

[Note 1: Bracketed red text designates explanatory information and/or information to be filled in by the licensee.]

[Note 2: This template is based on an alternate implementation schedule of a maximum of 2 years from the NRC's acceptance of the SMSA and includes the commitment to submit the SMSA within 60 days of submitting the SPRA. Periods greater than the 2 years or 60 days would have to be supported by additional detailed justification and licensee interaction with the NRC Staff.]

[Licensee letter Number]

10 CFR 50.155(h)(2)

[Date]

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Director, Office of Nuclear Reactor Regulation  
Washington, DC 20555-0001

[Company/Licensee/Site Name]

[Company/Licensee/Site Docket Number(s)]

[Company/Licensee/Site Renewed License Number(s)]

**Subject:** Request to Use Flexible Scheduling Provisions of 10 CFR 50.155(h)(2) to Establish Alternative Date for Compliance with Reevaluated Seismic Hazard Mitigation Requirements of 10 CFR 50.155(b)(2)

**Reference:**

Letter from E. J. Leeds and M. R. Johnson, U. S. Nuclear Regulatory Commission (NRC), to All Power Reactor Licensees and Holders of Construction Permits in Active or Deferred Status, "Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated March 12, 2012, Agencywide Document Access Management Systems Accession Number ML12053A340.

This letter transmits [Licensee's] request, pursuant to 10 CFR 50.155(h)(2), for an alternative date of [date] for [plant] compliance with the reevaluated seismic hazard mitigation requirements specified by 10 CFR 50.155(b)(2).

Background

The referenced letter requested that licensees reevaluate the seismic hazard at their nuclear power plants using present day methodologies and guidance. If the reevaluated hazard exceed the design basis of a plant (as is the case for [plant]), 10 CFR 50.155(b)(2) requires that licensees consider the effect of reevaluated seismic hazard on the mitigation strategies required by 10 CFR 50.155(b)(1). Compliance with this requirement is achieved by performing a Seismic Mitigating Strategies Assessment and implementing changes (plant modifications, strategy changes, etc.) identified as necessary by that assessment.

In accordance with 10 CFR 50.155(h)(1), [plant] is required to comply with all applicable requirements of 10 CFR 50.155 no later than [10 CFR 50.155(h)(1) compliance date]. However, the flexible scheduling provisions of 10 CFR 50.155(h)(2) provide the option for licensees to

request an alternative date for compliance with the reevaluated seismic hazard mitigation requirements of 10 CFR 50.155(b)(2).

### Request

As detailed in the enclosure to this letter, [licensee] is requesting, in accordance with 10 CFR 50.155(h)(2), that compliance with the requirements of 10 CFR 50.155(b)(2), with respect to the reevaluated seismic hazard, be required two years after the date of NRC acceptance of the Seismic Mitigating Strategies Assessment (SMSA) for [plant]. [Licensee] will submit the SMSA for [plant] no later than [60 days after plant SPRA submittal date stated in 10/27/15 NRC letter, or NRC accepted plant-specific SPRA submittal date]. As also detailed in the enclosure to this letter, the alternative compliance date is being requested to assure adequate time is available to implement any needed plant modifications and/or mitigation strategy changes that may be identified by the [plant] SMSA as accepted by the NRC Staff.

The proposed alternative schedule would provide only temporary relief from the requirements of 10 CFR 50.155(b)(2) with respect to the reevaluated seismic hazard. [Licensee] will make a good-faith effort to implement as many elements of compliance with the seismic mitigation requirements of 10 CFR 50.155(b)(2) as possible within the date specified by 10 CFR 50.155(h)(1). In accordance with 10 CFR 50.155(h)(1), [plant] complied with the requirements of 10 CFR 50.155(b)(3) on [effective date of the final rule], and will achieve compliance by [applicable 2 or 3 year compliance date stated in 10 CFR 50.155(h)(1)] with all other applicable requirements of 10 CFR 50.155, except for the requirements of 10 CFR 50.155(b)(2) regarding the reevaluated seismic hazard.

As detailed in the enclosure to this letter, this request is consistent with the intent of the flexible scheduling provisions of 10 CFR 50.155(h)(2). Assurance of continued plant safety with respect to seismic events during the requested extension is provided by [plant] compliance with all other applicable requirements of 10 CFR 50.155, completion of actions identified by the [plant] Expedited Seismic Evaluation Process Report, and [completion or near term completion] of a Spent Fuel Pool seismic integrity evaluation. [Licensee] understands that, in accordance with 10 CFR 50.155(h)(2), this request will be considered approved by the NRC 120 days after submission unless the NRC notifies [Licensee] that the request does not provide good cause.

This letter contains no new or revised Regulatory Commitments. Should you have any questions regarding this submittal, please contact [Licensee contact and phone number].

I declare under penalty of perjury that the foregoing is true and correct. Executed on [date].

Sincerely,

[Licensee designated signatory]

Enclosure: Request for Alternative Date for Compliance with 10 CFR 50.155(b)(2)  
Reevaluated Seismic Hazard Mitigation Requirements

cc: [Licensee Site specific distribution]

Enclosure to [Licensee Letter Number]

Request for Alternative Date for Compliance with 10 CFR 50.155(b)(2) Reevaluated Seismic  
Hazard Mitigation Requirements

Abbreviations and Acronyms

ADAMS – Agencywide Documents Access and Management System  
BDBEE – beyond design basis external event  
CFR – Code of Federal Regulations  
ESEP – Expedited Seismic Evaluation Process  
KSFs – Key Safety Functions (core cooling, spent fuel cooling, and containment integrity)  
SMSA – Seismic Mitigating Strategy Assessment  
NEI – Nuclear Energy Institute  
NRC – U. S. Nuclear Regulatory Commission  
SFP – Spent Fuel Pool  
SPRA – seismic probabilistic risk assessment

References

1. Letter from E. J. Leeds and M. R. Johnson, NRC, to All Power Reactor Licensees and Holders of Construction Permits in Active or Deferred Status, "Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated March 12, 2012, ADAMS Accession Number ML12053A340
2. [Licensee letter transmitting seismic hazard reevaluation for plant, including any supplemental submittals]
3. NEI 12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide," Revision 4, dated December 2016, ADAMS Accession Number ML16354B421
4. Letter from W. M. Dean, NRC, to the identified Power Reactor Licensees, "Final Determination of Licensee Seismic Probabilistic Risk Assessments Under the Request for Information Pursuant to Title 10 of the Code of Federal Regulations 50.54(f) Regarding Recommendation 2.1 'Seismic' of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated October 27, 2015, ADAMS Accession Number ML15194A015
5. Letter from E. J. Leeds and M. R. Johnson, NRC, to All Power Reactor Licensees and Holders of Construction Permits in Active or Deferred Status, "Issuance of Order to Modify Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," dated March 12, 2012, ADAMS Accession Number ML12054A736 (EA-12-049)
6. [Licensee letter submitting ESEP report for plant, including any supplemental submittals]
7. [NRC letter documenting acceptance of ESEP for plant]
8. [Licensee letter submitting SFP seismic evaluation for plant, including any supplemental submittals (if completed)]
9. [NRC letter documenting acceptance of SFP seismic evaluation for plant (if completed)]

## 10. [NRC letter closing Bulletin 2011-01 (re. 50.54(hh)(2)) for plant]

## Request for Alternative Compliance Date

In accordance with 10 CFR 50.155(h)(1), [plant] is required to comply with all applicable requirements of 10 CFR 50.155 no later than [applicable 2 or 3 year compliance date stated in 10 CFR 50.155(h)(1)]. Licensee is requesting that compliance with the requirements of 10 CFR 50.155(b)(2) with respect to the reevaluated seismic hazard be required 2 years after the date of NRC acceptance of the SMSA for [plant]. [Licensee] will submit the SMSA for [plant] no later than [60 days months after SPRA submittal date stated in 10/27/15 NRC letter, or NRC accepted plant-specific SPRA submittal date].

This request is submitted in accordance with the flexible scheduling provisions of 10 CFR 50.155(h)(2), which allows licensees that cannot achieve compliance with the requirements of 10 CFR 50.155(b)(2) by the [applicable 2 or 3 year compliance date stated in 10 CFR 50.155(h)(1)], to request an alternative compliance date.

Compliance with the reevaluated seismic hazard mitigation requirements of 10 CFR 50.155(b)(2) by the requested date will include updating actions taken to comply with other requirements of 10 CFR 50.155 (e.g., 10 CFR 50.155(c), "Equipment," 10 CFR 50.155(d), "Training Requirements," or 10 CFR 50.155(e), "Drills or Exercises") as necessary to reflect the results of the [plant] SMSA.

In accordance with 10 CFR 50.155(h)(1), [plant] complied with the requirements of 10 CFR 50.155(b)(3) on [effective date of the final rule], and will achieve compliance by [applicable 2 or 3 year compliance date stated in 10 CFR 50.155(h)(1)] with all other applicable requirements of 10 CFR 50.155, except for the requirements of 10 CFR 50.155(b)(2) regarding the reevaluated seismic hazard.

## Basis for the Requested Alternative Compliance Date

By letter dated March 12, 2012, the NRC issued a request for information (Reference 1) pursuant to 10 CFR 50.54(f), hereafter referred to as the 50.54(f) letter. The 50.54(f) letter was issued as part of implementing lessons-learned from the accident at the Fukushima Dai-ichi nuclear power plant. Enclosure 1 to the 50.54(f) letter requested that licensees reevaluate the seismic hazard at their nuclear power plants using present-day methodologies and guidance. By letter dated [month, day, year] (Reference 2), [licensee] provided its reevaluated seismic hazard for [plant] in response to the 50.54(f) letter. As documented in that letter, the [plant] reevaluated seismic hazard exceeds the design basis seismic hazard.

Regulation 10 CFR 50.155(b)(2) requires licensees that received the 10 CFR 50.54(f) letter to consider the effects of the reevaluated seismic hazard if the hazard exceeds the design basis hazard for the plant. [Licensee] intends to address the effects of the re-evaluated seismic hazard by performing an SMSA, in accordance with NRC endorsed guidance of NEI 12-06 (Reference 3), with respect to the strategies and guidelines developed in accordance with 10 CFR 50.155(b)(1). Performance of the SMSA necessitates input from the [plant] SPRA, which is scheduled for submittal by [date] in accordance with Reference 4. [Licensee] will submit the [plant] SMSA to the NRC no

later than [date], which is 60 days after the Reference 4 submittal date for the [plant] SPRA. The 60 day period will provide adequate time to perform additional risk evaluations or sensitivity analyses using the finalized SPRA as needed for the Reference 3, Appendix H, Path 5 approaches for completing an SMSA.

The completed SMSA may identify the need for major plant modifications or changes to the strategies established in accordance 10 CFR 50.155(b)(1). Design, review, and implementation of major plant modifications and/or strategy changes prior to NRC acceptance of the SMSA may result in subsequent rework or revisions, which may not be achievable by the compliance date of [date] as specified in 10 CFR 50.155(h)(1). Alternatively, delaying initiation of required plant modifications and/or strategy changes until the NRC has accepted the SMSA may necessitate expediting or “fast tracking” the modifications and/or changes. In such cases the modification engineering and design work would be performed in parallel with the physical changes in the plant, which would unnecessarily increase the risk for errors, rework, and inefficiencies. Additionally, major plant modifications may necessitate a unit outage for implementation.

[Licensee] is therefore requesting an alternative date for compliance with the requirements of 10 CFR 50.155(b)(2) with respect to the reevaluated seismic hazard for [plant]. Licensee is requesting that compliance be required two years after NRC acceptance of the [plant] SMSA, to assure adequate time is available to prepare and implement major plant modifications or strategy changes identified by the SMSA. If it is determined that no plant modifications or only minor plant modifications are needed, [licensee] will make a good-faith effort to achieve compliance with the seismic hazard related requirements of 10 CFR 50.155(b)(2) by the date specified in 10 CFR 50.155(h)(1).

The alternate compliance date is requested in accordance with the flexible scheduling provisions of 10 CFR 50.155(h)(2). This request is consistent with the underlying intent of those provisions as described in the Final Notice ([Federal Register no.]) for 10 CFR 50.155. As documented in that notice, the NRC recognized that plant modifications and mitigation strategy changes are complex processes, and sufficient time is needed to complete the work efficiently. The NRC acknowledged that addressing reevaluated hazard information would be the primary driver of the 10 CFR 50.155 implementation schedule for many licensees. The NRC also recognized that, for some sites, there is still a need to develop the methodology needed to perform assessments of their mitigation strategies. The NRC acknowledged that this condition applies to assessments of reevaluated seismic hazards that use the risk-informed Path 5 approach in Appendix H of NEI 12-06 (Reference 3). The 2-year implementation timeline of 10 CFR 50.155(h)(1) would clearly not provide adequate time for review of the SPRA results by the NRC staff prior to completion of the licensee’s modifications under the final rule. The NRC therefore included the flexible scheduling provisions of 10 CFR 50.155(h)(2) to provide licensees a method of establishing an alternate compliance date without an exemption from the regulation pursuant to 10 CFR 50.12, “Specific Exemptions.”

Based on these considerations, the NRC provided the schedule flexibility embodied in 10 CFR 50.155(h)(2), and concluded that such flexibility was acceptable given licensees’ prior implementation of the remaining requirements in 10 CFR 50.155 under the



scheduling requirements of Order EA-12-049 (Reference 5), which significantly enhanced licensees' capabilities to mitigate BDBEEs.

#### Assurance of Safety During the SMSA Implementation Period

[Licensee] will achieve compliance with all other applicable requirements of 10 CFR 50.155, including Section 50.155(b)(1), by [applicable 2 or 3 year compliance date stated in 10 CFR 50.155(h)(1)] in accordance with 10 CFR 50.155(h)(1) as described above under "Request for Alternative Compliance Date." This date is ["prior to" or "concurrent with"] the rescission date for Order EA-12-049 (Reference 5).

[Licensee] will put forth a good-faith effort to implement as many elements of compliance with the seismic mitigation requirements of 10 CFR 50.155(b)(2) as possible within the date specified by 10 CFR 50.155(h)(1).

[Licensee] has performed an ESEP as documented in Reference 6. The NRC has determined the [plant] ESEP to be acceptable as documented in Reference 7. The ESEP evaluated the seismic capacity of plant components credited in the primary success path for maintaining KSFs with respect to the ESEP beyond-design-basis seismic criterion. [Licensee] has completed all actions necessary to meet the ESEP beyond-design-basis seismic criterion for the credited components.

[Use one of the following two paragraphs as applicable]

[Licensee] has submitted an beyond-design-basis SFP seismic evaluation as documented in Reference 8. The SFP integrity evaluation confirmed that the SFP is seismically adequate to preclude rapid drain down and will retain adequate water inventory. [Include next sentence if NRC review is complete] The NRC has determined the [plant] SFP evaluation to be acceptable as documented in Reference 9.

[OR]

[Licensee] will submit, for NRC review, an SFP seismic evaluation by December 31, 2017 as required by Reference 4.

[For information: The following paragraph satisfies the NRC expectation documented in the Federal Register Final Notice for 10 CFR 50.155, Section VI, "Section-by-Section Analysis" discussion of "Paragraph 50.155(h) Implementation."]

[Licensee] achieved compliance with the requirements of 10 CFR 50.54(hh)(2) as documented in Reference 10. Compliance with the requirements of 10 CFR 50.54(hh)(2) provided assurance that the KSFs will be maintained or restored following the loss of large areas of the plant due to explosions or fire. [Licensee] has continued to provide this assurance through compliance with [Order EA-06-137 or the License Condition associated with Order EA-06-137] and the Mitigation Strategy License Condition until superseded by compliance with 10 CFR 50.155(b)(3) on [effective date of the final rule].