



[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[NRC-2017-0016]

Guidance for Developing Principal Design Criteria for Non-Light Water Reactors

AGENCY: Nuclear Regulatory Commission.

ACTION: Draft regulatory guide; request for comment.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is issuing for public comment draft regulatory guide (DG), DG-1330, "Guidance for Developing Principal Design Criteria for Non-Light Water Reactors." This DG is a proposed new regulatory guide (RG) to provide designers, applicants, and licensees of non-light water cooled nuclear reactors (non-LWR) guidance for developing principal design criteria (PDC) for a proposed facility. The PDC establish the necessary design, fabrication, construction, testing, and performance requirements for structures, systems, and components important to safety; that is, structures, systems, and components that provide reasonable assurance that the facility can be operated without undue risk to the health and safety of the public.

DATES: Submit comments by **[INSERT DATE 60 DAYS FROM THE DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**. 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:

- **Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for Docket ID **NRC-2017-0016**. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individuals listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **Mail comments to:** Cindy Bladey, Office of Administration, Mail Stop: OWFN-12-H08, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001.

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: Jan Mazza, Office of New Reactors, telephone: 301-415-0498, e-mail: Jan.Mazza@nrc.gov, or Mark Orr, Office of Nuclear Regulatory Research, telephone: 301-415-6003, e-mail: Mark.Orr@nrc.gov. Both 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-2017-0016 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 Web Site:** Go to <http://www.regulations.gov> and search for Docket ID NRC-2017-0016.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public Documents collection 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.

- **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.

B. Submitting Comments

Please include Docket ID NRC-2017-0016 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 <http://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 and make available to the public information regarding 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 issues or postulated events, and data that the staff needs in its review of applications for permits and licenses.

The DG, entitled "Guidance for Developing Principal Design Criteria for Non-Light Water Reactors," is a proposed new RG. The proposed new RG is temporarily identified by its task number, DG-1330. The proposed new RG describes the NRC's proposed guidance on how the general design criteria (GDC) in Appendix A, "General Design Criteria for Nuclear Power Plants," of title 10 of the *Code of Federal Regulations*, part 50, "Domestic Licensing of Production and Utilization Facilities" (10 CFR part 50) apply to non-LWR designs. This guidance may be used by non-LWR reactor designers, applicants, and licensees to develop PDC for non-LWR designs, as required by 10 CFR part 50 for an application for a construction permit, and 10 CFR part 52 for an application for a design certification, combined license, standard design approval, or manufacturing license. The DG also describes the NRC's

proposed guidance for modifying and supplementing the GDC to develop PDC that address two specific non-LWR design concepts: sodium-cooled fast reactors (SFRs), and modular high temperature gas-cooled reactors (mHTGRs).

The advanced reactor design criteria (ARDC) are intended to be technology-neutral and, therefore, could apply to any type of non-LWR design. In July 2013, the NRC and U.S. Department of Energy (DOE) established a joint initiative to review and address the existing GDC, which may not directly apply to non-LWR power plant designs. During the review it was determined that the safety objective for some of the current GDC were not applicable to SFR and mHTGR technologies, so entirely new design criteria were developed to address their unique design features.

III. Backfitting and Issue Finality

The purpose of DG-1330 is to provide regulatory guidance to assist future applicants in developing PDC for non-LWR designs. The NRC approves the PDC, which form part of the licensing basis for the facility. The DG, if finalized, would not constitute regulatory requirements. For this reason, issuance of DG-1330, if finalized, would not constitute backfitting under 10 CFR 50.109 (the "Backfit Rule"). Future applicants may choose to follow the guidance or utilize another approach in developing principle design criteria for their facilities. Applicants and potential applicants are not, with certain exceptions, protected by either the Backfit Rule or any issue finality provisions under 10 CFR part 52. Neither the Backfit Rule nor the issue finality provisions under 10 CFR part 52 – with certain exclusions discussed below – were intended to apply to every NRC action which substantially changes the expectations of current and future applicants. Therefore, the positions in any regulatory guide, if imposed on applicants under 10 CFR 50.34(a)(3), 52.47(a)(3), 52.79(a)(4), 52.137(a)(3), or 52.157(a), would not represent backfitting or a violation of issue finality (except as discussed below).

The exceptions to the general principle are applicable whenever a combined license applicant references a 10 CFR part 52 license (i.e., an early site permit or a manufacturing license) and/or 10 CFR part 52 regulatory approval (i.e., a design certification rule or design approval). There are no current non-LWR applicants or holders of licenses or design certifications for non-LWR designs. Therefore, issuance of DG-1330 in final form would not constitute a violation of issue finality.

Dated at Rockville, Maryland, this 31st day of January, 2017.

For the Nuclear Regulatory Commission.

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