

UNITED STATES NUCLEAR REGULATORY COMMISSION

ENVIRONMENTAL ASSESSMENT AND FINDING OF

NO SIGNIFICANT IMPACT

PROPOSED RULE 10 CFR 50.47, 50.54 AND APPENDIX E

The Nuclear Regulatory Commission (NRC or Commission) is proposing to amend 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 and 10 CFR Part 50, Appendix E. The proposed amendments would codify generically applicable requirements similar to those previously imposed by Commission orders, update the EP regulations to include actions previously and voluntarily initiated by nuclear power plant licensees, and amend other licensee emergency plan requirements based on a comprehensive review of the NRC's EP regulations and guidance. The proposed requirements would enhance the ability of licensee's in preparing to take and taking certain emergency preparedness and protective measures in the event of a radiological emergency; address, in part, security 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, including EP response to such events, differ from accident events due to the planned action to maximize damage and loss of life. 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 EP issues as described in SECY-05-0010. As a result, the 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: hostile action 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 EP issues and six non-security 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.

## DISCUSSION OF PROPOSED CHANGES:

The proposed amendments to the EP requirements would result in changes to the following existing sections and appendices in Part 50:

- 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”

The proposed amendments would require holders of licenses under 10 CFR Part 50 that are currently subject to EP requirements, applicants for operating licenses under 10 CFR Part 50, or applicants for combined licenses under 10 CFR Part 52, to ensure that their EP programs meet the amended EP requirements. The proposed amendments would similarly apply to applicants for construction permits under Part 50 in their discussion of preliminary plans for coping with emergencies (§50.34(a)(10)) and to applicants for early site permits under Part 52 that choose to propose either major features of an, or a complete and integrated, emergency plan (10 CFR 52.17(b)(2)). The proposed amendments are summarized as follows. The first six are security-related issues associated with Order EA-02-026 or BL-05-02 while the remaining five are non-security-related issues resulting from the comprehensive review of EP regulations and guidance:

1. On-Shift Multiple Responsibilities – The proposed requirements would explicitly limit on-shift emergency response organization (ERO) response duties to ensure that these emergency responders do not become overburdened during an emergency event. These proposed requirements would be incorporated into 10 CFR Part 50, Appendix E, Section IV.A.

2. Emergency Action Levels (EALs) for Hostile Action Events – The proposed requirements would amend regulations to require licensees to have EALs for hostile action events. These proposed requirements would be incorporated into 10 CFR Part 50, Appendix E, Section IV.B.
3. Emergency Response Organization Augmentation and Alternate Facilities – The proposed requirements would amend regulations to require licensees to identify alternative facilities to support ERO augmentation during hostile action events. This would codify the ICM requirements and the enhancement examples described in BL-05-02. These proposed requirements would be incorporated into 10 CFR Part 50, Appendix E, Section IV.E.
4. Licensee Coordination with Offsite Response Organizations (ORO) During Hostile Action Events – The proposed requirements would amend regulations to require licensees to ensure ORO personnel assigned emergency plan implementation duties would be available to do so during hostile action events. These proposed requirements would be incorporated into 10 CFR Part 50, Appendix E, Section IV.A.7.
5. Protection for Onsite Personnel – The proposed requirements would amend regulations to require specific emergency plan provisions to protect onsite emergency responders, and other onsite personnel, in emergencies resulting from hostile action events at nuclear power plants. These proposed requirements would be incorporated into 10 CFR Part 50, Appendix E by creating a new Section I.
6. Challenging Drills and Exercises – The proposed requirements would amend regulations to require licensees to include hostile action event scenarios in drills and exercises and submit the scenarios for NRC review and approval. These proposed requirements would be incorporated into 10 CFR Part 50 Appendix E, Section IV.F.

7. Backup Means for Alert and Notification Systems – The proposed requirements would amend regulations to require licensees to have backup measures that would be implemented when the primary means of alerting and notification are unavailable. These proposed requirements would be incorporated into 10 CFR Part 50, Appendix E, Section IV.D.3.
8. Emergency Classification Timeliness – The proposed requirements would amend regulations to ensure that licensees are able to complete emergency classifications in a timely manner in the event of a radiological emergency. These proposed requirements would be incorporated into 10 CFR Part 50, Appendix E, Section IV.C.
9. Emergency Operations Facility – Performance Based Approach – The proposed requirements would amend regulations to provide performance-based criteria for consolidated EOFs. The NRC is also proposing revisions to regulations to remove the references to an EOF as a “near-site” facility and to incorporate specific EOF distance criteria into the regulations. These proposed requirements would be incorporated into 10 CFR 50.47(b)(3), 10 CFR 50.47(d)(1), 10 CFR 50.54(gg)(1)(i); and 10 CFR Part 50, Appendix E, Sections IV.E.8, IV.E.9.c, and IV.E.9.d.
10. Evacuation Time Estimate (ETE) Updating – The proposed requirements would amend regulations to require licensees to review ETEs periodically. These proposed requirements would be incorporated into 10 CFR 50.47(b)(10) and 10 CFR Part 50, Appendix E, Section IV.
11. Amended Emergency Plan Change Process – The proposed requirements would ensure that (1) the effectiveness of the emergency plans would be maintained, (2) changes to the approved emergency plan would be properly evaluated, and (3) any change that reduces the effectiveness of the plan would be reviewed by the NRC prior to

implementation. These proposed requirements would be incorporated into 10 CFR 50.54(q) and 10 CFR Part 50, Appendix E, Section IV.B.

12. Removal of Completed One-Time Requirements – The NRC staff is proposing to amend regulations to eliminate 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 completed one-time requirements would be removed from 10 CFR 50.54(r), 10 CFR 50.54(s)(1), 10 CR 50.54(s)(2)(i), and 10 CFR 50.54(u).

## ENVIRONMENTAL ASSESSMENT

### Identification of the Proposed Action:

The proposed action would amend 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 Proposed Action:

Following the terrorist events of September 11, 2001, the NRC staff reviewed the emergency preparedness (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 public health, safety and the environment continue to be adequately protected. 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 proposed requirements, the environment would continue to be adequately protected because the process, personnel, and equipment involved would remain essentially the same as those used under the existing EP requirements.

The proposed rule action would result in modification of certain licensee procedures, drills, and exercises for EP; emergency action levels would include consideration of potential hostile actions; and licensees would be required to have a planned backup to their Alert and Notification System (ANS). The rule action would also change the requirement that emergency response facilities be located near the licensee's reactor and that licensees should have alternative facilities designated for use during hostile action events 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 would result from the rule action would better ensure that licensees could implement their EP programs in any circumstance.

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

- (1) The proposed set of EP requirements would not increase the probability or consequences of an accident because the process, personnel, and equipment involved in implementing the licensee's emergency plan would be essentially the same as those used under the existing EP requirements and would 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 would result from the rule action would better ensure that licensees could implement their EP programs in any circumstance.

- (2) The proposed set of EP requirements would not alter the types or quantities of radiological effluents, because the rule action would result in licensees implementing their EP program using essentially the same processes, personnel, and equipment as those used under their existing EP programs and would not change the current radiological effluent production and flow paths. The changes to facilities, procedures, drills, and exercises that would result from the rule action would better ensure that licensees could implement their EP programs in any circumstance.
- (3) The proposed set of EP requirements would not increase occupational or public radiation exposure because it would continue to provide the existing level of adequate protection of public health, safety, and the environment as the existing EP program. The changes to facilities, procedures, drills, and exercises that would result from the rule action would better ensure that licensees could implement their EP programs in any circumstance.

The NRC also concludes that the rule action would not have a significant nonradiological impact for the following reasons:

- (1) The proposed set of EP requirements does not have the potential to impact any historic sites because the process, personnel, and equipment involved would be essentially the same as those used under the existing EP requirements and would 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 proposed rule action would not have the potential to impact any historic sites.

- (2) The proposed set of EP requirements would not significantly alter the types or quantities of nonradiological plant effluents because the process, personnel, and equipment involved would be essentially the same as those used under the existing EP requirements and would 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 would result from the rule action would better ensure that licensees could implement their EP programs in any circumstance. Thus, the NRC determined that the proposed rule action would not change the non-radiological effluent production and flow paths.

Accordingly, the NRC concludes that the rule action would not have any significant radiological or nonradiological environmental impacts.

#### Environmental Impacts of Alternatives to the Rule Action

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

#### Agencies and Persons Consulted

The NRC will send a copy of the proposed rule and the draft environmental assessment to every State Liaison Officer and request their comments on the environmental assessment.

#### FINDING OF NO SIGNIFICANT IMPACT

On the basis of the environmental assessment, the NRC concludes that the proposed 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 proposed action.

For further details with respect to the proposed action, see the [proposed/final] rule

dated \_\_\_\_\_. 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@nrc.gov](mailto:pdr@nrc.gov).