



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
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May 23, 3018

MEMORANDUM TO: Brian E. Thomas, Director  
Division of Engineering  
Office of Nuclear Regulatory Research

FROM: Dogan Seber, Chief **/RA/**  
Structural, Geotechnical, and Seismic Engineering Branch  
Division of Engineering  
Office of Nuclear Regulatory Research

SUBJECT: RESULTS OF PERIODIC REVIEW OF REGULATORY GUIDE  
(RG) 1.92 COMBINING MODAL RESPONSES AND SPATIAL  
COMPONENTS IN SEISMIC RESPONSE ANALYSIS

This memorandum documents the US Nuclear Regulatory Commission (NRC) periodic review of RG 1.92, "Combining Modal Responses and Spatial Components in Seismic Response Analysis," issued October 2012. The RG describes methods that the NRC staff considers acceptable for combining modal responses and spatial components in seismic response analysis of safety related nuclear power plant structures, systems, and components that are important to safety. As discussed in Management Directive 6.6, "Regulatory Guides," the NRC staff reviews RGs approximately every 10 years to ensure that the RGs continue to provide useful guidance. Documentation of the NRC staff review is enclosed.

Based on the results of the periodic review, the staff concludes that no immediate changes to RG 1.92 Revision 3 are warranted at this time. However, the staff identified some technical issues in the review that might warrant addressing in a future revision. These issues include the development of more rigorous benchmarking of the combination methods, consideration of hard-rock-high-frequency input response spectra, and improving clarity on an existing technical position. The NRC staff plans to conduct analyses to address the identified issues and revise RG 1.92 accordingly. This activity would start in FY2019 or FY2020 depending on funding limitations and staff priorities, and would be completed in approximately 3 years.

ENCLOSURE: Periodic Review of RG 1.92

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SUBJECT: RESULTS OF PERIODIC REVIEW OF REGULATORY GUIDE (RG) 1.92

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