

NRC INSPECTION MANUAL

IPAB

MANUAL CHAPTER 0609, APPENDIX O

POST FUKUSHIMA MITIGATING STRATEGIES SIGNIFICANCE DETERMINATION
PROCESS (ORDERS EA-12-049 AND EA-12-051)

1.0 PURPOSE

The purpose of this appendix is to determine whether inspection findings associated with Mitigating Strategies required by Orders EA-12-049 and EA-12-051 are of very low safety significance (i.e., Green). If the inspection finding does not screen to Green using this risk-informed guidance, the appendix directs the use of Inspection Manual Chapter (IMC) 0609, Appendix M, Significance Determination Process Using Qualitative Criteria, for further assessment and review to determine significance. Entering into this appendix presumes that the performance deficiency is of more than minor significance using the guidance in IMC 0612, Appendix B - Issue Screening. This appendix is entered after the performance deficiency is initially characterized using the guidance in Attachment 0609.04, Initial Characterization of Findings.

2.0 BACKGROUND

Following the earthquake and tsunami at the Fukushima Dai-ichi nuclear power plant in March 2011, the NRC established a senior-level task force referred to as the Near-Term Task Force (NTTF). The NTTF conducted a systematic and methodical review of the NRC regulations and processes to determine if the agency should make safety improvements in light of the events in Japan. As a result of this review, the NTTF issued SECY-11-0093, Near-Term Report and Recommendations for Agency Actions Following the Events in Japan. Additionally, NRC staff issued SECY-11-0124, Recommended Actions to be Taken Without Delay from the Near-Term Task Force Report, and SECY-11-0137, Prioritization of Recommended Actions to be Taken in Response to Fukushima Lessons Learned to establish prioritization of the recommendations. Recommendation 4.2, concerning mitigation strategies, and Recommendation 7.1, concerning spent fuel pool instrumentation, were determined to be high-priority actions.

The NRC staff issued interim staff guidance (ISG) JLD-ISG-2012-01, Revision 0, Compliance with Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events. The ISG endorses, with clarifications, the methodologies described in the industry guidance document, Nuclear Energy Institute (NEI) 12-06, Diverse and Flexible Coping Strategies (FLEX) Implementation Guide, Revision 0. This industry document outlines one possible approach that can be used by licensees, construction permit holders, and combined license holders to address the requirements of the order.

The NRC staff issued interim staff guidance (ISG) JLD-ISG-2012-03, Revision 0, Compliance with Order EA-12-051, Reliable Spent Fuel Pool Instrumentation. The ISG endorses, with certain clarifications and exceptions, the methodologies described in the industry guidance document, NEI 12-02, Industry Guidance for Compliance with NRC Order EA-12-051, To Modify Licenses With Regard to Reliable Spent Fuel Pool Instrumentation, Revision 1. This industry document outlines one possible approach that can be used by licensees, construction permit holders, and combined license holders to address the requirements of the order.

3.0 APPLICABILITY

IMC 0609, Appendix O is designed to provide inspectors with a simplified screening framework and associated guidance for use in assessing Mitigating Strategies and reliable SFP instrumentation inspection findings. Order EA-12-049 requires a three-phase approach for mitigating beyond-design-basis external events. The initial phase requires the use of installed equipment and resources to maintain or restore core cooling, containment pressure control/heat removal and spent fuel pool cooling capabilities. The transition phase requires providing sufficient, portable, onsite equipment and consumables to maintain or restore these functions until they can be accomplished with resources brought from off site. The final phase requires obtaining sufficient offsite resources to sustain those functions indefinitely.

This appendix is used primarily to screen inspection findings related to the initial and transition phases. For the final phase of the order, this SDP only applies to that portion of the licensee's mitigating strategy that occurs after the licensee accepts the delivered equipment at the site from the National Safer Response Centers. Oversight of the National Safer Response Centers is performed in accordance with the NRC's Vendor Inspection Program.

This guidance only applies to performance deficiencies that are associated with equipment (e.g., FLEX), procedures and training that are used specifically for Mitigating Strategies as defined by Order EA-12-049. In the event that equipment serves a function(s) for other purposes, a different and more appropriate SDP tool will be used.

Order EA-12-051, requires that operating power reactor licensees and construction permit holders install reliable SFP level instrumentation. This appendix is used to screen inspection findings associated with the SFP instrumentation used by licensees to meet the requirements of this Order.

Alternate Mitigating Strategies and Targeted Hazard Mitigating Strategies are associated with flooding and seismic re-evaluated hazards and are not associated with Order EA-12-049. These strategies are not addressed by this procedure.

4.0 GUIDANCE

The guidance below will either screen the inspection finding to be of very low safety significance (Green) or redirect the inspection finding to be assessed using IMC 0609 Appendix M.

All inspection findings addressed by this guidance will be submitted to the Cross-Regional Panel established to provide consistency for inspection findings associated with Mitigating Strategies and spent fuel pool instrumentation. The panel will review the findings presented and make a recommendation to the issue sponsor for further disposition using approved guidance.

Question 1.

Is the finding associated with spent fuel pool level instrumentation required by Order A-12-051?

If Yes, screen the inspection finding to Green.

If NO, continue.

Question 2.

Does the inspection finding involve equipment used for Mitigating Strategies that would result in a complete loss for more than 72 hours of one or more functions to maintain or restore core cooling, containment pressure control/heat removal and/or spent fuel pooling cooling capabilities?

Note: In situations where there are multiple means exist (e.g., multiple trains of equipment) to meet the function to maintain or restore core cooling, containment pressure/heat removal or spent fuel pool cooling, all means must be lost for the YES response.

If YES, exit this procedure and enter IMC 0609, Appendix M for further evaluation.

If NO, continue.

Question 3.

Does the inspection finding involve procedures and/or training for Mitigating Strategies that would result in the complete loss of one or more functions needed to maintain or restore core cooling, containment pressure control/heat removal and/or spent fuel pooling cooling capabilities?

If YES, exit this procedure and enter IMC 0609, Appendix M for further evaluation.

If NO, continue.

Question 4.

Is the inspection finding associated with a licensee facility that has a documented (e.g., FSAR, IPEEE, or other licensee external hazard analysis paper) external event hazard initiating event frequency greater than 1E-6 per year?

If YES, exit this procedure and enter IMC 0609, Appendix M for further evaluation.

If NO, continue.

Question 5.

Does the finding involve significant programmatic issues in two or more of the following areas such that implementation of the Mitigating Strategies Program would be unsuccessful:

- (1) equipment monitoring and/or reliability
- (2) procedures used for Mitigating Strategies
- (3) training developed/implemented for Mitigating Strategies

If YES, exit this procedure and enter IMC 0609, Appendix M for further evaluation.

If NO, screen to Green.

5.0 REFERENCES

SECY-11-0093, "Near-Term Report and Recommendations for Agency Actions Following the Events in Japan" (ADAMS Accession No. [ML11186A950](#))

SECY-11-0124, "Recommended Actions to be Taken Without Delay from the Near-Term Task Force Report" (ADAMS Accession No. [ML112911571](#))

SECY-11-0137, "Prioritization of Recommended Actions to be Taken in Response to Fukushima Lessons Learned" (ADAMS Accession No. [ML11272A111](#))

Interim staff guidance (ISG) JLD-ISG-2012-01, Revision 0, "Compliance with Order EA-12-049, Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events" (ADAMS Accession No. [ML12229A174](#))

Nuclear Energy Institute (NEI) 12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide," Revision 0 (ADAMS Accession No. [ML12242A378](#))

Revision History for IMC 0609 Appendix O

Commitment Tracking Number	Accession Number Issue Date Change Notice	Description of Change	Description of Training Required and Completion Date	Comment and Feedback Resolution Accession Number (Pre-Decisional, Non-Public)
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