



Designation: D7491 – 08 (Reapproved 2015)

Standard Guide for Management of Non-Conforming Coatings in Coating Service Level I Areas of Nuclear Power Plants¹

This standard is issued under the fixed designation D7491; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This guide provides the user with guidance on developing a program for managing non-conforming coatings in Coating Service Level I areas of a nuclear power plant.

1.2 Non-conforming coatings include degraded previously DBA-qualified or acceptable coatings, unqualified coatings, unknown coatings, and unacceptable coatings.

1.3 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*²

D4538 Terminology Relating to Protective Coating and Lining Work for Power Generation Facilities

2.2 *Other Documents:*

Regulatory Guide 1.54 Service Level I, II, and III protective Coatings Applied to Nuclear Power Plants³

EPRI Report 1003102 Guideline on Nuclear Safety-Related Coatings, Revision 1 (formerly TR-109937)⁴

3. Terminology

3.1 *Definitions*—Definitions for use with this guide are shown in Terminology D4538 or other applicable standards.

3.2 *Definitions of Terms Specific to This Standard:*

¹ This guide is under the jurisdiction of ASTM Committee D33 on Protective Coating and Lining Work for Power Generation Facilities and is the direct responsibility of Subcommittee D33.10 on Protective Coatings Maintenance Work for Power Generation Facilities.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from U. S. Nuclear Regulatory Commission, Distribution Services Section, Washington, DC 20555-0001, <http://www.nrc.gov>.

⁴ Available from EPRI Customer Fulfillment, 1355 Willow Way, Suite 278, Concord, CA 94520.

3.2.1 *non-conforming coatings, n*—a coating or coating system in a Coating Service Level I application that lacks or has insufficient documentation to support or verify DBA qualification.

3.2.1.1 *Discussion*—This would include coatings referred to as unqualified, unacceptable, and degraded qualified coatings.

3.2.2 *unacceptable coating system, n*—A safety related coating system for which no suitability for application review which meets the plant licensing requirements has been completed.

3.2.2.1 *Discussion*—Therefore, no reasonable assurance exists that, when properly applied and maintained, the coating or lining will not detach under normal or accident conditions. This is applicable to “pre-ANSI” plants.

4. Summary of Practice

4.1 The process and use of this guide is summarized in Fig. 1.

5. Significance and Use

5.1 There are several methods for managing non-conforming coatings in an operating nuclear power plant. This guide outlines methods that have been determined to be acceptable to the nuclear industry.

5.2 Managing the amount of non-conforming coatings is key to ensuring the amount assumed, in the licensing bases is not exceeded.

5.3 EPRI Report 1003102 Revision 1 (formerly TR-109937) provides additional information on the selection, application, inspection and maintenance of nuclear plant safety-related protective coatings. This reference offers a detailed discussion of important considerations related to protective coatings and can be used to supplement this guide as deemed necessary.

6. Establishing the Design Limit of Non-Conforming Coatings

6.1 Determine what coatings do not meet the licensing basis for the plant. For plants that have commitments to meet Regulatory Guide 1.54 (applicable revision) and/or related

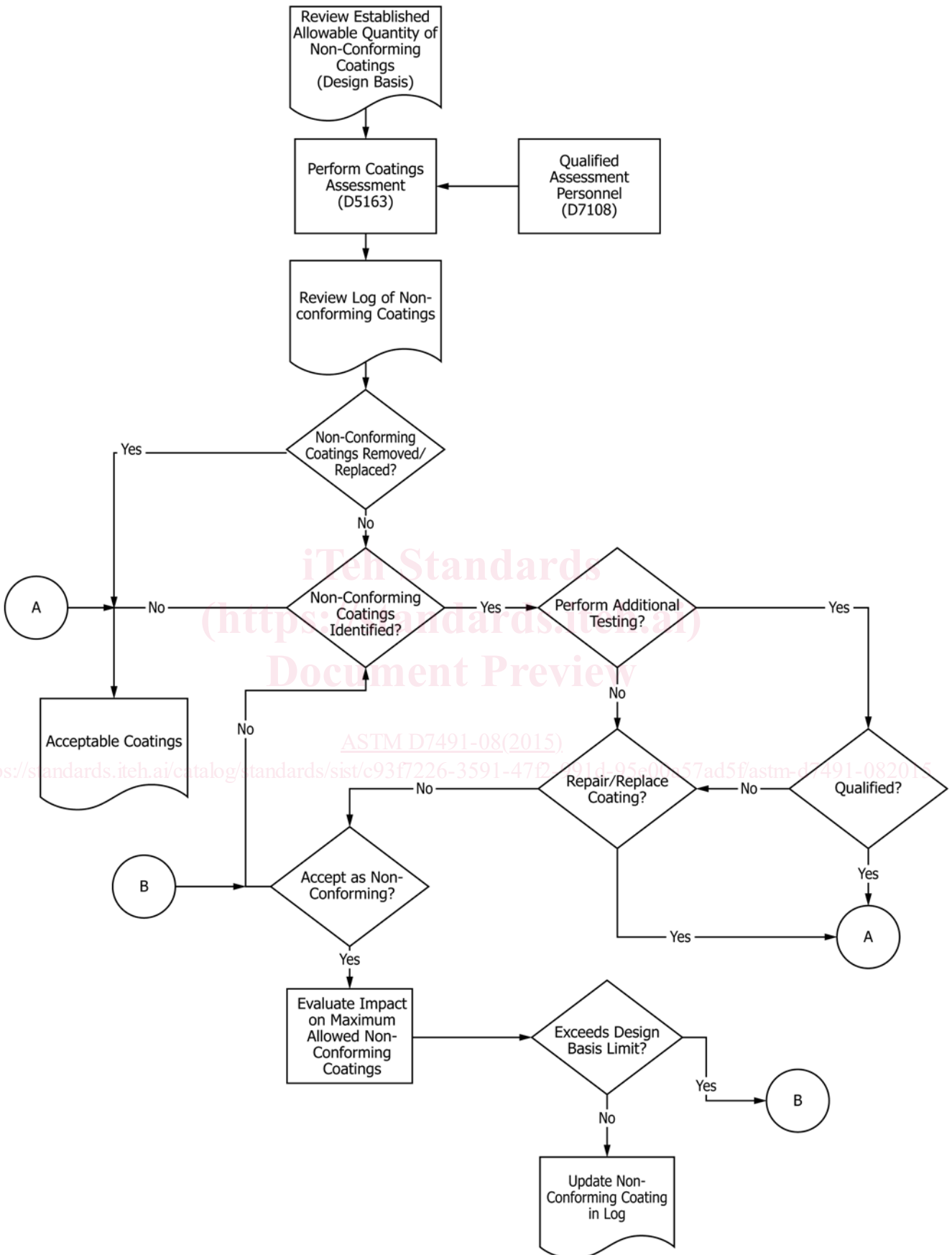


FIG. 1 Managing Non-Conforming Coatings