20. REQUIREMENTS RESULTING FROM FUKUSHIMA NEAR-TERM TASK FORCE RECOMMENDATIONS

This chapter addresses the Fukushima Near-Term Task Force (NTTF) recommendations that are applicable to the PSEG Site early site permit (ESP) application. As discussed below, the staff considered the NTTF recommendations accordingly and found that most were outside the scope of site suitability requirements for the ESP review. In the case of the seismic and flooding reevaluation components of Recommendation 2.1, the staff determined that these issues were adequately addressed in the application and the staff's evaluation is documented in Chapter 2, Sections 2.5.2 (Vibratory Ground Motion), and 2.4.5 (Probable Maximum Surge and Seiche Flooding) and 2.4.6 (Probable Maximum Tsunami Hazards), respectively, of the staff's Final Safety Evaluation Report (FSER). The staff found the following recommendation topic was applicable to the PSEG Site ESP application: emergency preparedness (EP) staffing and communications (related to Recommendation 9.3).

Background

In response to the events at Fukushima resulting from the March 11, 2011, Great Tohoku earthquake and tsunami in Japan, the U.S. Nuclear Regulatory Commission (NRC) established the NTTF to conduct a systematic and methodical review of NRC processes and regulations (1) to determine whether the agency should make additional improvements to its regulatory system, and (2) to make recommendations to the Commission for policy directions. In July 2011, the NTTF issued a 90-day report, SECY-11-0093, "Near Term Report and Recommendations for Agency Actions Following the Events in Japan," (Agencywide Documents Access and Management System (ADAMS) Accession Number ML11186A950) identifying 12 recommendations. On September 9, 2011, in SECY-11-0124, "Recommended Actions to Be Taken without Delay from the NTTF Report" (ADAMS Accession No. ML11245A144), the staff submitted to the Commission for its consideration NTTF recommendations that can and—in the staff's judgment—should be partially or entirely initiated without delay. In SECY-11-0124, the staff identified and concluded that specific actions to address a subset of the NTTF recommendations would provide the greatest potential for improving safety in the near term:

1. Recommendation 2.1: Seismic and Flood Hazard Reevaluations

2. Recommendation 2.3: Seismic and Flood Walkdowns

3. Recommendation 4.1: Station Blackout Regulatory Actions

4. Recommendation 4.2: Equipment Covered under Title 10 of the *Code of Federal Regulations* (10 CFR) 50.54(hh)(2)

5. Recommendation 5.1: Reliable Hardened Vents for Mark I Containments

6. Recommendation 8: Strengthening and Integration of Emergency Operating Procedures, Severe Accidents Management Guidelines, and Extensive Damage Mitigation Guidelines

7. Recommendation 9.3: Emergency Preparedness Regulatory Actions (staffing and communications).

On October 3, 2011, in SECY-11-0137, "Prioritization of Recommended Actions to Be Taken in Response to Fukushima Lessons Learned" (ADAMS Accession No. ML11272A203), the staff

identified two actions in addition to the actions discussed in SECY-11-0124 that had the greatest potential for improving safety in the near term. The additional actions are as follows:

- Inclusion of Mark II containments in the staff's recommendation for reliable hardened vents associated with NTTF Recommendation 5.1

- The implementation of Spent Fuel Pool (SFP) instrumentation proposed in Recommendation 7.1

The staff also proposed to the Commission three tiers of prioritization for the NTTF recommendations. The first tier consists of those NTTF recommendations that the staff determined should be started without unnecessary delay and for which sufficient resource flexibility, including availability of critical skill sets, exists. The second tier consists of those NTTF recommendations that could not be initiated in the near term due to factors that include the need for further technical assessment and alignment, dependence on Tier 1 issues, or availability of critical skill sets. These actions do not require long-term study and can be initiated when sufficient technical information and applicable resources become available. The third tier consists of those NTTF recommendations that require further staff study to support a regulatory action, have an associated shorter-term action that needs to be completed to inform the longer-term action, are dependent on the availability of critical skill sets, or are dependent on the resolution of NTTF Recommendation 1 (See SECY-11-0093).

On February 17, 2012, in SECY-12-0025, "Proposed Orders and Requests for Information in Response to Lessons Learned from Japan's March 11, 2011, Great Tohoku Earthquake and Tsunami" (ADAMS Accession No. ML12039A103), the staff provided the Commission with proposed orders and requests for information to be issued to all power reactor licensees and holders of construction permits.

On March 9, 2012, the Commission approved issuing the proposed orders with some modifications in the staff requirements memorandum (SRM) to SECY-12-0025. As set forth in SRM-SECY-12-0025, the proposed orders are needed for continued adequate protection or to provide a substantial increase in the protection of public health and safety. In accordance with its statutory authority under Section 161 of the Atomic Energy Act of 1954, as amended (the Act), the Commission may impose these requirements.

On March 12, 2012, the NRC issued Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events"; and Order EA-12-051, "Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation" (ADAMS Accession Nos. ML12054A735 and ML12054A679, respectively), to the appropriate licensees and permit holders, including the only holder at that time of a Combined License (COL) issued under 10 CFR Part 52, Southern Nuclear Operating Company, the licensee and operator of the Vogtle Electric Generating Plant Units 3 and 4. The staff also issued the requests for information pursuant to 10 CFR 50.54(f) regarding Recommendations 2.1, 2.3, and 9.3 to the appropriate licensees and construction permit holders in letters dated March 12, 2012 (ADAMS Accession No. ML12053A340).

The following Tier 1 recommendations from SECY-11-0137, as modified in SECY-12-0025, were considered in determining those that are applicable to the PSEG Site ESP application review:

1. Recommendation 2.1: Seismic and Flood Hazard Reevaluations

2. Recommendation 2.3: Seismic and Flood Walkdowns

3. Recommendation 4.1: Station Blackout Regulatory Actions

4. Recommendation 4.2: Equipment Covered under 10 CFR 50.54(hh)(2)

5. Recommendation 5.1: Reliable Hardened Vents for Mark I and Mark II Containments

6. Recommendation 7.1: Spent Fuel Pool Instrumentation

7. Recommendation 8: Strengthening and Integration of Emergency Operating Procedures, Severe Accidents Management Guidelines, and Extensive Damage Mitigation Guidelines

8. Recommendation 9.3: Emergency Preparedness Regulatory Actions (staffing and communications)

According to the "Applicability and Implementation Strategy for New Reactors," the Fukushima Task Force concluded that Recommendations 2.3, 4.1, 4.2, 5.1, 7.1, and 8 are applicable to design certification applications and/or combined license applications. The staff determined that within the scope of a site suitability determination, none of these recommendations would be applicable to the PSEG Site ESP application. However, since PSEG submitted a complete and integrated emergency plan, the staff determined that the following recommendation is applicable and should be addressed by the PSEG Site ESP applicant:

> Recommendation 9.3: Emergency preparedness regulatory actions (staffing and communications) - Order licensees to do the following until rulemaking is complete:
>
> - Determine and implement the required staff to fill all necessary positions for responding to a multi-unit event.
>
> - Provide a means to power communications equipment needed to communicate onsite (e.g., radios for response teams and between facilities) and offsite (e.g., cellular telephones and satellite telephones) during a prolonged station blackout.

The staff determined that the remaining Tier 1 recommendations did not need to be considered further in the PSEG Site ESP application review. The applicant evaluated the seismic and flood hazards using current guidance and methodologies. For the seismic hazard, consistent with guidance in Regulatory Guide 1.208, "A Performance-Based Approach to Define the Site-Specific Earthquake Ground Motion," regarding the need to consider the latest information in the evaluation of seismic hazard, this included consideration of the NUREG–2115, "Central and Eastern United States Seismic Source Characterization for Nuclear Facilities," (CEUS-SSC) model as described in FSER Chapter 2, Section 2.5.2. For flood hazard, as evaluated in FSER Chapter 2, Sections 2.4.5 and 2.4.6, the applicant used Regulatory Guide 1.59, "Design Basis Floods for Nuclear Power Plants," as supplemented by best current practices, as it relates to providing assurance that natural flooding phenomena that could potentially affect the site have been appropriately identified and characterized. Thus, the staff determined that the applicant has already addressed the seismic and flood hazard reevaluation portion of Recommendation 2.1. Therefore, there are no additional requirements left to be addressed in Recommendation 2.1 for seismic and flooding reevaluations applicable to the PSEG Site ESP application. Additionally, the staff determined that Recommendation 2.3 was not applicable to

the PSEG Site ESP application because construction is not part of the ESP application; Recommendation 4.2 can only be addressed at the design and operating stages, and Recommendation 7.1 is not applicable because the applicant has not selected a reactor technology, and instead used a plant parameter envelope (PPE) approach, and there is no spent fuel pool at the ESP stage. The staff also determined that Recommendation 5.1 is not applicable because it applies to boiling-water reactor plant designs with Mark I and Mark II containments, and the applicant has not selected a reactor technology at the ESP stage.

The staff noted that Recommendations 4.1 and 8 did not need to be considered further because SECY-11-0137 (and the associated SRM) directs that regulatory actions associated with these recommendations should be initiated through rulemaking.

The staff issued a request for additional information (RAI) related to the implementation of Fukushima NTTF recommendations pertaining to EP staffing and communications based on Recommendation 9.3, as modified by SRM-SECY-12-0025. In the following section, the staff provided an introduction and the regulatory basis for this recommendation. In addition, in the "Technical Evaluation and Conclusions" section below, the staff provided references to specific sections in the FSER where the staff's safety evaluation and conclusions for this recommendation is documented.

20.1 Recommendation 9.3, Emergency Preparedness

20.1.1 Introduction

The accident at Fukushima reinforced the need for effective emergency preparedness (EP). The objective of EP is to ensure that the capability exists for a licensee (or will exist for a COL applicant) to implement measures that mitigate the consequences of a radiological emergency and to provide for protective actions of the public. The accident at Fukushima highlighted the need to determine the staffing needed to respond to a multi-unit event. Additionally, there is a need to ensure that the communication equipment relied on has adequate power to coordinate the response to an event during an Extended Loss of A/C Power (ELAP).

20.1.2 Regulatory Basis

The requirements for EP for beyond-design-basis external events are established or described in the following:

- 10 CFR 50.47(b)(1) states, in part, "and each principal response organization has staff to respond and to augment its initial response on a continuous basis."

- 10 CFR 50.47(b)(2) states, in part, "adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available.…"

- 10 CFR 50.47(b)(6) states that provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.

- 10 CFR Part 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," Section IV. E.9 states, in part, that adequate provisions shall be made and described for emergency facilities and equipment including "at least one onsite and one offsite communications system; each system shall have a backup power source.

The guidance for EP for beyond-design-basis external events is established or described in the following:

- SECY-12-0025 states, in part, that the staff will also request all COL applicants to provide information required by the orders and request for information letters described in this paper, as applicable, through the review process.

- Nuclear Energy Institute (NEI) 12–01, "Guideline for Assessing Beyond Design Basis Accident Response Staffing and Communications Capabilities," Revision 0, May 2012 (ADAMS Accession No. ML12125A412).

- 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," Section B, "Onsite Emergency Organization," states, in part, the following:

  > 5. Each licensee shall specify the positions or title and major tasks to be performed by the persons to be assigned to the functional areas of emergency activity. . . .These assignments shall cover the emergency functions in Table B-1 entitled, "Minimum Staffing Requirements for Nuclear Power Plant Emergencies." The minimum on-shift staffing levels shall be as indicated in Table B-1. The licensee must be able to augment on-shift capabilities within a short period after declaration of an emergency. This capability shall be as indicated in Table B-1.

- NUREG–0696, "Functional Criteria for Emergency Response Facilities," offers guidance on how to meet the requirements of 10 CFR Part 50, Appendix E, and describes the onsite and offsite communications requirements for the licensee's emergency response facilities.

20.1.3 Technical Evaluation and Conclusion

Regarding NTTF Recommendation 9.3 (Emergency Preparedness), the NRC's request for information letter of March 12, 2012, requested that all power reactor licensees and holders of construction permits (in active or deferred status) assess their current staffing levels and determine the appropriate staff to fill all necessary positions for responding to a multi-unit event during a beyond-design-basis natural event, and determine if any enhancements are appropriate. Single-unit sites should provide the requested information, as it pertains to an extended loss of all alternating current (ac) power and impeded access to the site.

With regard to communications, NTTF Recommendation 9.3 requests that all power reactor licensees and holders of construction permits (in active or deferred status) assess their current communications systems and equipment used during an emergency event, including consideration of any enhancements that might be appropriate for the emergency plan with respect to the communications requirements of 10 CFR 50.47, 10 CFR Part 50, Appendix E, and NUREG-0696. In addition, the means necessary to power the new and existing communications equipment during a prolonged station blackout should be considered.

Accordingly, the staff requested that the PSEG Site ESP applicant address staffing and communications provisions to enhance emergency preparedness. The staff reviewed the applicant's submitted information and documented its evaluation and conclusions involving the staffing levels and communications in FSER Chapter 13, Sections 13.3.4.3.2 and 13.3.4.3.6, respectively.