

U.S. NUCLEAR REGULATORY COMMISSION

Final Regulatory Guide; Issuance, Availability

The U.S. Nuclear Regulatory Commission (NRC) has issued a revision to an existing guide in the agency's Regulatory Guide Series. This series has been developed to describe and make available to the public such information as methods that are acceptable to the NRC staff for implementing specific parts of the NRC's regulations, techniques that the staff uses in evaluating specific problems or postulated accidents, and data that the staff needs in its review of applications for permits and licenses.

Revision 2 of Regulatory Guide 1.92, entitled "Combining Modal Responses and Spatial Components in Seismic Response Analysis," provides licensees and applicants with improved guidance concerning methods that the NRC staff considers acceptable for combining modal responses and spatial components in seismic response analysis of nuclear power plant (NPP) structures, systems, and components (SSCs) that are important to safety. As defined in Appendix A, "General Design Criteria for Nuclear Power Plants," to Title 10, Part 50, of the Code of Federal Regulations (10 CFR Part 50), Criterion 2, "Design Bases for Protection Against Natural Phenomena," requires, in part, that SSCs that are important to safety must be designed to withstand the effects of natural phenomena (such as earthquakes) without losing their capability to perform their respective safety functions. Such SSCs must also be designed to accommodate the effects of, and be compatible with, the environmental conditions associated with normal operation and postulated accidents. Appendix S, "Earthquake Engineering Criteria for Nuclear Power Plants," to 10 CFR Part 50 specifies, in part, requirements for implementing General Design Criterion 2 with respect to earthquakes.¹

¹ Appendix S to 10 CFR Part 50 applies to applicants for a design certification or combined license pursuant to 10 CFR Part 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants," or a construction permit or operating license pursuant to 10 CFR Part 50 after January 10, 1997. However, the earthquake engineering criteria in Section VI of Appendix A to 10 CFR Part 100 continue to apply for either an operating license applicant or an operating license holder whose construction permit was issued before January 10, 1997.

For several decades, the nuclear industry fulfilled Criterion 2 using the response spectrum method and the time history method for seismic analysis and design of NPP SSCs. Then, in 1976, the NRC issued Revision 1 of Regulatory Guide 1.92, which described then-up-to-date guidance for using the response spectrum and time history methods. Since that time, research in the United States has resulted in improved methods that yield more accurate estimates of SSC seismic response, while reducing unnecessary conservatism. In view of those improvements, Revision 2 of Regulatory Guide 1.92 describes methods that the NRC staff finds acceptable for combining modal responses and spatial components in seismic response analysis.

The NRC staff initially published Revision 2 of Regulatory Guide 1.92 as DG-1108, dated August 2001. The staff subsequently considered stakeholders' feedback on DG-1108, incorporated the necessary changes, and again solicited public comment on the revised guide by publishing a Federal Register notice (70 FR 7777) concerning Draft Regulatory Guide DG-1127 on February 15, 2005. Following the closure of the public comment period on April 15, 2005, the staff considered all stakeholder comments in the course of preparing Revision 2 of Regulatory Guide 1.92. The staff's responses to all comments received are available in the NRC's Agencywide Documents Access and Management System (ADAMS) at <http://www.nrc.gov/reading-rm/adams.html>, under Accession #ML061630344.

The NRC staff encourages and welcomes comments and suggestions in connection with improvements to published regulatory guides, as well as items for inclusion in regulatory guides that are currently being developed. You may submit comments by any of the following methods.

Mail comments to: Rules and Directives Branch, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

Hand-deliver comments to: Rules and Directives Branch, Office of Administration, U.S. Nuclear Regulatory Commission, 11555 Rockville Pike, Rockville, Maryland 20852, between 7:30 a.m. and 4:15 p.m. on Federal workdays.

Fax comments to: Rules and Directives Branch, Office of Administration, U.S. Nuclear Regulatory Commission at (301) 415-5144.

Requests for technical information about Revision 2 of Regulatory Guide 1.92 may be directed to Dr. T.Y. Chang, at (301) 415-6450 or via email to TYC@nrc.gov.

Regulatory guides are available for inspection or downloading through the NRC's public Web site in the Regulatory Guides document collection of the NRC's Electronic Reading Room at <http://www.nrc.gov/reading-rm/doc-collections/>. Electronic copies of Revision 2 of Regulatory Guide 1.92 are also available in the NRC's Agencywide Documents Access and Management System (ADAMS) at <http://www.nrc.gov/reading-rm/adams.html>, under Accession #ML053250475.

In addition, regulatory guides are available for inspection at the NRC's Public Document Room (PDR), which is located at 11555 Rockville Pike, Rockville, Maryland; the PDR's mailing address is USNRC PDR, Washington, DC 20555-0001. The PDR can also be reached by telephone at (301) 415-4737 or (800) 397-4205, by fax at (301) 415-3548, and by email to PDR@nrc.gov. Requests for single copies of draft or final guides (which may be reproduced) or for placement on an automatic distribution list for single copies of future draft guides in specific divisions should be made in writing to the U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Attention: Reproduction and Distribution Services Section; by email to DISTRIBUTION@nrc.gov; or by fax to (301) 415-2289. Telephone requests cannot be accommodated.

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(5 U.S.C. 552(a))

Dated at Rockville, Maryland, this 10th day of July, 2006.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION,

/RA/

Brian W. Sheron, Director
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