RULEMAKING ISSUE
(Notation Vote)

January 12, 2006 SECY-06-0010

FOR: The Commissioners

FROM: Luis A. Reyes
Executive Director for Operations /RA/

SUBJECT: WITHDRAW PROPOSED RULEMAKING - FIRE PROTECTION PROGRAM POST-FIRE OPERATOR MANUAL ACTIONS (RIN 3150-AH54)

PURPOSE:

To obtain Commission approval to withdraw the proposed rule, "Fire Protection Program Post-Fire Operator Manual Actions," that was recommended as the appropriate regulatory tool to resolve a compliance issue associated with the use of operator manual actions for post-fire safe shutdown of a nuclear power plant.

SUMMARY:

The staff recommends the Commission withdraw the rulemaking that would have amended the regulations governing the domestic licensing of production and utilization facilities regarding the proposed use of operator manual actions that was published in the *Federal Register* (70 FR 10901; March 7, 2005). Based on comments received, implementation of the proposed rule would require exemption requests for a large number of licensees, undermining the Commission's expected improvement in regulatory effectiveness and efficiency, as stated in SECY-03-0100 "Rulemaking Plan on Post-Fire Operator Manual Actions," issued June 17, 2003. Enclosure 1 provides the draft *Federal Register* document that would withdraw the rulemaking. Enclosure 2 discusses staff response to public comments.

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Upon receiving Commission approval to withdraw the proposed rule, the staff will issue a Regulatory Issue Summary (RIS), as part of a generic communication plan. This RIS will reiterate NRC's compliance expectations with respect to the use of operator manual actions. The staff will also continue to inspect licensees' fire protection programs using the Reactor Oversight Process. The draft RIS is included as Enclosure 3.

A number of licensees intend to address closure of operator manual actions by implementing a new fire protection licensing basis through 10 CFR 50.48(c). As of December 31, 2005, a total of 37 plants have submitted the letter of intent to adopt 10 CFR 50.48(c) requirements.

The resources necessary complete actions addressed in this SECY are included in the budgets for NRR and RES for FY 2006 and 2008.

BACKGROUND:

In SECY-03-0100, the staff recommended a revision to the reactor fire protection regulation contained in Appendix R to 10 CFR Part 50 and associated guidance to resolve a regulatory compliance issue. This initiative would revise the existing regulations to allow use of operator manual actions in lieu of fire barrier separation protection to achieve and maintain hot shutdown in the event of a fire where redundant trains are located in the same fire area, without the need for the NRC to issue exemptions. The anticipated outcome of this rulemaking was to reduce unnecessary regulatory burden and maintain NRC effectiveness and efficiency by reducing the need for licensees to prepare exemption requests, and the need for the NRC to review and approve these requests.

In an SRM dated September 12, 2003, the Commission approved proceeding with this rulemaking. In that SRM, the Commission directed the staff to leverage its past experience to develop the operator manual action acceptance criteria. On December 22, 2004, SECY-04-0233, "Proposed Rulemaking - Post-fire Operator Manual Actions (RIN-3150-AH-54)," dated January 18, 2005, was provided to the Commission to obtain approval for the issuance of the proposed rule. By an SRM dated January 18, 2005, the Commission approved the issuance of the proposed rule for public comment. The SRM stressed additional engagement of stakeholders to get a clear understanding of the likelihood that the proposed rule would achieve its underlying purpose. The Commission also emphasized that although the exemption process is available for cases that can be justified under 10 CFR 50.12, "Specific Exemptions," the risk-informed and performance-based option in 10 CFR 50.48(c) would be more desirable in minimizing the need for future exemption requests to address operator manual actions. Consistent with Commission direction, the staff subsequently published a proposed post-fire operator manual actions rule in the *Federal Register* (70 FR 10901; March 7, 2005), with a 75-day comment period that ended on May 23, 2005.

DISCUSSION:

Paragraph III.G.2 of Appendix R to 10 CFR Part 50 requires that, where cables or equipment of redundant trains of systems necessary to achieve and maintain hot shutdown conditions are located in the same fire area, one of three means of ensuring that one of the redundant trains is free of fire damage shall be provided.

Appendix R to 10 CFR Part 50 applies only to plants that received an operating license before January 1, 1979. Plants licensed after January 1, 1979, are not required to meet the requirements of Appendix R. For these plants, the staff reviewed the licensees' fire protection programs and commitments against the regulatory guidance in Branch Technical Position CMEB 9.5-1, "Guidelines for Fire Protection for Nuclear Power Plants," or NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," (also referred to as the Standard Review Plan) which incorporated Appendix R requirements. Specific licensing basis information for these plants is usually contained in license conditions issued at the time of licensing. The proposed alternative set of requirements under the proposed rule would have applied to those plants that received an operating license before January 1, 1979.

As discussed in 70 FR 10901, the proposed rule contained a set of requirements which, when voluntarily adopted and implemented by licensees, would have provided an alternative option to satisfy and comply with paragraph III.G.2 of Appendix R. These requirements would have stipulated that use of operator manual actions would be allowed as a way to bring the plant to a hot shutdown condition in the event of a fire, provided that fire detectors and an automatic suppression system are installed in the fire area where redundant trains of safety systems are located and that the manual actions taken by the operators are feasible and reliable, and meet the required acceptance criteria in the proposed rule.

The acceptance criteria for the proposed rule were developed from operator manual actions guidance contained in Inspection Procedure (IP) 71111.05T, "Fire Protection (Triennial)." NEI endorsed the inspection guidance as reasonable acceptance criteria. In response to the Advisory Committee on Reactor Safeguards' (ACRS) comment regarding reliability of such feasible operator manual actions, the staff added a time margin criterion and codified the complete acceptance criteria to establish standards that would ensure feasible and reliable operator manual actions, and parameters used to conduct evaluations and inspections. The industry objected to some of the proposed rule acceptance criteria, most notably the time margin criterion, in addition to the requirement for automatic fire suppression as a defense-in-depth approach for fire protection programs.

Stakeholder Comments on the Proposed Rule

The staff received about 80 comments from 14 individuals and organizations in the areas of interest indicated in the proposed rule. Many of the industry responses were similar, but divergent views existed between industry and public stakeholders on the proposed rule. The significant comments are summarized in Section III of the attached *Federal Register* notice. All of the comments are discussed in detail in Enclosure 2 of this document, "Response to Public Comments on the Proposed Rule." Several of the key comments are highlighted below.

The proposed rule would have required fire detectors and an automatic fire suppression system where redundant trains of systems necessary to achieve and maintain hot shutdown conditions are located in the same fire area. Industry stakeholders and NEI stated that the requirement for an automatic fire suppression system is not necessary and installation of these systems would be costly, without a clear safety enhancement, and would likely result in exemption requests. The staff had previously concluded, and continues to maintain, that the fire detectors and automatic fire suppression system requirement in the proposed rule is fundamental to fire protection regulations and essential to ensure plant safety. The current

requirements in paragraphs III.G.2(b) and (c) stipulate the use of fire detectors and automatic fire suppression when other protection means in paragraph III.G.2(a) cannot be met. Without substantial additional justification through case-specific review that can be provided by using the risk-informed and performance-based option in the fire protection regulation in 10 CFR 50.48(c), it is not reasonable to consider the implementation of operator manual actions without fire detectors and automatic fire suppression to ensure safety as a sufficient compliance option to paragraph III.G.2. Absent the requirement for fire detectors and an automatic fire suppression system, the proposed rule would negate the effectiveness of the current regulatory provisions in paragraphs III.G.2(a), (b), and (c), as well as paragraph III.G.3.

The proposed rule required an analysis of the postulated timeline that included a time margin to reasonably account for all important variables, including differences between the analyzed and actual conditions, and human performance uncertainties that may be encountered. Industry stakeholders stated that thermal hydraulic calculations and other analyses have inherent conservatism that accounts for time margin. They also objected to the time margin factor of 2, stating that it is arbitrary, unprecedented, and inconsistent with requirements for other plant programs, such as emergency operating procedures. The staff agrees that conservatism can be appropriately identified and quantified in thermal hydraulic calculations and other analyses to demonstrate adequacy of a time margin on a case-by-case basis. However, the staff believes that the time margin concept is important to successfully accomplish an operator manual action to ensure safe shutdown of the plant. With respect to the time margin factor of 2, the staff recognizes, upon review of public comments, that a one-size-fits-all factor did not recognize the variability of the circumstances and conditions for the use of operator manual actions. The staff determined that a flexible range of approaches to implement the time margin concept may be more appropriate. The possible approaches are justifying that uncertainties are adequately accounted for via conservatism in existing analyses, or accounting for uncertainties by adding a time margin sufficient for the circumstances. These approaches will be incorporated into staff review guidance documents if the proposed rule does not move forward.

Several industry stakeholders continue to claim that the proposed rule is a backfit and that NRC guidance has allowed the use of operator manual actions to protect redundant safe shutdown trains. The staff disagrees with the industry's claims. Operator manual actions to demonstrate compliance with paragraph III.G.2 of Appendix R are not listed as an acceptable means of ensuring that one of the trains is free of fire damage. Consequently, unless alternative or dedicated shutdown capability is provided, redundant trains credited for post-fire safe shutdown and located in the same fire area must be protected under paragraph III.G.2 without the use of operator manual actions, unless the NRC has issued an approved exemption for the use of operator manual actions.

Comments received from public interest groups and individuals generally stressed the need for the NRC to maintain the current fire protection of safe shutdown regulation. The Union of Concerned Scientists and the Nuclear Information and Resource Service stated that they agree with the staff's recommendation to withdraw the proposed rule.

Representatives from the Nuclear Energy Institute (NEI) and other industry members stated that implementation of the proposed rule would require exemption requests for a large number of licensees, which would undermine the Commission's expected improvement in regulatory

effectiveness and efficiency to avoid the need for licensees to prepare exemption requests, as stated in SECY-03-0100. The proposed rule was developed with the expected outcome that only a few licensees would actually require the Nuclear Regulatory Commission (NRC) review and approval for exemption from the new regulatory requirements. However, upon assessing stakeholder comments, it is apparent that only a limited number of licensees may be able to fully satisfy the new regulatory requirements. Others would need an exemption from an automatic fire suppression requirement, specific acceptance criterion for operator manual actions, or a combination thereof. The staff agrees with stakeholders that the proposed rule's outcome would be inconsistent with the Commission expectation as discussed in SECY-03-0100 and the staff requirements memorandum (SRM) for SECY-04-0233.

Although licensees continue to have the option of submitting exemption requests to the NRC under 10 CFR 50.12, the Commission does not view exemption requests as the preferred option to compliance, as made clear in the Commission's SRM related to SECY-04-0233. The proposed rule would also not satisfy the Commission's preferred option to compliance. It is clear that the proposed rule should not be promulgated because one of the primary purposes for the rulemaking and the Commission's preferred option is not met. Therefore, the staff recommends withdrawal of the proposed rule.

Closure Plan

Licenses have three options to meet the requirements of the current fire protection safe shutdown regulations when redundant trains are located in the same fire area:

- Comply with the existing requirements as set forth in paragraph III.G.2 or III.G.3.
- Adopt the risk-informed, performance-based approach of National Fire Protection Association (NFPA) Standard NFPA 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants, 2001 Edition," through
- 10 CFR 50.48(c),
- Justify use of an operator manual action via a plant-specific exemption request.

Should the Commission approve the withdrawal of the proposed rule, the staff plans the following actions as part of the closure plan after withdrawal of the proposed rule.

The staff proposes to terminate the enforcement discretion guidance contained in Enforcement Guidance Memorandum (EGM) 98-02, "Enforcement Guidance Memorandum—Disposition of Violations of Appendix R, Sections III.G and III.L Regarding Circuit Failures," Revision 2, issued in February 2000 (incorporated into Enforcement Manual section 8.1.7.1), six months after the *Federal Register* publication date of Commission's intent to withdraw the operator manual actions rulemaking. The rationale for a six-month continuation is to provide a reasonable amount of time for those licensees that have implemented feasible and reliable operator manual actions as compensatory measures to initiate corrective actions.

Some licensees could be significantly affected if the proposed rule is withdrawn because they rely on large numbers of unapproved operator manual actions, have not taken corrective actions, and expected the final rule to bring them into compliance. Some of these licensees may determine that NFPA 805 is a viable corrective action option. Other licensees may initiate actions to comply with III.G.2 or III.G.3, or submit exemption requests, but may not have those corrective actions completed in the six-month continuation of the enforcement discretion

guidance in EGM 98-02. In any case, the staff expects that all licensees will need to either initiate corrective actions or initiate adoption of NFPA 805 within the six-month continuation of enforcement discretion. The staff expects completion of the corrective actions in a timely manner consistent with RIS 2005-20, "Revision to Guidance Formerly Contained in NRC Generic Letter 91-18," dated September 26, 2005, and completion of the transition to NFPA 805 consistent with the licensee's transition schedule.

The staff plans to update Standard Review Plan (SRP) Section 9.5.1, "Fire Protection Program" (NUREG-0800), to address post-fire operator manual actions acceptance guidance. The staff will leverage draft regulatory guide DG-1136, "Demonstrating the Feasibility and Reliability of Operator Manual Actions in Response to Fire," dated February 2005, to update the SRP.

The staff plans to revise Inspection Procedure (IP) 71111.05T, "Fire Protection (Triennial)," to remove references to the proposed rule and to reflect the current Appendix R requirements without the option for operator manual actions under paragraph III.G.2, unless the licensee has obtained an approved exemption request.

The staff intends to finalize and issue the enclosed draft RIS shortly after the publication of the Commission's approval of the staff's recommendation that reiterates NRC's compliance expectations with respect to the use of operator manual actions and advises the licensees of the expiration of the enforcement discretion guidance in EGM 98-02. The RIS discusses exemption requests, compensatory measures, and corrective actions pertaining to operator manual actions.

The staff will continue to ensure safety and compliance through inspections of licensees' fire protection programs using the Reactor Oversight Process.

Contents of the Withdrawal of the Proposed Rule Package

This package includes the *Federal Register* notice of withdrawal of Commission rulemaking activity (Enclosure 1), the staff's response to the public comments on the proposed rule (Enclosure 2), and the draft RIS for information (Enclosure 3).

COMMITMENTS:

Listed below are the actions or activities committed to by the staff in this paper.

1. The withdrawal notice (Enclosure 1) will be published in the *Federal Register*:

2. SRP Section 9.5.1, "Fire Protection Program" (NUREG-0800), will be updated with post-fire operator manual actions guidance by the end of calendar year 2007.

3. Inspection Procedure (IP) 71111.05T, "Fire Protection (Triennial)", will be revised shortly after the *Federal Register* notice withdrawing the Commission rulemaking activity.

4. The draft RIS (Enclosure 3) will be finalized and issued shortly after the *Federal Register* notice withdrawing the Commission rulemaking activity to convey NRC expectations and desires to achieve regulatory stability in fire protection regulation and advise licensees of the withdrawal of the enforcement discretion guidance contained in EGM 98-02.

5. A press release will be issued by the Office of Public Affairs when the withdrawal of the Commission rulemaking activity is filed with the Office of the Federal Register.

6. The appropriate Congressional committees will be informed.

RECOMMENDATION:

The staff recommends that the Commission approve withdrawal of the proposed rule, "Fire Protection Program Post-Fire Operator Manual Actions," by publication of a notice of withdrawal in the *Federal Register*.

RESOURCES:

The staff estimated resources to develop and finalize revisions to SRP 9.5.1 by the end of calendar year 2007 are as follows: For NRR: 0.2 FTE in FY 2006 and 0.2 FTE in FY 2007 and for RES: $100K and 0.1 FTE in FY 2006 and 0.1 FTE in FY 2007. The resources to finalize the RIS and IP 71111.05T are 0.2 FTE for NRR in FY 2006. These resources have been included in the budgets for NRR and RES for FY 2006 and FY 2007.

COORDINATION:

The Office of the General Counsel has no legal objection to this paper. The Office of the Chief Financial Officer has reviewed this Commission paper for resource implications and has no objections. In a letter dated November 18, 2005, the Advisory Committee on Reactor Safeguards concurred with the staff's approach.

/RA/

Luis A. Reyes
Executive Director
for Operations

Enclosures:
1. Draft *Federal Register* Notice
2. Response to Public Comments on the Proposed Operator Manual Actions Rule
3. Draft Regulatory Issue Summary

[7590-01-P]

U.S. NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

RIN 3150 AH54

Fire Protection Program—Post-Fire Operator Manual Actions

AGENCY: Nuclear Regulatory Commission

ACTION: Withdrawal of proposed rule

SUMMARY: The Nuclear Regulatory Commission (NRC) is withdrawing its proposed amendment to the Commission's fire protection regulations for nuclear power facilities operating prior to January 1, 1979. The proposed amendment pertained to the use of manual actions by plant operators coincident with fire detectors and an installed automatic fire suppression system in the fire area as an alternative method to achieve hot shutdown conditions in the event of fires in certain plant areas. Based on stakeholder comments, the Commission believes that the proposed rule would not achieve intended objectives of effectiveness and efficiency.

For further information contact: David Diec, (301) 415-2834, email dtd@nrc.gov or Alexander Klein, (301) 415-3477, email ark1@nrc.gov . Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington. D.C. 20555.

SUPPLEMENTARY INFORMATION

I. Purpose

For the reasons discussed in this document, the Commission is withdrawing a proposed rulemaking that was recommended as the appropriate regulatory tool to resolve a compliance issue associated with the use of operator manual actions for post-fire safe shutdown of the nuclear power plant. The Commission is initiating an operator manual actions closure plan to ensure compliance with the fire protection regulations.

II. Background

Section 50.48(b) of the *Code of Federal Regulations* (10 CFR 50.48(b)) backfits the requirements of paragraphs III.G, III.J, and III.O 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," to plants licensed to operate before January 1, 1979 (pre-1979). The NRC incorporated similar guidance and criteria into Branch Technical Position CMEB 9.5-1, "Guidelines for Fire Protection for Nuclear Power Plants," and Section 9.5-1, "Fire Protection Program," of NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants" (also referred to as the Standard Review Plan (SRP) for plants licensed after January 1, 1979 (post-1979). Post-1979 licensees incorporated their fire protection program implementation requirements into their operating license as a license condition.

Paragraph III.G.2 of Appendix R to 10 CFR Part 50 requires that, where cables or equipment of redundant trains of systems necessary to achieve and maintain hot shutdown

conditions are located in the same fire area, one of the following means of ensuring that one of the redundant trains is free of fire damage shall be provided:

a. separation of cables and equipment by a fire barrier having a 3-hour rating

b. separation of cables and equipment by a horizontal distance of more than 20 feet with no intervening combustibles or fire hazards and with fire detectors and an automatic fire suppression system in the fire area

c. enclosure of cables and equipment in a fire barrier having a 1-hour rating and with fire detectors and an automatic fire suppression system in the fire area

Paragraph III.G.2 of Appendix R to 10 CFR Part 50 cannot be reasonably interpreted to permit reliance upon operator manual actions with respect to redundant safe shutdown systems in the same fire area. Therefore, any pre-1979 licensee that is using operator manual actions instead of fire barriers or separation without an NRC-approved exemption is not in compliance with the regulations. Licensees who are required to comply with paragraph III.G and who implement operator manual actions without NRC review and approval are not in compliance with the rule.

In the past, the staff reviewed and approved a number of exemption requests for the use of operator manual actions when licensees could not meet the requirements for either separation distance, a fire barrier, or a fire suppression system as detailed under paragraphs III.G.2(a), (b), or (c) of Appendix R to 10 CFR Part 50. The staff's rationale for approving these exemptions was predicated on the type and amount of combustibles, the need for automatic fire suppression and detection capability, the effectiveness of the applicant's manual firefighting capability, and the time assumed available for plant operators to take such manual actions.

The staff had become aware that some licensees were using operator manual actions in lieu of fire barriers and initiated this rulemaking as a means to bring plants into compliance.

As originally issued, 10 CFR 50.48, “Fire Protection,” allowed licensees to make a request for exemption from a requirement to comply with one or more of the provisions of Appendix R to 10 CFR Part 50, if the exemption was based on licensee’s assertion that the required modifications would not enhance fire protection safety in the facility or that the modifications might be detrimental to overall facility safety. 10 CFR 50.12, “Specific Exemptions,” provides the current basis for the NRC considering an exemption.

The regulations also allow a licensee to use a risk-informed, performance-based approach under 10 CFR 50.48(c) using National Fire Protection Association (NFPA) Standard 805, “Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants, 2001 Edition,” instead of seeking an exemption or license amendment or meeting the requirements of Appendix R.

III. Proposed Rulemaking

In SECY-03-0100, “Rulemaking Plan on Post-Fire Operator Manual Actions,” dated June 17, 2003, the NRC staff recommended a revision to the reactor fire protection regulation contained in Appendix R to 10 CFR Part 50 and associated guidance to resolve a regulatory compliance issue. The proposed rule on post-fire operator manual actions was published in the *Federal Register* on March 7, 2005 (70 FR 10901), with a 75-day comment period that ended on May 23, 2005. The proposed rule would have revised paragraph III.G.2 of Appendix R to allow licensees to implement acceptable operator manual actions combined with fire detectors

and automatic fire suppression capability as an acceptable method for ensuring the capability of a licensee to bring a reactor to, and maintain it in, a hot shutdown condition. Fire detectors and automatic fire suppression requirements, with the criteria for feasible and reliable operator manual actions were included to maintain fire protection defense-in-depth. The anticipated outcome of this proposed rule was to reduce unnecessary regulatory burden and maintain NRC effectiveness and efficiency by reducing the need for licensees to prepare exemption requests, and the need for NRC to review and approve these requests.

The NRC received about 80 comments from 14 individuals and organizations on the proposed rule. Industry stakeholders and the Nuclear Energy Institute (NEI) commented that the proposed rule requirement for an automatic fire suppression system is not necessary and installation of such systems would be costly without a clear safety enhancement. Industry stakeholders and NEI stated that this requirement would likely not reduce or eliminate the number of exemption requests, and thus, would not meet one of the primary purposes of the rulemaking.

Industry stakeholders further objected to the proposed rule requirement for a time margin and stated that thermal hydraulic calculations and other analyses have inherent conservatism that accounts for time margin. Industry stakeholders also objected to the time margin factor of two, stating that it is arbitrary, unprecedented, and inconsistent with requirements for other plant programs, such as emergency operating procedures.

Some industry stakeholders claim that the proposed rule is a backfit and that NRC guidance has allowed the use of operator manual actions to protect redundant safe shutdown trains.

Comments received from public interest groups and individuals generally stressed the need for the NRC to maintain the current fire protection of safe shutdown regulation. The Union of Concerned Scientists and the Nuclear Information and Resource Service stated that they agree with the staff's recommendation to withdraw the proposed rule.

The NRC's response to the above comments and other comments is available to the public in "Response to Public Comments on the Proposed Operator Manual Actions Rule," (ADAMS Accession No. ML053350235).

The NRC has engaged stakeholders throughout the rulemaking process. On April 27, 2005, the NRC held a Category 3 public meeting at NRC Headquarters in Rockville, Maryland, to obtain stakeholder feedback on the proposed rule. Representatives from the industry, the Nuclear Energy Institute (NEI), industry consultants, and a public interest group attended the meeting. The feedback provided by the industry stakeholders during the public meeting was similar in nature and consistent with those provided in written comments at the close of the 75-day public comment period.

On September 30, 2005, the NRC held a Category 2 public meeting at NRC Headquarters to discuss planned withdrawal of the proposed operator manual actions rule and NRC's closure plan. During this meeting, the NRC received public comments on the closure plan from industry, the NEI, the Nuclear Information and Resource Service, and an industry consultant.

IV. Withdrawal of Rulemaking

Industry stakeholders and NEI stated that the proposed rule, if implemented, would require numerous exemption requests for conditions that do not satisfy the automatic fire suppression requirement, specific acceptance criterion for operator manual actions, or a combination thereof. This outcome does not meet the rulemaking primary purpose of effectiveness and efficiency to reduce or eliminate exemption requests. Issuing a new rule with the likelihood of numerous exemption requests is not a good regulatory practice. Based on the above, the NRC is withdrawing the proposed rulemaking.

V. Operator Manual Actions Closure Plan

A. Ensuring Compliance

The NRC will continue to enforce its regulations through scheduled inspections to ensure compliance. The NRC expects that noncompliance findings, identified by NRC inspectors or licensees, will be addressed by licensees through plant corrective actions to bring the plant back into compliance, consistent with the Commission's current fire protection regulations.

The withdrawal of the operator manual actions rulemaking would require some licensees to take corrective actions other than what a final rule would have allowed. As such, the NRC's closure plan to deal with the rule withdrawal includes issuing a new regulatory issue summary and developing internal staff regulatory review guidelines for post-fire operator manual actions.

B. Regulatory Issue Summary

The NRC intends to issue a regulatory issue summary (RIS) to reiterate its III.G.2 compliance expectations with respect to the use of operator manual actions, discuss the means to achieve compliance, advise licensees of the date the NRC will terminate the enforcement discretion guidance in Enforcement Guide Memorandum (EGM) 98-02, "Enforcement Guidance Memorandum—Disposition of Violations Of Appendix R, Sections III.G and III.L Regarding Circuit Failures," Revision 2 issued in February 2000 (incorporated into Enforcement Manual section 8.1.7.1), respond to industry's contention regarding backfit of operator manual actions, and discuss exemption requests, compensatory measures and corrective actions pertaining to operator manual actions.

C. Staff Regulatory Review Guidelines

The NRC developed acceptance criteria as part of the proposed rule for operator manual actions and DG-1136, "Demonstrating the Feasibility and Reliability of Operator Manual Actions in Response to Fire," dated February 2005, that provided an acceptable method for complying with the proposed rule. The acceptance criteria and DG-1136 were published in 70 FR 10901. The NRC plans to update Section 9.5-1, "Fire Protection Program," of NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants" [also referred to as the Standard Review Plan (SRP)] to address post-fire operator manual actions acceptance guidance. This update to SRP will include the knowledge gained during the proposed rule development and will enhance the NRC regulatory review process for future licensing actions, such as exemption requests.

D. Enforcement Action

In March 1998, the NRC staff issued EGM 98-02 (most recent revision was issued in

February 2000, ADAMS Accession No. ML003710123), which provides enforcement discretion guidance for issues related to fire-induced circuit failures. This EGM was in response to an apparent widespread misunderstanding of the fire-induced circuit failure requirements on the part of licensees and remains in effect. This EGM also encompasses the vast majority of manual actions since manual actions are used as compensatory measures to satisfy the regulatory requirements related to fire-induced circuit failures. The EGM provides guidance for disposition of noncompliances involving fire-induced circuit failures, which could prevent operation or cause maloperation of equipment needed to achieve and maintain post-fire safe shutdown. Among the enforcement conditions, discretion will be given for cases where licensees do not dispute that a violation of regulatory requirements has occurred with respect to a nonconformance and that licensees take prompt compensatory actions and corrective actions within a reasonable time. The expectations of this EGM have been incorporated into the current NRC Enforcement Manual.

The Office of Nuclear Reactor Regulation issued a revised Inspection Procedure (IP) 71111.05T, “Fire Protection (Triennial),” in March 2003 providing inspection criteria for operator manual actions. The inspection criteria are used as guidance by NRC inspectors to determine if unapproved operator manual actions can be used as a compensatory measure while corrective actions are taken by the plant.

The NRC plans to terminate the enforcement discretion guidance in EGM 98-02 six months after the publication date of this *Federal Register* notice. The continuation of the applications of EGM 98-02 and IP 71111.05T for six months are effective to ensure and maintain the overall plant safety by licensees through the use of adequate and appropriate compensatory measures in the form of operator manual actions implemented in accordance

with the licensee's fire protection program. Manual actions that fail to meet the criteria in the inspection procedure are not considered to be feasible or adequate compensatory measures.

The NRC issued RIS 2004-03, Revision 1, "Risk-informed Approach for Post-Fire Safe-Shutdown Circuit Inspections" on December 29, 2004, which, in part, clarified the NRC's expectation associated with fire induced circuit failure issues. Subsequent to RIS 2004-03, Revision 1, the NRC incorporated EGM 98-02 enforcement discretion guidance in its approach to address existing operator manual actions while the proposed rulemaking activity was taking place. Now that the rulemaking is withdrawn, the NRC has determined that it is reasonable to continue the application of EGM 98-02 for six months after the publication date of this *Federal Register* notice. The NRC's withdrawal of the proposed operator manual actions rule would require licensees to take corrective actions for existing operator manual actions that have not been previously approved by the NRC. The rationale for a six-month continuation is intended to provide a reasonable amount of time for those licensees that have implemented feasible and reliable operator manual actions as compensatory measures to initiate corrective actions. The corrective action could involve compliance with III.G.2 or III.G.3; adoption of NFPA 805 through 10 CFR 50.48(c); or submission of exemption requests or license amendments.

Some licensees could be significantly affected if the proposed rule is withdrawn because they rely on large numbers of unapproved operator manual actions, have not taken corrective actions, and expected the final rule to bring them into compliance. Some of these licensees may determine that adoption of NFPA 805 is a viable corrective action option. Other licensees may initiate actions to comply with III.G.2 or III.G.3, or submit exemption requests, but may not have those corrective actions completed in the six-month continuation of the enforcement discretion guidance in EGM 98-02. In any case, the staff expects that all licensees will need to

either initiate corrective actions or initiate adoption of NFPA 805 within the six-month continuation of enforcement discretion. The staff expects completion of the corrective actions in a timely manner consistent with RIS 2005-20, "Revision to Guidance Formerly Contained in NRC Generic Letter 91-18," dated September 26, 2005 (ADAMS Accession No. ML052020424), and completion of the transition to NFPA 805 consistent with the licensee's transition schedule.

The Commission believes that the proposed rule would not achieve its objective. Therefore, the Commission has decided to withdraw the proposed rule.

Dated at Rockville, Maryland this_____ day of_____2006.

For the Nuclear Regulatory Commission.

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Annette Vietti-Cook

Secretary of the Commission.

RESPONSE TO PUBLIC COMMENTS ON THE PROPOSED OPERATOR MANUAL ACTIONS RULE

The proposed rule on post-fire operator manual actions was published in the *Federal Register* on March 7, 2005 (70 FR 10901), with a 75-day comment period ended on May 23, 2005. The NRC received comments from organizations and individuals. Copies of the comments are available for public inspection and copying for a fee at the U.S. Nuclear Regulatory Commission's (NRC's) Public Document Room, One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland. Five individuals, an individual representing a public interest group, four utilities with nuclear reactors, one nuclear utility group representing six plants with nuclear reactors, the Nuclear Energy Institute (NEI), and two industry consultants submitted comments. Four out of the five individual commenters objected to the proposed rule with no further technical substantiation. One individual commenter and an industry consultant also objected to the proposed rule but made recommendations to enhance or modify elements of the rule and the draft guidance document. The individual representing a public interest group also objected to the proposed rule and provided a detailed discussion. Another objection for the proposed rule came from an industry consultant. The four utilities, the nuclear utility group, and NEI objected to the requirement for fire detectors and automatic fire suppression, as well as the time margin in the proposed rule. The utilities and the nuclear utility group also provided detailed comments to the rule language and draft regulatory guide. The NEI also provided alternative rule language. The two consultants provided comments requesting clarifications to the rule language and the draft regulatory guide. The utilities and NEI also asserted that the proposed rule does not meet the objectives of the rulemaking as proposed by the NRC in SECY-03-0100, "Rulemaking Plan on Post-Fire Operator Manual Actions."

In the following paragraphs, the NRC discusses the resolution of the public comments by topic.

Backfit Claim

COMMENT: Several industry commenters claimed that the proposed rule is a backfit and that NRC guidance has allowed the use of operator manual actions under paragraph III.G.2 of Appendix R, "Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979," to Title 10, Part 50, "Domestic Licensing of Production and Utilization Facilities," of the *Code of Federal Regulations* (10 CFR Part 50). Commenters claimed that there are no provisions in the regulations or guidance that prohibit the use of operator manual actions under paragraph III.G.2.

RESPONSE: The NRC does not agree with the commenters' claims. Paragraph III.G.2 is very specific with regard to acceptable means of ensuring that one of the redundant trains is free of fire damage. Paragraph III.G.2 states the following:

> Except as provided for in paragraph G.3 of this section, where cables or equipment, including associated non-safety circuits that could prevent operation or cause maloperation due to hot shorts, open circuits, or shorts to ground, of redundant trains of systems necessary to achieve and maintain hot shutdown conditions are located within the same fire area outside of primary containment, one of the following means of ensuring that one of the redundant trains is free of fire damage shall be provided:

a. Separation of cables and equipment and associated non-safety circuits of redundant trains by a fire barrier having a 3-hour rating. Structural steel forming a part of, or supporting such fire barriers, shall be protected to provide fire resistance equivalent to that required of the barrier;

b. Separation of cables and equipment and associated non-safety circuits of redundant trains by a horizontal distance of more than 20 feet with no intervening combustible or fire hazards. In addition, fire detectors and an automatic fire suppression system shall be installed in the fire area; or

c. Enclosure of cable and equipment and associated non-safety circuits of one redundant train in a fire barrier having a 1-hour rating. In addition, fire detectors and an automatic fire suppression system shall be installed in the fire area.

Operator manual actions to demonstrate compliance with paragraph III.G.2 of Appendix R, are not listed as an acceptable means of ensuring that one of the trains is free of fire damage. Consequently, unless alternative or dedicated shutdown capability is provided, redundant trains credited for post-fire safe shutdown and located in the same fire area must be protected in accordance with paragraph III.G.2 without the use of operator manual actions unless the NRC has issued an approved exemption for the use of operator manual actions. This position was reiterated in the May 16, 2002, letter from J. N. Hannon of the NRC to A. Marion of NEI (ADAMS Accession No. ML021410026) and the Committee to Review Generic Requirements (CRGR) Meeting Minutes No. 367 (ADAMS Accession No. ML021750218) noted that this letter

does not contain any new staff positions. When redundant safe shutdown trains are in the same fire area, paragraph III.G.1 protection for those redundant safe shutdown trains may not be claimed by crediting an operator manual action at an emergency control station. Paragraph III.G.2 specifically addresses the means to ensure one train is free of fire damage when those trains are in the same fire area and does not allow the use of operator manual actions unless the NRC has issued an approved exemption for the use of operator manual actions. (Refer to RIS 2005-30, "Clarification of Post-Fire Safe-Shutdown Circuit Regulatory Requirements," dated December 20, 2005, ADAMS Accession No. ML053360069, for additional discussions.)

Notwithstanding any past instances in which the NRC did not object to industry practice, it is NRC's position that operator manual actions are not authorized by Appendix R, paragraph III.G.2 provisions and is a noncompliance unless the NRC has issued an approved exemption.

Section III.P of the Proposed Rule

COMMENT: A public interest group commenter supported the addition of paragraph III.P without the addition of paragraph III.G.2(c-1).

RESPONSE: The NRC does not agree with the comment to promulgate paragraph III.P without a corresponding implementing regulatory paragraph. An implementing regulatory paragraph, such as would have been done under paragraph III.G.2(c-1), would define the application of objective and enforceable acceptance criteria.

Proposed Rule Does Not Meet Rulemaking Objectives

COMMENT: The NEI and industry commenters stated that the proposed rule will not reduce or eliminate the number of exemption requests and that NRC costs will not be reduced. Industry commenters stated that the proposed rule will require some licensees to seek exemption requests because of the requirement for fire detectors and automatic fire suppression systems. One industry commenter estimated 20 exemptions per unit. Another industry commenter stated that the requirement for fire detectors and automatic fire suppression systems will significantly reduce the benefits of the proposed rule.

RESPONSE: Based on industry comments, the proposed rule may not reduce or eliminate exemption requests. SECY-03-0100 outlined the advantages of rulemaking. In SECY-03-0100, the NRC stated that the intent was to develop acceptance criteria, rectify most compliance issues associated with operator manual actions, avoid the need for licensees to prepare exemption requests, and avoid backfit issues for licensees who use operator manual actions in lieu of fire barriers. Avoiding the exemption requests for feasible and reliable operator manual actions was a primary advantage of the rulemaking. However, commenters noted that the requirement for fire detectors and automatic fire suppression systems and, in some cases, the time margin will prompt exemption requests. Industry comments during the public comment period suggested that the exemption requests would primarily be for automatic fire suppression systems. Although licensees continue to have the option of submitting exemption requests to the NRC under 10 CFR 50.12, “Specific Exemptions,” the NRC does not view exemption requests as the preferred option to compliance as was made clear in the

Commission's response to SECY-04-0233, "Proposed Rulemaking—Post-Fire Operator Manual Actions (RIN 3150 AH-54)," dated January 18, 2005.

Requirement for Fire Detectors and Automatic Fire Suppression

COMMENT: The industry commenters and NEI objected to the proposed rule's requirement for fire detectors and automatic fire suppression systems in fire areas where redundant trains necessary to achieve and maintain hot shutdown conditions are located. The commenters argued that each plant's fire hazards analysis (FHA) identified the areas where fire hazards exist and where fire detectors and automatic fire suppression systems are necessary to mitigate the potential effects of fires. The commenters also argued that this requirement would lead licensees to provide full area fire suppression throughout many portions of fire areas that currently do not require fire suppression based on the licensees' FHAs. The commenters also suggested that additional water-based fire suppression systems will increase the risk due to internal flooding

RESPONSE: The NRC does not agree with the commenters' views. The basis for fire detectors and automatic fire suppression systems was articulated in the *Federal Register* notice of the proposed rule. The requirement for fire detectors and automatic fire suppression systems is primarily based on maintaining a reasonable balance of defense-in-depth; addressing the reliability of a manual action in lieu of a fire barrier, or separation by rapidly controlling and extinguishing fires, thereby enhancing the licensee's ability to perform feasible and reliable operator manual actions; and ensuring consistency with paragraphs III.G.2 and III.G.3 of Appendix R to 10 CFR Part 50. Licensees who seek an exemption for the use of an

operator manual action without fire detectors or an automatic fire suppression system must provide an adequate basis, in accordance with 10 CFR 50.12.

The NRC also does not agree with the contention that the requirement for automatic fire suppression would necessitate full area fire suppression. The NRC believes that the commenters have not considered existing guidance in Generic Letter (GL) 86-10, "Implementation of Fire Protection Requirements," Enclosure 1, Item 5 which states, in part, that, "where full area suppression and detection is not installed, licensees must perform an evaluation to assess the adequacy of partial suppression and detection to protect against the hazards in the area." The GL 86-10 guidance clearly allows a licensee to evaluate and determine the extent of suppression and detection in a fire area based on the hazards. Depending on the circumstances and conditions in the plant, full area automatic fire suppression system may or may not be necessary. However, the GL 86-10 guidance also makes it clear that if a licensee does not provide any fire suppression or detection, an exemption must be requested.

The NRC also disagrees with the commenters' conclusion that a water-based fire suppression system will always increase the risk due to internal flooding. The NRC believes that an increased risk due to internal flooding may or may not be a concern, depending upon plant specific circumstances. Licensees can evaluate the risk due to flooding by considering alternative fire suppression systems or implementing mitigative strategies to address the concern. The NRC believes that alternative water-based fire suppression systems, designed in accordance with the applicable NFPA standard, and combined with other mitigative strategies, may be one way to address the risk, if any, due to internal flooding.

Some commenters asked for clarification regarding when the fire detectors and automatic fire

suppression system are required. The proposed requirement for fire detectors and an automatic fire suppression system applied only to the area where the fire occurs, not to the area(s) where the operator manual actions will take place.[1]

Time Margin Criterion

COMMENT: The industry commenters and NEI objected to the time margin criterion, and more specifically, to the time margin factor as discussed in DG-1136, "Demonstrating the Feasibility and Reliability of Operator Manual Actions in Response to Fire," dated February 2005. In particular, the commenters argued that, given the conservative nature of most of the analyses used to support Appendix R evaluations, an additional time margin, as proposed in DG-1136, was unnecessary. Commenters noted that the time margin, as proposed, was redundant to the margin already existing in current analyses and, hence, it added more time penalty to the manual actions. In addition, it did not account for other defense-in-depth features already available in typical fire protection programs and would require significant and costly rework of existing analyses in order to reallocate the existing analysis margin without any safety benefit. Comments were also made that using a one-size-fits-all doubling of the manual action diagnosis and implementation time, or using any other specific multiplicative or additive factors, did not recognize the variability of the risk significance of some manual actions. Further, a

[1]Only in the presumably rare case in which the operator manual actions would also occur in the same fire area as the fire itself would fire detectors and an automatic fire suppression system have to be installed, "in the area where the operator manual actions are taken," for these operator manual actions to receive credit. This is envisioned only if a very large fire area experiences a very localized fire, such that the fire effects do not preclude access to, egress from, and operator manual actions in, a distant location within the very large area.

couple of comments suggested that ensuring that the manual actions had to be reliable (as opposed to feasible) went beyond current requirements for other actions, such as those related to using the emergency operating procedures.

RESPONSE: The NRC believes that, to ensure that adequate time exists to perform an action, having a margin between the demonstrated and estimated time to diagnose and perform manual actions remains a prudent expectation, especially considering the uncertainties associated with the consequences (e.g., smoke) of fire events. Therefore, the concept of ensuring that adequate time exists should be retained in any future internal staff guidance to account for those uncertainties. The NRC recognizes that a range of acceptable alternatives exists to show that there is adequate time. Possible alternatives are: (1) the licensee justifies that all uncertainties are adequately covered by the conservative nature of existing analyses and programs; or (2) the licensee specifically accounts for the uncertainties not presently covered by adding a time margin. Licensees would have to justify the adequacy of existing analyses, or make changes to the analyses or the actions themselves, so that uncertainties are enveloped or otherwise addressed. This provides a flexible range of implementation approaches that licensees may use to implement the margin concept, while maintaining the notion of using extra time as a surrogate to directly account for uncertainties.

The time margin factor of two was not part of the proposed rule acceptance criteria in paragraph III.P of Appendix R to 10 CFR Part 50. It was introduced in DG-1136 as one way of demonstrating adequate time margin based on the results of an expert elicitation panel. The NRC recognizes that a single value of two may or may not be sufficient to show adequate time

margin when accounting for uncertainties. Because the timing for the operator manual actions is scenario and plant specific, the analyses conducted by a licensee would have to justify the adequacy of the time margin.

In summary, the NRC believes that the concept of time margin is prudent to ensure reliability of operator manual actions. The exact value of a time margin is dependent on the specific scenario and it would be incumbent on the licensee to show through analyses that adequate time margin exists to perform the operator manual action.

Rule Structure and Application of Operator Manual Actions to Noninerted Containments

COMMENT: Some commenters interpreted that the placement of the new wording in the proposed paragraph III.G.2(c-1) will limit the use of operator manual actions to paragraph III.G.2.c, and that it would not resolve situations for operator manual actions performed inside noninerted containments.

RESPONSE: The NRC does not agree with this interpretation. Paragraph III.G.2 lists the means to ensure that one train remains free of fire damage. Any one of the means (i.e., paragraphs III.G.2(a), III.G.2(b), III.G.2(c), or III.G.2(c-1) (had it been promulgated)) is sufficient to meet the requirement of paragraph III.G.2. The paragraph discussing inside noninerted containment in paragraph III.G.2 would have been placed after paragraph III.G.2(c-1) and states, “inside noninerted containments one of the fire protection means specified above or. . . .” Because paragraph III.G.2(c-1) would have been placed directly above the paragraph for noninerted containment, it is clear that paragraph III.G.2(c-1) would have been one of the fire

protection means available to the licensee for inside noninerted containment.

Actions Inside the Control Room

COMMENT: One commenter asked for clarity regarding operator actions inside the control room.

RESPONSE: The application of the proposed operator manual action rule would have been for the use of operator manual actions outside of the main control room. Actions taken by operators inside the main control room, when the fire is outside of the main control room, are considered to be feasible and reliable by virtue of the relatively benign environmental conditions, and licensed operator training and qualifications.

Proposed Alternative Rule Language by NEI

COMMENT: The NEI proposed alternative rule language that would delete the NRC's proposed revisions to paragraph III.G.2(c-1) and delete the NRC's codification of acceptance criteria in paragraph III.P. Some of the other industry commenters endorsed the NEI comments. The NEI proposed to define three terms in paragraph III.G.1, claiming that the definitions reflect various staff positions and interpretations over the years.

RESPONSE: The NRC has considered the NEI proposal. Paragraph III.G.2 clearly states that, where redundant trains are located in the same fire area, the requirements of paragraphs III.G.2(a), (b) or (c). shall be met to ensure that one of the redundant trains is free of fire

damage. The regulation does not allow a protection scheme for redundant trains in the same fire area using paragraph III.G.1, even if terms were defined as proposed by NEI. The proposed revision by NEI would contradict the requirements of paragraph III.G.2 without a corresponding change to rule language in paragraph III.G.2 allowing the proposed NEI alternative. Aside from the conflict that the alternative language would impose on paragraph III.G.2, the alternative language does not ensure feasibility and reliability of the manual action absent acceptance criteria as part of the rule. Furthermore, the lack of automatic fire suppression is essential to defense-in-depth, as discussed in the proposed rulemaking. In addition, the NRC believes that the NEI proposal would effectively eliminate the requirement of paragraph III.G.3 because the NEI proposal would allow licensees to only consider paragraph III.G.1 for compliance. (See also NRC's response to the section entitled "Backfit Claim," in this enclosure.)

Acceptance Criteria of Inspection Procedure (IP) 71111.05T

COMMENT: The NEI claimed that the acceptance criteria contained in NRC IP 71111.05T (March 2003) is a reasonable approach for assessing the feasibility of operator manual actions.

RESPONSE: The acceptance criteria in IP 71111.05T, "Fire Protection (Triennial)," must be taken in the context of the inspection procedure. The inspection criteria are used as guidance by NRC inspectors to determine if unapproved operator manual actions are feasible and can be used as a compensatory measure while corrective actions are taken by the plant. The acceptance criteria developed for the proposed rule was written to establish the standards to ensure feasibility and reliability of operator manual actions, establish consistency as to what

operator manual actions would be allowed, and provide parameters used to conduct evaluations and inspections.

Risk-Informed, Performance-Based Approaches

COMMENT: One commenter stated that the proposed rule misses an opportunity to introduce risk-informed and performance-based approaches into existing fire protection regulations.

RESPONSE: The NRC did not choose to revise only one section of the existing Appendix R requirements as risk-informed and performance-based and leave the remaining parts deterministic. Because the existing Appendix R requirements are deterministic and prescriptive, changing one part of one section would lead to a rule in which one option in one part of the rule has an approach that differs significantly from the rest of the rule. Since licensees already have the option of using the risk-informed and performance-based approach through 10 CFR 50.48(c), any efforts to change one part of an existing rule would duplicate efforts previously completed.

Approved Operator Manual Actions

COMMENT: Several licensees requested clarifications regarding what the NRC meant by approved operator manual actions. One commenter cited its plant-specific situations, quoting from an inspection report and a safety evaluation report (SER). Another commenter claimed that plants with existing approved exemptions would have to come into compliance with the requirements of the proposed rule.

RESPONSE: In the proposed rule Federal Register notice, the NRC stated, "licensees who currently have approved operator manual actions will not be required to perform any additional actions (such as analysis or documentation). Licensees who employ operator manual actions but have not received NRC approval are in violation of paragraph III.G.2 of Appendix R." It is clear from this statement that licensees who have approved operator manual actions to demonstrate compliance with paragraph III.G.2 do not need to backfit their operator manual actions to the new criteria, nor are they required to resubmit their exemptions, provided the exemptions remain valid. Approved operator manual actions are plant-specific and were those previously accepted in formal exemption/deviation requests and in SERs. Licensees can demonstrate that they have an approved operator manual action by citing the applicable licensing action document, such as an NRC-approved exemption/deviation, or the licensee's docketed correspondence associated with the exemption/deviation, or documents that comprise a licensee's licensing basis as discussed in the attachment to RIS 2005-20, "Revision to Guidance Formerly Contained in NRC Generic Letter 91-18, Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and On Operability." However, NRC inspection reports are not acceptable citations to demonstrate that a licensee has an approved operator manual action, in as much as inspection reports are not issued to approve the use of a methodology that does not meet NRC regulations or a licensee's specific licensing basis (although an inspection report may be a basis for a backfitting claim by an individual license).

Cost

COMMENT: Industry commenters stated that plant modifications associated with the installation of automatic fire suppression systems and application of the time margin factor or

licensing actions associated with exemptions/deviations represent a significant cost to the industry with marginal or no increase in plant safety. Industry commenters and NEI stated that the estimated cost for the design and installation of automatic fire suppression systems is in the range of $10 million to $100 million per site.

RESPONSE: The NRC discussed the bases for the requirement for fire detectors and automatic fire suppression in the proposed rule and responded to comments under the section of this enclosure entitled, “Requirement for Fire Detectors and Automatic Fire Suppression.” The NRC also discussed the bases for the time margin in the proposed rule and responded to comments in the section of this document entitled, “Time Margin Acceptance Criteria.” Absent a final rule under paragraph III.G.2(c-1), licensees have available to them paragraphs III.G.2.(a), III.G.2.(b), or III.G.2.(c) as other means to comply with the requirements of paragraph III.G.2. Paragraphs III.G.2(b) and III.G.2(c) currently require fire detectors and automatic fire suppression. Paragraph III.G.2(a) does not require fire detectors or automatic fire suppression. Therefore, the comment is applicable to those plant-specific situations in which there is no 3-hour fire barrier separation. The NRC based its proposed requirement for fire detectors and automatic fire suppression on safety and did not take into consideration the cost associated with compliance. Furthermore, licensees have 10 CFR 50.48(c) as an alternative compliance method for their fire protection program. (See also NRC responses in those sections entitled, “Requirement for Fire Detectors and Automatic Fire Suppression,” and “Time Margin Acceptance Criteria,” in this enclosure.)

Proposed Rule Does Not Provide Acceptable Equivalent Level of Protection

COMMENT: The commenter contended that the NRC did not provide an analysis demonstrating that operator manual actions are equivalent to the physical fire protection features required by General Design Criterion 3, “Fire Protection,” of Appendix A, “General Design Criteria for Nuclear Power Plants,” to 10 CFR Part 50 and by Appendix R, paragraph III.G.2. It was further contended that human actions are not comparable to fire barrier separation.

RESPONSE: The NRC disagrees with the first part of this contention. In the proposed rule, the NRC stated that the proposed operator manual action rule would offer protection comparable, not equivalent, to paragraphs III.G.2(b) or III.G.2(c), both of which require the additional layer of defense-in-depth protection provided by having fire detectors and automatic fire suppression capability. The NRC also stated that the proposed rulemaking provides reasonable assurance that the public health and safety are protected, consistent with the assurance provided by compliance with the current three options in paragraphs III.G.2(a), (b), or (c) of Appendix R, in part by the requirement for fire detectors and automatic fire suppression.

With respect to the contention that human actions are not comparable to fire barrier separation, the NRC recognized the following in the SECY-03-0100 rulemaking plan:

> [r]eplacing a passive, rated, fire barrier . . . with human performance activities can increase risk. For some simple operator manual actions, the risk increase associated with human performance may be minimal. For other actions, unless

> the operator manual actions are feasible, the risk increase could be significant . . . However, if the operator manual actions are feasible, the overall risk increase is minimal.

In SECY-04-0233, the NRC concluded that certain feasible and reliable operator manual actions could be accomplished and could provide an adequate level of safety to satisfy the underlying purpose of the fire protection rule for the areas set forth in paragraph III.G.2.

Reduces Defense-in-Depth

COMMENT: The commenter asserted that incorporating operator manual actions into paragraph III.G.2 effectively nullifies confidence that defense-in-depth is being adequately maintained.

RESPONSE: The NRC disagrees with the assertion that incorporating operator manual actions into paragraph III.G.2 effectively nullifies confidence that defense-in-depth is being adequately maintained. In SECY-04-0233, the NRC discussed feasible and reliable operator manual actions and concluded that any potential increases in risk to the public as a result of their use will be minimal. The NRC stated that its requirement that the operator manual actions must meet conservative acceptance criteria provides the NRC with reasonable assurance that such operator manual actions can be accomplished to safely shut down the plant in the event of a fire. These criteria would maintain safety by ensuring that licensees perform thorough evaluations of the required operator manual actions and preplan equipment needs. The NRC determined that the use of operator manual actions would not diminish the other

defense-in-depth objectives of the NRC fire protection program (i.e., the requirements that minimize the potential for fires and explosions and those which provide for rapidly controlling and extinguishing fires that do occur). To support the objective for rapidly controlling and extinguishing fires, the NRC had proposed the requirement for fire detectors and an automatic fire suppression system as part of the operator manual actions option. Accordingly, the NRC had previously determined that the proposed rulemaking provides reasonable assurance that the public health and safety are protected.

Undermines Public Confidence

COMMENT: The commenter contends that the proposed rule undermines public confidence in NRC's credibility and future enforcement policy of fire protection requirements, and that the NRC is accommodating the financial interests of the industry and licensee violations of the requirements.

RESPONSE: The NRC continues to conduct fire protection inspections through the reactor oversight process. Any issues identified by the inspectors are processed in accordance with NRC policies and procedures. Where appropriate, the NRC will take enforcement action as applicable. The NRC has not stopped the process of inspections and enforcement. The proposed rulemaking requirements were based on safety as discussed in the proposed rule's *Federal Register* notice.

Undermines Safety Oversight

COMMENT: The commenter asserts that the proposed rule undermines NRC's safety oversight because licensees would not have to go through the exemption process. The commenter further asserts that, with no exemptions, the public would be denied its due process by eliminating the opportunity to independently review those exemptions.

RESPONSE: The proposed rule would not have undermined the NRC's safety oversight. The NRC stated in SECY-04-0233 that the requirement of operator manual actions to meet conservative acceptance criteria provides the NRC with reasonable assurance that such operator manual actions can be accomplished to safely shut down the plant in the event of a fire. These criteria maintain safety by ensuring that licensees perform thorough evaluations of the required operator manual actions and preplan equipment needs. If the proposed rule were to be promulgated, NRC fire protection inspectors would verify that licensees' documented operator manual actions meet the NRC acceptance criteria through the existing reactor oversight process.

The NRC agrees that the proposed rule would have provided licensees with a fourth option without submitting an exemption request under 10 CFR 50.12, provided that the licensee met all of the proposed rule requirements, including the acceptance criteria. This is consistent with paragraphs III.G.2(a), III.G.2(b), or III.G.2(c) which do not require the licensee to submit an exemption request if that licensee complies with one of the options. The NRC's position is

based on the conclusion that a licensee who met the requirements of the proposed rule would have provided reasonable assurance that such operator manual actions can be accomplished to safely shut down the plant in the event of a fire.

Abandons Enforcement Action

COMMENT: The commenter contends that the proposed rule abandons NRC enforcement actions regarding orders that were issued to address Thermo-Lag fire barriers and that licensees credited unapproved operator manual actions.

RESPONSE: In 1998, the NRC issued a Confirmatory Order Modifying License (Order) to licensees who were not making adequate progress towards correcting issues identified with Thermo-Lag 330-1 fire barriers. Each Order was effective immediately upon issuance and became part of the operating license for each plant involved. These Orders remain in effect unless the Director, Office of Nuclear Reactor Regulation, relaxes or rescinds, in writing, any provisions of an Order upon a showing by the licensee of good cause. Between 1998 and 2001, the NRC received letters from licensees, to whom the agency had issued Orders, indicating completion of the ordered Thermo-Lag corrective actions. To date, none of the Orders issued for Thermo-Lag fire barriers have been relaxed or rescinded. Therefore, each Order continues to remain in effect and to be part of the operating license after withdrawal of the Operator Manual Actions Rulemaking.

The NRC continues to conduct inspections of licensees' fire protection programs under the reactor oversight process. Any noncompliances with the regulations and license conditions (including Orders) identified during the reactor oversight process will be processed in

accordance with NRC policies and guidelines in effect at the time. For example, the NRC staff issued the proposed rule for public comment in March 2005, including enforcement discretion, in accordance with enforcement guidance memorandum (EGM) 98-02, "Enforcement Guidance Memorandum—Disposition of Violations Of Appendix R, Sections III.G and III.L Regarding Circuit Failures," issued March 1998, and IP 71111.05T, while the staff proceeded through final rulemaking efforts. The enforcement discretion allowed the NRC to grant discretion for violations associated with unapproved uses of operator manual actions, provided that the conditions of EGM 98-02 are met and that the operator manual actions, used as a compensatory measure, were feasible in accordance with the criteria of IP 71111.05T. Following withdrawal of the rulemaking, the NRC plans to announce a withdrawal date for the enforcement discretion guidance in EGM 98-02 after which date enforcement discretion will no longer be available under that EGM.

Security Interface

COMMENT: One commenter stated that the proposed rule did not adequately consider both the significance and impact of operator manual actions over passive fire protection features in response and recovery from securitv-event-related fires. The commenter claimed that the NRC and industry did not adequately evaluate the significance and impact of codifying operator manual actions.

RESPONSE: The NRC plans to address the security safety interface on a more global basis, rather than address the issue on a rule-by-rule basis. The NRC plans to make revisions to 10 CFR Part 73, "Physical Protection of Plants and Materials," that will address the security

safety interface.

Request for Comments

The NRC specifically requested comments on time margin and time margin factor, automatic versus fixed fire suppression system, and the applicability of the operator manual action acceptance criteria to paragraphs III.G.1 and III.G.3.

Request for Comment 1, Time Margin

Those commenters that responded to this request objected to the time margin and are opposed to requiring any type of time margin factor. The commenters objections were basically the same as those made to the rule language and draft regulatory guide. The NRC responded to the time margin comments under the section entitled, “Time Margin Criterion,” in this enclosure.

Request for Comment 2, Automatic versus Fixed Fire Suppression

Those commenters that responded to this request objected to the requirement for fire suppression in general. The commenters’ objections were basically the same as those made to the rule language. One individual commenter stated that, although he does not agree that suppression is required, the automatic suppression requirement would be more consistent with paragraph III.G.2. The NRC responded to the fire suppression requirement comments under the section entitled, “Requirement for Fire Detectors and Automatic Fire Suppression,” in this enclosure.

Request for Comment 3, Applicability of Acceptance Criteria

With the exception of two commenters, those that responded to this request objected to applying the acceptance criteria to paragraphs III.G.1 and III.G.3. If the acceptance criteria were applied to paragraphs III.G.1 and III.G.3, commenters stated that it would result in compliance issues, plant redesigns, and modifications. The comments basically supported the NRC's original position (as stated in the proposed rule *Federal Register* notice) that the proposed rule acceptance criteria should apply only to a proposed rule paragraph III.G.2(c-1).

Public Meeting September 30, 2005

On September 30, 2005, the NRC held a Category 2 public meeting at NRC Headquarters in Rockville, Maryland, to discuss planned closure of the Operator Manual Actions Rule. During this meeting, the NRC also received public comments on this closure plan from industry, NEI, the Nuclear Information and Resource Service (NIRS), and an industry consultant. The NRC subsequently received separate emails from the Union of Concerned Scientists and NIRS who agreed with the NRC recommendation to withdraw the proposed rule.

COMMENT: The NIRS expressed concern that the NRC had apparently "abandoned" Orders issued to address Thermo-Lag fire barriers.

RESPONSE: See the NRC response in the section entitled, "Abandons Enforcement Action," in this enclosure.

COMMENT: The NIRS stated that the NRC loses credibility with the public with open-ended enforcement discretion.

RESPONSE: The NRC policies for enforcement discretion are approved by the Commission. Policies are revised with Commission approval when conditions change, circumstances warrant, or when, in the opinion of the NRC, enforcement is no longer necessary. The enforcement discretion available under EGM 98-02 will no longer be available following a date announced in a future regulatory issue summary.

COMMENT: The NIRS also stated that it is not opposed to operator manual actions as long as they are an addition to defense-in-depth and not a substitute for it.

RESPONSE: See the NRC response in the section entitled, “Proposed Rule Does Not Provide Acceptable Equivalent Level of Protection,” in this enclosure.

COMMENT: The NEI expressed disappointment in the NRC approach to recommending rule withdrawal and continues to maintain that, absent a new rule, the NRC position that an exemption is required to use an operator manual action in Appendix R, paragraph III.G.2, is a backfit.

RESPONSE: See the NRC response in the section entitled, “Backfit Claim,” in this enclosure.

COMMENT: One industry commenter expressed a desire to be able to make comments to any internal staff guidance that may be developed by the NRC for staff use in reviewing licensing actions.

RESPONSE: The NRC will continue to follow internal procedures and policies in the development of internal staff guidance. Stakeholder input will be solicited when appropriate in accordance with NRC procedures and policies.

REGULATORY GUIDE COMMENTS

Industry, the NEI, industry consultants and an individual provided comments to DG-1136. The NRC has summarized these comments below. The NRC does not plan to finalize DG-1136 because the proposed rule has been withdrawn. However, the NRC will consider the comments to DG-1136 during our planned development of a new NUREG that will provide guidance on acceptable post-fire operator manual actions. The NRC plans to reference the new NUREG in an update to SRP Section 9.5.1, "Fire Protection Program," of NUREG-0800 to address post-fire operator manual actions acceptance guidance that will be used to enhance the NRC regulatory review process during the evaluation of future licensing actions, such as exemption requests.

Equipment and Accessibility Criteria

COMMENT: There were a few comments related to clarifying what equipment had to be functional and the degree of accessibility intended. In particular, there were comments related to the following items:

- Whether fire detection and suppression equipment had to be protected

- Whether manual valves now have to be addressed as to their functionality following a fire

- The degree to which portable equipment and communication equipment had to be controlled, protected, and accessible

Use of References

COMMENT: There were a few comments citing concerns about inappropriate references being used to justify certain acceptance criteria, as well as a concern that quoting from NUREG-0800 and American National Standards Institute/American Nuclear Society (ANSI/ANS)-58.8-1994 was also inappropriate.

Time Margin Criterion Guidance

COMMENT: There were many comments concerning the time margin. In particular, the argument that, given the conservative nature of most of the analyses used to support Appendix R evaluations, an additional time margin, as proposed in DG-1136, was unnecessary. Commenters noted that the time margin, as proposed, was redundant to the margin already existing in current analyses and, hence, it added more time penalty to the manual actions. In addition, it did not account for other defense-in-depth features already available in typical fire protection programs and would require significant and costly rework of existing analyses in order to reallocate the existing analysis margin without any safety benefit. Comments were also made that using a one-size-fits-all doubling of the manual action diagnosis and implementation time, or using any other specific multiplicative or additive factors, did not recognize the variability of the risk significance of some manual actions. Further, a couple of

comments suggested that ensuring that the manual actions had to be reliable (as opposed to feasible) went beyond current requirements for other actions, such as those related to using the emergency operating procedures.

Variables (Uncertainties)

COMMENT: Related to the time margin comments, a few comments cited concerns with regard to the variables (uncertainties) to be taken into account to ensure reliable performance of the manual actions. These comments stated that many of the variables (uncertainties) are already considered in the licensee's evaluation by such practices as assuming the worst case fire, specifically accounting for the uncertainty when meeting another acceptance criterion, or by meeting a specific requirement that is already specified elsewhere, such as sufficient lighting. There were no suggestions made by the public that the variables were inappropriate; however, some stated that many of the variables are addressed elsewhere in the analyses or tactics used by licensees.

Clarification of Terms

COMMENT: Comments were provided involving the clarification of a number of terms or phrases used in DG-1136, such as "dedicated" personnel and "prompt actions," as well as undefined terms, such as "excessive," "unduly," "reasonable calculations," "serious equipment damage," separation requirements related to fire areas, "manual actions," and the purpose of "preventive actions."

Miscellaneous Guidance

COMMENT: A few comments related to the fact that the recommended inclusion of specified guidance items in the procedures was not necessary and that some guidance items are pertinent to the fire brigade, but not the operations staff responsible for achieving and maintaining hot shutdown and, therefore, should not be included in DG-1136. In particular, comments suggested the following:

- Cautions about potentially hazardous conditions could be in prefire plans.

- Routes to and from locations where manual actions will be taken do not need to be in procedures.

- Some procedural or training guidance was applicable to fire brigades but not operations staff and need not to be part of this guidance document.

Analysis Criterion Guidance

COMMENT: A few comments related to the need to provide more criteria, or even prescriptive guidance, as to the acceptability of the analysis performed to determine whether the manual actions can be performed within the time available. For instance, there were questions with regard to the initial conditions to be assumed for the thermal hydraulic plant response, acceptable end states, how spurious operations should be treated, and the unnecessary fire modeling implied by the analysis criterion.

DRAFT RIS 2006-XX
For Information Only

U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
WASHINGTON, D.C. 20555-0001

NRC REGULATORY ISSUE SUMMARY 2006-XX REGULATORY EXPECTATIONS WITH APPENDIX R PARAGRAPH III.G.2 OPERATOR MANUAL ACTIONS

ADDRESSEES

All holders of operating licenses for nuclear power reactors, except those who have permanently ceased operations and have certified that fuel has been permanently removed from the reactor vessel.

INTENT

The U.S. Nuclear Regulatory Commission (NRC) is issuing this regulatory issue summary (RIS) to reiterate the staff's compliance expectations with respect to the use of operator manual actions under paragraph III.G.2 of Appendix R, "Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979," to Title 10, Part 50, "Domestic Licensing of Production and Utilization Facilities," discuss means to achieve compliance with paragraph III.G.2, respond to industry's contentions regarding backfit of operator manual actions under paragraph III.G.2, advise licensees of the date the staff is terminating the guidance in Enforcement Guide Memorandum (EGM) 98-02, "Enforcement Guidance Memorandum—Disposition of Violations of Appendix R, Sections III.G and III.L Regarding Circuit Failures," issued March 1998, and discuss exemption requests, compensatory measures and corrective actions as they pertain to operator manual actions. EGM 98-02 was later revised on February 2, 2000, (ADAMS Accession No. ML003710123) and then incorporated into the NRC Enforcement Manual in section 8.1.7.1. No action or written response is required.

BACKGROUND INFORMATION

In 2000, the NRC started the Reactor Oversight Process that included systematic inspections of safe-shutdown capability for every licensee. During these inspections, fire protection inspectors began to notice that many licensees had not upgraded or replaced Thermo-Lag 330-1 fire

barrier material[1], or had not otherwise provided the required separation distance between redundant safe shutdown trains, used to satisfy the requirements in paragraph III.G.2 of Appendix R to 10 CFR Part 50. Some licensees compensated by relying on operator manual actions which were not reviewed and approved by the NRC through 10 CFR 50.12 exemption process. Other licensees misinterpreted paragraph III.G.1 to use operator manual actions for situations where redundant safe shutdown trains are in the same fire area.

The inspectors found that some licensees relied upon operator manual actions as a permanent solution to the Thermo-Lag 330-1 fire barrier resolution issue, instead of the options provided in the regulations, without seeking prior staff approval. Some licensees claimed that paragraph III.G.1 allowed the use of operator manual actions when redundant trains are in the same fire area and others claimed that operator manual actions are allowed in paragraph III.G.2 because paragraph III.G.2 does not specifically disallow their use.

On November 14, 2001, the staff conducted training on this issue with the regional inspectors. The Nuclear Energy Institute (NEI) requested a copy of the lesson plan by letter dated November 29, 2001 (ADAMS Accession No. ML0133703020). Consequently, on January 11, 2002, NEI sent a letter to the NRC claiming that the lesson plan was guidance which constituted a backfit (ADAMS Accession No. ML020300069). The staff responded to NEI in a letter on May 16, 2002 (ADAMS Accession No. ML021410026). As a result of the backfit claim by NEI, the Office of the General Counsel reviewed the staff response to NEI and had no legal objection to the staff position. The Committee To Review Generic Requirements (CRGR) also reviewed the letter and concluded that the staff response did not contain new staff positions (ADAMS Accession No. ML021750218). After reviewing the staff response, industry told the staff that a large number of exemptions would have to be submitted to comply with existing regulations.

In 2003, the Commission determined that amending Appendix R to 10 CFR Part 50 would be the most effective and efficient way to provide an option for licensees to utilize acceptable operator manual actions in lieu of the separation or barrier requirements in paragraph III.G.2 of Appendix R. On March 7, 2005, the NRC published the proposed rule in the *Federal Register* (70 FR 10901) that would have revised paragraph III.G.2 of Appendix R to 10 CFR Part 50 to allow licensees to implement acceptable operator manual actions after documenting that they met the regulatory acceptance criteria. Subsequent to the *Federal Register* publication, the staff received public comments concerning the proposed rule. Most public stakeholders opposed the proposed rule. Industry stakeholders indicated that a large number of exemption requests would be expected with the proposed rule. Based on stakeholder comments, it became apparent to the staff that the proposed rule would not achieve its desired objective of effectiveness and efficiency by reducing the number of exemption requests and licensee resources expended.

[1] During the 1980s, many licensees used Thermo-Lag 330-1 as a fire barrier material to satisfy the requirements of Appendix R, paragraph III.G. In December 1992, the staff issued Generic Letter (GL) 92-08, "Thermo-Lag 330-1 Fire Barriers," that discussed issues with the Thermo-Lag 330-1 fire barrier material.

SUMMARY OF THE ISSUE

On **[insert 2006 FRN date]**, the NRC published a notification in the *Federal Register* (**xx FR xxxxx**) withdrawing the proposed rule that would have revised paragraph III.G.2 of Appendix R to 10 CFR Part 50 to allow the use of operator manual actions. Licensees are expected to ensure that their facility is in compliance with their licensing basis and with regulatory requirements.

Compliance Expectations - Regulations

Paragraph III.G.2 of Appendix R requires that, where cables or equipment, including associated nonsafety circuits that could prevent operation or cause maloperation as a result of hot shorts, open circuits, or shorts to ground, of redundant trains of systems necessary to achieve and maintain hot-shutdown conditions are located within the same fire area outside of primary containment, one of the following means of ensuring that one of the redundant trains is free of fire damage shall be provided:

(a) separation of cables and equipment by a fire barrier having a 3-hour rating

(b) separation of cables and equipment by a horizontal distance of more than 20 feet with no intervening combustibles or fire hazards and with fire detectors and an automatic fire suppression system in the fire area

(c) enclosure of cables and equipment in a fire barrier having a 1-hour rating and with fire detectors and an automatic fire suppression system in the fire area

Paragraph III.G.2 of Appendix R requires one of three means of ensuring that one of the redundant trains in the same fire area is free of fire damage.

Consequently, unless alternative or dedicated shutdown capability is provided or an exemption from Paragraph III.G is granted, circuits which could cause maloperation or prevent operation of redundant trains for post-fire safe shutdown, and are located in the same fire area, must be protected in accordance with paragraph III.G.2 without the use of operator manual actions. When redundant safe shutdown trains are in the same fire area and a fire could cause maloperation or prevent operation of these trains, paragraph III.G.2 requires protection to ensure that a train is free of fire damage. In many cases, recent inspections have found that a manual action was credited to ensure a train is free of fire damage when redundant trains were in the same fire area. The manual action was taken in a different fire area because fire damage could have caused maloperation or prevented operation of the redundant train. The Statements of Consideration for Appendix R, issued on November 19, 1980 (45 FR 76602), state, “Because it is not possible to predict the specific conditions under which fires may occur and propagate, the design basis protective features are specified rather than the design basis fire. Three different means for protecting the safe shutdown capability outside of containment are acceptable.” An operator manual action to compensate for a circuit that is not free of fire damage is not one of the specified means allowed by paragraph III.G.2.

Since 2002, the NRC has reiterated its position in correspondence (e.g., see letter to NEI dated May 16, 2002, ADAMS Accession No. ML021410026), public meetings, proposed operator manual actions rulemaking documents, and generic communications, such as RIS 2005-30, "Clarification of Post-Fire Safe-Shutdown Circuit Regulatory Requirements," dated December 20, 2005, (ADAMS Accession No. ML053360069) and draft Generic Letter 2006-xx, "Post-Fire Safe-Shutdown Circuit Analysis Spurious Actuations."

Licensees are referred to RIS 2005-30 for a discussion on paragraph III.G.1 requirements and the term, "emergency control station." RIS 2005-30 makes clear that licensees may not credit an operator manual action at an emergency control station as protection of redundant safe shutdown trains, when the redundant safe shutdown trains are in the same fire area.

In summary, under the current Appendix R regulations, operator manual actions may not be credited to claim that a paragraph III.G.2 fire area (i.e., redundant trains are located in the same fire area) provides paragraph III.G.1 protection. When redundant trains are located in the same fire area and an alternative or dedicated shutdown capability, in accordance with paragraph III.G.3, is not provided, the protection required by paragraph III.G.2, including fire detectors and automatic fire suppression (where noted), must be provided.

Compliance Expectations - Confirmatory Order Modifying License

In 1998, the NRC issued a Confirmatory Order Modifying License (Order) to licensees who were not making adequate progress towards correcting issues identified with Thermo-Lag 330-1 fire barriers. Each Order was effective immediately upon issuance and became part of the operating license for each plant involved. These Orders remain in effect unless the Director,
Office of Nuclear Reactor Regulation, relaxes or rescinds, in writing, any provisions of an Order upon a showing by the licensee of good cause. Between 1998 and 2001, the NRC received letters from licensees, to whom the agency had issued Orders, indicating completion of the ordered Thermo-Lag corrective actions. To date, none of the Orders issued for Thermo-Lag fire barriers have been relaxed or rescinded. Therefore, each Order continues to remain in effect and modify the operating license.

Achieving Compliance

In lieu of complying with the requirements of paragraph III.G.2, licensees have other options available to achieve compliance with the regulations.

Achieving Compliance - Paragraph III.G.3

Paragraph III.G.2 also states the following:

> Except as provided for in paragraph G.3 of this section, where cables or equipment, including associated non-safety circuits that could prevent operation or cause maloperation due to hot shorts, open circuits, or shorts to ground, of redundant trains of systems necessary to achieve and maintain hot shutdown

> conditions are located within the same fire area outside of primary containment, one of the following means of ensuring that one of the redundant trains is free of fire damage shall be provided.

Therefore, the licensee may use the alternative shutdown method described in paragraph III.G.3 of Appendix R if the licensee cannot meet the requirements of paragraph III.G.2.

Achieving Compliance - 10 CFR 50.48(c)

Licensees may opt to adopt the performance-based option in 10 CFR 50.48(c). As discussed below, some licensees may pursue an exemption to the regulation or an amendment to their license. However, the staff notes that in Staff Requirements Memorandum, "Staff Requirements—SECY-04-0233—Proposed Rulemaking—Post-Fire Operator Manual Actions (RIN-3150-AH-54)," dated January 18, 2005, the Commission emphasized that, although the exemption process is available for cases that can be justified under 10 CFR 50.12, the performance-based option in 10 CFR 50.48(c) is the preferred option to compliance and would be more desirable in minimizing the need for future exemption requests for addressing operator manual actions. Therefore, of the several means available to licensees for achieving compliance, the exemption option is one that the Commission considers as the least preferred.

Achieving Compliance - Exemptions from Paragraph III.G.2

The regulations at 10 CFR 50.48(b) backfit the requirements of paragraph III.G.2 of Appendix R to plants licensed to operate prior to January 1, 1979. Similar guidance was incorporated into Section 9.5-1 of NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," for plants licensed after January 1, 1979. Post-1979 licensees incorporated their fire protection program implementation requirements into their operating license as a license condition. As originally issued, 10 CFR 50.48, "Fire Protection," allowed licensees to make a request for exemption from a requirement to comply with one or more of the provisions of Appendix R, if such exemption were based on an assertion by the licensee that such required modifications would not enhance fire protection safety in the facility or that such modifications might be detrimental to overall facility safety. This statement provided in the original rule defines the meaning of "underlying purpose of the rule," as specified in 10 CFR 50.12(a)2.ii below. The current basis for the staff considering an exemption is provided in 10 CFR 50.12, "Specific Exemptions."

Section 50.12(a) of Title 10 of the *Code of Federal Regulations* states the following:

> The Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of the regulations of this part, which are—
>
> (1) Authorized by law, will not present an undue risk to the public health and safety, and are consistent with the common defense and security.

(2) The Commission will not consider granting an exemption unless special circumstances are present. Special circumstances are present whenever—

(i) Application of the regulation in the particular circumstances conflicts with other rules or requirements of the Commission; or

(ii) Application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule; or

(iii) Compliance would result in undue hardship or other costs that are significantly in excess of those contemplated when the regulation was adopted, or that are significantly in excess of those incurred by others similarly situated...

The staff notes that substituting an operator manual action for a required rated fire barrier does not appear to meet the requirements of paragraphs (i) and (iii) of the above exemption criteria. To meet the criteria of paragraph (iii), a licensee would need to demonstrate that application of the rule would not serve the underlying purpose of the rule or is not needed for that purpose. Since the rule did not include manual actions as an option, and after a review of many of the manual actions identified during recent inspections, the staff anticipates that relatively few exemption requests from pre-1979 licensees will meet the requirements of paragraph (a)2.ii of 10 CFR 50.12.

With respect to existing, approved exemptions, the NRC has reviewed and granted exemption requests for the use of operator manual actions in lieu of the separation criteria of paragraph III.G.2. These exemptions are specific to the licensee and the situation discussed in the exemption. Although the rationale underlying an exemption request to a specific licensee may appear to be applicable to a similar situation for a second licensee, the staff cautions that NRC review and approval by issuance of an exemption is necessary to achieve the second licensee.

Some licensees questioned whether existing exemptions would have to be resubmitted as a result of the NRC position that an operator manual action is not an acceptable means for satisfying the requirements of paragraph III.G.2. A licensee with an approved exemption would not be required to resubmit its plant-specific exemption request, provided that the exemption remains unchanged.

Achieving Compliance - Plants Licensed to Operate on or After January 1, 1979

Plants licensed to operate on or after January 1, 1979, (post-1979 licensees) who use operator manual actions without NRC approval may or may not be in compliance with applicable fire protection requirements. Compliance depends on the specific licensing commitments (usually specified in license conditions for these licensees), the change control process, and how the change was justified and analyzed to demonstrate that the operator manual actions are feasible and reliable and thus do not adversely affect the ability to achieve or maintain safe shutdown. However, post-1979 licensees who do not seek prior NRC approval do so at their own risk and

may be requested to demonstrate, during the conduct of the NRC reactor oversight process, that the use of an operator manual action would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

Achieving Compliance - Compensatory Measures and Corrective Actions

Compensatory measures for missing or degraded fire barriers should be implemented, as required, in accordance with the licensees' approved fire protection program. Licensees are also referred to RIS 2005-07, "Compensatory Measures to Satisfy the Fire Protection Program Requirements," dated April 19, 2005. Licensees should also report, as appropriate, missing or degraded fire barriers in accordance with the requirements of 10 CFR 50.72(b)(3)(ii) and 10 CFR 50.73(a)(2)(ii).

Licensees should document missing or degraded fire barriers in accordance with their corrective action program. Corrective actions for missing or degraded fire barriers should be completed within the guidance provided by RIS 2005-20, "Revision to Guidance Formerly Contained in NRC Generic Letter 91-18, Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability," and its attachment. The staff has noted that licensees have been aware that a manual action used in lieu of a fire barrier is a violation of licensing requirements since at least the time of the public meeting in June 2002. The staff has also noted that some manual actions were added by licensees who did not address the Thermo-Lag 330 issue in accordance with their correspondence with the staff concerning Thermo-Lag resolution. The staff therefore considers that these long-term noncompliance issues should be rapidly resolved in accordance with the guidance above.

Since many operator manual actions may be affected by the resolution of the circuits analysis issue, licensees should review recent NRC generic communications to ensure that any corrective actions taken for manual actions meet licensing requirements.

Enforcement Guidance Memorandum EGM 98-02

Enforcement discretion guidance, as applicable, is currently contained in Enforcement Guidance Memorandum (EGM) 98-02, "Enforcement Guidance Memorandum—Disposition of Violations of Appendix R, Sections III.G and III.L Regarding Circuit Failures" for cases where licensees take prompt compensatory actions and corrective actions. This guidance has been incorporated into section 8.1.7.1 of the Enforcement Manual.

Licensees with existing unapproved operator manual actions that met the requirements of the proposed rule would not have taken corrective actions, expecting the approved final rule to bring them into compliance. The withdrawal of the operator manual actions rulemaking would require some licensees to take corrective actions other than what a final rule would have allowed.

This RIS notifies licensees that the NRC will terminate the enforcement discretion guidance in EGM 98-02 effective **[insert date 6 months from the date of the FRN withdrawing the rulemaking]**. This will eliminate the enforcement discretion guidance under EGM 98-02 for any

issues related to circuits or operator manual actions. The six-month period is intended to provide a reasonable amount of time for those licensees that have implemented feasible and reliable operator manual actions as compensatory measures to take corrective actions.

BACKFIT DISCUSSION

This RIS requires no action or written response and is, therefore, not a backfit under 10 CFR 50.109, "Backfitting." Consequently, the NRC staff did not perform a backfit analysis.

***FEDERAL REGISTER* NOTIFICATION**

A notice of opportunity for public comment was not published in the *Federal Register* because this RIS is informational.

SMALL BUSINESS REGULATORY ENFORCEMENT FAIRNESS ACT OF 1996

The NRC has determined that this action is not subject to the Small Business Regulatory Enforcement Fairness Act of 1996.

PAPERWORK REDUCTION ACT STATEMENT

This RIS does not contain information collections and, therefore, is not subject to the requirements of the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.).

CONTACT

Please direct any questions about this matter to the technical contact listed below or to the appropriate NRR project manager.

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Enclosure:
List of Recently Issued NRC Regulatory Issue Summaries

Note: NRC generic communications may be found on the NRC public Web site, http://www.nrc.gov, under Electronic Reading Room/Document Collections.

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