

UNITED STATES NUCLEAR REGULATORY COMMISSION

ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT

FINAL RULE 10 CFR 50.47, 10 CFR 50.54,

10 CFR PART 50, APPENDIX E, AND 10 CFR 52.79

The Nuclear Regulatory Commission (NRC or Commission) is amending certain emergency preparedness (EP) requirements in its regulations that govern domestic licensing of production and utilization facilities: 10 CFR 50.47, 10 CFR 50.54, Appendix E to 10 CFR Part 50, and 10 CFR 52.79. The final rule codifies generically applicable requirements similar to those previously imposed by Commission orders, updates the EP regulations to include actions previously and voluntarily initiated by nuclear power plant licensees, and amends other licensee emergency plan requirements based on a comprehensive review of the NRC's EP regulations and guidance. The requirements enhance the ability of licensees in preparing to take and taking certain EP actions and protective measures in the event of a radiological emergency; address, in part, security-related EP issues identified after the terrorist events of September 11, 2001; clarify regulations to effect consistent emergency plan implementation among licensees; and modify certain EP requirements to be more effective and efficient.

BACKGROUND:

After the terrorist events of September 11, 2001, the NRC determined that it was necessary to require certain modifications of EP programs for operating power reactor licensees to ensure continued adequate protection of public health and safety. These modifications were issued to licensees via NRC Order EA-02-026, "Order for Interim Safeguards and Security

Compensatory Measures,” (Order EA-02-026), dated February 25, 2002. Order EA-02-026 was issued to the license holders of the 104 commercial nuclear power reactors in the United States. 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 (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 due to the planned action to maximize damage and loss of life and that the EP response to such events also differed. The NRC staff noted several EP issues that required further action to better respond to the post-September 11, 2001 threat environment.

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, in response to the Commission’s staff requirements memorandum (SRM), 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, the NRC staff provided the Commission with a schedule of activities for the completion of the comprehensive review. The NRC staff, through SECY-05-0010, “Recommended Enhancements of Emergency Preparedness and Response at Nuclear Power Plants in Post-9/11 Environment,” dated January 10, 2005 (not publicly available), requested Commission approval of the NRC staff’s recommendations for enhancing, through new guidance documents, EP in the post-September 11, 2001 threat environment. In its SRM to SECY-05-0010, dated May 4, 2005 (not publicly available), the Commission directed the staff to provide the results of a comprehensive review of EP regulations and guidance. That

memorandum also approved the staff's recommendation to proceed with enhancements to address EP issues as described in SECY-05-0010. As a result, the NRC staff issued Bulletin 2005-02 (BL-05-02), "Emergency Preparedness and Response Actions for Security-Based Events," dated July 18, 2005, which recommended enhancements that licensees could integrate into EP programs at power reactors. BL-05-02 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 post BL-05-02 inspections, meetings with members of the nuclear power industry, and licensees' responses to BL-05-02, 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. In that paper, the NRC staff discussed the activities 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: security-related EP issues and 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 six security-related EP issues and six non-security-related EP issues. The NRC staff recommended that the Commission approve rulemaking as the most effective and efficient means to ensure that the high priority EP issues were resolved with an opportunity for participation by all interested stakeholders.

In its SRM to SECY-06-0200, dated January 8, 2007, the Commission approved the NRC staff's recommendation to pursue rulemaking and guidance changes for enhancements to

the EP program. On April 17, 2007, the staff provided its rulemaking plan to the Commission via a memorandum.

On January 9, 2009, the NRC staff provided the proposed rule to the Commission in SECY-09-0007, "Proposed Rule Related to Enhancements to Emergency Preparedness Regulations (10 CFR Part 50)." In its SRM to SECY-09-0007, dated April 16, 2009, the Commission approved the publication of the proposed rule. The NRC published the proposed rule on the enhancements to EP regulations for public comment in the *Federal Register* on May 18, 2009 (74 FR 23254). Because it received several requests to lengthen the public comment period, the NRC extended the deadline for the public comment period from August 3, 2009, to October 19, 2009. During the public comment period, the NRC and the Federal Emergency Management Agency (FEMA) jointly held 11 public meetings to discuss the proposed rule and related guidance documents. The NRC received a total of 94 submittals and from these submittals, 687 individual comments were identified.

On December 8, 2009, NRC and FEMA staff briefed the Commission on the status of the EP rulemaking and comments received during the public comment period. In addition, a panel of external stakeholders briefed the Commission on their comments and views regarding the proposed rule. In 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, the Commission directed the NRC staff to continue working with FEMA in considering comments from State and local officials, and other interested stakeholders, to enhance the EP regulations and guidance. The Commission also directed the NRC staff to address the impacts of the rule and to consider providing a public draft of the rule language and guidance documents via the NRC public website while working with the Advisory Committee on Reactor Safeguards on the draft final rule.

On November 15, 2010, the NRC and FEMA held a public meeting to discuss the proposed implementation dates for the final EP rule. The feedback from this meeting, as well as all the previous interactions, informed the NRC's schedule for the implementation of the new EP requirements.

DISCUSSION OF CHANGES:

The amendments to the EP requirements resulted in changes to the following existing sections and appendices in 10 CFR Parts 50 and 52:

- 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 require 10 CFR Part 50 licensees that are currently subject to the EP requirements to ensure that their EP programs meet the EP requirements in the final rule. 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)). The first six amendments are security-related EP issues associated with Order EA-02-026 or BL 05-02, five amendments are non-security-related EP issues resulting from the comprehensive review of EP regulations and guidance, and one amendment is administrative.

1. On-Shift Staffing Analysis – The final rule requires nuclear power reactor 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. Section IV.A of Appendix E to 10 CFR Part 50 incorporates this requirement.
2. Emergency Action Levels (EALs) for Hostile Action – The final rule amends the regulations to require nuclear power reactor licensees to have EALs for events involving hostile action. Section IV.B of Appendix E to 10 CFR Part 50 incorporates this requirement.
3. Emergency Response Organization (ERO) Augmentation and Alternate Facilities – The final rule amends the regulations to require nuclear power reactor licensees to identify alternative facilities to support ERO augmentation during hostile action. This codifies the Order EA-02-026 requirements and the enhancement examples described in BL-05-02. Section IV.E of Appendix E to 10 CFR Part 50 incorporates this requirement.
4. Licensee Coordination with Offsite Response Organizations (OROs) During Hostile Action – 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. Section IV.A.7 of Appendix E to 10 CFR Part 50 incorporates this requirement.
5. 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. The NRC created a new Section IV.I to incorporate this requirement in Appendix E to 10 CFR Part 50.

6. 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 to submit the scenarios for NRC review. The final rule also increases the exercise cycle from six to eight years to allow more flexibility in varying scenarios. Section IV.F of Appendix E to 10 CFR Part 50 incorporates these requirements.
7. Alert and Notification System (ANS) Backup Means – The final rule amends the regulations to require that backup measures for the alert and notification system be available. The backup measures would be implemented if the primary means of alerting and notification were unavailable during an emergency. Section IV.D of Appendix E to 10 CFR Part 50 incorporates this requirement.
8. Emergency Declaration Timeliness – The final rule amends the regulations to ensure that licensees have the capability to complete the emergency declaration within 15 minutes in the event of a radiological emergency. Section IV.C of Appendix E to 10 CFR Part 50 incorporates this requirement.
9. 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. The regulations at 10 CFR 50.47(b)(3), 10 CFR 50.47(d)(1), and 10 CFR 50.54(gg)(1)(i) and Sections II, IV.E.8, IV.E.9.c, and IV.E.9.d of Appendix E to 10 CFR Part 50 incorporate these requirements.
10. Evacuation Time Estimate (ETE) Updating – The final rule amends the regulations to require licensees to review and update ETEs periodically. The regulation at 10 CFR 50.47(b)(10) and Section IV of Appendix E to 10 CFR Part 50 incorporate these requirements.

11. Amended Emergency Plan Change Process – The final rule ensures that (1) the effectiveness of the emergency plans is maintained, (2) changes to the approved emergency plan are properly evaluated, and (3) any change that reduces the effectiveness of the plan is reviewed by the NRC before implementation. The regulation at 10 CFR 50.54(q) and Section IV.B of Appendix E to 10 CFR Part 50 incorporate these requirements.
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 NRC removed the completed one-time requirements from 10 CFR 50.54(r), 10 CFR 50.54(s)(1), 10 CFR 50.54(s)(2)(i), and 10 CFR 50.54(u).

ENVIRONMENTAL ASSESSMENT

Identification of the Final Action:

The final action amends requirements for nuclear power reactor licensees to aid in ensuring more effective emergency plan implementation for potential events, including hostile actions taken against the site, and to codify enhancements to the regulations.

The Need for the Final Action:

Following the terrorist events of September 11, 2001, the NRC staff reviewed the EP program and concluded that the EP planning basis remained valid. However, the NRC determined that security events differ from accident events and that the EP regulations and guidance should be enhanced to ensure that licensees can implement their emergency plan in any circumstance, including hostile action, so that licensees continue to provide reasonable assurance of adequate protection of public health, safety, and the environment. The NRC staff conducted a

comprehensive review of the EP regulatory structure, including reviews of regulations and guidance documents. The comprehensive review of the EP program identified several areas where the implementation of EP regulations and guidance, recent technological advances, and lessons learned from actual events, drills, and exercises had revealed to the NRC areas for potential improvement and increased clarity for the EP program.

Environmental Impacts of the Rule Action

Under the final rule requirements, licensees will continue to provide reasonable assurance of adequate protection of the environment because the process, personnel, and equipment involved will remain essentially the same as those used under the existing EP requirements.

The final rule action results in modification of certain licensee EP procedures, drills, and exercises; EALs must include consideration of potential hostile actions; and backup methods are in place for the primary ANS. The rule action also changes the requirement that certain emergency response facilities be located near the licensee's reactor and that licensees should have alternative facilities designated for use during hostile action when onsite emergency facilities may not be safely accessed. Any new building or structure that may be erected by the licensee for use as an alternative facility will be subject to State and/or local building codes. These building codes are designed to protect the public's safety and general welfare related to the construction and occupancy of buildings and structures. The changes to facilities, procedures, drills, and exercises that will result from the rule action will enhance the ability of licensees to implement their EP programs in any circumstance.

The NRC staff has completed its evaluation of the final rule action and concludes that the final action will not have a significant radiological environmental impact for the following reasons:

- (1) The EP requirements in the final rule will not increase the probability or consequences of an accident because the process, personnel, and equipment involved in implementing the licensee's emergency plan will be essentially the same as those used under the existing EP requirements and will continue to require licensees to provide reasonable assurance of adequate protection of public health, safety, and the environment in implementing their EP programs. The changes to facilities, procedures, drills, and exercises that will result from the rule action will provide reasonable assurance that licensees can implement their EP programs in any circumstance.
- (2) The EP requirements in the final rule will not alter the types or quantities of radiological effluents, because the rule action will result in licensees implementing their EP program using essentially the same processes, personnel, and equipment as those used under their existing EP programs and will not change the current radiological effluent production and flow paths. The changes to facilities, procedures, drills, and exercises that will result from the rule action will provide reasonable assurance that licensees can implement their EP programs in any circumstance.
- (3) The EP requirements in the final rule will not increase occupational or public radiation exposure because licensees will continue to provide the existing level of reasonable assurance of adequate protection of public health, safety, and the environment as the existing EP program. The changes to facilities, procedures, drills, and exercises that will result from the rule action will better ensure that licensees can implement their EP programs in any circumstance.

The NRC also concludes that the rule action will not have a significant non-radiological impact for the following reasons:

- (1) The EP requirements in the final rule do not have the potential to impact any historic sites because the process, personnel, and equipment involved will be essentially the

same as those used under the existing EP requirements and will continue to require licensees to ensure adequate protection of public health, safety, and the environment in implementing their EP programs. Thus, the NRC determined that the final rule action will not have the potential to impact any historic sites.

- (2) The EP requirements in the final rule will not significantly alter the types or quantities of non-radiological plant effluents because the process, personnel, and equipment involved will be essentially the same as those used under the existing EP requirements and will continue to require licensees to ensure adequate protection of public health, safety, and the environment in implementing their EP programs. The changes to facilities, procedures, drills, and exercises that will result from the rule action will better ensure that licensees can implement their EP programs in any circumstance. Thus, the NRC determined that the final rule action will not change the non-radiological effluent production and flow paths.

Accordingly, the NRC concludes that the rule action will not have any significant radiological or non-radiological environmental impacts.

Environmental Impacts of Alternatives to the Rule Action

As an alternate to the final action, the NRC staff considered the no-action alternative. Maintaining the status quo (not revising 10 CFR 50.47, 10 CFR 50.54, Appendix E to 10 CFR Part 50, and 10 CFR 52.79(a)(17)) would result in no change in the environmental impacts of the current EP programs.

Agencies and Persons Consulted

The NRC sent a copy of the proposed rule and the draft environmental assessment to every State Liaison Officer and no comments on the environmental assessment were received.

FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the NRC concludes that the final action will not have a significant effect on the quality of the human environment. Accordingly, the NRC has determined not to prepare an environmental impact statement for the final action.

For further details with respect to the final action, see the final rule dated **[INSERT THE DATE OF THE FEDERAL REGISTER NOTICE]**. Documents may be examined and/or copied for a fee, at the NRC's Public Document Room, located at One White Flint North, 11555 Rockville Pike (first floor), Rockville, Maryland 20852. Publicly available records will be accessible electronically from the Agencywide Documents Access and Management System (ADAMS) on the NRC Web site, <http://www.nrc.gov/reading-rm/adams.html>. Documents can also be access through the Federal e-Rulemaking Portal: <http://www.regulations.gov>, Docket ID: NRC-2008-0122. Persons who do not have access to ADAMS or who encounter problems in accessing the documents located in ADAMS should contact the NRC PDR Reference staff at 1-800-397-4209, or 301-415-4737, or send an e-mail to pdr.resource@nrc.gov.