

**NUCLEAR REGULATORY COMMISSION**

**[NRC-2011-0152]**

**Evaluations of Explosions Postulated to Occur at Nearby Facilities  
and on Transportation Routes Near Nuclear Power Plants**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Regulatory guide; issuance.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is issuing a revision to Regulatory Guide (RG) 1.91, "Evaluations of Explosions Postulated to Occur at Nearby Facilities and on Transportation Routes Near Nuclear Power Plants." This regulatory guide describes for applicants seeking nuclear power reactor licenses and licensees of nuclear power reactors methods that the NRC's staff finds acceptable for evaluating postulated explosions at nearby facilities and transportation routes.

**ADDRESSES:** Please refer to Docket ID **NRC-2011-0152** when contacting the NRC about the availability of information regarding this document. You may access information related to this document, which the NRC possesses and is publicly available, using any of the following methods:

- **Federal Rulemaking Web site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2011-0152**. Address questions about NRC dockets to Carol Gallagher; telephone: 301-492-3668; e-mail: [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov). For technical questions, contact

the individual(s) listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):**

You may access publicly available documents online in the NRC Library at

<http://www.nrc.gov/reading-rm/adams.html>. To begin the search, select "[ADAMS Public Documents](#)" and then select "[Begin Web-based ADAMS Search](#)." For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov). The ADAMS accession number for each document referenced in this notice (if that document is available in ADAMS) is provided the first time that a document is referenced. Revision 2 of Regulatory Guide 1.91 is available under ADAMS Accession No. ML12170A980. The regulatory analysis may be found under ADAMS Accession No. ML12170A989.

Regulatory guides are not copyrighted, and NRC approval is not required to reproduce them.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

Regulatory guides are not copyrighted, and NRC approval is not required to reproduce them.

**FOR ADDITIONAL INFORMATION CONTACT:** Hector Rodriguez-Luccioni, Office of Nuclear Regulatory Research, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-251-7685; e-mail: [Hector.Rodriguez-Luccioni@nrc.gov](mailto:Hector.Rodriguez-Luccioni@nrc.gov).

## **SUPPLEMENTARY INFORMATION:**

### **I. Introduction**

The NRC is issuing a revision to an existing guide in the NRC's "Regulatory Guide" series. This series was developed to describe and make available to the public information such as methods that are acceptable to the NRC staff for implementing specific parts of the agency'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 RG 1.91 was issued with a temporary identification as Draft Regulatory Guide, DG-1270. This guide describes for applicants and licensees of nuclear power reactors some methods and assumptions the NRC's staff finds acceptable for evaluating postulated explosions at nearby facilities and transportation routes. It describes the calculation of safe distances based on estimates of trinitrotoluene (TNT)-equivalent mass of explosive materials, the calculation of exposure rates based on hazardous cargo transportation frequencies, and the calculation of blast load effects.

This guide describes methods that the NRC's staff considers acceptable to implement Section 100.20(b) of Title 10 the *Code of Federal Regulations* (10 CFR), and 10 CFR Part 50, Appendix A, General Design Criterion 4. Section 100.20(b) requires that the nature and proximity of hazards related to human activity (e.g., airports, dams, transportation routes, and military and chemical facilities) must be evaluated to establish site parameters for use in determining if a plant design can accommodate commonly occurring hazards, and if the risk of other hazards is very low. General Design Criterion 4 requires that nuclear power plant structures, systems, and components (SSCs) important to safety be appropriately protected against dynamic effects resulting from equipment failures and from events and conditions that may occur outside the nuclear power plant.

## II. Further Information

DG-1270 was published in the *Federal Register* on July 20, 2011 (76 FR 43356) for a 60-day public comment period. The public comment period closed on September 19, 2012. Public comments on DG-1270 and the staff responses to the public comments are available under ADAMS Accession No. ML12170A987.

## III. Backfitting and Issue Finality

Issuance of this final regulatory guide does not constitute backfitting as defined in 10 CFR 50.109 (the Backfit Rule) and is not otherwise inconsistent with the issue finality provisions in 10 CFR Part 52. As discussed in the "Implementation" section of this regulatory guide, the NRC has no current intention to impose this regulatory guide on holders of current operating licenses, early site permits or combined licenses.

This regulatory guide may be applied to applications for operating licenses, early site permits, and combined licenses docketed by the NRC as of the date of issuance of the final regulatory guide and to future applications for operating licenses, early site permits, and combined licenses submitted after the issuance of the regulatory guide. Such action does not constitute backfitting as defined in 10 CFR 50.109(a)(1) and is not otherwise inconsistent with the applicable issue finality provisions in 10 CFR Part 52, inasmuch as such applicants or potential applicants are not within the scope of entities protected by the Backfit Rule or the relevant issue finality provisions in Part 52.

Dated at Rockville, Maryland, this 17<sup>th</sup> day of April, 2013.

For the Nuclear Regulatory Commission.

**/RA/**

Thomas H. Boyce, Chief,  
Regulatory Guide Development Branch,  
Division of Engineering,  
Office of Nuclear Regulatory Research.