

February 28, 2012

MEMORANDUM TO: R. W. Borchardt
Executive Director for Operations

FROM: Eric J. Leeds, Director */RA/*
Office of Nuclear Reactor Regulation

SUBJECT: JUSTIFICATION FOR INFORMATION REQUEST RELATED TO
NEAR-TERM TASK FORCE RECOMMENDATIONS 2.1, 2.3,
AND 9.3, IN ACCORDANCE WITH TITLE 10 OF THE *CODE OF
FEDERAL REGULATIONS*, SECTION 50.54(f)

This memorandum seeks approval to request plant-specific information from licensees, related to the resolution of certain recommendations found in SECY-11-0093, "Near-Term Report and Recommendations for Agency Actions Following the Events in Japan," (Agencywide Documents Access and Management System Accession No. ML11186A959). This request is in accordance with the provisions of Sections 161.c, 103.b, and 182.a of the Atomic Energy Act of 1954, as amended (the Act), and the U.S. Nuclear Regulatory Commission (NRC) regulation in Title 10 of the *Code of Federal Regulations* (10 CFR) 50.54(f).

The regulations in 10 CFR 50.54(f) state the following:

The licensee shall at any time before expiration of the license, upon request of the Commission, submit, as specified in §50.4, written statements, signed under oath or affirmation, to enable the Commission to determine whether or not the license should be modified, suspended, or revoked. Except for information sought to verify licensee compliance with the current licensing basis for that facility, the NRC must prepare the reason or reasons for each information request prior to issuance to ensure that the burden to be imposed on respondents is justified in view of the potential safety significance of the issue to be addressed in the requested information. Each such justification provided for an evaluation performed by the NRC staff must be approved by the Executive Director for Operations or his or her designee prior to issuance of the request.

The NRC is requesting that licensees: (1) reevaluate the seismic and flooding hazards using present day methods and guidance to identify vulnerabilities, (2) perform seismic and flooding walkdowns developed from the plant's current licensing basis, including monitoring and maintenance for protective features, until longer term actions are completed, (3) assess their current communications systems and equipment used during an emergency event and

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determine if enhancements are necessary to ensure facilities are prepared to handle a prolonged, multiunit station blackout (SBO), and (4) assess their current staffing levels and determine the staff needed to fill all necessary positions for responding to a multiunit event during a beyond-design-basis natural event. Based on this evaluation, licensees would determine if enhancements to staffing levels are necessary. Both licensees and the NRC would also incur costs as a result of the information request.

The NRC believes the hazard reevaluation and analysis of related information that is solicited by the request are justified by the potential safety improvements that could prevent or mitigate the consequences of core damage and uncontrolled release of radioactive material arising from an unexpected or quickly evolving natural hazard. The information collected would also be used to inform rulemakings that would result from the Near-Term Task Force (NTTF) recommendations discussed below. Moreover, the reevaluation and analysis would serve to meet the NRC's obligation under Section 402 of the Consolidated Appropriations Act for 2012 (Public Law 112-74), which states:

The Nuclear Regulatory Commission shall require reactor licensees to re-evaluate the seismic, tsunami, flooding, and other external hazards at their sites against current applicable Commission requirements and guidance for such licenses as expeditiously as possible, and thereafter when appropriate, as determined by the Commission, and require each licensee to respond to the Commission that the design basis for each reactor meets the requirements of its license, current applicable Commission requirements and guidance for such license. Based upon the evaluations conducted pursuant to this section and other information it deems relevant, the Commission shall require licensees to update the design basis for each reactor, if necessary.

Following the accident at the Fukushima Dai-ichi nuclear power plant that resulted from the March 2011 Tohoku earthquake and tsunami, the Commission established the NTTF. Its charter, dated March 30, 2011, tasked the NTTF with conducting a systematic and methodical review of NRC processes and regulations to determine if the agency should make additional improvements to its regulatory process. Ultimately, the NTTF report, in SECY-11-0093, established a comprehensive set of recommendations, using a decision rationale built around the defense-in-depth concept in which each level of defense in depth (namely, protection, mitigation, and emergency preparedness (EP)) is critically evaluated for its completeness and effectiveness in performing its safety function.

The current regulatory approach, and the resulting plant capabilities, allowed the NRC and the NTTF to conclude that a sequence of events like the one that occurred in the Fukushima accident is unlikely to occur in the United States. The NRC concluded that continued plant operation and the ongoing licensing activities do not pose an imminent risk to public health and safety.

Current NRC regulations and associated regulatory guidance provide a robust regulatory approach to the evaluation of site hazards associated with natural phenomena. However, this framework has evolved over time as new information has become available about site hazards and their potential consequences. As a result, the current licensing basis, design, and level of protection from natural phenomena differ among the existing operating reactors in the United States, depending on when the plant was constructed. Additionally, the assumptions and

factors that the NRC considered in determining the level of protection necessary at these sites vary depending on a number of contributing factors.

Protection from natural phenomena is critical for the safe operation of nuclear power plants. Failure to protect systems, structures, and components (SSCs) important to safety from design-basis natural phenomena with appropriate safety margins may lead to common cause failures with significant consequences, as demonstrated at Fukushima. Additionally, the consequences of a natural phenomena event may be exacerbated by a “cliff-edge” effect, in that, a small increase in the hazard (e.g., flooding level) may sharply increase the number of SSCs affected.

As the state of knowledge of these hazards has evolved significantly since the licensing of many of the U.S. plants, and given that the level of protection differs from site to site, the NRC finds it necessary to confirm the adequacy of the protection from hazards assumed for U.S. plants. The evaluations requested by this letter do not revise the design basis of a plant. Instead, the NRC would use the evaluations to determine if additional regulatory action is necessary and, if so, to guide that action.

In addition, collection of this information would support the rulemaking the NRC staff plans to undertake in response to the NTTF report to require licensees to confirm seismic and flooding hazards every 10 years, address any new and significant information, and update the design basis for SSCs important to safety against the updated hazards, as needed. However, before the rulemaking takes effect, the staff needs to receive plant-specific information to determine whether any nuclear design bases need to be modified. The purpose of this 10 CFR 50.54(f) letter is to obtain that information.

The NRC’s defense-in-depth strategy includes multiple layers of protection: (1) prevention of accidents by virtue of the design, construction, and operation of a plant, (2) mitigation features to prevent radioactive releases should an accident occur, and (3) EP programs. Thus, if prevention and mitigation are not successful in averting the release of radioactive materials from the plant, EP provides additional defense in depth in the protection of public health and safety. The accident at Fukushima reinforced the need for effective EP, the objective of which is to ensure the ability to use adequate measures to mitigate the consequences of a radiological emergency. The accident at Fukushima also highlighted the need to determine the number and qualifications of staff required to fill all the positions necessary to respond to a multiunit event. Finally the accident at Fukushima illustrated a need to ensure that a plant can power the communication equipment relied upon to coordinate the event response during a prolonged SBO.

For the reasons stated above, these requests for information are justified in view of the potential safety significance of the issues to be addressed and will serve to fulfill the NRC’s mandate under Section 402 of Public Law 112-74.

R. Borchardt

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Based on the information presented in this memorandum, I find the issuance of the information request, as described above, is justified and meets the requirements of the Act, 10 CFR 50.54(f), applicable provisions of Management Directive and Handbook MD 8.4, and Office of Nuclear Reactor Regulations procedures and guidance.

Approved: **/RA by Martin J. Virgilio for/**
R. W. Borchardt
Executive Director for Operations

Date: 3/1/12

R. Borchardt

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Executive Director for Operations

Date: 3/1/12

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