[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[NRC-2015-0272]

Assessment of Abnormal Radioactive Discharges in Ground Water to the Unrestricted Area at Nuclear Power Plant Sites

AGENCY: Nuclear Regulatory Commission.

ACTION: Regulatory guide; issuance.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is issuing Regulatory Guide (RG) 4.25, "Assessment of Abnormal Radioactive Discharges in Ground Water to the Unrestricted Area at Nuclear Power Plant Sites," as a new guide (Revision 0). The guide describes an approach that the NRC staff considers acceptable for use in assessing abnormal discharges of radionuclides in ground water from the subsurface to the unrestricted area at commercial nuclear power plant sites.

DATES: Revision 0 to RG 4.25 is available on **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Please refer to Docket ID NRC-2015-0272 when contacting the NRC about the availability of information regarding this document. You may obtain publicly-available information related to this document using any of the following methods:

- **Federal Rulemaking Web Site:** Go to http://www.regulations.gov and search for Docket ID NRC-2015-0272. 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.

- **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. Regulatory Guide 4.25 is available in ADAMS under Accession No. ML16253A333.

- **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.

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SUPPLEMENTARY INFORMATION:

I. Discussion

The NRC is issuing a new guide 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 agency's regulations, techniques that the NRC staff uses in evaluating specific issues or postulated events, and data that the NRC staff needs in its review of applications for permits and licenses.

Revision 0 of RG 4.25 was issued with a temporary identification of Draft Regulatory Guide, DG-4025. The guide is being issued to provide guidance to licensees on acceptable methods to determine the quantity of licensed material (i.e., radionuclides) in abnormal discharge into the unrestricted area through the ground water discharge pathway at commercial nuclear power plants. American National Standards Institute/American Nuclear Society (ANSI/ANS)-2.17-2010 (R2016), "Evaluation of Subsurface Radionuclide Transport at Commercial Nuclear Power Plants," provides such methods. The ANSI/ANS standard does not specify the use of any specific ground water flow and transport model. It provides a graded, risk-informed approach for evaluating the effects of subsurface radionuclide transport. The ground water flow and transport model developed by licensees should be a site-specific model, based on the complexity of geologic and hydrologic conditions, the types of radioactive materials and facility design, the types and effectiveness of engineered and natural barriers, and the proximity to surface water and ground water receptors. A facility that has less significant radionuclide source term, minor subsurface contamination, simple or well-understood hydrogeology, or limited effects on ground water resources generally requires less extensive site characterization, mathematical modeling, and performance-confirmation measures than a

facility with significant residual radioactivity that has the potential to exceed national radiation protection standards. The appendix to RG 4.25 provides a simple ground water flow and transport model that is acceptable for use with simple hydrogeologic conditions and geometry such as steady-state saturated flow in homogeneous porous sand layers.

II. Additional Information

The DG-4025 was published in the *Federal Register* on December 11, 2015 (80 FR 77028) for a 60-day public comment period. The public comment period closed on February 9, 2016. Public comments on DG-4025 and the staff responses to the public comments are available under ADAMS under Accession No. ML16253A330.

III. Congressional Review Act

This RG is a rule as defined in the Congressional Review Act (5 U.S.C. 801-808). However, the Office of Management and Budget has not found it to be a major rule as defined in the Congressional Review Act.

IV. Backfitting and Issue Finality

Regulatory Guide 4.25 describes a method that the staff of the NRC considers acceptable for assessing abnormal, inadvertent radioactive releases which may result in discharges of contaminated ground water from the subsurface to the unrestricted area at commercial nuclear power plant sites. Issuance of this RG does not constitute backfitting as defined in section 50.109 of title 10 of the Code of Federal Regulations (10 CFR) (the Backfit

Rule) and is not otherwise be inconsistent with the issue finality provisions in 10 CFR part 52. As discussed in the “Implementation” section of this RG, the NRC has no current intention to impose this guide on holders of current operating licenses or combined licenses.

This RG may be applied to applications for operating licenses, combined licenses, early site permits, and certified design rules docketed by the NRC as of the date of issuance of the final regulatory guide, as well as future applications submitted after the issuance of the regulatory guide. Such action would not constitute backfitting as defined in the Backfit Rule or be otherwise inconsistent with the applicable issue finality provision 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: March 10, 2017.

For the Nuclear Regulatory Commission.

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