

**NUCLEAR REGULATORY COMMISSION**

**10 CFR Chapter 1**

**[NRC-2017-0154]**

**Clarification on Endorsement of Nuclear Energy Institute Guidance in Designing  
Digital Upgrades in Instrumentation and Control Systems**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Regulatory issue summary; issuance.

**SUMMARY:** The U.S. Nuclear Regulatory Commission (NRC) issued a Regulatory Issue Summary (RIS) entitled, RIS 2002-22, Supplement 1, "Clarification on Endorsement of Nuclear Energy Institute Guidance in Designing Digital Upgrades in Instrumentation and Control Systems." This RIS supplement clarifies RIS 2002-22, which remains in effect. The NRC continues to endorse Nuclear Energy Institute (NEI) - 01-01, as stated in RIS 2002-22 and clarified RIS 2002-22, Supplement 1. This RIS supplement clarifies the guidance in RIS 2002-22 for preparing and documenting qualitative assessments that licensees can use to develop written evaluations to address the criteria in NRC's regulations for digital instrumentation and control (I&C) modifications. This clarification is intended to reduce regulatory uncertainty for licensees applying the process set in the NRC's regulations and making digital I&C modifications without prior NRC approval.

**DATES:** The RIS 2002-22, Supplement 1 is available as of **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

**ADDRESSES:** Please refer to Docket ID **NRC-2017-0154** 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-2017-0154**. Address questions about NRC dockets to Jennifer Borges; telephone: 301-287-9127; e-mail: [Jennifer.Borges@nrc.gov](mailto:Jennifer.Borges@nrc.gov). For technical questions, contact the individual 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](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 this document. RIS 2002-22, Supplement 1 is available under ADAMS Accession No. ML18143B633.

- **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.

- RIS 2002-22, Supplement 1 is also available on the NRC's public Web site at <http://www.nrc.gov/reading-rm/doc-collections/gen-comm/reg-issues/> (select "2002" and then select "2002-22, Supplement 1").

**FOR FURTHER INFORMATION CONTACT:** Tekia Govan, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; telephone: 301-415-6197, e-mail: [Tekia.Govan@nrc.gov](mailto:Tekia.Govan@nrc.gov).

**SUPPLEMENTARY INFORMATION:**

Supplement 1 of RIS 2002-22, "Clarification on Endorsement of Nuclear Energy Institute Guidance in Designing Digital Upgrades in Instrumentation and Control Systems" (ADAMS Accession No. ML18143B633), is intended for 1) all holders of operating licenses under part 50 of title 10 of the *Code of Federal Regulations* (CFR), "Domestic Licensing of Production and Utilization Facilities," and 2) all holders of a combined license under 10 CFR part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants."

In 2002, the NRC staff issued RIS 2002-22 to notify addressees that the NRC staff had reviewed NEI-01-01 and was endorsing the report for use as guidance in designing and implementing digital upgrades to nuclear power plant instrumentation and control systems. Following the NRC staff's 2002 endorsement of NEI 01-01, holders of operating licenses have used this guidance in support of digital design modifications implemented without prior NRC approval in accordance with 10 CFR 50.59. The NRC inspections of documentation for these activities uncovered inconsistencies in the performance and documentation of engineering evaluations and associated technical

bases for determinations on the 10 CFR 50.59(c)(2) evaluation criteria. This RIS Supplement clarifies the RIS 2002-22 endorsement of the NEI 01-01 guidance by providing additional guidance for developing and documenting “qualitative assessments” that are used to provide an adequate basis for a licensee’s determination that a digital modification will exhibit a low likelihood of failure to support a conclusion when applying the evaluation criteria set in 10 CFR 50.59, that a license amendment is not needed.

The NRC published a notice of opportunity for public comment on a previous draft of this RIS in the *Federal Register* on July 3, 2017 (82 FR 30913). Subsequently, the NRC published a second notice of opportunity for public comment on the revised RIS on March 14, 2018 (83 FR 11154). As noted in the March 14, 2018 *Federal Register* notice (FRN), “[t]he NRC staff engaged in multiple communications with the public and stakeholders and continued internal discussions about the RIS. As a result of these efforts, the NRC has substantially rewritten the RIS. Due to the extensive nature of these revisions, and in light of this additional opportunity for comment, the NRC is not directly responding to each comment received in the previous comment period.”

The NRC received comments from seven commenters as a result of the March 14, 2018 FRN. The NRC considered all comments, some of which resulted in changes to the RIS, and discussed the evaluation of these comments and the resulting changes to the RIS in a memorandum that is publicly available in ADAMS under Accession No. ML18115A298.

As noted in 83 FR 20858 (May 8, 2018), this document is being published in the Rules section of the *Federal Register* to comply with publication requirements under 1 CFR chapter I.

Dated at Rockville, Maryland, this 20<sup>th</sup> day of June, 2018.

For the Nuclear Regulatory Commission.

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