

Emergency Action Levels for Security Events

A. Definition of the Regulatory Problem.

Response to security event-based emergencies directed at a nuclear facility or site can present unique challenges beyond those planned for an evolving plant safety event. Although the U.S. Nuclear Regulatory Commission (NRC) emergency preparedness (EP) regulations allow for the emergency classification and action level scheme as a result of hostile actions, the regulations do not provide explicit criteria for these hostile action Emergency Action Levels (EALs).

Licensees are not expressly required by current regulation to incorporate EALs for security-based events into their emergency response plans. Consequently, licensee emergency response plans are not specifically required to include initiating condition criteria for declaring EALs in response to security-initiated events.

Additionally, the definitions of the emergency classification levels originally stated in the NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," issued November 1980, and endorsed by Regulatory Guide 1.101, Revision 2, "Emergency Planning and Preparedness for Nuclear Power Reactors," issued October 1981, do not contain a security-based perspective that accounts for intentional, malicious, or dedicated efforts from terrorist attacks. Emergency classification and action levels of the type reflecting recent terrorist actions have not been explicitly required to be addressed in licensee and offsite response organization emergency plans.

Emergency classification and action levels of the type reflecting hostile actions need to be expressly required by regulation in licensee emergency plans to provide regulatory certainty and establish unambiguous enforceable emergency classification and action level criteria. With explicit criteria, the NRC can ensure licensees are adequately prepared to conduct appropriate assessment and emergency classification, resulting in the proper notification and timely activation of the required emergency response organization (ERO) resources can occur. These actions provide for the adequate implementation of protective measures and protection of the public health and safety.

B. Existing Regulatory Framework.

Title 10, Section 50.47(b)(4), of the *Code of Federal Regulations* (10 CFR 50.47(b)(4)) and Section IV of Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," provide the regulatory requirements for emergency classification and action levels. The planning standards in 10 CFR 50.47(b) identify requirements that onsite and offsite emergency response plans must meet.

In particular, 10 CFR § 50.47(b)(4) states that: "A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures."

Sections IV.B and IV.C of Appendix E to 10 CFR Part 50 expand on these requirements. However, neither of these sections nor 10 CFR § 50.47(b)(4) establish criteria for the emergency classification and action level scheme applicable to hostile actions directed at a nuclear facility or site. Instead, the emergency classification and action level scheme required by 10 CFR § 50.47(b)(4) provides an effective mechanism to rapidly identify and classify abnormal plant conditions.

Facility ERO and offsite response organizations (OROs) rely on the information provided by the facility licensee for the determination of response actions, such as notification and activation of emergency facilities. Depending on the classification and action level, measures are implemented in a planned manner commensurate with the declared emergency classification and action level. If an emergency classification or action level is incorrect or not elevated to the correct level, the subsequent emergency response actions may put emergency responders in jeopardy, and emergency response personnel, facilities, and equipment may not be in position to implement actions to protect the public health and safety, should it be necessary. Therefore, emergency classifications and action levels are critical in minimizing the consequences of a radiological emergency.

Following the terrorist attacks of September 11, 2001, the NRC issued to all licensees, "Commission Order Modifying Licenses," EA-02-26, dated February 25, 2002, which included interim compensatory measures (ICMs) for nuclear security and emergency preparedness. These measures included the requirement to review security and emergency plans and to ensure that the licensee's EAL scheme contained security-based EALs. As a result, all licensees verified compliance or incorporated EAL changes to address the ICMs. The NRC staff recognized that security events and hostile actions differ from the conditions which initiate events and are reflected in current regulations and guidance. Site-specific EALs are designed to address a wide range of events involving varied technological and natural hazards. Site-specific responses to a security emergency can present unique challenges.

The NRC issued Bulletin (BL)-2005-02, "Emergency Preparedness and Response Actions for Security-Based Events" dated July 18, 2005, to obtain information from licensees on their progress in implementing security-event related EP program enhancements. The bulletin, in part, provided examples of acceptable changes to emergency classification levels and EALs for security events. The bulletin also provided example EALs for all NRC approved EAL schemes. The NRC endorsed an industry white paper in Regulatory Issue Summary (RIS) 2006-12, "Endorsement of Nuclear Energy Institute (NEI) Guidance Enhancements to Emergency Preparedness Programs for Hostile Action" dated July 19, 2006, which provided guidance to licensees on incorporating example EALs into licensee emergency planning schemes. However, implementation of these enhancements is voluntary and not explicitly required.

C. Preliminary Options Considered to Resolve the Problem.

1. Take no action/use voluntary programs.

This option would maintain the current regulatory basis and there would continue to be no explicit regulatory requirement regarding the incorporation of security-related events in the emergency classification and action level scheme. There is an industry voluntary effort for licensees to implement the use of hostile action emergency classification level definitions and EALs in their EP programs. In the

response to BL 05-02, licensees indicated that they would develop and implement NEI guidance to address this issue upon its endorsement by NRC and the Federal Emergency Management Agency (FEMA). This effort is captured in RIS 2006-12. The staff recognizes that although voluntary implementation of emergency classification and EALs as described in BL 05-02 would meet the intent of the Commission following the September 11, 2001 terrorist attacks, there would be no regulatory requirement for licensees to maintain those changes described in the industry document nor would there be a consistent minimum level of implementation that NRC had determined was adequate. For these reasons the staff believes that, while a voluntary effort can improve emergency response, it will not achieve the level of response capability necessary in the post September 11, 2001 environment to adequately protect public health and safety. Therefore, the staff determined that this option was unacceptable.

2. Implement proposed regulation.

Amending the NRC's emergency preparedness regulations to provide explicit security-based event criteria for emergency classification and action level schemes would establish an express regulatory framework. This regulatory framework would codify the NRC expectation that emergency classifications and action levels identify security-related emergencies more succinctly to ensure effective emergency plan implementation and the adequate implementation of protective measures. By establishing a consistent minimum level, the NRC would remove regulatory uncertainty and have reasonable assurance that licensees are adequately prepared for both security-initiated and plant operational events. Subsequently, if and when events were to occur, the correct classification level and action level would be determined, the necessary emergency response personnel would be notified and would respond to implement protective measures to adequately protect public health and safety.

Following the proposed rulemaking, the staff would make conforming revisions to other existing guidance for compliance with the newly codified security-event based criterion, and possibly develop new guidance. The staff believes that implementation of the proposed regulations would be the best course.

3. Implement some other regulatory scheme.

It is possible that some other regulatory scheme would be more effective and efficient than the one proposed. The staff has examined several alternate designs in the development of the proposed scheme. For example, there was a concern that the regulations would be too specific and that more details should be left to guidance. This scheme was rejected because there is no regulatory means to require licensees to follow the guidance unless the regulations also required that licensees submit changes to emergency plans for approval. These options were seen as too resource intensive for this activity.

A strength of the NRC rulemaking process is that it offers the opportunity for public comment on proposed regulations. If another viable scheme is proposed

during that process, the staff will review it and, if it could adequately protect public health and safety, propose its implementation to the Commission for consideration.

D. Technical References and Supporting Documents.

- “Commission Order Modifying Licenses,” EA-02-26, February 25, 2002.
- NUREG-0654/FEMA-REP-1, Rev. 1, “Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants,” Appendix 1, “EAL Guidelines for Nuclear Power Plants,” November 1980. The NRC endorsed NUREG-0654/FEMA-REP-1 in Regulatory Guide RG 1.101, Rev. 2, “Emergency Planning and Preparedness for Nuclear Power Reactors,” October 1981.
- RIS 2004-15, “Emergency Preparedness Issues: Post-9/11,” October 18, 2004.
- SECY-05-0010, “Recommended Enhancements of EP Post-9/11,” January 10, 2005.
- “Developing Mitigating Strategies IAW B.5.b of 2/25/02 Order,” February 24, 2005.
- NRC Bulletin 2005-02, “Emergency Preparedness and Response Actions for Security-Based Events,” July 18, 2005.
- NEI Guidance, “Enhancements to Emergency Preparedness Programs for Hostile Action,” November 18, 2005.
- RIS 2006-02, “Good Practices for Licensee Performance during the Emergency Preparedness Component of Force-On-Force Exercises,” February 23, 2006.
- RIS 2006-12, “Endorsement of Nuclear Energy Institute Guidance ‘Enhancements to Emergency Preparedness Programs for Hostile Action,’” July 19, 2006.

E. Potential Response from Stakeholders

Licensees have generally been supportive of the proposed changes to the emergency preparedness regulations for security-based events. Although licensees have developed through the NEI the guidance document titled, “Enhancements to Emergency Preparedness Programs for Hostile Action,” and all licensees have changed their EALs in response to BL-2005-02, this document continues the voluntary nature of critical elements considered necessary by the staff. Rulemaking would make the enhancements mandatory and may increase licensee burden. As a result, licensees may resist future changes because they are currently implementing the voluntary actions.

OROs and advocacy groups have in general been supportive of enhancements to the EP program for security events, although advocacy groups have also expressed support for additional changes to EP regulations and guidance beyond the changes for security events.