[7590-01-P]

NUCLEAR REGULATORY COMMISSION

[NRC-2019-0253]

Proposed Revision to Standard Review Plan Branch Technical Position 7-19 Guidance for Evaluation of Potential Common Cause Failure Due to Latent Software Defects in Digital Instrumentation and Control Systems

AGENCY: Nuclear Regulatory Commission.

ACTION: Standard review plan; draft section revision; request for comment.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is soliciting public comment on draft NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Branch Technical Position (BTP) 7-19, "Guidance for Evaluation of Potential Common Cause Failure Due to Latent Software Defects in Digital Instrumentation and Control Systems."

DATES: Comments must be filed no later than [**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 Commission is able to ensure consideration only for comments received on or before this date.

ADDRESSES: You may submit comments by any of the following methods:

- **Federal Rulemaking Web Site:** Go to https://www.regulations.gov and search for Docket ID **NRC-2019-0253**. Address questions about NRC dockets IDs in Regulations.gov to Jennifer Borges; telephone: 301-287-9127; e-mail: Jennifer.Borges@nrc.gov. For technical questions, contact the individual 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: Mark Notich, Office of New Reactors, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001; telephone: 301-415-3053; e-mail: Mark.Notich@nrc.gov.

SUPPLEMENTARY INFORMATION:

I. Obtaining Information and Submitting Comments

A. Obtaining Information

Please refer to Docket ID **NRC-2019-0253** 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 https://www.regulations.gov and search for Docket ID **NRC-2019-0253**.

- **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. The draft of NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power

Plants: LWR Edition," BTP 7-19, "Guidance for Evaluation of Potential Common Cause Failure in Digital Instrumentation and Control Systems" is available in ADAMS under Accession No. ML19256B502.

- **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-2019-0253** 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. Further Information

The NRC seeks public comment on the proposed draft revision of BTP 7-19. This BTP has been developed to assist NRC staff in the review of licensing applications involving digital technology that may be subject to common cause failures. Common cause failures have been identified as a type of hazard that digital instrumentation and

control systems could be susceptible to due to the integration capabilities provided by the technology and due to its inherent complexity compared to analog technologies.

The proposed revision to BTP 7-19 provides a graded approach for addressing common cause failures due to latent defects based on the safety classification and safety significance of the proposed digital I&C structures, systems, and components (SSCs). For safety-related I&C SSCs that are safety significant, this proposed revision provides additional guidance for performing a defense-in-depth and diversity assessment. The guidance includes clarifications on acceptable means to eliminate common cause failures from further consideration and acceptable diverse means that can be used to perform the same or different function than the safety function disabled by the postulated common cause failures. For safety-related digital I&C SSCs that are not safety significant or digital I&C SSCs that are not safety-related but are safety significant, this proposed revision provides criteria on the performance of a qualitative assessment. This proposed revision also clarifies the criteria for performing a spurious operation assessment for digital I&C SSCs. The current version of BTP 7-19 can be found in ADAMS under Accession No. ML16019A344. The proposed Revision 8 to BTP 7-19 can be found in ADAMS under Accession No. ML19256B502.

The NRC staff presented proposed Revision 8 to BTP 7-19 to the Advisory Committee for Reactor Safeguards (ACRS) Subcommittee on November 21, 2019. Based on feedback received from ACRS Subcommittee members during the meeting, the NRC staff modified proposed Revision 8 to BTP 7-19 to enhance the structure of the BTP and to clarify the process descriptions for evaluating common-cause failure hazards. These modifications did not result in changes to the technical content of this BTP. Additional structural modifications and technical content clarifications may be necessary to improve this BTP. Therefore, the NRC staff is public comments to facilitate

enhancing both the structure and the technical content of this proposed BTP 7-19 revision.

Following NRC staff evaluation of public comments, the NRC intends to finalize BTP 7-19 Revision 8 in ADAMS and post it on the NRC's public Web site at https://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr0800/. The SRP is guidance for the NRC staff. The SRP is not a substitute for the NRC regulations, and compliance with the SRP is not required.

III. Backfitting, Issue Finality, and Forward Fitting Discussion

Chapter 7 of the SRP provides guidance to the staff for reviewing information on instrumentation and controls in licensing applications. Issuance of this draft BTP, if finalized, would not constitute backfitting as defined in title 10 of the *Code of Federal Regulations* (10 CFR) 50.109 (the Backfit Rule) and as described in NRC Management Directive 8.4, "Management of Backfitting, Forward Fitting, Issue Finality, and Information Requests;" would not affect the issue finality of an approval under 10 CFR Part 52; and would not constitute forward fitting as that term is defined and described in Management Directive 8.4. The staff's position is based upon the following considerations.

1. The draft BTP, if finalized, would not constitute backfitting or forward fitting or affect issue finality, inasmuch as the BTP would be internal guidance to NRC staff

The BTP provides guidance to the staff on how to review an application for NRC regulatory approval in the form of licensing. Changes in internal staff guidance, without further NRC action, are not matters that meet the definition of backfitting or forward fitting or affect the issue finality of a part 52 approval.

2. Current or future applicants are not—with limited exceptions not applicable here—within the scope of the backfitting and issue finality regulations and forward fitting

policy

Applicants are not, with certain exceptions, covered by either the Backfit Rule or any issue finality provisions under 10 CFR part 52. This is because 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.

The exceptions to the general principle are applicable whenever an applicant references a 10 CFR part 52 license (e.g., an early site permit) and/or NRC regulatory approval (e.g., a design certification rule) with specified issue finality provisions or a construction permit under 10 CFR part 50. The staff does not, at this time, intend to impose the positions represented in the draft BTP (if finalized) in a manner that would constitute backfitting or affect the issue finality of a part 52 approval. If, in the future, the staff seeks to impose a position in the draft BTP (if finalized) in a manner that constitutes backfitting or does not provide issue finality as described in the applicable issue finality provision, then the staff would need to address the Backfit Rule or the criteria for avoiding issue finality as described in the applicable issue finality provision.

The staff does not, at this time, intend to impose the positions represented in the draft BTP (if finalized) in a manner that would constitute forward fitting. If, in the future, the staff seeks to impose a position in the draft BTP (if finalized) in a manner that constitutes forward fitting, then the staff would need to address the forward fitting criteria in Management Directive 8.4.

Dated at Rockville, Maryland, this 8th day of January, 2020.

For the Nuclear Regulatory Commission.

Dennis C. Morey,

Chief,

Licensing Projects Branch,

Division of Operating Reactor Licensing,

Office of Nuclear Reactor Regulation.

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