MITIGATING STRATEGIES AND FLOODING HAZARD REEVALUATION ACTION PLAN

The U.S. Nuclear Regulatory Commission (NRC) staff has prepared an action plan to address the Commission's staff requirements memorandum (SRM) for COMSECY-14-0037, "Integration of Mitigating Strategies for Beyond-Design-Basis External Events and the Reevaluation of Flooding Hazards." The Commission provided direction on (1) the consideration of reevaluated flooding hazards within mitigating strategies for beyond-design-basis external events (Order EA-12-049 and related mitigation of beyond-design-basis events (MBDBE) rulemaking), and (2) the consideration of other regulatory actions in response to the request for information made in March 2012 under Title 10 *Code of Federal Regulations* (10 CFR) Section 50.54(f).

The NRC staff will, as needed, revise the action plan (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15149A490) based on Commission direction and subsequently issue and implement the plan. The NRC staff will likewise use the Commission direction to inform interactions with the industry on guidance to address seismic hazard reevaluations, which is currently following an approach similar to that described below for flooding. The flooding-related action plan identifies two primary activities and one related activity that defines the overall agency response to flooding issues. The two primary actions are:

1) Ensure licensees develop and implement mitigating strategies that are able to address reevaluated flooding hazards, and

2) Complete the flooding hazard reevaluations and close the flooding portion of the 50.54(f) letter, including:

    a. Developing a graded approach to identify the need for, and prioritization and scope of, plant-specific integrated assessments, and
    b. Developing criteria and guidance to support decisionmaking related to plant-specific regulatory actions.

In the related activity, the NRC staff will develop probabilistic methods for assessing flooding hazards for future license applications and other NRC activities. This activity is related to the primary activities described above. However, it is not being developed solely to address the primary activities of this action plan, but will be used, to the extent practical, to inform and support the NRC staff's assessments and regulatory decisions.

The first activity is the highest priority given the NRC's desire for timely action related to implementation of mitigating strategies and to reduce the chances of licensees needing to revise mitigating strategies as part of implementing the MBDBE rule. The need to complete this activity in the near-term requires that the NRC staff and licensees work efficiently to reach closure on the reevaluation of flooding hazards for each site. The action plan identifies steps that will be taken to reach this closure.

To support the second activity, the plan includes a graded approach that the NRC staff has developed in cooperation with the industry to ensure the revised integrated assessments are focused on those plants where there is the greatest potential need for additional safety enhancements. Guidance is being prepared to help licensees and the NRC staff implement the graded approach and to support the related regulatory decisions.

As described below, this action plan addresses the two primary activities in full and briefly discusses the related activity (i.e., probabilistic flood hazard assessment research activities) and the extent to which specific products developed will be used to support the completion of the two primary activities. The NRC staff is preparing and plans to issue in July 2015, a letter to licensees describing the proposed plan and the relationships between the activities and related guidance documents.

Mitigating Strategies

In response to the Commission direction on Recommendations 1 and 2 in COMSECY-14-0037 and as called for in the proposed MBDBE rulemaking, the industry and NRC staff are developing guidance and identifying needed information to ensure mitigating strategies address the reevaluated flooding hazards.

Industry is working to develop a supplement (Appendix G) to Nuclear Energy Institute (NEI) 12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide," to help licensees assess reevaluated flooding hazards and determine what, if any, changes are needed to their mitigating strategies. The NRC staff is reviewing the draft guidance and expects to solicit public comment on NRC guidance documents that endorse, with possible exceptions and clarifications, the NEI guidance document. Licensees will use the guidance to do the following:

- Confirm FLEX mitigating strategies,[1] as currently implemented, are not rendered ineffective by the reevaluated flooding hazards;

- Identify, assess, and implement modifications necessary to ensure FLEX mitigating strategies are able to address the reevaluated flooding hazards; or

- Develop, assess, and implement alternate or targeted-hazard mitigating strategies.

Preliminary information from the industry is that mitigating strategies and equipment configurations as implemented at many plants will be shown to adequately address the reevaluated flooding hazards. Licensees for another large group of plants are expected to make some modifications to procedures or equipment but maintain the overall approach for FLEX capabilities being sufficient to protect against a variety of beyond-design-basis external events, including the reevaluated flooding hazards. Licensees for some plants may choose to develop more specific plans and capabilities to address some special or extreme flooding scenarios instead of modifying the procedures and equipment initially implemented to satisfy the

[1] The term "FLEX mitigating strategies" refers to strategies developed in accordance with NEI 12-06, as endorsed by Japan Lessons-Learned Directorate (JLD) Interim Staff Guidance (ISG) JLD-ISG-2012-01, Revision 0. These strategies generally correspond to those implemented to comply with Order EA-12-049, "Mitigation Strategies for Beyond-Design-Basis External Events."

requirements of Order EA-12-049. The industry guidance refers to such scenario-specific approaches to address extreme or special-case flooding hazards as alternate or targeted-hazard mitigating strategies.

In the case of alternate or targeted-hazard mitigating strategies, licensees are proposing to credit the operation of plant equipment that can be shown to withstand some specific flooding scenarios (i.e., not necessarily assuming an extended loss of alternating current (ac) power (ELAP) and loss of access to the ultimate heat sink (LUHS) unless or until the flood event would result in such consequences). An alternate mitigating strategy could, for example, credit an ac power source protected from a specific flooding scenario to maintain the key safety functions of core cooling, containment, and spent fuel pool cooling. Targeted-hazard mitigating strategies differ from alternate mitigating strategies in that the plant conditions and actions taken to address specific flooding scenarios may warrant that containment functions are not maintained. As described in COMSECY-14-0037, these targeted-hazard strategies may involve a rapid entry to refueling modes of operation, allowing flood waters into buildings, and pre-staging equipment and personnel to higher elevations. Appendix G to NEI 12-06 will include evaluation approaches for the alternate and targeted-hazard strategies that are similar to those used to evaluate other aspects of FLEX mitigating strategies. Staff will review and, if appropriate, endorse Appendix G to NEI 12-06 via an NRC guidance document. It is expected that staff will issue NRC guidance related to Appendix G for public comment in mid-2015 and endorse the appendix, if appropriate, by December 2015.

The NRC staff recognizes that licensees will need the staff to confirm the adequacy of their flood hazard reevaluations to support the assessment of FLEX, alternate, or targeted-hazard mitigating strategies. As a result, the NRC staff plans to issue letters to licensees on the final outcomes of the staff review of the licensee flood hazard reevaluations. The letters will document that a licensee's flood hazard reevaluation results, including any changes made by the licensee as a result of the NRC review, are appropriate for use in developing mitigating strategies to satisfy the proposed MBDBE rule. At a later date, the staff will document the technical bases for its conclusions by issuing assessments of the licensees' flooding hazard reevaluations. The letters will confirm the appropriateness of all flood hazard information, including flood height, associated effects and flood durations, needed to assess the mitigation strategies in accordance with Appendix G to NEI 12-06 or other guidance endorsed or issued by the NRC staff. Staff expects the majority of the interim letters to be issued by December 2015. A small number of licensees are expected to receive the interim letters after December 2015 because of licensee-requested extensions agreed to by the NRC staff to support consideration of updated information or the need to coordinate with other Federal agencies about dam failures affecting the subject site. To support the schedule for issuing the letters, the NRC staff held a public meeting with the industry on May 21, 2015, to explain the key concepts of the draft action plan and the proposed schedules for the interim letters to licensees about flooding hazard information. The NRC staff indicated and the industry representatives acknowledged that both licensees and the staff will need to work expeditiously in order to resolve questions and shorten the review time to support the aggressive schedule while maintaining the appropriate technical rigor of the analyses and related NRC staff reviews. Specific staff and licensee actions needed to facilitate timely review of the hazard reevaluations were identified. These included clear and timely information requests by the staff and timely and complete responses by licensees. Licensees are also being asked to support audits to facilitate efficient resolution of technical issues. In addition, it is recognized that timely decisions by the staff on proposed plant-specific approaches are needed. Licensee changes to flood hazard reevaluation reports during the

review process will greatly challenge the goal for timely assessments of each plant's mitigating strategies.

The issuance of the hazard letters and the associated mitigating strategies assessment guidance by December 2015 is intended to support licensees in completing their assessments and pursuing corrective actions, if needed, for the plant-specific mitigating strategies by December 2016. These activities support meeting the expected requirements of the proposed MBDBE rule, while continuing to support the implementation schedule for Order EA-12-049. It is noted that close coordination will likely be needed for the licensees' development and the staff's review of alternate and targeted-hazard mitigating strategies related to the proposed MBDBE rule and the assessments to close Near-Term Task Force (NTTF) Recommendation 2.1.

Recommendation 2.1 – Revised Assessment Approach

The NRC staff will address the issues associated with Phase 1 and Phase 2 of NTTF Recommendation 2.1 by using a graded approach to narrow the list of potential plants that will do a revised integrated assessment. The process will address the Commission's SRM for COMSECY-14-0037 by assessing each plant site and flooding mechanism and systematically narrowing the plants and mechanisms warranting additional attention.

The NRC staff will use available information and engineering judgment to decide the level of technical review needed and the regulatory treatment of licensee actions. For example, where licensees can reasonably demonstrate that the impact of a flooding mechanism, which exceeds the design-basis flood, can readily be addressed by the existing plant configurations or with programmatic controls or manual actions, the staff will support that mechanism being screened out from a revised integrated assessment. Where additional measures are necessary to reasonably demonstrate that a site can protect against the revaluated flooding mechanism, a licensee may make regulatory commitments to implement procedural or hardware changes that will allow the site to screen out of the integrated assessment. The creation and oversight of plant-specific regulatory commitments will be handled in accordance with LIC-105, "Managing Regulatory Commitments Made by Licensees to the NRC." The NRC staff will confirm the implementation and maintenance of modifications and supporting documentation through inspections or audits (e.g., Inspection Procedure 71111.01, "Adverse Weather Protection").

Using the philosophy described above, the staff has reassessed existing Phase 1 guidance and identified several actions that can be taken to ensure the revised integrated assessments are requested for only those plants where there is the greatest potential need for safety enhancements. The proposed approach will significantly decrease the number of sites requiring an integrated assessment while ensuring that plants screening out of the integrated assessments have appropriately addressed the reevaluated flooding hazards. The majority of sites with flooding hazards exceeding the design-basis flood will screen out from the integrated assessments and licensees will instead provide the focused evaluations described below to ensure appropriate actions are taken and that these actions are effective and reasonable. This approach is consistent with Commission direction to use a graded, risk-informed, and performance-based approach for completing NTTF Recommendation 2.1 related activities. The graded approach includes:

(1) ***Consideration of Local Intense Precipitation (LIP) Hazard*** - Licensees with LIP hazards exceeding their current design-basis flood will not be required to complete a revised integrated assessment. These licensees will instead assess the impact of the LIP hazard on their sites and then evaluate and implement any necessary programmatic, procedural or plant modifications to address this hazard exceedance. This assessment includes evaluation and justification for: crediting systems that were assumed clogged during the hazard reevaluations; and considering available warning time and flood protection measures, both permanent and temporary, as well as associated manual actions.[2] Under this approach, licensees will submit letters providing a summary of the evaluation and, if needed, regulatory commitments to implement and maintain appropriate programmatic, procedural or plant modifications to protect against the LIP hazard. The NRC staff will confirm modifications and supporting documentation through inspections or audits (e.g., Inspection Procedure 71111.01, "Adverse Weather Protection"). This series of actions ensures plants are appropriately protected against LIP hazards and will support closure of NTTF Recommendation 2.1 for the affected sites.

(2) ***Consideration of Flood Protection and Available Physical Margin*** - Licensees with flooding hazards exceeding the design-basis flood for mechanisms other than LIP can assess the impact of the reevaluated hazard on their sites and confirm the capability of existing flood protection[3] to address the hazard exceedance in lieu of performing a revised integrated assessment. A principal consideration in this protection assessment is the use of available physical margin (APM) data. As a result of the previously performed flooding walkdowns, licensees have information readily available on APM for many existing flood protection features. Licensees can use this available information (to the extent available and applicable) as part of the process for confirming the capability of existing or new flood protection to withstand the reevaluated flood height and associated effects for the entire flood event duration. This confirmation will also include evaluation of both permanent and temporary protection (active and passive) as well as associated manual actions in light of the reevaluated hazard. In the event that the reevaluated hazard exceeds the capability of existing flood protection, licensees may opt to implement (or commit to implement) plant modifications to protect against the reevaluated hazard (e.g., installing component-specific flood protection to maintain the component's functionality during a flood) in order to screen out of performing a revised integrated assessment. Similar to the LIP treatment, licensees for plants screening out of the integrated assessment may include within their responses to the § 50.54(f) letters commitments to implement and maintain appropriate flood protection, including any necessary plant modifications, to protect against the reevaluated flooding hazard. The NRC staff will confirm modifications and supporting documentation through inspections or audits (e.g., Inspection Procedure 71111.01, "Adverse Weather Protection"). This

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[2] A process to take advantage of warning time for LIP is described in the NEI White Paper, "Warning Time for Maximum Precipitation Events," dated April 8, 2015 (ADAMS Accession No. ML15104A157), and the related NRC letter dated April 23, 2015 (ADAMS Accession No. ML15110A080).

[3] Flood protection (as described in Regulatory Guide 1.102) refers to the incorporated, exterior or temporary structures, systems, and components or an associated procedure, that protects key safety functions against the effects of external floods, including flood height and associated effects.

series of actions ensures plants are appropriately protected against the reevaluated hazard and supports closure of NTTF Recommendation 2.1 for the affected sites. The NRC staff will document the closure of the activity for each site in letters to the licensees.[4]

(3) ***Revised Integrated Assessment*** - Sites with flooding hazards other than LIP exceeding the design-basis flood and where the exceedance could not be addressed through existing or proposed flood protection will proceed to doing a revised integrated assessment. For the revised integrated assessment, licensees will evaluate their capability to protect against and, as necessary, mitigate[5] the effects of reevaluated flooding. The revised integrated assessment is a detailed evaluation that is intended to yield information sufficient to support Phase 2 regulatory decisions consistent with NRC's risk-informed regulatory framework. For this reason, the revised integrated assessment will continue to use probabilistic risk assessment (PRA)-type concepts and tools as integral parts of the evaluation and, to the extent practical, capture quantitative information about the reliability of various aspects of plant response (e.g., reliability of equipment and manual actions).

Guidance for performing integrated assessments is provided in the NRC issued interim staff guidance JLD-ISG-2012-05, "Guidance for Performing the Integrated Assessment for External Flooding." The industry, coordinated by NEI, has proposed to revise the integrated assessment guidance to capture the screening criteria for LIP and flood protection/APM; clarify certain aspects of the guidance in the ISG; and add operational perspectives to help in implementation. The NRC staff is currently working with the industry to determine the most efficient and effective way to revise the integrated assessment guidance by June 2016. For example, the industry could develop this guidance and request NRC endorsement, or the NRC staff could revise the ISG. Regardless of the approach taken to revise the guidance, the basic core principles will remain.

Specifically, the revised integrated assessment guidance will continue to offer licensees several options for assessing the plant response, including scenario-based, margins-type and PRA-based approaches, to maximize flexibility for licensees performing a revised integrated assessment. The scenario-based and margins-type approaches, although not providing full quantitative risk estimates as provided by a PRA, still provide valuable risk insights (e.g., potential accident sequences, dominant failure modes, potential effective measures, and balance between prevention and mitigation). These insights, along with assessments of the reliability of equipment, assessments of manual actions, and engineering judgment will continue to form a basis for risk-informed Phase 2 decisions.

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[4] The closeout letters to licensees will document, as applicable, the NRC staff's acceptance of changes to licensing basis information (e.g., regulatory commitments for added measures while maintaining existing design-basis flood).

[5] In the context of the integrated assessment, mitigation capability refers to the capability of the plant to maintain key safety functions in the event that a flood protection system(s) fails (or is otherwise not available).

The revised integrated assessment guidance will continue to allow licensees to use those mitigating strategies that are protected from the reevaluated hazard. The revised integrated assessment process will continue to focus on potential cliff-edge effects and affords licensees the option to demonstrate that vulnerabilities identified may be less risk significant when more realistic assumptions are applied in the analyses. These risk insights would inform Phase 2 decisionmaking. In addition, the revised integrated assessment guidance will provide detailed guidance on the above graded assessment approach and the associated information developed by the licensees. For plants screening out of the integrated assessment, the guidance will also describe the summary-level documentation to be submitted by licensees to support closure of NTTF Recommendation 2.1 for flooding. The NRC staff will document the closure of the activity for each site in letters to the licensees.

The above three-part approach focuses the revised integrated assessments on those sites for which there is the greatest potential need for additional safety enhancements and for which it is most valuable to have more detailed evaluations of plant response capability. It is noted that close coordination will likely be needed for the licensee's development and staff's review of revised integrated assessments and the alternate and targeted-hazard mitigating strategies related to the proposed MBDBE rule. External stakeholders have been and will continue to be provided an opportunity to follow and participate in the process through public meetings and the solicitation of public comment on key guidance documents.

Recommendation 2.1 - Phase 2 (Regulatory Evaluation)

The 50.54(f) letter requests information from licensees to inform and support regulatory decisions on whether licenses should be modified, suspended, or revoked. The intent of this information collection has been to allow the NRC staff to make regulatory decisions consistent with existing regulatory processes, including 10 CFR 50.109, "Backfitting." The Commission and industry have requested additional clarity and specificity about the acceptance criteria associated with the Phase 2 decisionmaking for external flooding and how these criteria will be used in the context of the existing regulatory processes. The staff plans to issue a document or incorporate associated guidance into a related guidance document by October 2016 following interactions with stakeholders, including the public, industry and the Advisory Committee on Reactor Safeguards (ACRS).[6] The document will provide further clarity on how Phase 2 decisions will be made within the current regulatory process. The following key concepts will form the overarching framework for the acceptance criteria.

Phase 2 decisionmaking will only be applicable to plants performing a revised integrated assessment because licensees for "screened-out" sites will address the reevaluated flooding hazards through existing capabilities or regulatory commitments associated with enhanced capabilities. For those sites performing an integrated assessment, the NRC staff will review the results of the revised integrated assessment to determine if licensees have addressed identified plant vulnerabilities or if a plant-specific backfit evaluation should be undertaken in accordance with Office of Nuclear Reactor Regulation (NRR) Office Instruction LIC-202, "Procedures for

[6] The NRC staff is interacting with the ACRS on various matters related to mitigating strategies, beyond-design-basis external events, and other Fukushima-related activities. Meetings with ACRS subcommittees and the full committee regarding the activities covered by the action plan will be scheduled and supported as part of these ongoing interactions.

Managing Plant-Specific Backfits and 50.54(f) Information Requests." If a plant-specific backfit evaluation is initiated, staff will use the established processes for imposing additional requirements on licensees, including Management Directive 8.4, "Management of Facility-specific Backfitting and Information Collection." Specifically, plant-specific assessments will be needed to determine if identified flooding scenarios could result in a plant challenging the quantitative health objectives (QHOs), which remain the primary performance measure for plant-specific backfit evaluations. Although large uncertainties associated with low frequency flooding events (e.g., 10^{-4} or 10^{-5} per year) hamper a purely quantitative assessment, a combination of quantitative analyses and qualitative factors will provide useful insights. Where possible, licensees and the staff will use estimates of return periods for flooding hazards to provide some quantitative estimates for core damage frequencies. The expected limited number of plants performing full-scope revised integrated assessments and/or warranting backfit evaluations supports using this plant-specific approach.

The revised integrated assessments will provide a combination of information about the flooding hazard and plant response (including existing, new, or proposed capabilities) yielding important quantitative and qualitative risk insights that staff will use to support Phase 2 decisions and associated regulatory analyses on a plant-specific basis. Factors that will be considered may include available warning time to help define the plant mode and needed cooling capabilities, risk reduction measures taken by the licensee, and protective actions (e.g., evacuations) to limit possible health consequences of the identified flooding scenarios at the subject site.

A quantitative risk insight of particular importance is the initiating event frequency. The staff believes that a plant's ability to reasonably protect from flooding hazards with a frequency of once in ten thousand years (10^{-4} per year) or more frequent is an important consideration in the Phase 2 decisions. Initiating event frequencies along with the associated plant response and mitigative capabilities support the evaluation of potential plant-specific backfits, including whether modifications may be justified as cost-justified substantial safety enhancements or are needed to provide reasonable assurance of adequate protection of public health and safety.

It is recognized, however, that the current state of practice in flood hazard assessment and associated tools can more readily support estimation of hazards with a frequency of 10^{-3} per year or more frequent. Activities currently undertaken by the Office of Nuclear Regulatory Research (RES) related to probabilistic flood hazard assessment (PFHA) may be able to address some of the shortcomings in the existing state of practice. The Office of New Reactors (NRO) and NRR staff is currently working with RES staff to understand ways in which certain information gathered by ongoing research activities can be used to support Phase 2 decisionmaking and associated timelines. Nonetheless, if a flooding hazard associated with a frequency of 10^{-4} per year cannot be defined in a timely and/or a technically defensible manner for a site but would be useful in regulatory decisionmaking, a surrogate (e.g., 10^{-3} per year plus a factor) consistent with the current state of practice may be developed to provide quantitative risk insights to augment the available qualitative risk insights. To provide transparency, the staff will hold public meetings to discuss the Phase 2 guidance as it is developed.

Considering both available quantitative and qualitative risk insights and consistent with existing guidance and processes, staff will consider the following in determining the need for or preferences between possible additional regulatory actions:

- maintenance of defense in depth, including the balance between protection and mitigation
- degree of reliance on procedures and temporary measures
- degree of reliance on non-safety related features
- identification of vulnerabilities and actions to address them
- change in hazard and risk (absolute versus relative), as available

The consideration of qualitative factors will be informed by the Commission's direction in its SRM for SECY-14-0087, "Qualitative Consideration of Factors in the Development of Regulatory Analysis and Backfit Analyses."

The results from the assessment will be reported to the Director of NRR, in accordance with NRR Office Instruction LIC-202, to initiate the process to pursue a plant-specific backfit or confirm the staff's conclusion that a plant-specific backfit is not warranted.

Related Activities

The NRC staff from NRR, NRO and RES have jointly developed a PFHA research plan and an associated user need request (UNR) (ADAMS Accession No. ML14274A661) to RES to develop PFHA approaches and methods. The RES UNR response identified both near-term interim deliverables and longer-term plan implementation activities, along with associated schedules for each item (ADAMS Accession No. ML15124A707). As noted in the RES UNR response, information developed as part of the near-term interim deliverables may be leveraged to support post-Fukushima Phase 2 decisions. In particular, the NTTF Recommendation 2.1-Flooding Closure Plan will benefit from the RES and Electric Power Research Institute (EPRI) draft Memorandum of Understanding related to external flooding hazards, the letter report from the U.S. Geological Survey on Bulletin 17B (or 17C if available), "Guidelines for Determining Flood Flow Frequency," and additional guidance summarizing state-of-practice in estimating probabilities of dam failure and modeling of dam breach hydrographs. These research plan deliverables, in addition to benefiting Phase 2, will also support the NRC reactor oversight process in providing a cohesive PFHA framework (e.g., via regulatory and staff guidance) to support the development of technically-defensible hazard frequency estimates.

The NRC's PFHA research plan and related activities will result in additional improvements in the modelling and analyses of flooding events and understanding of the risks posed to nuclear power plants from flooding hazards. While some initial insights might help inform the assessments currently under way, many of these activities will also continue after the expected closure of NTTF Recommendation 2.1. The NRC staff will address insights from these longer term efforts using established processes such as the generic issues program and interactions with standards developing organizations.

Timeline

The timeline for the key elements of the action plan are summarized below.

Deliverable	Completion Date	Status/Comment
Mitigating Strategies		
Hazard Interim Letters to most licensees	December 2015	Letters to be issued upon completion of staff review, many before Dec 2015
Hazard Interim Letters to remaining licensees	December 2016	U.S. Army Corps of Engineers dependency
Most licensees complete mitigating strategies assessment	December 2016	
Licensees complete related corrective actions to ensure mitigating strategies address reevaluated flooding hazard	As soon as practical (many by Dec 2016)	MBDBE rulemaking establishes firm backstop.
Closure of NTTF Recommendation 2.1		
Issue Revised Phase 1 Guidance	June 2016	
Issue Phase 2 Guidance	October 2016	
Licensees to Submit LIP/APM Evaluations	June 2017	
Licensees to Submit Revised Integrated Assessments	December 2018	
Closure of NTTF Recommendation 2.1	TBD	

Resources

The staff resources required to review the reevaluated flood hazards and to develop the probabilistic flood hazard information are included in the fiscal year (FY) 2015 and FY 2016 budgets. Approximately one full-time equivalent (FTE) is needed in FY 2016 to review and develop the revised guidance for Phase 1 and the criteria and guidance for Phase 2. The staff will also need approximately two FTEs in FY 2016 and FY 2017 for reviews and inspections associated with the LIP and APM evaluations and with mitigating strategies evaluations for the reevaluated flood hazards. The three FTEs estimated in FY 2016 are offset by reductions in staff resources planned for reviews of revised integrated assessments consistent with the graded approach described in this plan. FY 2017 resources and beyond will be addressed through the agency's Planning, Budgeting, and Performance Management Process.