

Emergency Operations Facility - Performance-Based Approach

A. Definition of the Regulatory Problem.

Nuclear power plant licensees have submitted several requests for U.S. Nuclear Regulatory Commission (NRC) approval to consolidate emergency operations facilities (EOFs) for units they operate within a State and in multiple States. This has resulted in requests for exceptions to NRC guidance or, in some cases, exemptions to NRC regulations. The approval process involves a considerable amount of staff resources to evaluate these requests. Revising the regulations to clearly define the conditions under which licensees would be allowed to establish consolidated EOFs without prior NRC approval (i.e., in accordance with 10 CFR 50.54(q)) or when Commission approval would still be required would reduce regulatory burden and increase staff efficiency in the review process. In addition, no regulatory standards address the capabilities and functional requirements for a consolidated EOF, such as capabilities for handling simultaneous events at two or more sites or having provisions for NRC and offsite officials to relocate to a facility nearer the site if they desire. The regulations and associated guidance should be revised to reflect a performance-based approach for consolidated EOFs which would provide functional requirements for these facilities, thus ensuring that the necessary capabilities are in place for protection of public health and safety.

B. Existing Regulatory Framework.

As required by Title 10, Section 50.47, "Emergency Plans," of the *Code of Federal Regulations* (10 CFR 50.47), and Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," a licensee must have a near-site EOF from which effective direction can be given and effective control exercised during an emergency, along with accommodations for State and local emergency management officials. NUREG-0696, "Functional Criteria for Emergency Response Facilities," issued February 1981, and Supplement 1, "Requirements for Emergency Response Capability," to NUREG-0737, "Clarification of TMI Action Plan Requirements," issued January 1983, provide guidance regarding acceptable methods for meeting the Commission's EOF requirements. This guidance states that the EOF should be located between 10 and 20 miles from the site, but a primary EOF may be located closer to the site if the backup EOF is located within 10 to 20 miles of the Technical Support Center (TSC). In addition, the guidance in NUREG-0737, Supplement 1, Table 1, "Emergency Operations Facility," states that specific approval by the Commission and some provision for having the NRC site team closer to the site are required if the EOF is located beyond 20 miles. The Commission, in the Staff Requirements Memorandum (SRM), dated September 18, 1996, to SECY-96-0170, "Assessment of Exceptions Granted for Locations and Staffing Times of Emergency Operations Facilities," allowed an additional 5 miles to the maximum EOF distance, thereby permitting an EOF to be located between 10 and 25 miles from the TSC. If a licensee cannot meet this criterion, it must request an exception from the above guidance from the Commission. This was the case in a request by AmerGen Energy Company to consolidate the Three Mile Island (TMI) Unit 1 EOF with the EOF for Peach Bottom and Limerick. The EOF for Peach Bottom and Limerick was 50 miles from TMI and the existing TMI EOF was approximately 12 miles away (SECY-03-0033, "Revised AmerGen's Request to Consolidate the Three Mile Island Unit 1 Emergency Operations Facility (EOF) into the Combined EOF for

Peach Bottom Atomic Power Station (PBAPS) and Limerick Generating Station (LGS),” dated March 7, 2003). The Commission approved this request in the SRM to SECY-03-0033 dated March 18, 2003.

Because neither NRC regulations nor guidance documents define the term “near-site,” it is unclear at what point the term is no longer appropriate to request an exception to the EOF distance criteria in NUREG-0696 and NUREG-0737, Supplement 1. Therefore, a licensee must request an exemption to the requirements for a near-site EOF found in 10 CFR 50.47 and Appendix E to 10 CFR Part 50. A recent example of an approved rule exemption request involved Southern Nuclear Operating Company’s proposal to combine the EOFs at its three operating nuclear plants in Georgia and Alabama into a consolidated EOF at its corporate offices in Birmingham, Alabama (SECY-04-0236, “Southern Nuclear Operating Company’s Proposal to Establish a Common Emergency Operating Facility at Its Corporate Headquarters,” dated December 23, 2004). The distances from the plant sites to the proposed consolidated EOF ranged from 213 miles to 352 miles.

In SECY-96-0170 dated August 5, 1996, the staff provided the Commission with an assessment of exceptions granted for locations and staffing times of EOFs and recommended that the existing guidance be maintained. In the SRM to SECY-96-0170, the Commission approved the staff proposal to maintain existing guidance and directed the staff to continue to seek Commission approval for consolidated EOF proposals. However, the reliance on a near-site EOF does not take into account advances in computer and communication technology made since the original EOF siting criteria were established which permit the effective performance of EOF functions independent of distance from the site. The original siting criteria also did not consider the overall impact of industry consolidation on standardization of fleet emergency plans, the practicality of using consolidated facilities and corporate staffing of emergency response facilities. This has led to several requests to consolidate EOFs from various licensees, such as Exelon (and previously Commonwealth Edison), Southern Nuclear, and AmerGen. In the SRM to SECY-04-0236, dated February 23, 2005, the Commission directed the staff to “consider revising 10 CFR Part 50 to make the requirements for EOFs more performance-based to allow other multi-plant licensees to consolidate their EOFs, if those licensees can demonstrate their emergency response strategies will adequately cope with an emergency at any one of the associated plants.”

C. Preliminary Options Considered to Resolve the Problem.

1. Take no action.

This option would maintain the status quo, contrary to direction from the Commission and the desire to have performance-based requirements for consolidated EOFs, as opposed to siting requirements based solely on distance. The staff considered this option to be unacceptable because it would still require EOF consolidation requests to be submitted for Commission approval and involve substantial staff resources for their review. It also does not recognize advances in computer and communications technology that may obviate the need for a dedicated facility near each site.

2. Implement proposed regulation to address the location of both single and consolidated EOFs.

The regulations (and associated guidance) could be written such that both the consolidation of EOFs for multiple sites, as well as situations in which a licensee proposes to locate an EOF for a single site more than 25 miles from that site, could be implemented without prior NRC approval. However, the benefit of locating an EOF for a single site at a remote location is not evident in terms of increasing staffing flexibility and standardizing emergency response. The remote siting of an EOF under these circumstances would be more appropriately addressed as a request for an exception to NRC guidance or an exemption from NRC regulations and considered on a case-by-case basis. Therefore, the staff determined that this option was not appropriate.

3. Implement proposed regulation and/or guidance for consolidated EOFs only.

The staff is proposing rulemaking to remove references to near-site EOFs in the regulations and/or guidance and to adopt performance-based criteria for consolidated facilities. Generic EOF capabilities are currently provided in several regulations and guidance documents, including the following:

- management of overall licensee response effort
- coordination of radiological and environmental assessment
- classification of emergencies (when performed at EOF per emergency plan)
- determination of protective action recommendations
- notification of offsite agencies (when performed at EOF per emergency plan)
- coordination of event, plant, and response information provided to public information staff for dissemination to the media and public
- coordination of emergency response activities with Federal, State, local, and tribal agencies
- staffing and activation of the facility within time frames and at emergency classification levels defined in the emergency plan

Specific criteria for consolidated EOFs, such as the following, will be added to regulations and/or guidance where appropriate:

- ability to obtain and display key plant data and radiological information for each plant the consolidated EOF serves
- ability to effectively respond to and coordinate response efforts for multi-site events
- prior arrangements for locating NRC and offsite agency staff closer to the affected site(s) if requested

By adopting performance-based criteria, the staff resources and time it takes to complete an exception/exemption review should be minimized or even eliminated for consolidated EOFs. In addition, the consolidated EOFs that have been

approved to date meet the intent of the proposed rule. During exercises and actual events, these EOFs have functioned as effective emergency response facilities and have demonstrated that a near-site EOF is not necessary to protect public health and safety. The staff believes that implementation of such a proposed regulation would best resolve the issue. The proposed regulation would not be complicated and would rely on more detailed information to be provided in guidance documents for the determination of EOF adequacy.

4. Implement some other regulatory scheme.

There may be other regulatory schemes that would clarify requirements, but the staff is not currently aware of such schemes. However, the NRC rulemaking process 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.

- 10 CFR 50.47(b)(3).
- 10 CFR 50.47(d)(1).
- 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," Sections IV.E.8 and IV.E.9.
- NUREG-0696, "Functional Criteria for Emergency Response Facilities," Table 2, "Relation of EOF Location to Habitability Criteria," February 1981.
- NUREG-0737, "Clarification of TMI Action Plan Requirements," Supplement 1, "Requirements for Emergency Response Capability," Table 1, "Emergency Operations Facility," January 1983.
- SRM-M830302B, "Briefing on Staff Actions Regarding Location of Emergency Operations Facilities," March 3, 1983.
- SECY-87-0067, "Exception for the Emergency Operations Facility Design for the Oconee Nuclear Station," April 30, 1987.
- SRM - SECY-96-0170, "Assessment of Exceptions Granted for Locations and Staffing Times of Emergency Operations Facilities," September 18, 1996.
- SECY-98-0274, "Commonwealth Edison Company's Proposal to Centralize Its Emergency Operations Facilities at Its Corporate Offices," November 23, 1998.
- SRM - SECY-98-0274, January 29, 1999.

- SECY-02-0033, "AmerGen's Request to Consolidate the Clinton Power Station Emergency Operations Facility (EOF) into the Centralized EOF Operated by Exelon Generation Co.," February 27, 2002.
- SECY-03-0033, "Revised AmerGen's Request to Consolidate the Three Mile Island Unit 1 Emergency Operations Facility (EOF) Into the Combined EOF for Peach Bottom Atomic Power Station (PBAPS) and Limerick Generating Station (LGS)," March 7, 2003.
- SRM - SECY-03-0033, March 18, 2003.
- SECY-04-0236, "Southern Nuclear Operating Company's Proposal to Establish a Common Emergency Operations Facility at Its Corporate Headquarters," December 23, 2004.
- SRM - SECY-04-0236, February 23, 2005.

E. Potential Responses from Stakeholders.

Licensees would support performance-based criteria for utilizing consolidated EOFs as part of fleet emergency plans, because it affords them the opportunity to capitalize on technological advancements, corporate resources, and multiple communication capabilities with their stakeholders. This approach would be preferred to the current exemption process, which requires considerable regulatory interface. It also allows more flexibility in staffing onsite emergency response facilities with site-based personnel.

State, local, and tribal officials have been generally supportive of the consolidated EOF approach, but may have concerns about increased travel distances to a consolidated EOF and responding to an EOF outside the local area or State boundaries. There may also be a desire to maintain a near-site facility to which offsite officials could respond for certain events and for maintaining a joint information center closer to the site for accommodating media representatives. Public advocacy groups have expressed concern that consolidating EOFs could result in decreased response capabilities.