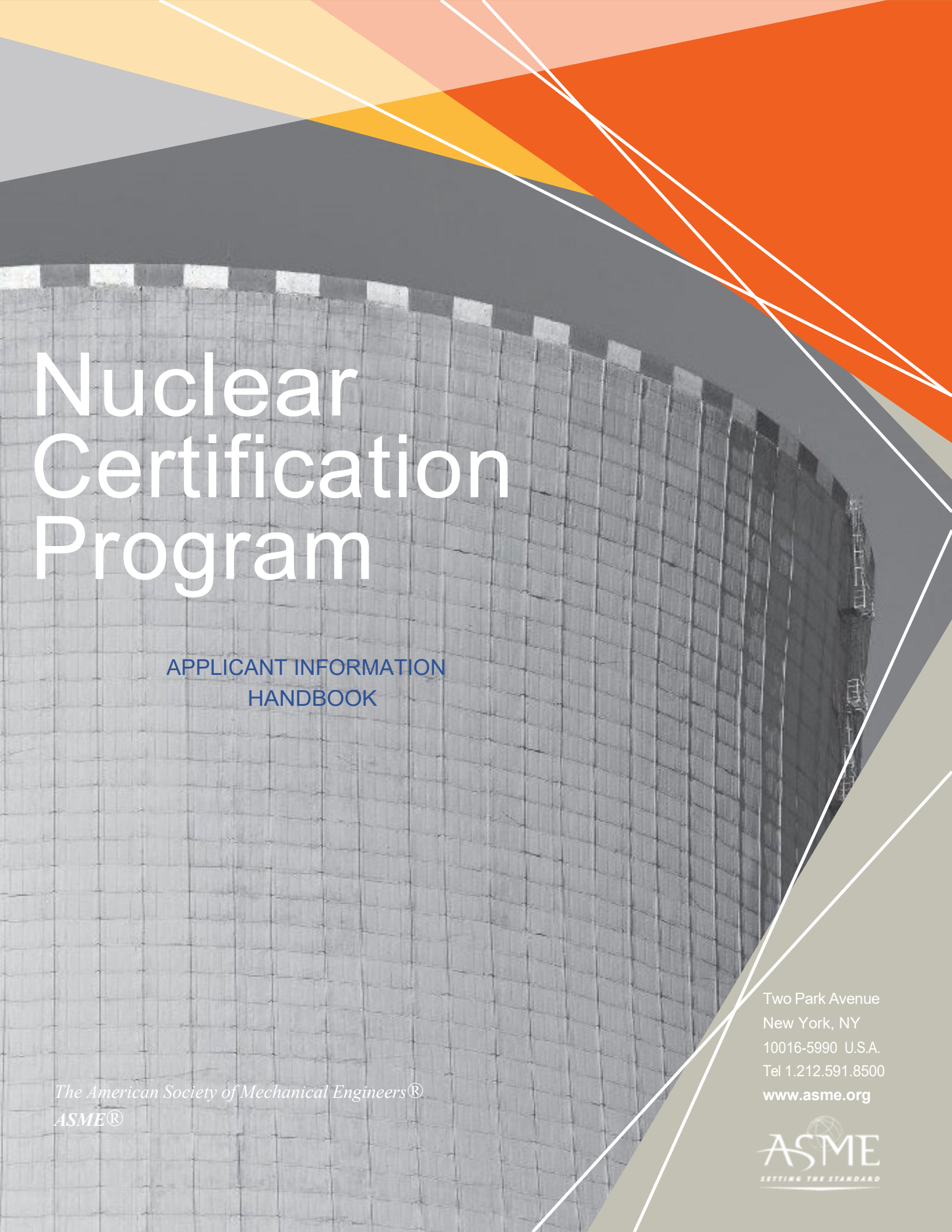

Nuclear Certification Program

APPLICANT INFORMATION HANDBOOK

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ASME
SETTING THE STANDARD

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About ASME Nuclear Certification

The American Society of Mechanical Engineers (ASME) has played a vital role in supporting the nuclear industry since the first publication of the ASME Boiler and Pressure Vessel Code, Section III, “Rules for Construction of Nuclear Facility Components” in 1963. The commencement of the ASME Nuclear Certification Program in 1968 has only strengthened that support.

Certificates of Authorization and Quality System Certificates issued by ASME signify that an organization has been through a rigorous Survey to verify the adequacy and effective implementation of the organization’s quality program. The N-type Certificates of Authorization (N, NA, NPT, NS, NV, N3, G, and GC) allow Certificate Holders to certify and stamp newly constructed items with the ASME Single Certification Mark in accordance with Section III of the ASME Boiler and Pressure Vessel Code.

Quality System Certificates (QSC) provide assurance that the organization’s operations, processes, and services related to the procurement, manufacture, and supply of material, source material, and unqualified source material are performed in accordance with the requirements of the ASME Boiler and Pressure Vessel Code, Section III, NCA-3300.

The Certificates authorize the following scopes of activities:

N Construction of vessels, pumps, valves, piping systems, storage tanks, core support structures and concrete containments

NA Field installation and shop assembly of all items

NPT Fabrication of parts, appurtenances, welded tubular products and piping subassemblies.

NS Fabrication of supports without stamping

NV Construction of pressure relief valves

N3 Construction of transportation containments and storage containments

GC Construction of graphite and composite materials core components or core assemblies

G Design of core components or core assemblies

QSC Manufacture and supply of material

For detailed Certificate scopes and other requirements concerning the issuance of N-Type Certificates of Authorization and Quality System Certificates, please refer to the Notice on Nuclear Scope Statements.

Overview of the Certification Process

The Certification Process can be divided into four phases: **preparation, application, assessment,** and **certification**.

Preparation

In preparation for obtaining ASME Certification, applicants should review all of the information related to the certification program including the applicable forms, checklists, and associated fees. This will ensure that applicants have a thorough understanding of the certification program requirements prior to submitting an application. Things to do prior to submitting an application for a certificate:

- Review relevant information about the certification program on ASME's website, go.asme.org/certification
- Decide on the scope of work that will be identified on the ASME certificate
- Obtain required standards
- Enter into an agreement with an Authorized Inspection Agency if required by the applicable standard
- Prepare the quality manual, a written description of the quality program
- Indoctrinate and train personnel who will implement the quality program.

Application

Organizations seeking ASME Certification are required to submit the proper application forms and fees prior to receiving a Survey date. New applicants will need to create a CA Connect account. For more information on this process, please see the CA Connect User Guide. Existing account holders should first ensure that the primary contact for the account is correct. To change the primary contact for your company, please reference How to Change Primary

Contact Information. For more information about the process for existing account holders, please see the CA Connect User Guide.

As part of the CA Connect application, applicants must ensure that the following supplemental forms are uploaded:

- Nuclear Components Supplemental Application Form (for N-Type Certificate applicants)
- Nuclear Material Organization Supplemental Application Form (Quality System Certificate applicants)
- Accreditation/Certification Agreement

Assessment

The purpose of the Survey is to evaluate the adequacy of the applicant's quality manual and the effective implementation of the quality program. The extent of the Survey will be determined by ASME based on a review of the applicant's intended scope of activities as described in the application.

This Survey ensures that the applicant's quality program has been effectively implemented and that it complies with the requirements of Section III of the Boiler and Pressure Vessel Code. After the Survey is completed, the Survey Team Leader will submit a written report to ASME.

The Survey is conducted in five phases or segments as follows:

1. **Manual Review**: Shall be performed by the Survey Team and observers authorized by ASME only, on the first day of the Survey. This review will normally be held in a location remote from the applicant's facility. Manual Review may continue on subsequent days at the applicant's facility as necessary. Pre-Survey questionnaires and manual checklists must be presented to the Survey Team at this time.

The Quality Program Manual programmatic controls as mandated by **NCA-3000/4000** means who, what, where, when, and how. The terms who, what, when, where, and how are defined as follows:

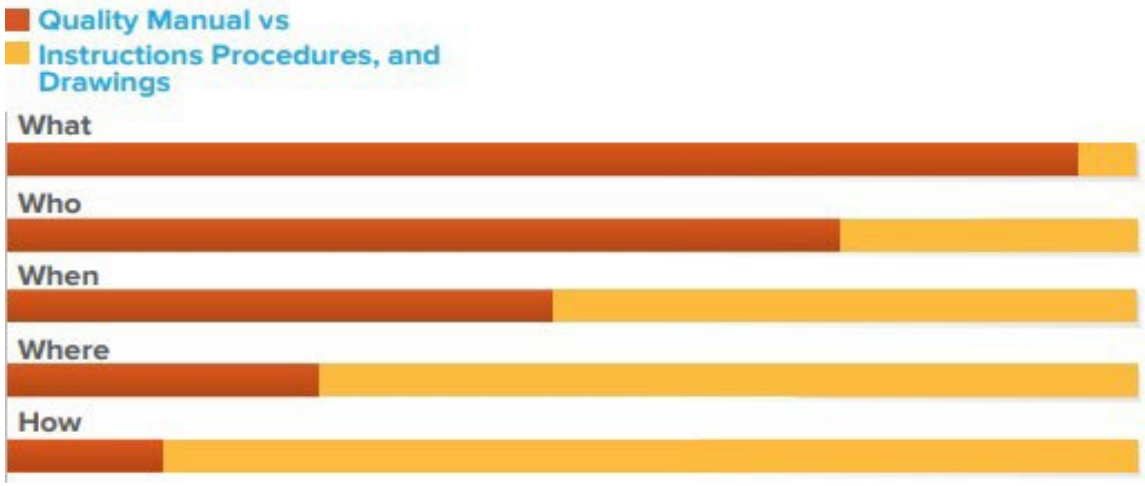
What: The Manual identifies the activities which affect quality in the supply of the product (items/services).

Who: The Manual identifies the individual by title within the organization, at any level, that is responsible for performing the activity. This includes activities which are being delegated; the title of the delegate is to be identified. (In lieu of a title, providing a clear description of knowledge, experience, training, and edition requirements of the individual required to perform the activity is permissible).

When: The Manual indicates the point of time the activity is required to be performed.

Where: The Manual identifies the location(s) at which the activity is performed or indicates if the activity is being subcontracted to an approved supplier/vendor.

How: The QA Manual identifies the technique (planning & accomplishment) used to achieve quality, e.g. drawings, procedures, work instructions, forms, travelers, and/or tags. A graphic representation of the typical comparison of information contained in the Quality Program Manual vs Instructions, Procedures, and Drawings is shown below.



2. Entrance Meeting / Facility Tour: Will be held on the second day. The entrance meeting will provide the Applicant and the Survey Team an opportunity: to introduce themselves, review the Certificates and Scopes applied for, and to establish the Survey agenda. During the entrance meeting, the applicants should identify the specific interfaces to fully support a timely, effective, and efficient Survey. ASME fully encourages executive/senior management to attend the entrance meetings. During this meeting, the Applicant may, if they wish, give a presentation of the company, products, personnel, etc.

3. Implementation: The Applicant is expected to demonstrate the implementation of the Program on Code work, demonstration item(s), or a combination there of. If any deficiencies are discovered during the Survey, they will be immediately identified to the Applicant in order to provide them an opportunity to correct them prior to the conclusion of the Survey.

4. Team Closed Meeting: This meeting will be held at the Applicant's facilities prior to the exit meeting. This meeting will be attended only by the Survey Team and observers authorized by ASME. During this meeting, the Survey Team will review the results of the Survey and vote on the recommendation that the team will present to the Committee on Nuclear Certification (CNC).

5. **Exit Meeting:** This meeting will be held with the Applicant's management and will review the results of the Survey. ASME fully encourages executive/senior management to attend the exit meeting. If there were any findings issued, they will be reviewed, and the Applicant will be advised of their status. The Survey Team's recommendation to the Committee on Nuclear Certification (CNC) will be made known. The Applicants will be allowed to ask any questions relative or pertinent to the Survey. At the conclusion of the exit meeting, the Survey is officially ended and there will be no more discussion of the Survey.

Certification

A Certificate will be granted by ASME only after the applicant successfully demonstrates the adequacy and effective implementation of their quality program to the ASME Survey Team. Survey reports are reviewed by the ASME Committee on Nuclear Certification (CNC). The CNC is composed of subject-matter experts who are stakeholders in the nuclear industry, including manufacturers and regulators. After the CNC reviews the report submitted by the Survey Team, they will either authorize the issuance of the Certificate or request additional action by the applicant.

Certificates are valid for three years. A renewal application and applicable fees must be submitted at least six months prior to the certificate expiration date to begin the certificate renewal process.

General Survey Conformity Assessment Requirements for Applicants

1.1 Applicants applying for the initial issue or renewal of an ASME Certificate of Authorization or Quality System Certificate should be aware that the ASME Survey will require that implementation of the Quality Program (Quality Assurance or Quality System, as applicable) be demonstrated.

1.2 The extent of the Survey will be determined by the Society based on a review of the applicant's intended scope of Code activities described in the applicable supplemental application(s), including but not limited to the specific information contained in this handbook.

1.3 The ASME Policies and Operating Procedures require the Survey Team to make a full review of the Applicant's Quality Assurance Manual/Quality System Manual prior to visiting the Applicant's facilities. This review is performed by the full Survey Team on the first day of the Survey. This manual review is normally performed remote from the Applicant's facility, usually in a hotel but may be continued at the Applicant's facility. In some rare instances and under certain circumstances it may be performed at the Applicant's facility and will only be done with the concurrence of the Survey Team Leader.

1.4 It is the responsibility of the Applicant to have sufficient copies of their Manual (Uncontrolled) and at least one (1) copy of implementing procedures for the Survey Team's use at the time of the manual review. The Manual must be the Manual presently in use. For N-Type Certificate Applicants, the company-approved manual also must be accepted by the Applicant's Authorized Nuclear Inspector Supervisor (ANIS). If the QSC or N-Type Certificate Applicant is proposing changes to the Manual, copies of the proposed changes shall be provided for review by the Survey Team. The Applicant will be expected to demonstrate the proposed changes during the implementation portion of the Survey.

1.5 Any N-Type Certificate Applicant's Quality Assurance Manual not based solely on NCA (HAB)- 4134 is acceptable only if it also includes all the controls necessary to establish compliance with NCA (HAB)-4134. Quality System Certificate applicant's programs not solely based on NCA-3300 are acceptable only if the program also includes all the controls necessary to establish compliance with NCA-3300 as applicable. When the quality manual addresses multiple codes, standards, or regulatory requirements, the manual shall indicate those portions which are not applicable for the implementation of the ASME Section III Code requirements.

1.6 For forms exhibited in the Quality Assurance Manual or Quality System Manual, the Survey Team will find it beneficial to have the completed example forms provided for their review at the time of the Manual Review.

1.7 The Applicant will be required to demonstrate the implementation of their Program for each Certificate applied for. If an applicant is applying for an N, NPT, NA, NS, N3, or NV Certificate of Authorization, the unique aspects of each Certificate scope shall be demonstrated. For those program scopes that include design responsibility, the controls for design processes shall be demonstrated for a component to be included on the N (NV) Certificate of Authorization. For Applicants not requesting an N (NV) Certificate of Authorization, then design process controls shall be demonstrated for an NPT appurtenance and, if only an NS Certificate is requested, a component support. It is unnecessary to repeat demonstrations (e.g. construction, fabrication or material activities) of each Certificate, provided that the demonstration includes the unique aspects of each certificate to be demonstrated. For instance, if material activities, welding and/or Non-Destructive Examination (NDE) process controls are demonstrated as part of the NPT demonstration, there is no need to repeat these activities for other certificate demonstrations.

1.8 When using suppliers of subcontracted services (NCA-3125) or approved suppliers (NCA- 4255), such as NDE, design activities, auditing, etc., the supplier's qualification procedure and records as required by NCA-4255.5 and/or NCA-4000 shall be made available for review by the Survey Team at the location of the Survey.

1.9 All demonstrations shall be to the highest Code Class to be included in the scope of the Certificate and as identified in the application. For demonstration purposes the highest class of metallic construction in descending order shall be considered as follows: Class A, Class 1, Class CS, Class B, Class 2, Class MC, Class SM, Class 3. Demonstrations for Division 2, Class CC and Division 5, Class SN for the G and GC Certificates require work demonstrations specific to that Class of Construction. Demonstrations for Classes A, B and SM shall be for elevated temperature service, unless these Classes will be limited to "Low Temperature Service" and noted in the *Certificate Scope*. Demonstrations shall not be planned to exclude any type of Code activity except as provided below:

a. For N-Type Certificate or Quality System Certificate applicants using a demonstration item that does not implement fracture toughness requirements, the applicant shall provide another actual or mock-up demonstration using materials that are subject to fracture toughness requirements, unless excluded from the scope of the Quality Assurance Manual.

b. For N-Type Certificate applicants, operations affecting chemical composition, mechanical properties, and/or product form, utilization of unqualified source material, certification of material, qualification of material organizations, and approval and control of suppliers shall be demonstrated unless excluded in the Quality Assurance Manual.

c. If any activities in paragraph 1.9 a. or b. above are excluded from the program, the exclusion statement in the Quality Manual shall include provisions to require the Certificate Holder or QSC Holder to notify ASME if they desire to remove an exemption from their program.

d. For applicants requesting Certificates which include design responsibility and who subcontract stress analysis or complete design as permitted in NCA-3125 (b) shall demonstrate retention of responsibility for the design of the component and for the design output documents by performing (without subcontracting to an approved supplier) a design verification per NQA-1, Requirement 3, Paragraph 500. Demonstration Design Reports shall be certified on behalf of the Certificate Holder by a Certifying Engineer that was qualified by the Applicant in accordance with Section III Appendix XXIII.

e. For applicants requesting a Certificate which includes design responsibility for Division 5 Class A Elevated Temperature, a demonstration for the design of a component including the design output documents shall be provided. The demonstration Design Report shall be certified on behalf of the Certificate Holder by a Certifying Engineer that was qualified by the Applicant in accordance with Section III Appendix XXIII. It is not acceptable to present a “mock-up demonstration” of the qualification of the Certifying Engineer.

f. For applicants requesting Certificate(s) which do not include design responsibility for Division 5 Elevated Temperature, a demonstration of the unique elements of the Certificate shall be provided.

g. For Quality System Certificate applicants or applicants for N-Type Certificates with “furnishing metallic material” in the certificate scope, NCA-4251.2 activities shall be demonstrated unless excluded in the Quality System Manual or Quality Assurance Manual. For applicants requesting Division 5 be included to the Quality System Certificate, no additional demonstration is required as long as the scope of the manual includes Division 5.

h. For Applicant’s requesting a Certificate to include the Supply of Services, a demonstration of a service shall be provided to demonstrate how the service is to be certified.

1.10 The purpose of the demonstration is to allow the Applicant to provide evidence of their knowledge of requirements for each Certificate and scope being requested. All elements of the ASME Section III Program must be described in the Quality Assurance Manual or Quality System Manual and shall be demonstrated. This means, that for N-Type Certificate applicants, the demonstration shall cover all of the NCA-4134 requirements addressing all applicable elements of the program, including NCA-3300. If the Applicant has no design responsibility, demonstration for design control need only establish how the Applicant receives and controls customer-supplied design documents.

1.11 For Quality System Certificate applicants, all applicable elements of NCA-3300 must be described in their Quality System Manual and the demonstration shall include the implementation of material operations and certification of the results to the material specification and Section III. When the scope only includes furnishing material certified by other parties or qualified source material, then the demonstration shall include the implementation of those activities.

1.12 It is expected that the demonstration of the Quality Program be implemented using actual Code work. If actual Code work is not sufficient to demonstrate all aspects of the Program, then a ‘mock-up demonstration item’ shall be used to address the missing elements of the Program. Mock-up demonstration items may be non-Code items treated as though they were code items.

1.13 It is permissible to implement the Quality Program on Code work to the requirements of a previous Code Edition and addenda other than the current Code Edition and addenda, as long as the Applicant also demonstrates their knowledge of the requirements of the most current Code Edition.