

FINAL SUPPORTING STATEMENT  
FOR  
REQUEST FOR INFORMATION PURSUANT TO 10 CFR 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 EVENT  
(3150-0211)  
EXTENSION

Description of the Information Collection

Title 10 of the *Code of Federal Regulations* (10 CFR) 50.54(f) of the NRC regulations provides that a licensee shall, upon request by the Commission, submit written statements under oath or affirmation to enable the Commission to determine whether a license should be modified, suspended, or revoked. When the NRC staff has identified a potential health, safety, environmental or security deficiency at a particular plant or series of plants, the staff may require a licensee or licensees to submit information to evaluate the particular situation and to make a determination whether the situation is serious enough to require that the Commission issue an Order to modify, revoke, or suspend the license to operate a nuclear reactor.

Following events at the Fukushima Dai-ichi nuclear power plant resulting from the March 11, 2011 Great Tōhoku Earthquake and subsequent tsunami, and in response to requirements contained in Section 402 of the Consolidated Appropriations Act (Public Law 112-074), the NRC to issued letters to 104 power reactors licensees pursuant to 10 CFR 50.54(f) requesting the following information:

- Seismic and flooding hazard reevaluations to determine if further regulatory action is necessary
- Walkdowns to confirm compliance with the current licensing basis and provide input to the hazard reevaluations
- Analysis of the Emergency Preparedness capability with respect to staffing and communication ability during a prolonged multiunit event

The NRC issued the letters to ensure compliance with requirements in Section 402 of the Consolidated Appropriations Act for 2012 and the timelines set forth in the conference report for PL 112-74:

The conferees recognize the progress that the Nuclear Regulatory Commission has made on the recommendations of the Near Term Task Force. Commission staff has proposed a prioritized list of the Task Force recommendations that reflects the order regulatory actions are to be taken. The conferees direct the Commission to implement these recommendations consistent with, or more expeditiously than, the “schedules and milestones” proposed by NRC staff on October 3, 2011. The conferees direct the Commission to maintain an implementation schedule such that the remaining recommendations (not identified as Tier 1 priorities) will be evaluated and acted upon as expeditiously as practicable. The conferees request that the Commission provide a written status report to the House and Senate Committees on Appropriations on its

implementation of the Task Force recommendations on the one year anniversary of the Fukushima disaster.

The current request is for a three year clearance of the information collected in the 50.54(f) letters. This extension is necessary because, although the letters were sent to licensees in March 2012, the requirements described in the letter will be implemented over approximately the next seven years.

## A. JUSTIFICATION

### 1. Need For and Practical Utility of the Collection of Information

Protection from natural phenomena is critical for safe operation of nuclear power plants. Failure to protect structures, systems, and components 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 structures, systems, and components affected.

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 their 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 United States, 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.

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 response to the events the Fukushima Dai-ichi nuclear power plant resulting from the March 11, 2011 Great Tōhoku Earthquake and subsequent tsunami, Congress directed the NRC in Section 402 of the Consolidated Appropriations Act (Public Law 112-074) to collect information from reactor licensees 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.

In accordance with Commission direction, the information collection request includes the following:

**General**

- Confirmation of receipt of the 10 CFR 50.54(f) request within 30 days. The required response is a written statement, signed under oath or affirmation.
- Response indicating inability to comply with information request (60 days for emergency preparedness responses and 90 days for all other requests)

**Hazard reevaluation**

The reevaluation and related analysis will also 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.

- Submission of method for performing reevaluation and assessment of seismic and flooding hazards
- Submission of reevaluation of site seismic and flooding hazards
- Submission of an assessment of the impact on the plant of the reevaluated hazards

**Walkdowns**

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.

- Submission of method for performing seismic and flooding walkdowns
- Submission report on seismic and flooding walkdowns

**Emergency Preparedness (EP)**

The accident at Fukushima reinforced the need for effective EP, the objective of which is to ensure the ability to implement effective measures to mitigate the consequences of a radiological emergency. In addition, the accident at Fukushima highlighted the need to determine the number and qualifications of staff to fill all necessary positions to respond to a multi-unit event. Finally, 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.

- Submission of emergency preparedness communications assessment and draft and final assessments of staffing

The NRC staff are engaged with stakeholders in developing generic guidance for licensee responses to the information collections contained in the 50.54(f) letters. The NRC staff issued guidance on the following dates:

- Guidance for performing the Integrated Assessment for External Flooding, November 30, 2012
- Guidance for Performing a Tsunami, Surge, or Seiche Hazard Assessment, January 4, 2012
- Guidance on Performing a Seismic Margin Assessment, November 16, 2012

In addition, the NRC staff are developing Guidance for Estimating Flooding Hazards due to Dam Failure. A draft version of this guidance is scheduled to be made available on March 1, 2013, and the final guidance document is scheduled to be issued on April 30, 2013.

2. Agency Use of Information

Using the information gathered by these information requests, the NRC will determine if additional regulatory action is necessary. This may include actions such as modifying the design basis hazard or ordering plant modifications for a plant if the NRC determines that the reevaluated hazard justifies such an action.

3. Reduction of Burden Through Information Technology

There are no legal obstacles to reducing the burden associated with this information collection. The NRC encourages respondents to use information technology when it would be beneficial to them. NRC issued a regulation on October 10, 2003 (68 FR 58791), consistent with the Government Paperwork Elimination Act, which allows its licensees, vendors, applicants, and members of the public the option to make submissions electronically via CD-ROM, e-mail, special Web-based interface, or other means. The NRC has an Electronic Information Exchange system that provides an electronic submission capability for NRC licensees to voluntarily submit documents electronically. This system provides certificates of authority for electronic signatures with licensees, contractors, and other Government organizations. It is estimated that approximately 65% of the potential responses are filed electronically.

4. Effort to Identify Duplication and Use Similar Information

No sources of similar information are available. There is no duplication of requirements. NRC has in place an ongoing program to examine all information collections with the goal of eliminating all duplication and/or unnecessary information collections.

The information request is based upon the lessons learned from the Fukushima accident. It requests licensees to perform reevaluations to modern standards and consider additional situations such as natural disasters that affect multiple units at once. This type of information or its analog is not currently available to the NRC.

5. Effort to Reduce Small Business Burden

None of the licensees responding to this collection are small businesses.

6. Consequences to Federal Program or Policy Activities if the Collection Is Not Conducted or Is Conducted Less Frequently

As described in the justification for this action, the NRC considers this information to be critical to its mission. The NRC finds that the current schedule is necessary to avoid unnecessary delay.

Additionally, as described in the justification for this action, the Consolidated Appropriations Act, Public Law 112-074, Section 402 requires a reevaluation of licensees' design basis for external hazards. The NRC considers that its implementation of Recommendation 2.1 and 2.3, which represent the vast majority of the burden, satisfy this requirement. The conference report associated with the Public Law indicated that the NRC should complete this activity in accordance with, or faster, than the schedule proposed in SECY-11-0137.

7. Circumstances Which Justify Variation from OMB Guidelines

Not Applicable

8. Consultations Outside the NRC

Throughout the development of these letters, the NRC staff has solicited stakeholder input including feedback on the burden. The NRC staff made draft versions of the letters publically available and hosted seven public meetings to gather stakeholder feedback. Further, the Nuclear Energy Institute provided feedback to the NRC on the content of the letters, including the associated burden. The NRC staff considered all feedback in generating its burden estimate.

The information collection was approved on March 6, 2012, expiring September 30, 2012. As part of the renewal of the information collection, an opportunity for public comment on the information collection requirements in this package was published in the Federal Register on April 30, 2012 (77 FR 25503). Two comment letters were received:

- A comment letter was received from NEI on June 29, 2012. In contrast to NEI's initial comments, these comments focused more narrowly on the actual burden hours and provided additional details about the assumptions used.
- A comment letter was received from Dominion Resource Services, Inc. on July 9, 2012. This letter focused on the need for and practical utility of the collection, as well as the burden hour estimates.

A summary of these comments and NRC staff responses are included below.

*Comment 1:* NEI stated that the overall burden estimate is low, and that an accurate burden estimate per site is between 30,101 and 45,239 hours. Similarly, Dominion commented on the overall burden, stating that a more accurate burden per unit would be 30,426 hours.

*NRC Staff Response:* The difference between NRC burden estimates and commenters' burden estimates is partially attributed to a difference in the methods used to estimate burden for each activity. The commenters' burden estimates are based on the total number of hours to perform that activity, regardless of the year in which that activity occurs. NRC staff estimates are based on when licensees will be performing information collection activities in years 1 through 7, and burden for this submission only includes burden for years 1 through 3 (the current clearance period). Please see item #12 for a summary of NRC burden assumptions, including the years in which the burden is to be incurred.

The NRC staff revised estimates for some specific requirements based on comments from NEI (see NRC staff responses below), bringing NRC estimates more in line with commenters' estimates. When the total burden for all requirements is calculated using the revised NRC estimates (assuming a licensee would perform an SPRA rather than an SMA, because the SPRA is the more burdensome requirement), the total burden per site is estimated to be 25,797.6 hours. When this is adjusted to include only the burden accrued during the current clearance period, the annual burden per site is estimated to be 19,122.6 hours, annualized to 6,374.2 hours.

Further, NEI's comment is a general statement encompassing NEI's subsequent comments; therefore, the NRC staff has addressed burden estimates for specific requirements in detail below.

*Comment 2:* NEI stated that the burden associated with performing an SPRA (Seismic Probabilistic Risk Assessment) could take between 15,000 and 30,000 hours to complete.

*NRC Staff Response:* As discussed in responding to previous comments, the NRC staff concedes an SPRA is a resource intensive activity, but continues to remain confident in its estimate of the average burden of performing an SPRA of 8,450 hours. However, the NRC staff recognizes that there is a lot of uncertainty in estimating the burden of this activity. Therefore, in deference to NEI's position, the NRC has opted to increase the burden associated with performing the risk assessment by approximately 30%. The estimated burden to conduct SPRA was increased from 8,450 to 11,000 hours. In addition, the estimated burden to conduct a Seismic Margin Analysis (SMA) was increased from 2,700 to 3,500 hours.

*Comment 3:* NEI stated that the burden associated with performing flood hazard reevaluations and integrated assessments will take over 17,000 hours.

*NRC Staff Response:* The NRC staff remains confident in its estimate of the average burden associated with this activity. However, the NRC staff does recognize that there is a lot of uncertainty in estimating the burden for this activity. Therefore, in deference to NEI's position, the NRC has opted to increase the burden associated with performing the flooding hazard reevaluation and integrated assessment by approximately 30%. This change increases the estimated burden to perform the flooding hazard reevaluation from 1,300 hours to 1,690 hours. This increases the integrated assessment from 1,800 hours to 2,350 hours.

*Comment 4:* NEI concurred with the NRC's burden estimate for seismic walkdowns.

Comment 5: NEI stated that the burden associated with performing the flooding walkdowns would take between 3,300 and 4,500 hours.

*NRC Staff Response:* The NRC staff remains confident in its estimate of the average burden associated with this activity. However, the NRC staff does recognize that there is a lot of uncertainty in estimating the burden of this activity. Therefore, in deference to NEI's position, the NRC has opted to increase the burden associated with performing the flooding protection walkdowns procedures and reports by approximately 30%. This change increases the burden of responding from 2,000 hours (200 hours for procedures and 1,800 hours for the flooding walkdown report) to a total of 2,600 hours (260 hours for procedures and 2,340 hours for the flooding walkdown report).

*Comment 6:* Subsequent to issuance of the information request, licensees identified a dependence between implementing a recent rulemaking and their response for the EP assessment. Specifically, it was identified that the changes necessary for the new rule would need to be made prior to responding to the staffing portions of the EP assessment. Requests for a schedule extension for this portion have been received from all licensees. NEI indicates that the burden associated with generating the schedule extension request is 40 hours and the resultant burden of implementing this request is between 498 and 636 hours.

*NRC Staff Response:* The NRC staff revised the estimate to include the 40 hour burden per extension request. In addition, the estimates to respond to the emergency preparedness enclosure were increased to 500 hours (250 hours for communications analysis, 125 hours for initial staffing analysis and 125 hours for the final staffing analysis).

*Comment 7:* In response to the question, "Is the proposed collection of information necessary for the NRC to properly perform its functions?", Dominion stated that the initial steps that the agency took in response to the events at the Fukushima Dai-ichi nuclear power plant were necessary. These steps include prioritizing the recommendations from the Near-Term Task Force and determining which would be recommended for immediate implementation and conducting public meetings to gather input on how to proceed.

*NRC Staff Response:* The NRC staff agrees with the commenter. Following the accident at the Fukushima Dai-ichi nuclear power plant, 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 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) is critically evaluated for its completeness and effectiveness in performing its safety function. Following issuance of the NTTF report, the Commission directed the NRC staff to determine which of the recommendations could and should be implemented without unnecessary delay. The NRC staff provided a document identifying those actions from the NTTF report that should be taken without unnecessary delay. On

October 18, 2011, the Commission approved the staff's proposed actions, including the development of three information requests under 10 CFR 50.54(f).

*Comment 8:* Dominion stated that the information collection does not have practical utility as applied, because the information request for beyond design basis events is not necessary for the NRC to properly perform its functions. Dominion stated that the information request should be delayed until the NRC performs an assessment of the magnitude of the safety benefit from implementing FLEX (an industry-supported approach for using portable, diverse equipment as a means of providing core cooling, delaying heat removal and spent fuel pool instrumentation to prevent core damage in a beyond design basis event).

*NRC Staff Response:* As stated in the *NRC Staff Response to Renewal Comment 7* above, the NRC staff identified, and the Commission approved, the actions that the NRC should take without unnecessary delay. These actions included the information collection requests in the 50.54(f) letters: seismic and flooding hazard reevaluations, walkdowns to confirm compliance with the current licensing basis and provide input to the hazard reevaluations, and analysis of the Emergency Preparedness capability with respect to staffing and communication ability during a prolonged multiunit event.

Congress directed the NRC in Section 402 of the Consolidated Appropriations Act (Public Law 112-074) to collect information from reactor licensees 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.

In addition, timelines set forth in the conference report for PL 112-74 state:

The conferees recognize the progress that the Nuclear Regulatory Commission has made on the recommendations of the Near Term Task Force. Commission staff has proposed a prioritized list of the Task Force recommendations that reflects the order regulatory actions are to be taken. The conferees direct the Commission to implement these recommendations consistent with, or more expeditiously than, the "schedules and milestones" proposed by NRC staff on October 3, 2011. The conferees direct the Commission to maintain an implementation schedule such that the remaining recommendations (not identified as Tier 1 priorities) will be evaluated and acted upon as expeditiously as practicable. The conferees request that the Commission provide a written status report to the House and Senate Committees on Appropriations on its implementation of the Task Force recommendations on the one year anniversary of the Fukushima disaster.



Reducing the requirements in the 50.54(f) letters, or delaying their implementation, would be contrary to the direction the NRC received from Congress in PM 112-74 and its associated conference report. Therefore, the NRC staff cannot adjust the requirements in the 50.54(f) letters as recommended by the commenter. The NRC will use the information collected to determine if modification of a license is appropriate. This information collection is essential in implementing the NRC's mission to protect the public health and safety.

9. Payment or Gift to Respondents

Not Applicable

10. Confidentiality of Information

Confidential and proprietary information is protected in accordance with NRC regulations at 10 CFR 9.17(a) and 10 CFR 2.390(b).

11. Justification for Sensitive Questions

Not Applicable

12. Estimated Burden and Burden Hour Cost

Respondents

The respondents for this collection will be 104 power reactor licensees, 2 reactors in the process of resuming licensing, and 2 Combined License (COL) applicants (2 units each). The power plant licensees will be asked to perform all information collections (seismic and flooding reevaluations and walkdowns and emergency preparedness evaluations). Reactors resuming licensing will be asked to perform seismic and flooding reevaluations and emergency preparedness evaluations, but not walkdowns, as they have not yet completed construction. COL applicants will be asked to submit emergency preparedness evaluations only.

Estimated Burden and Cost

The NRC staff estimates that the time to respond to all requirements contained in the 50.54(f) information request over the clearance period (the next three years) totals 1,372,506 hours at a cost of \$376,066,644 (1,372,506 hours x \$274/hr). This burden estimate represents the entire industry burden to respond to the 50.54(f) request. If this burden is annualized over a three-year clearance period, the burden is estimated to be 457,502 hours (1,372,506 hours / 3 years = 457,502 hours per year). See Table 1 for a detailed breakdown of licensee burden.

Burden assumptions

Enclosures 1-5

Confirmation of Receipt

- All 110 licensees receiving 50.54(f) letters will be required to confirm receipt of the 50.54(f) letters within 30 days. This is estimated to incur minimal burden, at 2.6 hours per response. The required response is a written statement, signed under oath or affirmation.

Response indicating inability to comply with the information collection request

- Licensees are requested to respond within 90 days of the issuance of the 50.54(f) letters if they are unable to comply with the information collection request. In developing the 50.54(f) letters, the NRC staff has worked closely with industry regarding all requirements, and will continue to do so following issuance of the letters, including providing guidance to licensees. Due to the continuing interactions with licensees, the NRC staff hopes to minimize responses that compliance is not possible. Subsequent to issuance of the information request, licensees identified a dependence between implementing a recent rulemaking and their response for the EP assessment. Specifically, it was identified that the changes necessary for the new rule would need to be made prior to responding to the staffing portions of the EP assessment. Requests for a schedule extension for this portion have been received from all licensees. 40 hours per response has been assumed to account for generating the response and any necessary interface with the rule implementation. The estimate has been modified to reflect this.

Enclosure 1

Estimates for Enclosure 1 include time for licensees to submit their risk assessment approach or confirm their use of a generic approach, submit the seismic hazard reevaluation and submit the seismic risk assessment.

Submit risk assessment approach (seismic)

- The NRC staff estimates that it will take an average of 1,700 hours for the seismic hazard reevaluation and, given that the NRC staff is developing guidance with stakeholders, only 10% of this effort (170 hours) will be required for confirming and submitting their approach. Note that NEI estimates also suggest that 10% of effort will be required for confirming and submitting the approach.

Submit hazard reevaluation (seismic)

104 power reactor licensees plus 2 plants resuming licensing (106 plants total) will conduct hazard reevaluations.

- Central and Eastern US (CEUS): Ninety-six operating reactors plus 2 plants resuming licensing in the CEUS (defined as those east of the Rocky mountains) will be able to utilize a recently released seismic source characterization developed jointly by the Electric Power Research Institute, the Department of Energy, and the NRC. Based on staff experience, including input from NRC seismologists, this effort is estimated to require 1,420 hours.
- Western US (WUS): The NRC staff anticipates that it will require additional effort for eight plants in the Western US to respond, because they do not have the benefit of a recent source characterization as the CEUS licensees. The NRC staff estimates that the effort required for WUS licensees will be approximately twice that of those in the CEUS, or 2,850 hours.

Submit seismic risk assessment

For the 106 licensees performing seismic evaluations, the NRC staff made the following assumptions:

- 25% of licensees (or 27 licensees) would perform an SPRA (Seismic Probabilistic Risk Assessment) estimated to take 8,000 hours, which the NRC staff rounded up to 8,450 to account for uncertainty. The actual amount of effort is expected to be variable depending upon existing risk models that a licensee may be able to draw upon in performing the SPRA. Based on comments from NEI, this estimate was increased by approximately 30%, to 11,000 hours.
- 50% of licensees (43 licensees) would perform a Seismic Margin Analysis (SMA), which is a less resource intensive analysis requiring approximately 2,500 hours, which the NRC staff rounded up to 2,700 hours to account for uncertainty. Based on comments from NEI, this estimate was increased by approximately 30%, to 3,500 hours.
- The remaining 25% (26 licensees) would not perform any additional analyses.

Burden estimates are presented on Table 1 according to the number of plants that will be identified as high priority or not. High priority plants will be required to submit their risk assessments a year earlier than other plants.

- Higher priority plants: The NRC staff anticipates that one-third of the plants conducting hazard evaluations (37 reactors) will be determined to be higher priority plants for the purpose of seismic risk assessments, based on factors currently being determined such as magnitude of the difference design basis and reevaluated hazards and existing margin. Approximately 25% of power reactors in the US are anticipated to require an SPRA, meaning that most, but not all, of the high priority plants will perform an SPRA. Twenty-seven plants were estimated to conduct an SPRA (11,000 hours) and 10 were estimated to conduct an SMA (3,500 hours).

In addition, the time period when the burden will be accrued was taken into account. For higher priority plants, the risk assessments will be submitted in years 4 through 6; however, some of the work to perform the risk assessments will be conducted in years 1 through 3 (the current clearance period). NRC staff assumes that 50% of the effort will be incurred in the current clearance period, or 5,500 hours (11,000 hours x 50%) annually for licensees conducting an SPRA and 1,750 hours (3,500 hours x 50%) annually for higher priority licensees conducting an SMA.

- Lower priority plants: 53 plants (50% of all plants conducting hazard evaluations) will perform an SMA, a less time intensive analysis requiring 2,500 hours to complete. Ten of these plants are assumed to fall into the high priority category and are accounted for as described in the previous bullet. The 43 remaining plants are assumed to fall into the lower priority category.

The time period when the burden will be accrued was taken into account. The risk assessments will be submitted in years 5 through 7 for lower priority plants; however, some of the work to perform the risk assessments will be

conducted in years 1 through 3 (the current clearance period). NRC staff assumes that 40% of the effort will be incurred in the current clearance period, or 1,400 hours (3,500 hours x 40%) annually for lower priority licensees conducting an SMA.

- The NRC staff estimates that 26 plants (25% of all plants conducting hazard reevaluations) will not be required to conduct any additional analyses. These plants are not shown on the table in the totals for risk assessments.

#### Enclosure 2

Estimates for Enclosure 2 include time for licensees to submit their integrated assessment approach or confirm use of generic approach, submit flooding hazard reevaluation and submit an integrated assessment for flooding hazards. 104 power reactor licensees plus 2 plants resuming licensing (106 plants total) will conduct integrated assessments.

#### Submit integrated assessment approach or confirm use of generic approach

- The NRC staff estimates that it will take 1,300 hours for the flooding hazard reevaluation and, given that the NRC staff is developing guidance with stakeholders, only 10% will be required for confirming and submitting their approach.

#### Submit hazard reevaluation (flooding)

- In determining the estimated burden for reevaluating the flooding hazard, the NRC staff estimated the burden for various types of sites and then scaled the individual burden by the number of sites in each category. Sites that had not recently performed a flooding evaluation or because of location may be exposed to additional flooding hazards were assumed to take a larger effort than those that had recently performed a flooding evaluation (e.g., a recent evaluation in support of a new unit on the same site) or by location could justify elimination of certain hazards (e.g., sites that are sufficiently inland to preclude a tsunami occurring). Approximately one-fifth of sites were estimated to have a recent flooding study in support of a new unit on the site, with a burden of 400 hours for these sites. One-fifth of sites were estimated to have a surge or tsunami hazard, requiring 2,900 for the flooding hazard reevaluation. All other sites were estimated to require 800 hours to perform the reevaluation. The average time to perform the flooding reevaluation was therefore estimated to be 1,143 hours, which was rounded up to 1,300 hours to account for uncertainty. Of these 1,300 hours, 10% is allocated to submitting the assessment approach and 1,170 is allocated toward performance of the reevaluation.

Following NEI's comments on the burden estimates for flooding hazard reevaluations, NRC increased the estimates by approximately 30%, resulting in a revised estimate of 170 hours for submitting the assessment approach and 1,520 hours for performance of the reevaluation.

Submit integrated assessment for flooding hazards

- The estimate for integrated assessment assumed that one quarter of sites would incur significant review effort (5,000 hours), one half would be required to perform a lesser analysis (2,500 hours), and the remaining one quarter of plants would have a reevaluated hazard below their current design basis and not need to perform any additional evaluation. The average burden was estimated to be 2,500 hours and rounded up to 2,700 hours to account for uncertainty.

The time period when the burden will be accrued was taken into account. The integrated assessments will be submitted in years 3 through 5; however, some of the work to perform the integrated assessments will be conducted in years 1 through 3 (the current clearance period). NRC staff assumes that two-thirds of the effort will be incurred in the current clearance period, or 1,800 hours (2,700 hours x 67%) annually all responding licensees.

Following NEI's comments on the burden estimates for integrated assessments, NRC increased the estimates by approximately 30%, resulting in a revised estimate of 2,350 hours during the current clearance period (or 3,525 hours, on average, to perform the entire integrated assessment, including hours accrued in the current and subsequent clearance periods).

Enclosure 3

Estimates for Enclosure 3 include time for licensees to submit seismic walkdown procedures or confirm use of NRC-endorsed procedures and submit a final seismic walkdown report. 104 power reactor licensees will be asked to conduct walkdowns. (Plants resuming licensing and COL applicants will not be asked to conduct walkdowns).

Submit seismic walkdown procedures

- The NRC staff estimates that it will take 2,000 hours for the seismic walkdowns and, given that the NRC staff is working with stakeholders to develop generically applicable guidance, only 10% (200 hours) will be required for confirming and submitting their approach.

Submit final seismic walkdown report

- The NRC staff assumed that all licensees would incur similar burden in performing the walkdowns and accounted for site preparation, training, actual performance of the walkdown, and review of the results. The estimate of 1,800 hours is based on staff experience. The NRC staff believes the estimates are particularly conservative, as we did not account for efficiencies at multi-unit sites.

Enclosure 4

Estimates for Enclosure 4 include time for licensees to submit flooding walkdown procedures or confirm use of NRC-endorsed procedures and submit a final flooding walkdown final report. 104 power reactor licensees will be asked to conduct walkdowns. (Plants resuming licensing and COL applicants will not be asked to conduct walkdowns).

#### Submit flooding walkdown procedures

The NRC staff estimates that it will take 2,000 hours for the seismic walkdowns and, given that the NRC staff is working with stakeholders to develop generically applicable guidance, only 10% will be required for confirming and submitting their approach.

#### Submit final flooding walkdown report

- The NRC staff assumed that all licensees would incur similar burden in performing the walkdowns and accounted for site preparation, training, actual performance of the walkdown, and review of the results. The estimate of 1,800 hours is based on staff experience. The NRC staff believes the estimates are particularly conservative, as we did not account for efficiencies at multi-unit sites.
- Following NEI's comments on the burden estimates for flooding walkdowns, NRC increased the estimates by approximately 30%, increasing the estimate from 2,000 hours (200 hours for walkdown procedures and 1,800 hours for flooding walkdown report) to 2,600 hours (resulting in a revised estimate of 260 hours for walkdown procedures and 2,340 hours for the flooding walkdown report).

#### Enclosure 5

Estimates for Enclosure 5 include time for licensees to submit communications analysis and submit initial and final staffing analysis related to emergency preparedness. All 110 licensees receiving 50.54(f) letters will be required to submit the information on emergency preparedness.

#### Submit communications analysis

- The NRC staff originally estimated that the communications analysis would require 50 hours, based on experience of NRC staff in the Office of Nuclear Security and Incident Response. However, based on the comment received from NEI, the NRC staff has increased the estimate to 250 hours for this response.

#### Submit staffing analysis

- The NRC staff originally estimated that the draft and final staffing analysis would require 25 hours each, based on experience of NRC staff in the Office of Nuclear Security and Incident Response. However, based on the comment received from NEI, the NRC staff has increased the estimate to 125 hours for each of these responses.

### 13. Estimate of Other Additional Costs

The NRC has determined that the records storage cost is roughly proportional to the recordkeeping burden cost. Based on a typical clearance, the records storage cost has been determined to be equal to 0.0004 percent of the recordkeeping burden cost. Therefore, the records storage cost is estimated to be \$0.00 (0 recordkeeping hours x 0.0004 x \$274/hr = \$0.00).

#### 14. Estimated Annualized Cost to the Federal Government

The NRC staff estimates that the hours required reviewing hazard reassessment reports and risk and integrated assessments, review and endorsing seismic and flooding walkdown procedures, and review emergency preparedness analyses will require 92 full-time equivalent (FTE) employees over the course of the next seven years. This averages to 13 FTE annually. At an estimated 1,400 hours per FTE, NRC effort is estimated at 18,200 hours or \$4,986,800 (18,200 x \$274/hr).

#### 15. Reasons for Change in Burden or Cost

The initial clearance request was approved on March 6, 2012 as a new collection with a total burden of 1,383,200 hours and 1,456 responses (annualized to 461,067 hours and 485.3 responses).

The current request is for 1,372,506 hours and 1,576 responses (annualized to 457,502 hours and 525.3 responses), a decrease of 3,565 annualized hours and an increase of 40 responses.

Two factors primarily influenced the current burden estimate:

- The primary reason for the decrease in burden is a change in the methodology used to estimate burden for seismic risk assessments and flooding hazard reevaluations. The previous submission assumed all burden would be accrued during the first three-year clearance period. The current request takes into account the accrual of burden over time. Seismic risk assessments and flooding hazard reevaluations require licensees to perform analyses and submit reports up to seven years after receiving the 50.54(f) letters from the NRC. The original clearance request included burden that would be incurred outside of the three year clearance period, whereas the current request includes burden for only those information collection activities that are estimated to be conducted during the next three years. The previous request assumed all burden for integrated assessments for flooding hazards would occur during the first three years after the issuance of the letters. The current request assumes that two-thirds of the burden will be incurred during the first three years, and that the remaining one-third of the burden will be incurred in the next clearance period.
- As discussed in the comments resolution section, NEI challenged some areas of the NRC's burden estimate. Although the NRC is confident in its original assessment, it is recognized that there are a number of uncertainties estimating the burden of such a large effort. Therefore, the NRC increased its burden estimate in these locations. The estimates for to conduct an SPRA, SMA, flooding hazard reevaluation, integrated assessment for flooding were increased by approximately 30%. The estimates for communications and staffing analysis were increased 500%. Although the burden estimates for the requirements were increased, no new requirements were imposed as part of this renewal submission.

The result of these two changes is a net decrease in burden. For example, the original submission assumed all burden for integrated assessments for flooding hazards would be incurred during the first three years; however, only 2/3 of burden will be incurred in the current clearance period. This reduced the burden from 2,700 hours to 1,800 hours. NRC then increased this estimate by 30% based on NEI comments, to 2,350 hours, a net decrease of 350 hours per licensee annually during this clearance period. Please see the Burden Change spreadsheet uploaded under supplemental documents for a detailed explanation of all burden changes from the initial request to the current request.

In addition to the two primary factors affecting the burden, two other factors influenced the total:

- The increase in responses from the original request is due to the addition of 6 respondents: 2 reactors in the process of resuming licensing, and 2 Combined License (COL) applicants (2 units each). The power plant licensees will be asked to perform all information collections (seismic and flooding reevaluations and walkdowns and emergency preparedness evaluations). Reactors resuming licensing will be asked to perform seismic and flooding reevaluations and emergency preparedness evaluations, but not walkdowns, as they have not yet completed construction. COL applicants will be asked to submit emergency preparedness evaluations only. The addition of these respondents was determined to be necessary after submission of the original request, and will provide information from these licensees that is not available from any other source.
- 4,400 hours and 110 responses were added to account for submission of responses indicating an inability to comply with requirements. Subsequent to submission of the initial clearance request, licensees identified a dependence between implementing a recent rulemaking and their response for the EP assessment. Specifically, it was identified that the changes necessary for the new rule would need to be made prior to responding to the Staffing portions of the EP assessment. Additionally, recognizing the additional complications introduced from this interface, the NRC increased the burden estimate for responding as well. As a result, licensees will submit letters indicating that they will be unable to comply with the requirements in the EP assessment in the timeframes requested.

16. Publication for Statistical Use

Not Applicable

17. Reason for Not Displaying the Expiration Date

Not Applicable

18. Exceptions to the Certification Statement

None



B. COLLECTIONS OF INFORMATION EMPLOYING STATISTICAL METHODS

Not Applicable

**Table 1**  
**Total Licensee Reporting Burden to Respond to the 50.54(f) Request**

<b>Enclosure</b>	<b>Requirement</b>	<b>Time to Respond</b>	<b>Respondents</b>	<b>Responses per Respondent</b>	<b>Total Responses</b>	<b>Burden Per Response</b>	<b>Burden</b>	<b>Cost at \$274/hr</b>
Enclosures 1 – 5	Confirmation of Receipt	30 days	110	1	110	2.6	286	\$78,364
Enclosures 1 – 5	Response indicating inability to comply with information request	90 days for enclosures 1-4, 60 days for enclosure 5	110	1	110	40	4,400	\$1,205,600
Enclosure 1: Recommendation 2.1: Seismic Reevaluation	Submit risk assessment approach or confirm use of generic approach	60 days after issuance of NRC guidance <sup>1</sup>	106	1	106	170	18,020	\$4,937,480
Enclosure 1: Recommendation 2.1: Seismic Reevaluation	Submit hazard reevaluation (seismic), Central and Eastern US (CSUS)	1.5 years	98	1	98	1,420	139,160	\$38,129,840
Enclosure 1: Recommendation 2.1: Seismic Reevaluation	Submit hazard reevaluation (seismic), Western US (WUS)	3 years	8	1	8	2,850	22,800	\$6,247,200

<sup>1</sup> NRC estimates that guidance will be issued in November 2012. The response would be due 60 days after the issuance of NRC guidance.

Enclosure	Requirement	Time to Respond	Respondents	Responses per Respondent	Total Responses	Burden Per Response	Burden	Cost at \$274/hr
Enclosure 1: Recommendation 2.1: Seismic Reevaluation	Submit seismic risk assessment, high priority plants conducting SPRA <sup>2</sup>	3 years after submission of seismic hazard reevaluation	27	1	27	5,500	148,500	\$40,689,000
Enclosure 1: Recommendation 2.1: Seismic Reevaluation	Submit seismic risk assessment, high priority plants conducting SMA	3 years after submission of seismic hazard reevaluation	10	1	10	1,750	17,500	\$4,795,000
Enclosure 1: Recommendation 2.1: Seismic Reevaluation	Submit seismic risk assessment conducting SMA	4 years after submission of seismic hazard evaluation	43	1	43	1,400	60,200	\$16,494,800
Enclosure 2: Recommendation 2.1 Flooding Reevaluation	Submit integrated assessment approach or confirm use of generic approach	60 days after issuance of NRC guidance <sup>3</sup>	106	1	106	170	18,020	\$4,937,480
Enclosure 2: Recommendation 2.1 Flooding Reevaluation	Submit hazard reevaluation (flooding)	1-3 years, based on NRC prioritization	106	1	106	1,520	161,120	\$44,146,880

<sup>2</sup> The NRC staff anticipates that one-third of the plants conducting hazard evaluations (37 reactors) will be determined to be higher priority plants for the purpose of seismic risk assessments. Of these 37 plants, 27 plants are estimated to be conducting an SPRA, while 10 are estimated to be conducting an SMA.

<sup>3</sup>The NRC estimates that guidance will be issued in November 2012. The response would be due 60 days after the issuance of NRC guidance.

Enclosure	Requirement	Time to Respond	Respondents	Responses per Respondent	Total Responses	Burden Per Response	Burden	Cost at \$274/hr
Enclosure 2: Recommendation 2.1 Flooding Reevaluation	Submit integrated assessment for flooding hazards	2 years after submission of flooding hazard reevaluation	106	1	106	2,350	249,100	\$68,253,400
Enclosure 3: Recommendation 2.3: Seismic Walkdowns	Submit seismic walkdown procedures or confirm use of NRC-endorsed procedures	120 days	104	1	104	200	20,800	\$5,699,200
Enclosure 3: Recommendation 2.3: Seismic Walkdowns	Submit seismic walkdown final report	180 days after NRC endorsement of walkdown procedures <sup>4</sup>	104	1	104	1,800	187,200	\$51,292,800
Enclosure 4: Recommendation 2.3: Flooding Walkdowns	Submit flooding walkdown procedures or confirm use of NRC-endorsed procedures	90 days	104	1	104	260	27,040	\$7,408,960
Enclosure 4: Recommendation 2.3: Flooding Walkdowns	Submit flooding walkdown final report	180 days after NRC endorsement of walkdown procedures <sup>5</sup>	104	1	104	2,340	243,360	\$66,680,640

<sup>4</sup>The NRC estimates that it will endorse seismic walkdown procedures in May 2012. The final seismic walkdown report would be due 180 days after NRC endorsement of walkdown procedures.

<sup>5</sup>The NRC estimates that it will endorse flooding walkdown procedures in May 2012. The final flooding walkdown report would be due 180 days after NRC endorsement of walkdown procedures.

Enclosure	Requirement	Time to Respond	Respondents	Responses per Respondent	Total Responses	Burden Per Response	Burden	Cost at \$274/hr
Enclosure 5: Recommendation 9.3: Emergency Preparedness	Submit communications analysis	90 days	110	1	110	250	27,500	\$7,535,000
Enclosure 5: Recommendation 9.3: Emergency Preparedness	Submit initial staffing analysis	60 days	110	1	110	125	13,750	\$3,767,500
Enclosure 5: Recommendation 9.3: Emergency Preparedness	Submit final staffing analysis	90 days <sup>6</sup>	110	1	110	125	13,750	\$3,767,500
<b>TOTAL</b>			<b>110</b>		<b>1,576</b>		<b>1,372,506</b>	<b>\$376,066,644</b>
<b>ANNUALIZED TOTAL</b>			<b>110</b>		<b>525.3</b>		<b>457,502</b>	<b>\$125,355,548</b>

TOTAL Reporting Burden: 1,372,506 hours  
TOTAL Responses: 1,576 responses

ANNUALIZED Reporting Burden: 457,502 hours  
ANNUALIZED Responses: 525.3 responses

Respondents: 110

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<sup>6</sup> The NRC estimates that it will issue guidance on EP staffing analysis in fall 2012.