

**NUCLEAR REGULATORY COMMISSION**

**[NRC-2021-0141]**

**Evaluating the Habitability of a Nuclear Power Plant Control Room during a  
Postulated Hazardous Chemical Release**

**AGENCY:** Nuclear Regulatory Commission

**ACTION:** Draft regulatory guide; request for comment.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) is issuing for public comment a draft regulatory guide (DG), DG-1387, "Evaluating the Habitability of a Nuclear Power Plant Control Room during a Postulated Hazardous Chemical Release." This DG is a proposed Revision 2 to Regulatory Guide (RG) 1.78, which describes an approach that is acceptable to the NRC staff to meet regulatory requirements for evaluating the habitability of a nuclear power plant control room during a postulated hazardous chemical release. Releases of hazardous chemicals, onsite or off-site, can result in the nearby control room becoming uninhabitable.

**DATES:** Submit comments by **August 28, 2021**. Comments received after this date will be considered if it is practical to do so, but the NRC is able to ensure consideration only for comments received on or before this date. Although a time limit is given, comments and suggestions in connection with items for inclusion in guides currently being developed or improvements in all published guides are encouraged at any time.

**ADDRESSES:** You may submit comments by any of the following methods; however, the NRC encourages electronic comment submission through the **Federal Rulemaking Website:**

- **Federal Rulemaking Website:** Go to <https://www.regulations.gov> and search for Docket ID **NRC-2021-0141**. Address questions about Docket IDs in Regulations.gov to Stacy Schumann; telephone: 301-415-0624; e-mail: Stacy.Schumann@nrc.gov. For technical questions, contact the individuals listed in the **FOR FURTHER INFORMATION CONTACT** section of this document.

- **Mail comments to:** Office of Administration, Mail Stop: TWFN-7-A60M, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Program Management, Announcements and Editing Staff.

For additional direction on obtaining information and submitting comments, see “Obtaining Information and Submitting Comments” in the **SUPPLEMENTARY INFORMATION** section of this document.

**FOR FURTHER INFORMATION CONTACT:** Casper Sun, Office of Nuclear Reactor Regulation, telephone: 301-415-1646, e-mail: Casper.Sun@nrc.gov; Michael Eudy, Office of Nuclear Regulatory Research, telephone: 301-415-3104, e-mail: Michael.Eudy@nrc.gov; or Kyle Song, Office of Nuclear Regulatory Research, telephone: 301-415-3637, e-mail: Kyle.Song@nrc.gov. All are staff of the U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001

**SUPPLEMENTARY INFORMATION:**

**I. Obtaining Information and Submitting Comments**

A. Obtaining Information

Please refer to Docket ID **NRC-2021-0141**, facility name, unit number(s), docket number(s), application date, and subject, if applicable, when contacting the NRC about the availability of information for this action. You may obtain publicly available information related to this action by any of the following methods:

- **Federal Rulemaking Website:** Go to <https://www.regulations.gov> and

search for Docket ID **NRC-2021-0141**.

- **NRC's Agencywide Documents Access and Management System**

**(ADAMS):** You may obtain publicly available documents online in the ADAMS Public Documents collection at <https://www.nrc.gov/reading-rm/adams.html>. To begin the search, 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 (if it is available in ADAMS) is provided the first time that it is mentioned in the **SUPPLEMENTARY INFORMATION** section.

- **Attention:** The PDR, where you may examine and order copies of public documents, is currently closed. You may submit your request to the PDR via e-mail at [pdr.resource@nrc.gov](mailto:pdr.resource@nrc.gov) or call 1-800-397-4209 or 301-415-4737, between 8:00 a.m. and 4:00 p.m. (ET), Monday through Friday, except Federal holidays.

#### B. Submitting Comments

The NRC encourages electronic comment submission through the **Federal Rulemaking Website** (<https://www.regulations.gov>). Please include Docket ID **NRC-2021-0141** in your comment submission.

The NRC cautions you not to include identifying or contact information that you do not want to be publicly disclosed in your comment submission. The NRC will post all comment submissions at <https://www.regulations.gov> as well as enter the comment submissions into ADAMS. The NRC does not routinely edit comment submissions to remove identifying or contact information.

If you are requesting or aggregating comments from other persons for submission to the NRC, then you should inform those persons not to include identifying or contact information that they do not want to be publicly disclosed in their comment

submission. Your request should state that the NRC does not routinely edit comment submissions to remove such information before making the comment submissions available to the public or entering the comment into ADAMS.

## **II. Additional Information**

The NRC is issuing for public comment a DG in the NRC's "Regulatory Guide" series. This series was developed to describe methods that are acceptable to the NRC staff for implementing specific parts of the agency's regulations, to explain techniques that the staff uses in evaluating specific issues or postulated events, and to describe information that the staff needs in its review of applications for permits and licenses.

The DG entitled, "Evaluating the Habitability of a Nuclear Power Plant Control Room during a Postulated Hazardous Chemical Release," is temporarily identified by its task number, DG-1387 (ADAMS Accession No. ML21119A157). The proposed revision of this guide (Revision 2) presents up-to-date and defense-in-depth guidance using the latest scientific methods and the updated, NRC-endorsed computer code for control room habitability evaluation called HABIT. HABIT is an integrated set of computer codes that the NRC uses to evaluate control room habitability and estimate the control room personnel's exposure to a chemical release. DG-1387 describes an approach that is acceptable to the NRC staff to meet the requirements of part 50 of title 10 of the *Code of Federal Regulations* (10 CFR), "Domestic licensing of production and utilization facilities," appendix A, "General Design Criteria for Nuclear Power Plants," General Design Criterion 19, "Control Room," for evaluating the habitability of a nuclear power plant control room during a postulated hazardous chemical release.

Revision 1 of RG 1.78 endorsed an earlier version of the HABIT code, which is described in NUREG/CR-6210, Supplement 1, "Computer Codes for Evaluation of Control Room Habitability (HABIT V1.1)," issued October 1998 (ADAMS Accession No.

ML063480558). More recently, the NRC staff endorsed a newer version of the HABIT code in NUREG-2244, "HABIT 2.2: Description of Models and Methods," issued May 2021 (ADAMS Accession No. ML21120A069). NUREG-2244 is incorporated into Revision 2 of this proposed guide.

The staff is also issuing for public comment a draft regulatory analysis (ADAMS Accession No. ML21119A159). The staff developed the regulatory analysis to assess the value of revising RG 1.78 as well as alternative courses of action.

### **III. Backfitting, Forward Fitting, and Issue Finality**

Issuance of DG-1387, if finalized, would not constitute backfitting as defined in 10 CFR 50.109, "Backfitting," and as described in NRC Management Directive (MD) 8.4, "Management of Backfitting, Forward Fitting, Issue Finality, and Information Requests"; would not constitute forward fitting as that term is defined and described in MD 8.4; or affect the issue finality of any approval issued under 10 CFR part 52, "Licenses, certifications, and approvals for nuclear power reactors." As explained in DG-1387, applicants and licensees would not be required to comply with the positions set forth in DG-1387.

Dated: July 23, 2021.

For the Nuclear Regulatory Commission.

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