

REGULATORY GUIDE

REGULATORY GUIDE 1.64 QUALITY ASSURANCE REQUIREMENTS FOR THE DESIGN OF NUCLEAR POWER PLANTS

A. INTRODUCTION

Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR Part 50, "Licensing of Production and Utilization Facilities," establishes overall quality assurance requirements for the design, construction, and operation of nuclear power plant structures, systems, and components. This guide describes a method acceptable to the NRC staff for complying with the Commission's regulations with regard to quality assurance requirements for the design of nuclear power plants. This guide applies to all types of nuclear power plants.

B. DISCUSSION

Working Group N45.2.11 of the American National Standards Committee N45, Reactor Plants and their Maintenance, has prepared a standard that delineates requirements and recommendations for establishing and executing a quality assurance program for the design of nuclear power plants. This standard was approved by subcommittee N45-2, Nuclear Quality Assurance Standards, of the American National Standards Institute Committee N45 and the full committee and its Secretariat. It was subsequently approved and designated N45.2.11-1974 by the American National Standards Institute on June 6, 1974.

This revision reflects the development of ANSI N45.2.11 from the proposed version referenced in the original issue of this guide to the final version approved by the American National Standards Institute.

C. REGULATORY POSITION

The requirements and recommendations for establishing and executing a quality assurance program during the design phase of nuclear power plants that are in-

cluded in ANSI N45.2.11-1974¹ are generally acceptable to the NRC staff and provide an adequate basis for complying with the pertinent quality assurance requirements of Appendix B to 10 CFR Part 50, subject to the following:

1. Subdivision 1.5 of ANSI N45.2.11-1974 states that other documents that are required to be included as a part of this standard will be identified at the point of reference and described in Section 12 of the standard. The specific applicability or acceptability of these listed documents has been or will be covered separately in other regulatory guides or in Commission regulations where appropriate.

2. Section 6.1 of N45.2.11-1974 states, in part, that design verification may be performed by the originator's supervisor provided the supervisor did not specify a singular design approach or rule out certain design considerations and did not establish the design inputs used in the design or if the supervisor is the only individual in the organization competent to perform the verification. The use of the originator's supervisor for design verification should be restricted to special situations where the supervisor is the only individual within the design organization competent to perform the verification. Justification for such use should also be documented along with the extent of the supervisor's input into the design aspect being verified.

3. The first sentence of Section 8 of N45.2.11-1974 states: "Documented procedures shall be provided for design changes to approved design documents, including field changes, which assure that the impact of the change is carefully considered, required actions documented, and information concerning the change is transmitted to

¹ ANSI N45.2.11-1974, "Quality Assurance Requirements for the Design of Nuclear Power Plants" may be obtained from the American Society of Mechanical Engineers, United-Engineering Center, 345 East 47th Street, New York, NY 10017.

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Published guides will be revised periodically, as appropriate, to accommodate comments and to reflect new information or experience.

Copies of published guides may be obtained by request indicating the divisions desired to the U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. Attention: Director of Standards Development. Comments and suggestions for improvements in these guides are encouraged and should be sent to the Secretary of the Commission, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555, Attention: Docketing and Service Section.

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all affected persons and organizations." For clarification, the word "effecting" should be inserted before "design changes." Further, the term "approved design documents" should be construed to mean "design output" (see Section 1.4) approved by the organization performing the design.

4. Sections 4.3, 4.4, and 4.5 of N45.2.11-1974 concern the establishment of procedures for the preparation and control of drawings, specifications, and other design documents. These sections list typical subjects to be covered by such procedures. One of the subjects to be covered is "nonconformances." The NRC staff considers the "nonconformances" listed in these sections to be nonconformances from procedural requirements. Thus in Section 4.3, item (11), "Nonconformance with drawing requirements," should be construed to mean "Nonconformance with procedures for the preparation and control of drawings;" in Section 4.4, item (7), "Nonconformance with specification requirements," should be construed to mean "Nonconformance with procedures for the preparation and control of specifications;" and in Section 4.5, item (7), "Nonconformance

with design document requirements," should be construed to mean "Nonconformance with procedures for the preparation and control of design documents."

D. IMPLEMENTATION

The purpose of this section is to provide information to applicants and licensees regarding the NRC staff's plans for utilizing this regulatory guide.

Except in those cases in which the applicant proposes an alternative method for complying with specified portions of the Commission's regulations, the method described herein will be used in the evaluation of submittals for construction permit applications docketed after April 1, 1975.

If an applicant whose application for a construction permit is docketed on or prior to April 1, 1975 wishes to use this regulatory guide in developing submittals for the application, the pertinent portions of the application will be evaluated on the basis of this guide.



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