLOSURE	DUE CY QUARTER
Commission Commitments	
The staff determines the metric for measuring the effectiveness of ongoing improvements.	Complete: December 2008
The staff develops a metric monitoring methodology.	Complete: March 2009
Final Closure	
The staff collects information and establishes monitoring.	Complete: November 2009

Task 6 Develop Training on Historical Lessons Learned from Fire Protection

Objective To train appropriate staff on the important historical lessons learned from the fire protection issue resolution activities since the establishment of Appendix R to 10 CFR Part 50.

Definition Of Closure Closure is achieved when a lessons learned review is completed, when lessons are incorporated into a knowledge management or training program, and when the adequacy of that program is validated using a pilot application. The NRC considers ongoing staff awareness and training part of routine staff activities.

Status The staff plans to complete this task in the first quarter of CY 2011.

Background On July 29, 2008, the Commission directed the staff in SRM M080717 to provide it with a closure plan that includes training for appropriate staff on the important historical lessons learned from the fire protection issue resolution activities since the establishment of Appendix R to 10 CFR Part 50.

STEPS TO CLOSURE	DUE CY QUARTER
Perform Lessons Learned Evaluation	
The staff compiles the history.	Complete: March 2009
The staff develops lessons learned.	2010 4Q
Develop Knowledge Management/Training Tool	
The staff develops training on lessons learned.	2010 4Q
The staff conducts pilot training on fire protection lessons learned.	2011 1Q
Final Closure	
The staff incorporates lessons learned from pilot training.	2011 1Q

Task 7 Develop an Exemption Database

Objective To develop a centralized database of fire protection exemptions for operating nuclear reactors.

**Definition
Of Closure** Closure is achieved when the exemption database is established and when procedures and plans are in place for the periodic updating of that database. The NRC considers periodic updates to the database a routine staff activity.

Status The staff completed this task in the 2Q of CY 2010.

Background GAO 08-747 included a recommendation to “develop a central database for tracking the status of exemptions.”

The NRC Chairman responded to GAO 08-747 in a letter to Congress dated September 11, 2008, which contained a commitment to “develop a centralized database of fire protection exemptions for operating nuclear reactors.”

STEPS TO CLOSURE	DUE CY QUARTER
Commission Commitments	
The staff collects data on fire protection exemptions.	Complete: June 2009
The staff completes the development of the database.	Complete: December 2009
Final Closure	
The staff establishes procedures for updates.	Complete: April 2010

Task 8 Establish Reasonable Assurance that All Past Regulatory Infrastructure Instabilities Are Identified

Objective To identify any additional fire protection issues that require further action.

**Definition
Of Closure** Closure is achieved when the review is complete and when appropriate actions are taken to address any fire protection regulatory issues identified. The NRC considers addressing any additional issues identified a routine staff activity.

Status The staff completed this task in the 3Q of CY 2009.

Background Since the publication of the fire protection rule in 1981, the NRC has identified and addressed many issues by using regulatory practices that were deemed appropriate at the time that these issues were identified.

The NRC staff has initiated an effort to identify any outstanding fire protection issues by surveying cognizant NRC staff concerning the regulatory history of fire protection. The identification of additional issues will give the staff an enhanced understanding of the issues and confidence that the agency is addressing all the necessary issues. The staff's activities for this effort include methodically surveying past and present NRC staff with knowledge of fire protection issues, evaluating their responses, and recommending followup actions.

STEPS TO CLOSURE	DUE CY QUARTER
Commission Commitments	
The staff completes the review.	Complete: April 2009
The staff evaluates responses.	Complete: July 2009
Final Closure	
The staff identifies issues and develops recommendations.	Complete: July 2009