

POLICY ISSUE
(INFORMATION)

October 19, 2011

SECY-11-0146

FOR: The Commissioners

FROM: James T. Wiggins, Director
Office of Nuclear Security and Incident Response

SUBJECT: ANNUAL UPDATE ON THE STATUS OF EMERGENCY
PREPAREDNESS ACTIVITIES

PURPOSE:

To provide the Commission with an update on the U.S. Nuclear Regulatory Commission's (NRC's) Emergency Preparedness (EP) program activities.

SUMMARY:

This paper summarizes the agency's EP-related accomplishments over the past year and provides the status of various improvement initiatives in the EP program. It also includes a self-assessment of the NRC's EP program, beyond that conducted as part of the Reactor Oversight Process self-assessment of the EP cornerstone. Further, the paper discusses the staff's development of risk-informed, performance-based EP regulations; revisions to NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Plants" (hereinafter called NUREG-0654)," and its Supplement 3, "Guidance for Protective Action Recommendations for General Emergencies" (hereinafter called Supplement 3); and revisions to the EP regulations. Finally, this paper describes a planned alternative for future Commission updates on EP-related activities.

CONTACT: Kirk Foggie, NSIR/DPR
(301) 415-223

BACKGROUND:

In the May 4, 2005, Staff Requirements Memorandum (SRM) on SECY-05-0010, "Recommended Enhancements of Emergency Preparedness and Response at Nuclear Power Plants in Post-9/11 Environment," the Commission directed the staff to provide a semiannual report on important EP activities. In SECY-07-0182, "Semi-Annual Update on the Status of Emergency Preparedness Activities," dated October 19, 2007, the staff asked the Commission to approve a change in the frequency of this report from semiannual to annual. In the SRM to SECY-07-0182, dated December 21, 2007, the Commission approved the request, adding the following:

The annual paper should become more of a self-assessment and communication tool, perhaps summarizing accomplishments and providing a status on improvement initiatives within our EP programs. Such an assessment should be coordinated with and not overlap the Reactor Oversight Process self-assessment of the EP cornerstone, and should be designed to aid the staff in effecting continuous and coordinated improvements to the overall EP program, as well as to inform the Commission and public of progress.

DISCUSSION:**Status of Key Activities*****Risk-Informed, Performance-Based EP Regulations***

In SRM COMDEK-08-0005, "FY2010 NRC Performance Budget Proposal," the Commission provided direction to support the development of a performance-based approach to EP. The SRM directed the staff to work with local communities and the Department of Homeland Security to begin the next major EP enhancement of working to quantify the protection that EP plans and procedures should result in and codify them in regulations that are transparent, objective, and measurable. The staff continues to develop a technical basis for a more risk-informed and performance-based EP regulatory regimen. The staff intends to prepare a SECY paper in calendar year (CY) 2012 that will discuss a proposed regulatory structure, options, and estimated resources for rulemaking. The objectives, schedules, and updates to the three projects/initiatives within the risk-informed, performance-based regimen identified in SECY-10-0139, "Annual Update on the Status of Emergency Preparedness," dated October 26, 2010, are discussed below:

- Risk Informing—Regulatory Oversight of EP: In 2010, the staff initiated a study to identify a spectrum of representative accident scenarios that can be used to quantify the protection provided by nuclear plant EP activities. The study results are expected to form the technical basis to develop a risk-informed regulatory oversight approach to EP. Currently, the staff is analyzing information gathered from the State-of-the-Art Reactor Consequence Analyses to inform the study. The staff anticipates publishing the study in CY 2013.
- Risk Informing—Emergency Action Levels (EALs): This project, begun in 2010, is a cooperative effort between the Office of Nuclear Security and Incident Response (NSIR) and the Office of Nuclear Regulatory Research using the standardized plant analysis risk

models to examine EALs for consistency. Currently, the analysis focuses on reactor system malfunction EALs. Initial results from the analysis of a pressurized-water reactor and a boiling-water reactor EAL data set have provided several insights that the staff will use to review the latest EAL scheme proposed by industry. The staff expects to continue analyzing additional plant types (e.g., small modular reactors) and to develop techniques to analyze fission product barrier EALs. The staff expects to publish the study as the first volume of a NUREG in CY 2012.

- Risk Informing-Performance-Based Offsite Response Evaluation: This initiative, to be conducted jointly with the Federal Emergency Management Agency (FEMA), seeks to identify performance-based methods for offsite EP evaluation, including giving evaluation credit for licensee responses to real events. The staff continues to coordinate with FEMA on the final scope of work for this project. The staff expects the study, which will run through Fiscal Year (FY) 2013, to enhance offsite oversight efforts.

Revision to NUREG-0654

In SECY-06-0200, "Results of the Review of Emergency Preparedness Regulations and Guidance," dated September 20, 2006, the staff identified high, medium, and low-priority EP rule change initiatives. The current EP rulemaking effort only addresses the high-priority initiatives (discussed below). The Commission directed the staff to explain how it would disposition the initiatives that were not high priority (W200900090).

The staff intends to disposition the medium- and low-priority EP rulemaking issues through the revision to NUREG-0654. The NRC and FEMA established a joint working group that is currently developing the project scope, milestones, and schedules for the revision. The staff projects that revising NUREG-0654 will take 3–5 years to complete, starting in FY 2012.

Revision to Supplement 3

The staff, in coordination with FEMA, began a revision to Supplement 3 to enhance the guidance for the development of protective actions by licensees and offsite response organizations (OROs). More than 300 comments were adjudicated on a draft of the document published for comment in early 2011. The staff intends to publish the revised Supplement 3 guidance in FY 2012, concurrent with the EP final rule.

EP Rulemaking

In SECY-10-0139, the staff committed to submitting a final EP rule package to the Commission by FY 2011. In 2010, the NRC and FEMA staff completed the comment resolution process on the proposed EP rule and associated draft guidance, considering comments from State and local officials and other interested stakeholders. The staff submitted the revised EP rule and guidance documents to the Advisory Committee on Reactor Safeguards (ACRS) for a briefing of the ACRS Plant Operations and Fire Protection Subcommittee on November 1, 2010, and a briefing of the ACRS full committee on January 14, 2011. The staff responded to ACRS comments after the formal ACRS full committee briefing.

In SECY-11-0032, "Consideration of the Cumulative Effects of Regulation in the Rulemaking Process," dated March 2, 2011, the staff provided to the Commission recommendations for

addressing the cumulative effects of regulation on licensees in response to SRM M091208, "Briefing on the Proposed Rule: Enhancements to Emergency Preparedness Regulations." The EP rulemaking process is closely aligned with how the staff believes the cumulative effects of regulation should be assessed and mitigated. In addition, in early 2011, the NRC and FEMA staff held two public meetings to receive feedback on the design and scheduling of a series of implementation forums to be held after publication of the final rule.

On April 8, 2011, the staff submitted the EP final rule package to the Commission and published it in the *Federal Register*. On May 3, 2011, a Commission meeting took place with stakeholders on several EP topics, including the status of the ongoing EP rulemaking effort (W200700060). The staff plans to publish the final rule in the *Federal Register* in CY 2011. In addition, the staff, in conjunction with FEMA, intends to conduct several regional forums shortly after the final rule's publication in the *Federal Register* to address final rule implementation and guidance for licensees and OROs. The staff also intends to conduct training for NRC inspectors and other staff on the new EP requirements and the associated changes to EP inspection program activities.

On October 4, 2011, FEMA issued the final versions of the Radiological Emergency Preparedness (REP) Program Manual and NUREG-0654 Supplement 4: Criteria for National Preparedness Initiative Integration, Exercise Enhancement, and Backup Alert and Notification Systems on its FEMA REP Program website. These documents will serve to provide State and local governments methods for verifying offsite capabilities. These versions dated October 2011, represent the final authoritative sources, however, they are not considered active until the effective date of the final EP rule. The Commission was provided copies of the revised FEMA REP Program Manual and NUREG-0654 Supplement 4 (W200900088 and W200900089).

EP Self-Assessment

The self-assessment evaluated the production and efficiency of the NRC's EP program in the following areas: maintaining an effective and open licensing program, engaging the regional offices, and informing and engaging stakeholders and the NRC staff. The criteria used to assess the program were selected to correlate directly with the NRC's Strategic Plan.

Maintaining an Effective and Open EP Licensing Program

The staff demonstrated the ability to maintain an effective EP licensing program by completing, in accordance with the agreed upon schedules the review of 27 EP-related actions in FY 2011. Although schedules were met, in the new reactor licensing area, the review schedules were challenged in part because of the timing of applicant responses to requests for additional information (RAIs). In the operating reactor area, the need to update the license amendment process and the timeliness of individual licensee responses to the staff's RAI's challenged the established schedules. The development of a revised safety evaluation template also challenged the schedules.

In April 2011, the staff revised Regulatory Guide 3.67, "Standard Format and Content for Emergency Plans for Fuel Cycle and Materials Facilities," and issued a revision to Regulatory Issue Summary (RIS)-2005-02, "Clarifying the Process for Making Emergency Plan Changes." The RIS provided needed clarification on the process for evaluating proposed changes to emergency plans under Title 10 of the *Code of Federal Regulations* (10 CFR) 50.54(q).

The staff engaged the agency's Social Media Working Group to assist in maintaining an open and transparent regulatory program. This included the timely review and update of the NRC's public EP web site and postings on the agency's external blog. The staff conducted multiple public meetings with the industry and other interested stakeholders on the formalization and expansion of the existing EP frequently asked question process, and the industry's request for NRC endorsement of several Nuclear Energy Institute (NEI) documents in support of implementation of the EP final rule.

The proactive engagement of external stakeholders continued with the publication of four EP newsletters. To enhance stakeholder involvement, the staff continued to employ web-based technology to allow remote participation in public meetings held on the implementation of the EP final rule.

Based on the staff's activities in this area, the EP program has been effective in achieving performance measures related to issuing and updating licensing guidance, transparency, and timeliness and quality milestones in support of other program offices.

Engaging in Program Maintenance and Improvement Efforts

In July 2011, the Office of Nuclear Security and Incident Response (NSIR) staff engaged NRC regional staff in EP program maintenance and improvement efforts by presenting current and future EP initiatives during the Regional State Liaison Officer counterpart meeting. The staff provided updates on the EP rulemaking, the revisions to Supplement 3 of NUREG-0654, and the initiative to risk-inform and performance-base EP regulations.

NSIR staff observed at least two biennial evaluated, EP exercises in each of the NRC Regions. This initiative which included a hostile action-based exercise provided regional staff with the opportunity to engage NSIR staff on recommended areas for improvement in EP oversight, and greatly served to greatly enhance the NSIR staff's knowledge of inspection activities.

In September 2011, the NSIR staff conducted a counterpart meeting with regional EP inspectors and FEMA staff. The meeting provided an opportunity for open discussions on inspection experiences and lessons learned, EP-related operating experience events, and significant inspection findings and related enforcement actions. This annual meeting was supplemented by monthly teleconferences between NSIR Division of Preparedness and Response staff members and their regional counterparts.

Based on the staff's activities and results in this area, the EP program has been effective in achieving performance measures applicable to program outputs as well as improvements consistent with the NRC Strategic Plan.

Engaging External Stakeholders

The staff continued to inform and involve external stakeholders in NRC processes by providing updates on significant EP activities and the agency's perspective on EP issues. In coordination with FEMA, the staff actively participated in the mid-year and annual National Emergency Management Association (NEMA), International Association of Emergency Managers, and National Radiological EP conferences, as well as the NEI EP Forum.

To further enhance government-to-government working-level discussions, the staff attended the NEMA Radiological EP Subcommittee and the Homeland Security Urban Area Security Initiative meetings, both of which FEMA uses to solicit input from State stakeholders on proposed changes to its Radiological EP Program. In addition, NSIR staff engaged congressional staff on EP-related issues at the U.S. House of Representatives Emergency Management Exposition. In September 2011, on the margins of an EP counterpart meeting, NSIR staff held a public meeting to provide NEI representatives with the opportunity to present an industry-developed white paper on a method to conduct on-shift staffing analyses to meet the requirements of the new EP rule.

Based on the staff activities in this area, the EP program has been effective in ensuring that stakeholders are informed and involved in NRC activities.

Effective Staff Involvement in EP Activities

The staff actively participated in International Atomic Energy Agency (IAEA) initiatives to enhance EP-related international documents on emergency management standards and risk-informed protective actions. Staff insights were well received, as shown by IAEA's inclusion of NRC comments and IAEA requests for continued NRC staff participation. Additionally, the staff reviewed (and is implementing) suggestions from the 2010 IAEA Integrated Regulatory Review Service assessment of the NRC.

The accident at the Fukushima Dai-ichi nuclear facility in Japan generated numerous media requests for FEMA After Action Reports (AARs) for nuclear power plants, most of which were not in a publicly accessible database. The staff proposed, and in coordination with FEMA subsequently developed, a publicly accessible FEMA AAR database. This database is now widely used by Federal agencies and the public.

Based on the results of staff activities in this area, NSIR has been effective in ensuring that staff views are incorporated into NRC EP improvement activities.

Japan Task Force

By direction of the Commission, the Office of the Executive Director for Operations (OEDO) established a senior-level task force to conduct a systematic review of NRC processes and regulations to determine whether the agency should make additional improvements to its regulatory system in response to the accident at the Fukushima Dai-ichi nuclear facility. In July 2011, the task force provided a comprehensive report to the Commission on its findings and recommendations which included several findings/recommendations specific to EP. In addition a team consisting of NRC senior management representatives and technical experts reviewed the task force recommendations and prioritized more recommendations that the team concluded could be implemented without delay. The staff continues to review both the task force report and results of the NRC senior management team review to assess potential implications on the EP program and next steps.

CONCLUSION:

The activities described in this paper are not of a sufficiently dynamic nature that annual updates are likely to provide substantially new information. Therefore, the staff intends to provide future updates on EP initiatives to the Commission through the use of Technical Assistant briefings. In addition, to keep the public informed, the staff intends to continue its extensive outreach on key EP activities and initiatives. This approach will enable more timely communication of significant EP initiatives. The staff will continue to use other effective reporting mechanisms (OEDO Daily Notes, periodic briefings, program reviews) to ensure that the Commission is currently and fully informed (W200500137).

RESOURCES:

No additional funds are required in FY 2012 and FY 2013 in support of identified activities.

COORDINATION:

The Office of the General Counsel reviewed this package and has no legal objection. The paper was coordinated with the Office of the Chief Financial Officer for resource implications.

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Office of Nuclear Security and Incident Response

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