

REGULATORY ANALYSIS

DRAFT REGULATORY GUIDE DG-1419

INSTALLATION, INSPECTION, AND TESTING FOR CLASS 1E POWER, INSTRUMENTATION, AND CONTROL EQUIPMENT AT PRODUCTION AND UTILIZATION FACILITIES

(Proposed Revision 1 to Regulatory Guide 1.30 (Safety Guide 30), issued August 1972)

1. Introduction

This document presents the results of a regulatory analysis of the U.S. Nuclear Regulatory Commission's (NRC's) determination of whether to issue Draft Regulatory Guide (DG)-1419. This DG is proposed Revision 1 to Regulatory Guide (RG) 1.30, "Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment." It considers the potential benefits and costs to NRC staff and stakeholders.

2. Statement of the Problem

RG 1.30 was originally published as Safety Guide 30, "Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment," on August 11, 1972 (Agencywide Document Access Management System Accession No. ML081270243). It endorsed Institute of Electrical and Electronics Engineers (IEEE) 336-1971, "Installation, Inspection and Testing Requirements for Instrumentation and Electric Equipment During the Construction of Nuclear Power Generating Stations." This guidance supported the quality assurance (QA) program requirements in General Design Criterion 1, "Quality standards and records," in Appendix A, "General Design Criteria for Nuclear Power Plants," to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," and 10 CFR Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants."

The staff is considering updating the endorsement of IEEE 336-1971 to the latest version: IEEE 336-2020, "IEEE Recommended Practice for Installation, Inspection, and Testing for Class 1E Power, Instrumentation, and Control Equipment at Nuclear Facilities." Since 1971, the revisions to the standard have enhanced clarity and have broadened the standard's scope to include plant modifications and other types of nuclear facilities. In addition, the portions of QA and operation requirements described in RG 1.30 have been updated and addressed in RG 1.28, Revision 6, "Quality Assurance Program Criteria (Design and Construction)," issued October 2017 (ML23177A002), and in RG 1.33, Revision 3, "Quality Assurance Program Requirements (Operation)," issued June 2013 (ML13109A458).

Therefore, RG 1.30 contains out-of-date guidance, and the staff needs to determine whether a revision of this RG is warranted to reflect updated guidance and information.

3. Objective

The objective of this regulatory action is to assess the need to update RG 1.30 to incorporate the 2020 version of IEEE 336 and to remove outdated QA guidance, which has

been updated in RGs 1.28 and RG 1.33, for applicants and licensees of production and utilization facilities.

4. Alternative Approaches

The staff considered three alternative approaches:

- (1) Do not revise RG 1.30.
- (2) Withdraw RG 1.30.
- (3) Update RG 1.30

Alternative 1: Do Not Revise Regulatory Guide 1.30

Under this alternative, the NRC would not revise this guidance, and applicants would continue to use the present version of the guide. This is considered the “No-Action” alternative. If the NRC takes no action, there would be no initial cost to the NRC to revise the guide. However, the “No-Action” alternative would not provide updated information to address the installation, inspection, and testing for Class 1E power, instrumentation, and control equipment. This may result in the NRC issuing requests for additional information (RAIs) to applicants. Applicants would be burdened by the effort required to respond to the RAIs, and the NRC staff would be burdened by the need to review the applicant responses.

Alternative 2: Withdraw Regulatory Guide 1.30

Under this alternative, the withdrawal of RG 1.30 would leave a void in the NRC’s regulatory guidance for the installation, inspection, and testing for Class 1E power, instrumentation, and control equipment. By eliminating guidance for applicants, the content of future applications could vary from applicant to applicant, thereby making the review of these applications more burdensome for the staff. The burden on applicants would be greater under this alternative because without specific guidance, applicants might spend more time preparing applications and potentially responding to RAIs.

Alternative 3: Update Regulatory Guide 1.30

Under this alternative, the NRC would update RG 1.30. One benefit of this action is that it would enhance safety by providing up-to-date guidance and information. In addition, it would improve the staff’s ability to quickly review future applications. The costs to the NRC would be the one-time cost of issuing the revised RG (which is expected to be relatively small). Evaluating the installation, inspection, and testing for Class 1E power, instrumentation, and control equipment in production and utilization facilities is required regardless of the existence or currency of the RG, so applicants would incur little or no additional cost relative to Alternative 1. Updated regulatory guidance might reduce applicant costs relative to Alternative 2.

5. Comparison of Alternatives

Alternative 1 is considered the baseline or “No-Action” alternative and, as such, involves no value/impact considerations. Alternative 2 would make application review more burdensome for the staff and very likely make application preparation more burdensome for applicants. Alternative 3 would impose a one-time additional cost to the NRC relative to Alternatives 1 and 2. The one-time cost would be offset by the avoidance of the burdens imposed by

Alternative 2. Alternative 3 would not impose significant additional costs on applicants relative to Alternative 1 and could possibly result in reduced costs to the applicant relative to Alternative 2.

6. Decision Rationale

Based on this regulatory analysis, the staff recommends that the NRC revise RG 1.30 to reflect the availability of new information. The staff concludes that the proposed action would enhance the safety of production and utilization facilities by providing up-to-date guidance and information on the installation, inspection, and testing for Class 1E power, instrumentation, and control equipment. Applicants and licensees can use this guidance to ensure that designs are constructed to be safe and to help ensure timely review by the NRC staff of the submitted designs.