

March 12, 2012

All Power Reactor Licensees and  
Holders of Construction Permits in  
Active or Deferred Status

SUBJECT: REQUEST FOR INFORMATION PURSUANT TO TITLE 10 OF THE *CODE OF FEDERAL REGULATIONS* 50.54(f) REGARDING RECOMMENDATIONS 2.1, 2.3, AND 9.3, OF THE NEAR-TERM TASK FORCE REVIEW OF INSIGHTS FROM THE FUKUSHIMA DAI-ICHI ACCIDENT

This letter is being issued 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 or Commission) regulation in Title 10 of the *Code of Federal Regulations* (10 CFR), Part 50, Section 50.54(f). Pursuant to these provisions of the Act or this regulation, you are required to provide further information to support the evaluation of the NRC staff recommendations for the Near-Term Task Force (NTTF) review of the accident at the Fukushima Dai-ichi nuclear facility. The review will enable the staff to determine whether the nuclear plant licenses under your responsibility should be modified, suspended, or revoked. For combined license (COL) holders under 10 CFR Part 52, the issues in NTTF Recommendation 2.1 and 2.3 regarding seismic and flooding reevaluations and walkdowns are resolved. Therefore, COL holders are not required to respond to Enclosures 1 through 4 of this letter. Similarly, information requests in Enclosures 3 and 4 are not applicable to holders of construction permits under 10 CFR Part 50. Operating power reactor licensees under 10 CFR Part 50 are required to respond to all of the information requests.

#### BACKGROUND

Following the accident at the Fukushima Dai-ichi nuclear power plant resulting from the March 11, 2011, Great Tōhoku Earthquake and subsequent tsunami, the NRC established the NTTF in response to Commission direction. The NTTF Charter, dated March 30, 2011, tasked the NTTF with conducting a systematic and methodical review of NRC processes and regulations and determining if the agency should make additional improvements to its regulatory system. Ultimately, a comprehensive set of recommendations contained in a report to the Commission (dated July 12, 2011, SECY-11-0093 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML111861807)) was developed using a decision rationale built around the defense-in-depth concept in which each level of defense-in-depth (namely prevention, mitigation, and emergency preparedness (EP)) is critically evaluated for its completeness and effectiveness in performing its safety function.

The current regulatory approach, and the resultant plant capabilities, gave the NTTF and the NRC the confidence to conclude that an accident with consequences similar to the Fukushima accident is unlikely to occur in the United States (U.S.). The NRC concluded that continued plant operation and the continuation of licensing activities did not pose an imminent risk to public health and safety.

On August 19, 2011, following issuance of the NTTF report, the Commission directed the NRC staff in staff requirements memorandum (SRM) for SECY-11-0093 (ADAMS Accession No. ML112310021), in part, to determine which of the recommendations could and should be implemented without unnecessary delay.

On September 9, 2011, the NRC staff provided SECY-11-0124 to the Commission (ADAMS Accession No. ML11245A158). The document identified those actions from the NTTF report that should be taken without unnecessary delay. As part of the October 18, 2011, SRM for SECY-11-0124 (ADAMS Accession No. ML112911571), the Commission approved the staff's proposed actions, including the development of three information requests under 10 CFR 50.54(f). The information collected would be used to support the NRC staff's evaluation of whether further regulatory action was needed in the areas of seismic and flooding design, and EP.

On December 23, 2011, the Consolidated Appropriations Act, Public Law 112-074, was signed into law. Section 402 of the law also requires a reevaluation of licensees' design basis for external hazards, and expands the scope to include other external events, as described below:

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 licensees 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.

Reevaluation of the design basis with respect to other external events will be requested later as a separate action from this letter. However, licensees are encouraged to consider this when performing the Recommendation 2.3 walkdowns for flooding.

In the context of Recommendation 2.1 of this 10 CFR 50.54(f) letter, the NRC staff definition of vulnerability<sup>1</sup> is broad enough to capture both prevention and mitigation aspects and also include features of protection such as hardware, procedures, temporary measures, and potentially available off-site resources. Such a definition allows both licensees and the NRC staff to assess plant response to a natural hazard event as an integrated system providing consideration for all available resources. Information resulting from such an evaluation will help the staff decide upon the most appropriate regulatory action focusing on the most beneficial safety enhancements.

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<sup>1</sup> For the purpose of this document, plant-specific vulnerabilities are defined as those features important to safety that when subject to an increased demand due to the newly calculated hazard evaluation have not been shown to be capable of performing their intended safety functions.

**ACTION**

The NRC has concluded that it requires the information requested in the enclosures to this letter to verify the compliance with your plant's design basis and to determine if additional regulatory actions are appropriate. Therefore, you are required, pursuant to Section 182(a) of the Atomic Energy Act of 1954, as amended, and 10 CFR 50.54(f), to submit a response to this letter. You must confirm receipt of this letter within 30 days, however, each attachment contains a topic-specific schedule for response. Your response must be written and signed under oath or affirmation.

The NRC has provided information in each enclosure on acceptable approaches for responding to the information requests. Alternate approaches with appropriate justification will be considered.

This request contains information collection requirements that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). These information collections were approved by the Office of Management and Budget (OMB) under an expedited clearance, approval number 3150-0211, which expires September 30, 2012. Prior to the expiration date, the NRC will submit the collection to OMB for renewal.

The burden for these information collections is estimated to average 13,300 hours per response, as detailed in Table 1. This estimate includes the time for reviewing instructions, searching existing data sources, gathering data, performing necessary analyses, and completing and reviewing the collection of information. These estimates represent the average level of effort per plant; actual levels of effort may vary depending upon the results of the hazard analyses. Send comments regarding this burden estimate or any other aspect of these information collections, including suggestions for reducing the burden, to the Information Services Branch (T-5 F53), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by email to [INFOCOLLECTS.RESOURCE@NRC.GOV](mailto:INFOCOLLECTS.RESOURCE@NRC.GOV); and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0211), Office of Management and Budget, Washington, DC 20503.

The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid OMB control number.

**Table 1 Burden Estimate (hours)**

	Hazard Evaluation	Risk/Integrated Assessment	Walkdowns	EP Communications	EP Staffing
Enclosure 1	1700	3500	N/A	N/A	N/A
Enclosure 2	1300	2700	N/A	N/A	N/A
Enclosure 3	N/A	N/A	2000	N/A	N/A
Enclosure 4	N/A	N/A	2000	N/A	N/A
Enclosure 5	N/A	N/A	N/A	50	50

In accordance with 10 CFR 2.390, “public inspections, exemptions, and requests for withholding,” a copy of this letter and your response will be made available for inspection and copying at the NRC Website at [www.nrc.gov](http://www.nrc.gov), and/or at the NRC Public Document Room. If you believe that any of the information to be submitted meets the criteria in 10 CFR 2.390 for withholding from public disclosure, you must include sufficient information, as required by the subsection, to support such a determination.

## INFORMATION REQUEST JUSTIFICATION

### Hazard Reevaluations and Walkdowns

Current NRC regulations and associated regulatory guidance provide a robust regulatory approach for the evaluation of site hazards associated with natural phenomena. However, this framework has evolved over time as new information regarding site hazards and the potential consequence has become available. As a result, the licensing basis, design, and level of protection from natural phenomena differ among the existing operating reactors in the U.S., depending on when the plant was constructed and licensed for operation. Additionally, the assumptions and factors that were considered in determining the level of protection necessary at these sites vary depending on a number of contributing factors. To date, the NRC has not undertaken a comprehensive re-establishment of the design basis for existing plants to reflect the current state of knowledge or current licensing criteria.

Protection from natural phenomena is critical for safe operation of nuclear power plants. Failure to protect structures, systems, and components (SSCs) important to safety from natural phenomena with appropriate safety margins has the potential to result in common-cause failures with significant consequences, as was demonstrated at Fukushima. Additionally, the consequences of an accident from some natural phenomena may be aggravated 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 plants within the U.S., and given the demonstrated consequences from Fukushima, it is necessary to confirm the appropriateness of the hazards assumed for U.S. plants and their ability to protect against them.

In accordance with Commission direction, the NRC staff is implementing the following:

A hazard evaluation consistent with Recommendation 2.1 will be implemented in two phases as follows:

- Phase 1: Issue 10 CFR 50.54(f) letters to all licensees to request that they reevaluate the seismic and flooding hazards at their sites using updated seismic and flooding hazard information and present-day regulatory guidance and methodologies and, if necessary, to request they perform a risk evaluation. The evaluations associated with the requested information in this letter do not revise the design basis of the plant. This letter implements Phase 1.

- Phase 2: Based upon the results of Phase 1, the NRC staff will determine whether additional regulatory actions are necessary (e.g., update the design basis and SSCs important to safety) to provide additional protection against the updated hazards.

The NRC staff's goal is to complete Phase 1 and collect sufficient information to make a regulatory decision for most plants within five years. It is anticipated that collection of this information for all plants will take no longer than seven years.

Information collection on hazard protection walkdowns consistent with Recommendation 2.3 will be implemented in a single-phase. The results from these walkdowns are expected to capture any degraded, non-conforming conditions, and cliff-edge effects for flooding so that they are addressed by the licensee's corrective action program and will provide input to Recommendation 2.1. It is anticipated that this effort will be completed within approximately one year.

### Emergency Preparedness

Further, if mitigation is not successful in preventing the release of radioactive materials from the plant, EP provides additional defense-in-depth to minimize exposure to radiation to the public. The accident at Fukushima reinforced the need for effective EP, the objective of which is to ensure the capability to implement effective measures to mitigate the consequences of a radiological emergency. The accident at Fukushima highlighted the need to determine and implement the required staff to fill all necessary positions responding to a multi-unit event. Additionally, there is a need to ensure that the communication equipment relied upon to coordinate the event response during a prolonged station blackout can be powered.

The reevaluation and related analysis being conducted under this request are justified by the need to enhance those EP measures that support the prevention or mitigation of core damage and uncontrolled release of radioactive material. The justification in this letter, as well as the background and discussions in each of its enclosures, provide the reasoning and justification for this request. Moreover, the reevaluation and related analysis will serve to meet NRC's obligation under the Consolidated Appropriations Act, for 2012 (*Pub Law 112-74*), Section 402, and also affords licensees the opportunity to inform the NRC regarding safety-related decisions.

If you have any questions on this matter, please contact your NRC licensing Project Manager.

Sincerely,

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Eric J. Leeds, Director  
Office of Nuclear Reactor Regulation

*/ra/*

Michael R. Johnson, Director  
Office of New Reactors

Enclosures:

1. Recommendation 2.1: Seismic
2. Recommendation 2.1: Flooding
3. Recommendation 2.3: Seismic
4. Recommendation 2.3: Flooding
5. Recommendation 9.3: EP
6. Licensees and Holders of Construction Permits

cc: Listserv

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Distribution: See next page

**ADAMS Accession Nos.:** ML12056A046 (Pkg.), ML12053A340 (Ltr.) \*e-mail concurrence

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RidsNrrPMLimerick

RidsNrrPMMcGuire

RidsNrrPMMillstone

RidsNrrPMMonticello

RidsNrrPMNineMilePoint

RidsNrrPMNorthAnna

RidsNrrPMOconee

RidsNrrPMOysterCreek

RidsNrrPMPalisades

RidsNrrPMPaloVerde

RidsNrrPM PeachBottom

RidsNrrPMPerry

RidsNrrPMPilgrim

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RidsNrrPMRiverBend

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