

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/

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Enclosures:

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

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 3. Draft Regulatory Issue Summary
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*via memo

**via email

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