

**RULEMAKING ISSUE
(Affirmation)**

April 8, 2011

SECY-11-0053

FOR: The Commissioners

FROM: R. W. Borchardt
Executive Director for Operations

SUBJECT: FINAL RULE: ENHANCEMENTS TO EMERGENCY PREPAREDNESS
REGULATIONS (10 CFR PART 50 AND 10 CFR PART 52)
(RIN-3150-AI10)

PURPOSE:

To obtain Commission approval to publish a final rule to amend certain emergency preparedness (EP) requirements in the regulations that govern the domestic licensing of production and utilization facilities.

SUMMARY:

The enclosed final rule, "Enhancements to Emergency Preparedness Regulations," codifies certain voluntary protective measures that appear in U.S. Nuclear Regulatory Commission (NRC) Bulletin 2005-02, "Emergency Preparedness and Response Actions for Security-Based Events," dated July 18, 2005, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML051740058), and generically applicable requirements similar to those previously imposed by Commission orders. In addition, the final rule amends other licensee emergency plan requirements based on a comprehensive review of the NRC's EP regulations and guidance. The requirements (1) enhance a licensee's ability to prepare and take certain EP actions and protective measures in the event of a radiological emergency; (2) address, in part, security-related EP issues identified after the terrorist events of September 11, 2001; (3) clarify regulations to effect consistent emergency plan implementation among licensees; and (4) modify certain EP requirements to be more effective and efficient. A detailed history of staff activities on this rulemaking effort is provided in Enclosure 1.

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DISCUSSION:

The amendments to the EP requirements will result in changes to the following existing sections and appendices in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," and Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants":

- 10 CFR 50.47, "Emergency Plans"
- 10 CFR 50.54, "Conditions of Licenses"
- 10 CFR Part 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities"
- 10 CFR 52.79, "Contents of Applications; Technical Information in Final Safety Analysis Report"

The final rule contains 12 amendments that will apply to 10 CFR Part 50 licensees that are currently subject to the EP requirements. The final rule similarly applies to certain applicants for construction permits under Part 50 with respect to their discussion of preliminary plans for coping with emergencies (§ 50.34(a)(10)), operating licenses under Part 50 (§ 50.34(b)(6)(v)), early site permits under Part 52 that choose to propose either major features of an, or a complete and integrated, emergency plan (§ 52.17(b)(2)), and combined licenses under Part 52 (§ 52.79(a)(21)).

EP Rulemaking Topics and Significant Changes from the Proposed Rule to the Final Rule

The amendments are summarized in the following 12 topics. The first six are security-related EP issues associated with NRC Order EA-02-026 or Bulletin 2005-02, five are non-security related issues resulting from the comprehensive review of EP regulations and guidance, and one involves administrative changes.

1. Amended Emergency Plan Change Process – The final rule ensures that (1) the effectiveness of the emergency plans will be maintained, (2) changes to the approved emergency plan will be properly evaluated, and (3) any change that reduces the effectiveness of the plan will be reviewed by the NRC prior to implementation.
2. Evacuation Time Estimate (ETE) Updating – The final rule amends the regulations to require licensees to review and update ETEs periodically. The staff changed the threshold for interim ETE updates in Section IV of Appendix E to 10 CFR Part 50 from a 10-percent population change in the proposed rule to a site-specific population increase that causes the longest ETE values to increase by 30 minutes or 25 percent, whichever is less from the licensee's currently NRC-approved or updated ETE. The staff made corresponding changes to NUREG/CR-7002, "Criteria for Development of Evacuation Time Estimates."
3. Licensee Coordination with Offsite Response Organizations (OROs) – The final rule amends the regulations to require licensees to identify and describe the assistance expected from ORO resources during an emergency, including hostile action. The

proposed rule contained language in Section IV.A.7 of Appendix E to 10 CFR Part 50 that would have required licensees to ensure that offsite resources are available to respond to their sites during an emergency, including hostile action. The staff removed the requirement for licensees to ensure that offsite resources are available to respond and added a requirement for licensees to identify and provide a description of the assistance expected from OROs during an emergency, including hostile action. The staff made corresponding changes to the interim staff guidance (ISG), NSIR/DPR-ISG-01, "Interim Staff Guidance: Emergency Planning for Nuclear Power Plants."

4. On-Shift Staffing Analysis – The final rule would require licensees to perform a staffing analysis of on-shift personnel assigned emergency response duties to ensure that these emergency responders do not become overburdened during an emergency event.
5. Emergency Action Levels (EALs) for Hostile Action – The final rule amends the regulations to require licensees to have EALs for events involving hostile action. The staff revised Section IV.B.2 of Appendix E in the proposed rule to require licensees to submit entire emergency action level scheme changes via a license amendment request.
6. Emergency Declaration Timeliness – The final rule amends the regulations to ensure that licensees have the capability to complete emergency declarations within 15 minutes in the event of a radiological emergency.
7. Alert and Notification System (ANS) Backup Means – The final rule amends the regulations to require that backup measures for the public ANS be available. The backup measures would be implemented if the primary means of alerting and notification were unavailable during an emergency. The staff revised the language in Section IV.D.3 of Appendix E to 10 CFR Part 50 in the proposed rule to recognize that governmental authorities, not licensees, are generally responsible for primary ANS activation and implementation of the backup ANS. The NRC staff made changes to the ISG and the Federal Emergency Management Agency (FEMA) made corresponding changes to NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Supplement 4. NUREG-0654/FEMA-REP-1, Supplement 4 comprises FEMA's updates to NUREG-0654/FEMA-REP-1, which were coordinated with the NRC and this rulemaking.
8. Emergency Operations Facility (EOF) – Performance Based Approach – The final rule amends the regulations to provide performance based criteria for EOFs. The regulations were also revised to remove the references to an EOF as a "near-site" facility and to incorporate specific EOF distance criteria in relation to a nuclear power plant site into the regulations.
9. Emergency Response Organization (ERO) Augmentation at Alternate Facility – The final rule amends the regulations to require licensees to identify alternative facilities to support ERO augmentation during hostile action. This codifies the Interim Compensatory Measures requirements associated with EA-02-026 and the enhancement examples described in Bulletin 2005-02. The staff revised

Section IV.E.8.d in the proposed rule to clarify that each alternative facility must be accessible during hostile action where more than one alternative facility has been designated. The staff also clarified the rule language to state the required alternative facility characteristics in terms of capabilities instead of specific types of equipment to allow licensees flexibility in meeting the new requirements. The staff made corresponding changes to the ISG.

10. Challenging Drills and Exercises – The final rule amends the regulations to require licensees to include hostile action scenarios and other scenario variations in drills and exercises, and submit the scenarios for NRC review. The staff revised Section IV.F.2.j of Appendix E to 10 CFR Part 50 in the proposed rule to increase the exercise cycle from 6 to 8 years and eliminate the 8-year frequency requirement for hostile action exercises to allow more flexibility in varying scenarios. For States involved with multiple nuclear power plant sites, Section IV.F.2.d was revised to specify that these States should fully participate in one hostile action exercise each exercise cycle and rotate their participation from site to site. The staff made corresponding changes to the ISG and FEMA changed NUREG-0654/FEMA-REP-1, Supplement 4.
11. Protection for Onsite Personnel – The final rule amends the regulations to require specific emergency plan provisions to protect onsite emergency responders, and other onsite personnel, in emergencies resulting from hostile action at nuclear power plants.
12. Removal of Completed One-Time Requirements – The final rule eliminates several regulatory provisions that required holders of licenses to take certain one-time actions to improve the state of EP following the Three Mile Island incident in 1979. These actions are complete and the requirements are no longer binding on any current licensee.

The staff also addressed the final rule's impact on combined license (COL) and early site permit (ESP) applications. The staff added language to Section I of Appendix E to 10 CFR Part 50 to allow applicants whose COL or ESP applications are docketed as of the final rule's effective date to defer compliance with the final rule until December 31, 2013.

The regulatory amendments in this final rule were developed before the recent events in Japan occurred. The EP regulations should be revised for the reasons provided herein, notwithstanding the impact the situation in Japan may have on nuclear power plants and EP in the United States. If the Commission determines in the future that further EP actions are necessary to address issues that arise from the events in Japan, then those potential actions should be implemented at that time and not delay the important enhancements provided by this final rule.

Cumulative Effects of Regulation

SRM-M091208, "Staff Requirements—Briefing on the Proposed Rule: Enhancements to Emergency Preparedness Regulations, 9:30 A.M., Tuesday, December 8, 2009, Commissioners' Conference Room, One White Flint North, Rockville, Maryland (Open to Public Attendance)," dated January 13, 2010, (ADAMS Accession No. ML100130067) directs the staff

to consider whether the aggregate impact (now referred to as the “cumulative effects of regulation”) of the new EP regulations and other NRC regulations that may already be scheduled for implementation should influence the schedule for implementing the new EP requirements.

The staff fully considered this issue: (1) before and during the EP rulemaking, the staff had extensive interactions with external stakeholders to both gather their valuable input and to inform them of progress in the development of the new EP requirements; (2) the staff issued the draft supporting guidance with the EP proposed rule to facilitate better feedback on both the draft guidance and the EP proposed rule; (3) the staff held numerous meetings with external stakeholders, including FEMA, during the public comment period for the EP proposed rule to familiarize stakeholders with the proposed provisions and to support more constructive and informed feedback; and (4) the staff explicitly requested external stakeholder feedback within the EP proposed rule *Federal Register* Notice on whether the proposed implementation period was sufficient.

Recognizing that the EP provisions represent a significant change to EP and that effective implementation of these new requirements must be supported by the staff’s EP partners such as FEMA, the staff held a public meeting on November 15, 2010, to solicit additional input from its partners and external stakeholders concerning implementation of the final EP requirements. The feedback from this meeting, as well as all the previous interactions, informed the staff’s recommended schedule for the implementation of the new EP requirements in the enclosed *Federal Register* (FR) Notice (Implementation Periods Matrix, Enclosure 2 and FRN, Enclosure 3). The final rule will go into effect 30 days after it is published in the *Federal Register*, and each individual amendment will have an implementation period. The latest implementation deadline is December 31, 2015.

Public Input to the Proposed Rule

In an effort to conduct a rulemaking that is transparent and open to stakeholder participation, the NRC engaged stakeholders through various means during the development of this rule. The NRC staff met with internal and external stakeholders, including FEMA management, on numerous occasions starting in 2005. In addition, the staff posted draft rule language on the e-rulemaking Web site at <http://www.regulations.gov> on February 29, 2008, and solicited public comments. The NRC hosted two public meetings to discuss the draft rule language and considered the comments received on that language in the process of developing the proposed rule. The NRC and FEMA jointly conducted 11 public meetings in six different cities between June 2, 2009, and June 23, 2009. The NRC held an additional public meeting in Rockville, MD, on September 17, 2009. At these meetings, the NRC described the proposed EP requirements and the associated onsite EP guidance documents, and answered questions from participants. Enclosure 4 summarizes the comments on the EP proposed rule received by the NRC and the NRC’s resolution of those comments.

ACRS Review of the Draft Final Rule

The staff briefed the Advisory Committee on Reactor Safeguards (ACRS) Plant Operations and Fire Protection Subcommittee and full committee on the draft final rule and supporting documents on November 1, 2010, and January 14, 2011, respectively. The ACRS had two recommendations for the final rule concerning consolidated EOF and future revisions of the rule

and associated guidance documents. The staff carefully considered the issues raised by the ACRS and responded to the ACRS in a letter dated March 1, 2011 (ADAMS Accession Number ML110460188). For the first ACRS recommendation, the staff believes that the language contained in the final rule, the associated Statement of Considerations, and interim staff guidance document is adequate to address the concerns raised by the ACRS. The staff agrees with the ACRS's second recommendation that future revisions of the EP regulations and associated guidance documents should consider a risk-informed approach to certain aspects of EP using site-specific probabilistic risk assessment and insights from other severe accident studies. The staff is currently conducting research in several areas to determine the feasibility of risk-informing EP, including emergency action levels.

Guidance Documents

The NRC staff expects to publish the following final guidance documents in conjunction with the final rule:

- NSIR/DPR-ISG-01, "Interim Staff Guidance: Emergency Planning for Nuclear Power Plants";
- Regulatory Guide 1.219, "Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors"; and
- NUREG/CR-7002, "Criteria for Development of Evacuation Time Estimates."

FEMA expects to publish NUREG-0654/FEMA-REP-1, Supplement 4, in conjunction with the final rule.

RESOURCES:

The following staff FTE support resources are required to complete this rulemaking and prepare the associated regulatory guidance. These resources have been allocated in the fiscal year (FY) 2011 budget for following offices: Office of Nuclear Reactor Regulation RR 0.4 FTE; Office of Nuclear Security and Incident Response 1.0 FTE; Office of the General Counsel 0.1 FTE; Office of New Reactors 0.1 FTE; and Office of Administration 0.1 FTE. As currently scheduled, no additional resources will be necessary to complete this rulemaking.

RECOMMENDATIONS:

The staff recommends that the Commission take the following actions:

- (1) Approve the final rule (Enclosure 2) for publication in the FR.
- (2) Certify that this rule, if issued, will not have a significant economic impact on a substantial number of small entities in order to satisfy requirements of the Regulatory Flexibility Act of 1980, as amended.

(3) Note the following:

- The staff will inform the Chief Counsel for Advocacy of the Small Business Administration of the certification and the reasons for it, as required by the Regulatory Flexibility Act.
- The staff has prepared a final regulatory analysis (Enclosure 3).
- The staff has determined that this action is not a “major rule” as defined in the Congressional Review Act and has confirmed this determination with the Office of Management and Budget. The staff will inform the appropriate congressional and Government Accountability Office contacts.
- The staff has performed a final environmental assessment and reached a finding of no significant impact (Enclosure 4).
- This final rule creates new information collection requirements that are subject to the Paperwork Reduction Act of 1995. The staff will submit this rule to the Office of Management and Budget for review and approval of the paperwork requirements (Section XII of Enclosure 2).
- The staff will inform the appropriate congressional committees.
- The Office of Public Affairs will issue a press release.

COORDINATION:

The Office of the General Counsel has reviewed the final rule and has no legal objections. The Office of the Chief Financial Officer has reviewed the final rule for resource implications and has no objections. The staff provided an information copy of this final rule to the Committee to Review Generic Requirements. The Office of Information Services has reviewed the final rule and has no objections to the changes in information collection requirements.

/RA by Martin J. Virgilio for/

R. W. Borchardt
Executive Director
for Operations

Enclosures:

1. History of the EP Rulemaking Activities
2. EP Rule Implementation Matrix
3. *Federal Register* Notice
4. Regulatory Analysis and Backfit Analysis
5. Environmental Assessment
6. Summary and Analysis of Public
Comments on the Draft Rule Language

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- The staff will inform the Chief Counsel for Advocacy of the Small Business Administration of the certification and the reasons for it, as required by the Regulatory Flexibility Act.
- The staff has prepared a final regulatory analysis (Enclosure 3).
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History of the EP Rulemaking Activities

After the terrorist events of September 11, 2001, the Nuclear Regulatory Commission (NRC) determined that it was necessary to require certain modifications of emergency preparedness (EP) programs for operating power reactor licensees to ensure continued adequate protection of public health and safety. The NRC issued these modifications to the license holders of the 104 commercial nuclear power reactors in the United States through Order EA-02-026, "Order for Interim Safeguards and Security Compensatory Measures," dated February 25, 2002.

The NRC evaluated the EP planning basis for nuclear power reactors given the changed threat environment. In SECY-03-0165, "Evaluation of Nuclear Power Reactor Emergency Preparedness Planning Basis Adequacy in the Post-9/11 Threat Environment," dated September 22, 2003, (ADAMS Accession No. ML031960020 (not publicly available)), the NRC staff reported to the Commission that the EP planning basis remained valid, including scope and timing issues. However, the NRC staff also recognized that security events differ from accident events because security events involve planned actions to maximize damage and loss of life, and, therefore, the EP response to such events also differs. The NRC staff noted several EP issues that required further action to better respond to the changed threat environment after the terrorist attacks of September 11, 2001.

On December 14, 2004, the NRC staff briefed the Commission on EP program initiatives. During the briefing, the NRC staff informed the Commission of its intent to conduct a comprehensive review of EP regulations and guidance. On February 25, 2005, the NRC staff provided the Commission with a schedule of activities for the completion of the comprehensive review in response to Staff Requirements Memorandum (SRM)-M041214B, "Briefing on Emergency Preparedness Program Initiatives, 1:00 P.M., Tuesday, December 14, 2004, Commissioners' Conference Room, One White Flint North, Rockville, Maryland (Open to Public Attendance)," dated December 20, 2004, (ADAMS Accession No. ML043550354). In SECY-05-0010, "Recommended Enhancements of Emergency Preparedness and Response at Nuclear Power Plants in Post-9/11 Environment," dated January 10, 2005, (ADAMS Accession No. ML042720354 (not publicly available)), the NRC staff requested Commission approval of its recommendations for enhancing, through new guidance documents, nuclear power reactor licensee EP programs in the changed threat environment. In SRM-SECY-05-0010, dated May 4, 2005, (ADAMS Accession No. ML051250012 (not publicly available)), the Commission directed the staff to provide the results of a comprehensive review of EP regulations and guidance. SRM-SECY-05-0010 also approved the staff's recommendation to proceed with enhancements to EP issues as described in SECY-05-0010. As a result, the staff issued Bulletin 2005-02, "Emergency Preparedness and Response Actions for Security-Based Events," dated July 18, 2005, (ADAMS Accession No. ML051740058), which recommended enhancements that licensees could integrate into EP programs at power reactors. Bulletin 2005-02 also sought to obtain information from licensees on their actions taken to implement Order EA-02-026 and to modify their EP programs to adjust to the current threat environment. Based on the results of the inspections after the publication of Bulletin 2005-02, meetings with members of the nuclear power industry, and licensees' responses to Bulletin 2005-02, the NRC determined that licensees were implementing strategies to satisfy Order EA-02-026 and enhance their programs to address the changed threat environment.

The NRC staff provided the results of its review to the Commission in SECY-06-0200, "Results of the Review of Emergency Preparedness Regulations and Guidance," dated September 20, 2006, (ADAMS Accession No. ML061910707). In that paper, the NRC staff discussed the activities that it had conducted to complete its review and recommended rulemaking for enhancements to the EP program. The staff divided the potential enhancements into two categories: (1) security-related EP issues and (2) other EP issues. The NRC staff evaluated each issue and assigned it a priority of high, medium, or low based on an analysis of the issue's relationship to reactor safety, physical security, EP, NRC strategic goals of openness and effectiveness, and stakeholder impact. The NRC staff identified 12 issues with a high priority, including 6 security-related EP issues and 6 non security-related EP issues. The NRC staff recommended that the Commission approve rulemaking as the most effective and efficient means to ensure the resolution of the high-priority EP issues and provide all interested stakeholders with an opportunity to participate.

In SRM-SECY-06-0200, "Results of the Review of Emergency Preparedness Regulations and Guidance," dated January 8, 2007, (ADAMS Accession No. ML070080411), the Commission approved the NRC staff's recommendation to pursue rulemaking and guidance changes for enhancements to the EP program. In an April 17, 2007, memorandum from the Executive Director for Operations, the staff provided its rulemaking plan to the Commission. When the staff later prepared the proposed rule, it identified similarities between two issues known in the rulemaking plan as "collateral duties" and "shift staffing and augmentation." As a consequence, these issues are partially combined in the final rule. Also, in addition to the issues identified in the rulemaking plan, the staff added one administrative change to remove certain one-time requirements that all licensees have completed.