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Standard Practice for Determining Coating Contractor Qualifications for Nuclear Powered Electric Generation Facilities[1]

This standard is issued under the fixed designation D4286; 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 practice provides a criteria guide and procedural method to assist utility owners, architects, engineers, constructors, and other selection agencies in determining the overall qualifications of a coating contractor to execute coating work for the primary containment and other safety-related facilities of light-water nuclear power plants.

1.2 The qualification criteria and requirements address the essential basic capability of a contractor to execute nuclear coating work. Obviously, the specific capability to execute those requirements unique to a given project must also be carefully considered. The evaluation procedure contained in this practice is designed to be adaptive to this detailed final qualification process. Variation or simplification of the practice is appropriate for non safety-related areas of nuclear power plants, fossil fueled facilities, and other industrial projects.

1.3 The overall capability of a contractor to successfully execute the varied and complex requirements of nuclear coating work is dependent upon competency in a variety of essential categories.

1.4 The nine evaluation categories described in Sections 3 – 12 detail the specific data to be provided by the contractor as essential to determining qualification status. In addition, a tenth untitled category has been provided on the evaluation work described in Section 12 for inclusion of other information pertinent to a specific project.

1.5 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.6 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

D3843 Practice for Quality Assurance for Protective Coatings Applied to Nuclear Facilities

D4537 Guide for Establishing Procedures to Qualify and Certify Personnel Performing Coating and Lining Work Inspection in Nuclear Facilities

2.2 *American National Standards:*[3]

N 45.2.6 Qualifications of Inspection, Examination, and Testing Personnel for Nuclear Power Plants

NQA-1 Quality Assurance Requirements for Nuclear Facility Applications

2.3 *Other Standard:*

10 CFR 50 Appendix B Nuclear Regulatory Agency, Quality Assurance Criteria for Nuclear Power Plants[4]

3. Personnel

3.1 *Home Office Management and Staff*—Resumes of the following types of personnel including educational background, duration and degree of involvement in industrial coating operations, qualifications, registrations, certifications, and specific experience in nuclear coating work.

3.1.1 *Principals and General Management.*

3.1.2 *Engineering Manager.*

3.1.3 *Project Engineers*—List specific nuclear coating work project involvement.

3.1.4 *QA/QC Manager*—List specific qualification/certification credentials per ANSI N 45.2.6, or Guide D4537, or NQA-1.

3.2 *General Field or Shop Supervision*—Resumes to include specific nuclear coatings work experience.

[1] This practice 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 D33.05 on Application and Surface Preparation.

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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 American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, http://www.ansi.org.

[4] Available from U.S. Government Printing Office Superintendent of Documents, 732 N. Capitol St., NW, Mail Stop: SDE, Washington, DC 20401, http://www.access.gpo.gov.

3.3 *On-Site or In-Shop Project Supervision:*

3.3.1 Total number of personnel qualified for nuclear coatings work, including specific work history.

3.3.2 Total number available in a specific time frame, if appropriate.

4. Contractor Work Experience

4.1 *General Experience*—List of comparable industrial projects, including type (construction or maintenance), form of contract, dollar volume, scope, and duration (start and completion dates) executed during the past five years. Accompanying this listing provide personnel references to include names, titles, locations, and telephone numbers.

4.2 *Nuclear Coating Work Experience:*

4.2.1 List of nuclear projects including type (construction or maintenance), form of contract, dollar volume, scope, and duration, materials, and equipment involved. Accompanying this listing provide personnel references to include names, titles, locations, and telephone numbers.

4.2.2 If the contractor has executed work comparable to the specific evaluation project, submit complete case histories of scope and functions performed to include personnel references for each case.

5. Equipment

5.1 List contractor-owned equipment in the categories listed in 5.1.1 – 5.1.9. Indicate those items required for the specific evaluation project.

5.1.1 Vehicles.

5.1.2 Surface preparation, all types.

5.1.3 Abrasive control and recovery.

5.1.4 Coatings mixing and application, all types.

5.1.5 Environmental control and curing.

5.1.6 Rigging and enclosure.

5.1.7 Safety.

5.1.8 Quality control testing instrumentation.

5.1.9 Specialized equipment.

5.1.9.1 Unique equipment required for the specific project, if applicable.

5.1.9.2 Contractor to indicate and provide examples of capability to design and install highly specialized items of equipment, enclosure systems, devices, etc. which have been utilized on previous nuclear coating projects.

5.1.10 *Equipment Repair and Replacement Capability*—Contractor to describe standard procedure followed in the event of equipment failure to prevent lost time situations.

6. Quality Assurance

6.1 *Quality Assurance Program*—The contractor shall submit one copy of his quality assurance program that shall conform to 10 CFR 50 Appendix B, ANSI N 45.2.6, Guide D4537, Practice D3843, and other applicable documents. The program shall include implementation procedures and sample forms.

6.2 *Quality Assurance/Quality Control*—List number of personnel qualified in accordance with ANSI N 45.2.6 or Guide D4537, or NQA-1 for each of the following:

6.2.1 LEVEL III Inspector,

6.2.2 LEVEL II Inspector, and

6.2.3 LEVEL I Inspector.

7. Training

7.1 Submit training manual for craft and supervisory personnel. If no formal training program exists, the contractor shall submit evidence of procedures and methods utilized.

8. Safety

8.1 Submit copy of corporate safety program. If no formal program exists, the contractor shall submit evidence of safety procedures and work rules.

9. Production/Cost Control

9.1 Submit explanation of methods and procedures utilized to monitor and regulate personnel and equipment productivity.

9.2 Submit sample of actual report forms utilized to record job progress, labor cost analysis, and equipment deployment efficiency.

10. Financial

10.1 Submit documentation to verify financial capability to manage and execute all project requirements. Include the following data:

10.1.1 Current financial statement,

10.1.2 Trade references, three or more,

10.1.3 Bank references, one or more,

10.1.4 Bonding capacity, name of bonding company, and name and address of agent, and

10.1.5 Current certificate of insurance.

11. Current and Projected Performance Capability

(restricted to specific project considerations)

11.1 Submit a statement indicating current commitment status of personnel, equipment, and management capability. The statement shall include analysis of and ability to fulfill requirements in the following categories:

11.1.1 Craft personnel,

11.1.2 Staff engineering and supervisory personnel,

11.1.3 Management personnel,

11.1.4 Equipment, and

11.1.5 Materials.

12. Contractor Evaluation Work Sheet

12.1 The sample work sheet shown in Fig. 1 is suggested for consolidation of rating and comparison data. Note that there are nine basic rating categories corresponding to the criteria detailed in the text of this practice. Space for an optional tenth category has been provided for owner insertion of other rating data that may be unique to the specific project involved.

12.2 *Rating Values*—Numerical rating values are structured on the following format:

Rating	Value
Excellent	4
Good	3
Average	2
Poor	1
Unsatisfactory	0
No data	0