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THE NATIONAL BOARD OF BOILER AND PRESSURE VESSEL INSPECTORS

NATIONAL BOARD TASKGROUP NR

MINUTES

Meeting of July 16th, 2018
Columbus, OH

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The National Board of Boiler & Pressure Vessel Inspectors
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1. **Call to Order**
   Chair, P. Edwards called the meeting to order at 10:00 AM

2. **Introductions/Announcements**
   Introductions took place amongst all members and an attendance sheet was circulated for review and check off (**Attachment Page 1**). Mr. Tom Roberts and Mr. Bryan Toth joined the meeting through a WebEx teleconference.

3. **Announcements:**
   - The National Board will be hosting a reception for all committee members and visitors on Wednesday evening at 5:30pm at the pavilion.
   - Breakfast will be provided on Thursday morning to NBIC Committee members and visitors.
   - Lunch will be provided on Tuesday, Wednesday, and Thursday to NBIC Committee members and visitors
   - Members were reminded that all items must be approved by the Thursday (July 19th, 2018) meeting in order to make it into the 2019 Edition of the NBIC.

4. **Adoption of the Agenda**
   Removal of discussion of NB-417 from the proposed Agenda (Item 6. a.) and adoption of the resulting revised Agenda was motioned and unanimously approved.

5. **Approval of the Minutes of January 8th, 2018 Meeting**
   There was a motion to approve the Minutes of January 8th, 2018 as published. The motion was unanimously approved.

6. **Action Items**
   a. **2019 Edition APPROVED items**
      A summary review of the status of Items already Approved by the TG was given:

Item Number: NB17-0702	**NBIC Location: Part 3, 1.6.7.2**	**Attachment Page 2**
General Description: Review references to ASNT ACCP **Subgroup:** NR Task Group **Task Group:** None Assigned. **History:** Mr. Galanes requested that Mr. Edwards report on this item. SC Repairs and Alterations previously approved this item with a unanimous vote. Mr. Edwards reported that this proposal removes a previous conflict in code requirements by making Paragraph 1.6.7.2 n) 2) less specific. This item was approved by the NBIC Committee with a unanimous vote. **Meeting Action:** This Item PASSED Main Committee July 2017		

Item Number: NB16-0610 **NBIC Location: Part 3, 1.8** **Attachment Page 3**

General Description: Review scope statements for NR Category 3 in regards to Section VIII, B31.7, etc.

Subgroup: Repairs and Alterations
Task Group: NR Task Group

History: Mr. Galanes requested Mr. Edwards report on this item. The NR Task Group developed a proposal for this item. The proposal was previously approved by a unanimous vote of the NBIC Committee. The proposal clarifies NR program categories as defined in NBIC Part 3, 1.8. The proposal was approved by a unanimous vote of the NBIC Committee.

Meeting Action: This Item PASSED Main Committee January 2017

Item Number: 17-154 **NBIC Location: Part 3, 1.6** **Attachment Page 4**

General Description: Result of IN17-0101; clarify requirements for AIA audits of nuclear certificate holders

Subgroup: SG Repairs and Alterations
Task Group: None Assigned.

History: Mr. Galanes requested that Mr. Edwards report on this item. SC Repairs and Alterations previously approved this item with a unanimous vote. Mr. Edwards explained that this item clarifies requirements for AIA audits of "NR" Certificate Holders. This item was approved by the NBIC Committee with a unanimous vote.

Meeting Action: This Item PASSED Main Committee July 2017

Item Number: NB16-0603 **NBIC Location: Part 3, S7 and S9** **Attachment Pages 5-7**

General Description: Add requirements for when the "NR" program is applied to safety related relief valves in nuclear service, came from NR task group

Task Group: NR Task Group

History: Mr. Cammeresi reported that this item recently failed a SC PRD letter ballot. The NR Task Group modified the proposal based on the comments. The changes satisfied the SC PRD comments. The item will be letter balloted to SC PRD.

Meeting Action: This Item PASSED Main Committee by letter ballot 01-16-2018

Item Number: NB16-0609 **NBIC Location: Part 3, 1.8.7 and 1.8.8** **Attachment Pages8-9**

General Description: Add requirements from 1.8.6 l) 2) for Category 2 and 3 for accreditation of calibration activities

Subgroup: Repairs and Alterations
Task Group: NR Task Group

History: Mr. Galanes requested Mr. Edwards report on this item. Mr. Edwards gave a brief summary of NR Task Group discussion on this item.

Meeting Action: This Item PASSED Main Committee by letter ballot 05-29-2018

b. 2019 Edition Previous Actions – OPEN

Item Number: NB16-0608	**NBIC Location: Part 3, 1.8.2**	**Attachment Pages 10-12**

General Description: Address QA program requirements for Owners and Certificate Holders functioning under previous editions of NQA-1 or other limitations.

Subgroup: Repairs and Alterations
Task Group: NR Task Group - Mr. Clay Smith, Project Manager.

History: Paul Edwards gave a progress report

Meeting Action: A review of the current status of this Item was given: This Item was put on NR TG Letter Ballot (02/28/18 to 03/28/2018) – 3 Approved, 2 Disapproved, 5 Not Voted. This Item failed the letter ballot 03-28-2018. This Item was Letter Balloted with Item NB17-0701. The Negative comments from the Letter Ballot related to the joint Item, NB17-0701. A motion was made to separate this Item from NB17-0701 and presented to the Repair & Alteration SG. The motion was unanimously approved.

Item Number: NB17-0701	**NBIC Location: Part 3**	**Attachment Pages 13-14**

General Description: Add wording in NBIC Part 3, 1.6.1 to ensure NR Program meets requirements of NQA-1 parts 2.14 and 2.7. .

Subgroup: Repairs and Alterations
Task Group: NR Task Group – Mr. Clay Smith, Project Manager.

History: Paul Edwards gave a progress report.

Meeting Action: A review of the current status of this Item was given: This Item was put on NR TG Letter Ballot (02/28/18 to 03/28/2018) – 3 Approved, 2 Disapproved, 5 Not Voted. This Item failed the letter ballot 03-28-2018. This Item was discussed and a vote was taken to resolve the negative comment by removing the proposed change. A motion was made to reject the proposed change and present this Item to Repair & Alteration SG with the recommendation to Close with No Action. The motion was unanimously approved.

7. New Items:

a) 17-168 - Revisions to Category 3

Item Number: 17-168	**NBIC Location: Part 3**	**Attachment Pages 15-36**

General Description: General revision of NR quality program requirements in Part 3, 1.6.

Subgroup: Repairs and Alterations
Task Group: NR Task Group

History: Paul Edwards gave a progress report.
– PASSED SG R&A (LETTER BALLOT) 03-05-2018
– PASSED SC R&A (LETTER BALLOT) 05-01-2018
– PASSED MC (LETTER BALLOT) 06-11-2018
Comment on editorial corrections from SC R&A:

Troutt,Robby 3/15/2018 8:52:36 AM	Approve, but have editorial corrections that need to be made. Such as capitalization of 1.6.6.2 b) 1) through 5), 1.6.7.2 b) 1) through 5) and 1.6.8. 2 b) 1) through 5). Also the sentence following 1.6.8.2k)4) seem out of place. Is this part of k)4) or is it a new statement?

Meeting Action: This Item was discussed to address comment from Mr. Troutt; the sentence following 1.6.8.2 k) 4) was a separate statement, and not meant to be included with items k)1) through k)4). Corrections to be made were determined to be editorial and no action is required. Staff will handle the format issues duringt he public review an publication process. A motion to accept editorial corrections and respond to Mr. Troutt regarding his concerns was made and unanimously approved.

8. Update on Promoting NR Accreditation Program

a) CNSC - Mr. Withers was not present to provide a progress report on the Canadian Nuclear Safety Commission (CNSC).

b) US NRC - Mr. Scribner provided an update on the NRC Letter of May 1, 2018 regarding requested endorsement of the NR and NRV accreditation programs (**Attachment Pages 37-38**). The NRC letter indicated that they would not endorse the NR and NRV accreditation programs. After discussion, it was decided that a Task Group with Chuck Withers as Project Manager would draft a response letter to the NRC. The CNSC has also indicated that their interest in the NR/NVR programs was contingent with the NRC endorsing the program(s).

9. Future Meetings

- January 14th-17th, 2019 – San Antonio, TX
- July, 2019 – Kansas City or Minneapolis

10. Adjournment

A motion was made and unanimously approved to adjourn at 12:10 PM.

Respectfully submitted,

Terrence Hellman
TG NR Secretary

NR Task Group Attendance Sheet - 07/16/2018

Name	Company	Phone Number	Email	Signature	Attend Rec. ?	Bringing Guest?
Paul Edwards	Stone & Webster Inc.	781-298-3826	edwar1pd@westinghouse.com	Paul D Edwards	✓	
Benjamin Schaefer	AEP	614-716-1843	bschaefer@aep.com		✓	
Clayton Smith	Fluor		clayton.t.smith@fluor.com			
Bob Wielgoszinski	HSB	860-722-5064	Robert_Wielgoszinski@hsb.com	R Wielgoszinski	✓	
Chuck Withers			cswithersllc@gmail.com			
Tom Roberts	MPR		troberts@mpr.com	Web Ex		
Paul Fisher	HSB	630-955-5660	paul.fisher@hsb.com			
Edward Maloney		856-981-6047	maloneye@comcast.net		✓	
Kerri Kavanagh	HRC		kerri.kavanagh@nrc.gov			
Richard McIntyre	NRC		richard.mcintyre@nrc.gov			
Bryan Toth	Stone & Webster Inc.		tothbm@westinghouse.com	Web Ex		
Joe Ball	National Board	614-888-8320	jball@nationalboard.org			
Bob McLaughlin	National Board	614-888-8320	bmclaughlin@nationalboard.org			
Terrence Hellman	National Board	614-888-8320	thellman@nationalboard.org			

NB17-0702

Category 2 Paragraph 1.6.7.2 n) 2)

f. Non Destructive Examination reports, including results of examinations, shall identify the ~~ASNT, SNT-TC-1A, CP-189, or ACCP~~ name and certification level of personnel interpreting the examination results. ~~as ASME Section XI.~~

NB16-0610 NR Task Group 1-9-17

1.8.2 GENERAL

a) An organization applying for an “NR” *Certificate of Authorization* shall have a written Quality Assurance Program (QAP) that details the specific requirements to be met based on the intended category of activities selected by that organization as described below and shown in Table 1.8.2. Controls used, including electronic capabilities, in the Quality Assurance Program shall be documented in a Quality Assurance Manual (QAM). Controls required to be included within the QAM shall include who, what, when, where, why and how with an understanding that the how can be a reference to an implementation procedure or instruction. Quality activities to be described in the Quality Assurance Program are identified in Section 1.8.5 of this part. Applicants shall address all requirements in their Quality Assurance Program based on the category of activity and scope of work to be performed (organization’s capabilities) to which certification is requested.

1) Category 1

Any ASME Section III Code certified item or system requiring repair/replacement activities irrespective of physical location and installation status prior to fuel loading.

2) Category 2

After fuel loading, any item or system under the scope of ASME Section XI requiring repair/replacement activities irrespective of physical location. Based on regulatory or jurisdictional acceptance, Category 2 may be used prior to fuel loading.

3) Category 3

Items ~~constructed to codes or standards other than ASME~~other than those covered by Category 1 or Category 2, requiring repair/replacement activities irrespective of physical location, installation status and fuel loading.

b) Repair organizations performing repairs of pressure relief devices in nuclear service shall meet the additional requirements of NBIC Part 4, Section 4 and NBIC Part 4, Supplement 6.

17-154 Withers 7-17-17
NBIC Part 3

Add additional wording to paragraphs 1.6.6.2 r); 1.6.7.2 r) and 1.6.8.2 r):

r) Audits

The provisions identified in ASME NQA-1, Part 1, and Requirement 18 shall apply and shall include the following:

A comprehensive system of planned and periodic ~~internal~~ audits of the "NR" Certificate Holder's Quality Assurance Program shall be performed ~~by the "NR" Certificate Holder~~. Audits shall include internal audits by the Certificate Holder and audits by the Authorized Inspection Agency.

Audit frequency shall be specified in the organization's Quality Assurance Manual. Audits shall be conducted at least annually for any ongoing code activity to verify compliance with Quality Assurance Program requirements, performance criteria and to determine the effectiveness of the Quality Assurance Program. When no code work has been performed, the required annual audit need only include those areas of responsibility required to be continually maintained such as training, audits, organizational structure, and Quality Assurance Program revisions. The Quality Assurance Manual shall as a minimum describe the following:

1) Audits shall be performed in accordance with written procedures or checklists by qualified audit personnel not having direct responsibility in areas being audited;
2) Audit personnel shall be qualified in accordance with the current requirements of ASME NQA-1;
3) Audit results shall be documented and reviewed by responsible management;
4) Requirements for follow-up actions shall be specified for any deficiencies noted during the audit;
5) Audit records and applicable documentation shall be made available to the Authorized Nuclear Inspector for review;
6) Audit records shall include as a minimum;
   a. Written procedures;
   b. Checklists;
   c. Reports;
   d. Written replies; and
   e. Completion of corrective actions.

NB16-0603 NR Task Group 1-9-16
1. One update by NR task group page 3: 7/17/19
2. *Two updates to S6.1 and S6.3 on page 1: 7/19/17*

SUPPLEMENT 6

PROCEDURES FOR REPAIRS ~~TO ASME "NV" STAMPED PRESSURE RELIEF DEVICES~~ OF NUCLEAR SAFETY RELATED PRESSURE RELIEF VALVES

S6.1 SCOPE

~~ASME Code "NV" Class 1, 2, or 3 stamped pressure relief devices,~~Nuclear safety related pressure relief valves and power operated pressure relief valves ~~which have been capacity certified by the National Board,~~ may be repaired provided the following requirements are met. *Valves being repaired under these provisions are intended to be those protecting the nuclear pressure boundary. Other pressure relief valves in the nuclear power plant (such as pressure relief valves on air compressors and auxiliary boilers) shall be repaired as required by the applicable Jurisdiction.*

S6.2 DEFINITIONS

Safety Related – As used in this supplement and when applied to nuclear power plants, safety related means a structure, system, or component or part thereof that affects its safety function necessary to assure:

a) The integrity of the reactor coolant pressure boundary;

b) The capability to shut down the reactor and maintain it in a safe shutdown condition; or

c) The capability to prevent or mitigate the consequence of accidents which could result in potential offsite exposures.

S6.3 NUCLEAR SAFETY RELATED VALVE GROUPS

These rules classify nuclear safety related pressure relief valves into three groups based upon the original code of construction and capacity certification status.

Group 1: ASME Section I and Section VIII pressure relief valves *accepted by the Jurisdiction for use* ~~used~~ in nuclear safety related service with National Board capacity certification.

Group 2: ASME Section III NV stamped Class 1, 2, or 3 pressure relief valves with National Board capacity certification.

Group 3: Pressure relief valves not addressed in Group 1 or Group 2. This group shall include pressure relief valves without National Board capacity certification and/or pressure relief valves constructed to codes or standards other than ASME (see NBIC Part 3, Category 3).

The term pressure relief valve includes power operated pressure relief valves. Replacement of rupture disks in rupture disk holders or in systems is not considered a repair activity under the scope of this supplement.

S6.~~4~~2 ADMINISTRATIVE PROCEDURES

a) The repair organization shall ~~hold~~ obtain a ~~valid~~ "VR" *Certificate of Authorization* ~~and stamp~~.

b) The repair organization shall obtain a National Board "NR" *Certificate of Authorization* ~~and stamp~~. The requirements for said certificate ~~and stamp~~ include, but ~~are~~ is not limited to the following. The repair organization shall:

1) Maintain a documented quality assurance program that meets the applicable requirements of NBIC Part 3, 1.*6*. This program shall also include all the applicable requirements for the use of the "VR" stamp;

2) Have a contract or agreement with an Authorized Inspection Agency that is qualified in accordance with the requirements of ASME QAI-1, *Qualifications for Authorized Inspection* to provide inspection of repaired nuclear ~~"NV" stamped~~ pressure relief ~~devices~~ valves ~~by Inspectors who have been qualified in accordance with the requirements of ASME QAI-1, *Qualifications for Authorized Inspection*~~;

3) Successfully complete a survey of the quality assurance program and its implementation. This survey shall be conducted by representatives of the National Board, the Jurisdiction wherein the applicant's repair facilities are located, and the applicant's Authorized Inspection Agency. Further verification of such implementation by the survey team may not be necessary if the applicant holds a valid ASME "NV" certificate and can verify by documentation the capability of implementing the quality assurance program for repair of "NV"-stamped pressure relief ~~devices~~valves, covered by the applicant's ASME "NV" certificate.

c) The application of the "NR" *Certificate of Authorization* and stamp shall clearly define the scope of intended activities with respect to the repair of ~~Section III, "NV"-stamped~~ nuclear pressure relief ~~devices~~valves.

d) Revisions to the quality assurance program shall be acceptable to the Authorized Nuclear Inspector Supervisor and the National Board before being implemented.

e) The scope of the "VR" *Certificate of Authorization* shall include repair of ~~"NV" stamped~~ nuclear pressure relief ~~devices~~valves (denoted on the VR Certificate as Section III).

f) Verification testing of valves repaired by the applicant shall not be required provided such testing has been successfully completed under the applicant's "VR" certification program for the applicable test fluids.

g) A survey of the applicant for the "VR" *Certificate of Authorization* and endorsement of the repair of ~~"NV"-stamped~~nuclear pressure relief ~~devices~~valves may be made concurrently.

h) S6.~~3~~ GENERAL RULES

a) Group 1 and Group 2 pressure relief valves ~~ASME Code Section III, "NV"-stamped pressure relief devices,~~ which have been repaired in accordance with these rules, shall be stamped with both the "VR" and "NR" stamps. They shall be classified as either NR Category 1 or Category 2 as applicable. Group 3 pressure relief valves which have been repaired in accordance with these rules shall be stamped with the "NR" stamp. They shall be classified as either NR Category 2 or Category 3 as applicable.

b) The "VR" and "NR" stamps shall be applied only to ~~"NV" stamped (Class 1, 2, or 3) National Board capacity certified~~nuclear safety related pressure relief ~~devices~~valves that have been disassembled, inspected, and repaired as necessary, such that the valves' condition and performance are equivalent to the standards for new valves.

c) All measuring and test equipment used in the repair of pressure relief ~~devices~~valves shall be calibrated against certified equipment having known valid relationships to nationally recognized standards.

d) Documentation of the repair of ~~"NV" stamped~~nuclear safety related pressure relief ~~devices~~valves shall be recorded on the National Board Form NVR-1, *Report of Repair/ Replacement Activities for Nuclear Pressure Relief Devices*, in accordance with the requirements of NBIC Part 3, *1.6*. The original code of construction and capacity certification status shall be identified on the NVR-1 form.

e) When an ASME "V", "UV" or "NV" stamped pressure relief device requires a duplicate nameplate because the original nameplate is illegible or missing, it may be applied using the procedures of *NBIC Part 4, 4.7.5* provided concurrence is obtained from the Authorized Nuclear Inspector and Jurisdiction. In this case the nameplate shall be marked "SEC I", "SEC. III", or "SEC VIII" to indicate original ASME Code stamping.

f) Repair activities for pressure relief ~~devices~~valves shall not include rerating of the device. Set pressure changes within the range of the valve manufacturer's capacity certification and the design pressure of the valve (*see NBIC Part 4,* 4.7.3) are permitted, provided the new set pressure and capacity rating are reconciled with the design of the system where the device will be used. *These* ~~Set pressure~~ changes are not considered to be rerating.

g) Conversions of pressure relief ~~devices~~valves as described in *NBIC Part 4,* 4.2 b) are permitted as part of repair activities.

h) Set pressure changes or conversions of pressure relief ~~devices~~valves shall be described in the "Remarks" section of Form NVR-1.

File: NB16-0603 updated 7-19-17 final.docx

NB16-0609 - Calibration and Testing Requirements – 7/17/17

1.6.6.2 – Quality Program Elements (Category 1)

l) Control of Measuring and Test Equipment

~~The provisions identified in ASME NQA-1, Part 1, Requirement 12 shall apply.~~

~~1) The "NR" Certificate Holder may perform periodic checks on equipment to determine calibration is maintained. When periodic checks are used the method and frequency shall be included in the "NR" Certificate Holder's Quality Assurance Program and if discrepancies are found, shall be resolved to the prior periodic check.~~

~~2) The "NR" Certificate Holder may accept accreditation for calibration activities by National Voluntary Laboratory Accreditation Program (NVLAP), American Association for Laboratory Accreditation (A2LA) or other accrediting body recognized by NVLAP through the International Laboratory Accreditation Cooperation (ILAC) mutual recognition arrangement (MRA) provided the following requirements are met:~~

~~a. Accreditation is to ANSI/ISO/IEC 17025:2005 "General Requirements for the Competence of Testing and Calibration Laboratories";~~

~~b. Scope of the accreditation for the calibration laboratory covers needed measurement parameters, ranges and uncertainties;~~

~~c. "NR" Certificate Holder shall specify that calibration reports shall include, laboratory equipment/ standards used and as found and as left data;~~

~~d. The "NR" Certificate Holder shall verify conformance to the requirements of this process; and e. Utilization of this process shall be described and documented in the "NR" Certificate Holders QAM.~~

1.6.7.2 – Quality Program Elements (Category 2)

l) Control of Measuring and Tests Elements

~~Control of Measuring and Test Equipment Measures shall be established and documented to ensure that tools, gages, instruments, and other measuring and testing equipment and devices used in activities affecting quality are of the proper range, type, and accuracy to verify conformance to established requirements. A procedure shall be in effect to ensure that they are calibrated and properly adjusted at specified periods or use intervals to maintain accuracy within specified limits. Calibration shall be traceable to known national standards, where these standards exist, or with the device manufacturer's recommendation.~~

1.6.8.2 – Quality Program Elements (Category 3)

l) Control of Measuring and Test Equipment

~~Control of Measuring and Test Equipment Procedures, methods and frequency of calibration shall be described for all types of measuring and test equipment used to verify quality. Any discrepancies shall be identified and resolved.~~

1.6.6.2 l), 1.6.7.2 l), 1.6.8.2 l)

Add to Category 1, 2, and 3 the following:

The NR Certificate Holder may utilize calibration and test activities performed by subcontractors when surveys and audits are performed. As an alternative to performing a survey and audit for procuring Laboratory Calibration and Test Services, the NR Certificate Holder as documented in their Quality Program may accept accreditation of an International Calibration and Test Laboratory Services by the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) provided this alternative method is described in the NR Certificate Holder' Quality Program and the following requirements are met:

a) The NR Certificate Holder shall review and document verification that the supplier of calibration or test services was accredited by an accredited body recognized by the ILAC MRA encompassing ISO/IEC-17025:2005, "General Requirements for the Competence of Testing and Calibration Laboratories";
b) For procurement of calibration services, the published scope of accreditation for the calibration laboratory covers the needed measurement parameters, ranges and uncertainties.
c) For procurement of testing services, the published scope of accreditation for the test laboratory covers the needed testing services including test methodology and tolerances/uncertainty.
d) The NR Certificate Holder's purchase documents shall include:
    1) Service provided shall be in accordance with their accredited ISO/IEC-17025:2005 program and scope of accreditation;
    2) As-found calibration data shall be reported in the certificate of calibration when items are found to be out-of-calibration;
    3) Standards used to perform calibration shall be identified in the certificate of calibration;
    4) Notification of any condition that adversely impacts the laboratories ability to maintain the scope of accreditation;
    5) Any additional technical and/or quality requirements, as necessary, which may include; tolerances, accuracies, ranges, and standards.
    6) Service suppliers shall not subcontract services to any other supplier.
e) The NR Certificate Holder shall upon receipt inspection, validate that the laboratory documentation certifies that:
    1) Services provided by the laboratory has been performed in accordance with their ISO/IEC-17025:2005 program and performed within their scope; and
    2) Purchase order requirements have been met.

TABLE 1.6.2

"NR" QUALITY ASSURANCE PROGRAM (QAP) REQUIREMENTS

Category of Activity	Owner	Organizations other than Owner
Category 1	10 CFR Part 50 Appendix B[1, 2] and ASME Section III NCA-4000 & NQA-1 Part 1	10 CFR Part 50 Appendix B[1, 2] and ASME Section III NCA-4000 & NQA-1, Part 1
Category 2	10 CFR Part 50, Appendix B[1, 2] or NQA-1[3], Part 1 and ASME Section XI, IWA-4142	10 CFR Part 50, Appendix B[1, 2] supplemented as needed with Owner's QA program; or ASME NQA-1[3], Part 1; or ASME Section III, NCA-4000
Category 3	ASME NQA-1[3], Parts 1, or Specify the Standard to which certification is desired	ASME NQA-1[3], Parts 1, or Specify the Standard to which certification is desired

Note 1:
Code of Federal Regulations (CFR) – rules and regulations published by the executive departments and agencies of the federal government of the United States.

Note 2:
10 CFR 50 Appendix B – Title 10 of the Code of Federal Regulations Part 50 Appendix B describes the quality assurance criteria for nuclear plants and fuel reprocessing plants.

Note 3:
The Edition (and Addenda , as applicable) of NQA-1 to be utilized shall be the latest endorsed by the Regulatory Authority, or as specified in the Owner's QA Program descriptions reviewed and approved by the Regulatory Authority.

(17) **1.6.2.1 DEFINITIONS**

The NBIC terms and definitions shall be supplemented, as applicable, by the terms and definitions of ASME Section III, Section XI, NQA-1, or other standards specified by the Regulatory Authority.

The following terms are as defined in the NBIC Glossary of Terms Section 9:

a) Authorized Inspection Agency

b) Authorized Nuclear Inspection Agency

c) Jurisdiction

d) "NR" Certificate Holder

TABLE 1.6.2.1
ACRONYMS

ASME	American Society of Mechanical Engineers
Applicant	An Organization applying for "NR" *Certificate of Authorization* (new or renewal)
CFR	Code of Federal Regulations
Code	ASME Code of Construction, Section III, Division I, (NCA, NB, NC, ND, NE, NF, NG, and NH) or ASME Section XI Rules for Inservice Inspection of Nuclear Power Plant Components as applicable.
Jurisdiction	Enforcement Authority
NB	National Board of Boiler and Pressure Vessel Inspectors
NBIC	National Board Inspection Code
NB-263, RCI-1	Rules for Commissioned Inspectors
NCA	ASME Section III, Subsection NCA, General Requirements for Division 1 and Division 2
NQA–1*	ASME Quality Assurance Requirements for Nuclear Facility Applications
NR	Nuclear Repair
"NR" CH	"NR" Certificate Holder
QA	Quality Assurance
QAI–1	ASME Qualifications for Authorized Inspection
QAM	Quality Assurance Manual
QAP	Quality Assurance Program
QC	Quality Control
WA	ASME Section III, Division 3, Subsection WA, General Requirements

Note:

* ~~Latest~~ Edition(s) endorsed by the Regulatory Authority

1.6.3 PREREQUISITES FOR ISSUING A NATIONAL BOARD "NR" *CERTIFICATE OF AUTHORIZATION* (17)

Before an organization can obtain a National Board "NR" *Certificate of Authorization*, the organization shall:

a) Have and maintain an inspection agreement with an Authorized Nuclear Inspection Agency accepted in accordance with NB-360, Criteria for Acceptance of Authorized Inspection Agencies for New Construction or accredited in accordance with NB-369, Qualifications and Duties for Authorized Inspection Agencies (AIAs) Performing Inservice Inspection Activities and Qualification of Inspectors of Boilers and Pressure Vessels.

b) Have a written Quality Assurance Program that complies with the requirements of this section and address all controls for the intended category and scope of activities.

c) Have a current edition of the NBIC.

s) Authorized Nuclear Inspector

Measures shall be taken to reference the commissioned rules for National Board Authorized Nuclear

Inspector, in accordance with NB-263, RCI-1 *Rules for Commissioned Inspectors*. The “NR” Certificate Holder shall ensure that the latest documents including the Quality Assurance Manual, procedures and instructions are made available to the Authorized Nuclear Inspector. The Authorized Nuclear Inspector shall be consulted prior to the issuance of a repair/replacement plan by the “NR” Certificate Holder in order that the Authorized Nuclear Inspector may select any in-process inspection or hold points when performing repair/replacement activities. The “NR” Certificate Holder shall keep the Authorized Nuclear Inspector informed of progress of the repair/replacement activity so that inspections may be performed. The Authorized Nuclear Inspector shall not sign Form NR-1 or Form NVR-1, as applicable, unless satisfied that all work carried out is in accordance with this Section. The Authorized Nuclear Inspector and Authorized Nuclear Inspector Supervisor shall have access to areas where work is being performed including subcontractors facilities in order to perform their required duties. The ANI shall be involved in dispositions and verification for non-conformances and corrective actions involving quality or code requirements.

t) Exhibits

Forms and exhibits referenced in the Quality Assurance Manual shall be explained in the text and included as part of the referencing document or as an appendix to the Quality Assurance Manual. Forms shall be controlled and identified to show the latest approved revision, name, and other corresponding references as stated in the Quality Assurance Manual.

Proposal NB17-0701 – Hellman – 7-16-18

NOTE: 7/16/18 - TG NR has voted to not add the originally proposed verbiage in 1.6.7.1 and 1.6.8.1, effectively closing Item NB17-0701 with no action.

1.6.7 QUALITY ASSURANCE PROGRAM REQUIREMENTS FOR CATEGORY 2 ACTIVITIES

1.6.7.1 SCOPE

Owners or organizations other than owners shall have a written Quality Assurance Program meeting one of the criteria specified in Table 1.6.2 of this section. Organizations applying for a Category 2 "NR" *Certificate of Authorization* shall specify in their written Quality Assurance Program which program criteria their Quality Assurance Program follows. Owners shall have a Quality Assurance Program meeting the requirements of either 10 CFR 50, Appendix B or NQA-1 Part 1 and shall include the additional requirements specified in ASME Section XI, IWA-4142 when applicable. Organizations other than the owner shall comply with requirements specified in either 10 CFR 50, Appendix B supplemented as needed with the owner's QAP; NQA-1 Part 1; or NCA-4000. Organizations may elect to choose to follow all the rules specified in one of the allowed QAP criteria specified in Table 1.6.2 or they may elect to combine or supplement requirements from other specified QAP's. When organizations elect to combine QAP requirements, it shall be clearly specified and understood in the QAM which QAP requirement is being followed for each activity specified in their QAM. The following quality elements shall be specified and described within the QAM. ~~When Commercial Grade Dedication (CGD) is utilized, it shall be performed in accordance with NQA-1, Subpart 2.14.~~

(17)

1.6.7.2 QUALITY PROGRAM ELEMENTS

a) Organization

The authority and responsibility for individuals involved in activities affecting quality shall be clearly established and documented throughout the Quality Assurance Program and identified on a functional organizational chart contained within the QA Manual.

b) Quality Assurance Program (QAP)

1) Qualification of non-destructive examination personnel shall be as required by the code or as specified in the owner's Quality Assurance Program.

1.6.8 QUALITY ASSURANCE PROGRAM REQUIREMENTS FOR CATEGORY 3 ACTIVITIES

1.6.8.1 SCOPE

Organizations requesting a Category 3 "NR" *Certificate of Authorization* may elect to follow the requirements specified in ASME NQA-1 Part 1 or follow specific Quality Assurance Program requirements outlined in other specified standards as required by the owner, Regulatory Authority or Jurisdiction. Organizations shall specify in the QAM what QAP requirements are followed. When standards other than ASME NQA-1 are followed, the organization shall have available a copy of that standard for review by the NB Survey Team and the ANIA, as applicable. Each organization shall, as a minimum, include in their written QAM the specified elements listed in Category 1 and/or 2 (1.6.6, 1.6.7) QAP requirements. Additional requirements, as specified within NBIC Part 3, 1.6.8 and 1.6.9 shall be included within the QAP. Also, limitations or additions to ASME NQA-1, as specified for Category 1 or 2 may be incorporated and referenced within the QAM. ~~When Commercial Grade Dedication (CGD) is utilized, it shall be performed in accordance with NQA-1, Subpart 2.14~~

(17) ### 1.6.8.2 QUALITY PROGRAM ELEMENTS

a) Organization

Persons and organization shall have authority and freedom to identify quality problems; initiate, recommend or provide solutions and verify implementation of solutions.

b) QAP

Shall account for special controls, processes, test equipment, tools and skills to obtain quality and for verification of quality by inspections and tests. Indoctrination, training and maintaining proficiency of personnel effecting quality shall be described. The status and adequacy of the QAP shall be regularly reviewed. The scope shall be included within the written QAM. The "NR" Certificate Holder shall make a current controlled copy of the Quality Assurance Manual available to the Authorized Nuclear Inspector and Authorized Nuclear Inspector Supervisor. The "NR" Certificate Holder shall address in their QAM the requirements for interfacing with the owner specified in 1.6.9 of this section.

c) Design Control

Established measures to assure approximate quality standards are specified and included in design documents. Any deviations shall be identified and controlled.

d) Document Control

Documents for procurement of material, equipment and services shall ensure regulatory requirements, design bases and other quality requirements and are included or referenced. Procurement documents shall require contractors or subcontractors provide a Quality Assurance Program consistent with the provisions specified in this NBIC Part 3, 1.6.8.

e) Instructions, Procedures and Drawings

Activities affecting quality shall be accomplished in accordance with prescribed instructions, procedures or drawings and shall include approximate quantitative or qualified acceptance criteria to determine activities are satisfactorily accomplished.

f) Document Control

Shall define measures to control the preparation, issuance, use, approval, revisions and distribution of all documents related to quality.

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1.6 "NR" PROGRAM REQUIREMENTS

1.6.1 SCOPE

a) This section provides requirements that must be met for an organization to obtain a National Board *Certificate of Authorization* to use the "NR" Symbol Stamp for repair/replacement activities to nuclear items constructed in accordance with the requirements of the ASME Code or other internationally recognized codes or standards for construction or inservice inspection of nuclear facilities.

b) For administrative requirements to obtain or renew a National Board "NR" *Certificate of Authorization* and the "NR" Symbol Stamp, refer to National Board Procedure NB-417, Accreditation of "NR" Repair Organizations.

1.6.2 GENERAL

a) An organization applying for an "NR" *Certificate of Authorization* shall have a written Quality Assurance Program (QAP) that details the specific requirements to be met based on the intended category of activities selected by that organization as described below and shown in Table 1.6.2. Controls used, including electronic capabilities, in the Quality Assurance Program shall be documented in a Quality Assurance Manual (QAM). Controls required to be included within the QAM shall include who, what, when, where, why and how with an understanding that the how can be a reference to an implementation procedure or instruction. Quality activities to be described in the Quality Assurance Program are identified in Section 1.6.5 of this part. Applicants shall address all requirements in their Quality Assurance Program based on the category of activity and scope of work to be performed (organization's capabilities) to which certification is requested.

1) Category 1

Any ASME Code certified item or system requiring repair/replacement activities irrespective of physical location and installation status prior to fuel loading.

2) Category 2

After fuel loading, any item or system under the scope of ASME Section XI requiring repair/replacement activities irrespective of physical location. Based on regulatory or jurisdictional acceptance, Category 2 may be used prior to fuel loading.

3) Category 3

Items constructed to codes or standards other than ASME, requiring repair/replacement activities irrespective of physical location, installation status and fuel loading.

b) Repair organizations performing repairs of pressure relief devices in nuclear service shall meet the additional requirements of NBIC Part 4, Section 4 and NBIC Part 4, Supplement 6.

TABLE 1.6.2

"NR" QUALITY ASSURANCE PROGRAM (QAP) REQUIREMENTS

Category of Activity	Owner	Organizations other than Owner
Category 1	10 CFR Part 50 Appendix B[1,2] and ASME Section III NCA-4000	10 CFR Part 50 Appendix B[1,2] and ASME Section III NCA-4000
Category 2	10 CFR Part 50, Appendix B[1] or NQA-1, Part 1 and ASME Section XI, IWA-4142	10 CFR Part 50, Appendix B[1], supplemented as needed with Owner's QA program; or ASME NQA-1, Part 1; or ASME Section III, -NCA-4000
Category 3	ASME NQA-1, or Specify the Standard to which certification is desired	ASME NQA-1, or Specify the Standard to which certification is desired
Note 1: Code of Federal Regulations (CFR) – rules and regulations published by the executive departments and agencies of the federal government of the United States.		
Note 2: 10 CFR 50 Appendix B – Title 10 of the Code of Federal Regulations Part 50 Appendix B describes the quality assurance criteria for nuclear plants and fuel reprocessing plants.		

1.6.2.1 DEFINITIONS

The NBIC terms and definitions shall be supplemented, as applicable, by the terms and definitions of ASME Section III, Section XI, NQA-1, or other standards specified by the Regulatory Authority.

The following terms are as defined in the NBIC Glossary of Terms Section 9:

a) Authorized Inspection Agency

b) Authorized Nuclear Inspection Agency

c) Jurisdiction

d) "NR" Certificate Holder

TABLE 1.6.2.1

ACRONYMS

ASME	American Society of Mechanical Engineers
Applicant	An Organization applying for "NR" *Certificate of Authorization* (new or renewal)
CFR	Code of Federal Regulations
Code	ASME Code of Construction, Section III, Division I, (NCA, NB, NC,

	ND, NE, NF, NG, and NH) or ASME Section XI Rules for Inservice Inspection of Nuclear Power Plant Components as applicable.
Jurisdiction	Enforcement Authority
NB	National Board of Boiler and Pressure Vessel Inspectors
NBIC	National Board Inspection Code
NB-263, RCI-1	Rules for Commissioned Inspectors
NCA	ASME Section III, Subsection NCA, General Requirements for Division 1 and Division 2
NQA–1*	ASME Quality Assurance Requirements for Nuclear Facility Applications
NR	Nuclear Repair
"NR" CH	"NR" Certificate Holder
QA	Quality Assurance
QAI–1	ASME Qualifications for Authorized Inspection
QAM	Quality Assurance Manual
QAP	Quality Assurance Program
QC	Quality Control
WA	ASME Section III, Division 3, Subsection WA, General Requirements

Note:

* Latest Edition endorsed by the Regulatory Authority

1.6.3 PREREQUISITES FOR ISSUING A NATIONAL BOARD "NR" *CERTIFICATE OF AUTHORIZATION*

Before an organization can obtain a National Board "NR" *Certificate of Authorization*, the organization shall:

a) Have and maintain an inspection agreement with an Authorized Nuclear Inspection Agency accepted in accordance with NB-360, Criteria for Acceptance of Authorized Inspection Agencies for New Construction or accredited in accordance with NB-369, Qualifications and Duties for Authorized Inspection Agencies (AIAs) Performing Inservice Inspection Activities and Qualification of Inspectors of Boilers and Pressure Vessels.
b) Have a written Quality Assurance Program that complies with the requirements of this section and address all controls for the intended category and scope of activities.
c) Have a current edition of the NBIC.
d) Have available ASME Section XI, the code of construction and referenced code sections and standards appropriate for the scope of work to be performed. ASME Section XI and codes of construction (Editions/Addenda) shall meet the requirements of the Regulatory Authority and the owner.

1.6.4 OBTAINING OR RENEWING A NATIONAL BOARD "NR" *CERTIFICATE OF AUTHORIZATION*

a) Before an "NR" *Certificate of Authorization* will be issued or renewed, the applicant must have the Quality Assurance Program and the implementation of the program reviewed and found acceptable by representatives of the National Board, the Jurisdiction, and the Authorized Nuclear Inspection Agency. The Jurisdiction will be the National Board Member Jurisdiction in which the applicant is located or the location where the Quality Assurance Program is demonstrated/implemented. At the request of the Jurisdiction, or where there is no National Board Member Jurisdiction, the National Board representative shall act on behalf of the Jurisdiction. The implementation of the Quality Assurance Program shall be satisfactorily demonstrated by the organization. Demonstration of implementation shall meet the most stringent (classification) code requirements for the scope and category of work to be specified on the *Certificate of Authorization* or as requested by the applicant.

b) If the applicant is an ASME "N" type *Certificate of Authorization* holder, has satisfactorily demonstrated within the last twelve (12) months the implementation of their Quality Assurance Program and can provide documentation that the organization is capable of implementing its Quality Assurance Program as being in compliance with this section, a further hardware verification implementation may not be necessary.

c) The Regulatory Authority or Jurisdiction, upon request to the National Board, may attend the survey process for an "NR" *Certificate of Authorization* to be issued or renewed.

d) The "NR" *Certificate of Authorization* holder shall be subject to an audit annually by the Authorized Nuclear Inspection Agency to ensure compliance with the Quality Assurance Program.

1.6.5 QUALITY ASSURANCE PROGRAM

a) An applicant or a holder of a National Board "NR" *Certificate of Authorization* ("NR" Certificate Holder) shall have and maintain a written Quality Assurance Program. The Quality Assurance Program shall satisfactorily meet the requirements of this section, and Jurisdictional and Regulatory requirements as applicable. The Quality Assurance Program may be brief or voluminous, depending on the circumstances. It shall be treated confidentially by the National Board and available for review by the Survey Team.

b) Each applicant or "NR" Certificate Holder is responsible for establishing and executing a Quality Assurance Program. The applicant or "NR" Certificate Holder may subcontract activities needed to implement the Quality Assurance Program, as limited by ASME Section III and XI, but responsibility for adherence to the Quality Assurance Program remains with the Applicant or "NR" Certificate Holder.

c) These rules set forth the requirements for planning, managing, and implementing the organization's Quality Assurance Program to control and ensure quality is performed and maintained during repair/replacement activities of components, items, parts, and systems for nuclear facilities. These rules are to be the basis for evaluating such programs prior to the issuance or renewal of the National Board "NR" *Certificate of Authorization*. Rules identified in subsections 1.6.6, 1.6.7 and 1.6.8 of this section detail the Quality Assurance Program requirements for each category of activity. These rules are established to meet and follow the requirements specified in NBIC Part 3, Table 1.6.2-1 of this section.

1.6.6 QUALITY ASSURANCE PROGRAM REQUIREMENTS FOR CATEGORY 1 ACTIVITIES

1.6.6.1 SCOPE

Owners or organizations other than owners shall have a written Quality Assurance Program meeting the criteria specified in Table 1.6.2 of this section for Category 1 activities. The following quality elements shall be specified and described within the QAM.

1.6.6.2 QUALITY PROGRAM ELEMENTS

a) Organization

The provisions identified in ASME NQA-1, Part 1, Requirement 1, shall apply in its entirety. The Authority and responsibility for individuals involved in activities affecting quality shall be clearly established and documented throughout the Quality Assurance Program and identified on a functional organizational chart contained within the QA Manual.

b) Statement of Policy and Authority shall:

1) identify the titles of individuals who have the authority and responsibility charged with ensuring the quality program is implemented as described,
2) confirm their freedom in the organization to identify quality problems and to initiate, recommend and provide solutions,
3) include a statement that if there is a disagreement in the implementation of the quality assurance program, the matter is to be referred for resolution to a higher authority and shall be resolved in a manner that will not conflict with code, jurisdiction/regulatory authority or quality program requirements
4) include a statement of the full support of management, and

5) be dated and signed by a senior management official within the organization.

c) Quality Assurance Program (QAP)

The provisions identified in ASME NQA-1, Part 1, Requirement 2, shall apply, except paragraph 301. Additionally, the following criteria shall be used when developing and maintaining the QAP.

1) The Quality Assurance Program as used in this section shall include a written Quality Assurance Manual, with supporting procedures and instructions used to meet all the requirements of this Section.
2) Qualification of non-destructive examination personnel shall be as required by the code of construction or as specified in the owner's Quality Assurance Program.
3) The "NR" Certificate Holder shall be responsible for advising the Authorized Nuclear Inspection Agency of proposed changes to the Quality Assurance Manual to obtain acceptance of the Authorized Nuclear Inspector Supervisor before putting such changes into effect. The "NR" Certificate Holder shall make a current controlled copy of the Quality Assurance Manual available to the Authorized Nuclear Inspector and Authorized Nuclear Inspector Supervisor. The Certificate Holder shall be responsible for notifying the Authorized Nuclear Inspector of QAM changes, including evidence of acceptance by the Authorized Nuclear Inspector Supervisor.
4) The Quality Assurance Manual need not be in the same format or sequential arrangement as the requirements in these rules as long as all applicable requirements have been covered.
5) The "NR" Certificate Holder shall implement and maintain a program for qualification, indoctrination, training and maintaining proficiency of personnel involved with quality functions, including personnel of subcontracted services.
6) The "NR" Certificate Holder shall address in their QAM the requirements for interfacing with the owner specified in 1.6.9 of this section.
~~6)~~7) Specified controls including responsibilities for personnel shall be described in the quality assurance program.

d) Design Control

The provisions identified in ASME NQA-1, Part 1, Requirement 3, shall apply except Paragraph 601. The following additional requirements shall be considered when applicable.

1) The "NR" Certificate Holder shall establish measures to ensure applicable requirements of the

owner's design specifications, owner's requirements, and code of construction requirements are correctly translated into drawings, specifications, procedures and instructions.

2) All design documents, including revisions, shall be verified by the "NR" Certificate Holder to be correct and adequate in accordance with the owner's requirements.
3) Repair/replacement plans shall be completed prior to performing any work, inspections, examinations or testing; however, repair/replacement plans are not required for the design phase of a repair/replacement activity including activities that require design only (except rerating).
4) The repair/replacement plan (see Table 1.6.9) shall identify any applicable Code Edition/Addenda and Code Cases, owner's requirements and the Construction Code Edition/Addenda utilized to perform the work.
5) The repair/replacement plan shall identify expected life of the item when less than the intended life as specified in the owner's design specification.
6) The "NR" Certificate Holder shall ensure that specifications, drawings, procedures and instructions do not conflict with the owner's design specifications. A system must be described in the Quality Assurance Manual to resolve or eliminate such conflicts. Resolution shall consider the Design Specification Requirements, as well as, the owner requirements, Jurisdictional and Regulatory Authority Requirements as applicable.

e) Procurement Document Control

The provisions identified in ASME NQA-1, Part 1, Requirement 4, shall apply. Procurement documents shall require suppliers to provide a Quality Assurance Program consistent with the applicable requirements of ASME Section III and this section:

f) Instructions, Procedures and Drawings

The provisions identified in ASME NQA-1, Part 1, Requirement 5, shall apply. All activities affecting quality shall be prescribed by documented instructions, procedures or drawings appropriate for the scope of work to be performed. Instructions, procedures or drawings shall describe acceptance criteria to ensure quality activities are accomplished.

g) Document Control

The provisions identified in ASME NQA-1, Part 1, Requirement 6, shall apply. The Quality Assurance Program shall detail measures to control the preparation, review, issuance, use, approval and distribution of all documents related to quality as identified in the applicants Quality Assurance Program. Revisions shall meet the same requirements as the originals unless the applicant specifies other measures within their program. Measures shall ensure the latest approved documents represent the repair/replacement activities performed.

h) Control of Purchased Material, Items, and Services

1) The provisions identified in ASME NQA-1, Part 1, Requirement 7 shall apply, except:
   a) Procurement of Authorized Inspection Agency services is not applicable as specified in paragraph 507.
   b) The decision to perform bid evaluation as described in paragraph 300 is the responsibility of the "NR" Certificate Holder.
   c) For Certificates of Conformance specified in paragraph 503 changes, waivers, or deviations including resolution of non-conformances must meet the requirements of ASME Section III and this Section.
   d) The provisions identified in ASME NQA-1, Part 1, Requirement 7, paragraph 700 are not applicable to this section.
2) Documentary evidence for items shall conform to the requirements of ASME Section III, NCA and this Section. Materials shall meet the material certification requirements as specified in ASME Section III, NCA-3800 or NCA-~~3970~~ 4470 as applicable. Documented evidence for ASME stamped items is satisfied by a Manufacturer's Data Report. Utilization of unqualified source material shall meet the requirements of ASME Section III, NCA-~~3855.5.~~4255.5

3) The “NR” Certificate Holder may obtain items from an owner, provided the owner provides the required documentation and items are identified to meet Code and the Certificate Holders Quality Assurance Program. The “NR” Certificate Holder shall not be required to audit the owner as an approved supplier, provided the items used are exclusively for the owner and the owner procured and controlled the items under the owner’s Quality Assurance Program.

4) The Quality Assurance Program shall establish controls to ensure all purchased materials, items, and services conform to the requirements of the owner’s design specifications and the code of construction Edition/Addenda used to perform the work. Materials shall meet the requirements specified in ASME Section III, NCA-3800 or NCA-~~3970~~ 4470 as applicable.

5) Add wording from NB16-0609 pending approval

~~h)~~i) Identification and Control of Items

The provisions identified in ASME NQA-1, Part 1, Requirement 8, shall apply and include the following additional requirements.

1) Controls shall assure only correct and acceptable items, parts and components are used or installed when performing repair/replacement activities.
2) Welding, brazing and fusing materials shall be identified and controlled.
3) Required Certified Material Test Reports and Certificates of Conformance shall be received, traceable to the items, reviewed to comply with the material specification and found acceptable.
4) The “NR” Certificate Holder shall utilize checklists to identify required characteristics using accepted procedures, compliance with records received, results of examinations and tests performed, range of ~~valves~~ values when required, and spaces for inclusion of document numbers and revision levels, signatures, / stamps and dates of examinations or tests performed, verified, and/or witnessed by the “NR” Certificate Holder’s qualified Representative and Authorized Nuclear Inspector.

~~i)~~j) Control of Processes

The provisions identified in ASME NQA-1, Part 1, Requirement 9, shall apply. Documents used to control processes shall include spaces for signatures, initials, stamps and dates that activities were performed by the Certificate Holder’s representative and the Authorized Nuclear Inspector when the processes conform~~s~~ to the specified acceptance criteria as listed on drawings, procedures, instructions, specifications or other appropriate documents including revisions.

~~j)~~k) Examinations, Tests and Inspections

The provisions identified in ASME NQA-1, Part 1, Requirement 10, shall apply, except paragraph 700 for inspections during operations is not required.

1) A repair/replacement plan shall be described in the Quality Assurance Manual that addresses required information to perform the work needed for repair/replacement activities. Spaces shall be included for mandatory hold points where witnessing is required by the “NR” Certificate Holder’s Qualified Representative, the Authorized Nuclear Inspector or the owner’s representative, if required. Work shall not proceed beyond designated mandatory hold points without documented consent as appropriate.
2) The following guidance is provided for information to be included within the repair/replacement plan:
   a. A detailed description of repair/replacement activities to be performed;
   b. Describe any defects and examination methods used to detect the defects;
   c. Defect removal method and requirements for identifying reference points;
   d. Any procedures including revisions utilized; (e.g. welding, brazing, heat treat, examination, testing) and material requirements;
   e. Required documentation and stamping; and
   f. Acceptance criteria used to verify acceptability.

~~f.~~g. Applicable Code editions/addenda and code cases

3) Repair/Replacement plans and evaluations shall be subject to review by the Jurisdictional and Regulatory Authority when required.

~~k)~~l) Test Control

The provisions identified in ASME NQA-1, Part 1, Requirement 11 shall apply. Testing shall be performed in accordance with written test procedures with acceptance criteria clearly defined. Pre-requisites for performing each test to include calibration, equipment, trained personnel, environmental conditions and provisions for data acquisition shall be described. Test results shall be documented and evaluated by qualified personnel.

~~l)~~m) Control of Measuring and Test Equipment

The provisions identified in ASME NQA-1, Part 1, Requirement 12 ~~-~~shall apply.

1) The "NR" Certificate Holder may perform periodic checks on equipment to determine calibration is maintained. When periodic checks are used the method and frequency shall be included in the "NR" Certificate Holder's Quality Assurance Program and if discrepancies are found, shall be resolved to the prior periodic check.
2) The "NR" Certificate Holder may accept accreditation for calibration activities by National Voluntary Laboratory Accreditation Program (NVLAP), American Association for Laboratory Accreditation (A2LA) or other accrediting body recognized by NVLAP through the International Laboratory Accreditation Cooperation (ILAC) mutual recognition arrangement (MRA) provided the following requirements are met:
   a. Accreditation is to ANSI/ISO/IEC 17025:2005 "General Requirements for the Competence of Testing and Calibration Laboratories";
   b. Scope of the accreditation for the calibration laboratory covers needed measurement parameters, ranges and uncertainties;
   c. "NR" Certificate Holder shall specify that calibration reports shall include, laboratory equipment/standards used and as found and as left data;
   d. The "NR" Certificate Holder shall verify conformance to the requirements of this process; and
   e. Utilization of this process shall be described and documented in the "NR" Certificate Holders QAM. Note: replace paragraph 2 above with NB16-0609 pending approval

~~m)~~n) Handling, Storage and Shipping

The provisions of ASME NQA-1, Part 1, and Requirement 13 shall apply.

~~n)~~o) Quality Assurance Records

The provisions identified in ASME NQA-1, Part 1, Requirement 17, shall apply, except Paragraphs 400, 500, and 600 are not applicable. The following requirements shall be followed:

1) Records shall be identifiable and retrievable;
2) Records shall be retained consistent with the owner's requirements for duration, location and assigned responsibility;
3) Forms NR-1 and NVR-1 as applicable shall be completed by the "NR" Certificate Holder upon completion of all repair/replacement activities. Completion of forms, registrations and stamping of the "NR" symbol stamp shall meet the requirements of NBIC Part 3, Section 5. A log shall be maintained in accordance with NBIC Part 3, 5.6; and
4) Lifetime and non-permanent records shall be as specified in ASME Section III, NCA-4134, Tables NCA-4134.17-1, and 4134.17-2.
5) Radiographs (digital images or film) may be reproduced provided that:
   a. The process shall be subject to owner's approval;
   b. The "NR" Certificate Holder is responsible for the process used and shall include a system for controlling and monitoring the accuracy so that the image will provide the same information as the original; and
   c. Procedures shall contain requirements for exposure scanning, focusing, contrast, resolution and distinguishing film artifacts as applicable for reproduced images.

6) Records shall be classified, maintained and indexed and shall be accessible to the owner, owner's designee, and the Authorized Nuclear Inspector.
7) When the "NR" Certificate Holder is the owner, designated records and reports received by the owner, shall be filed and maintained in a manner to allow access by the Authorized Nuclear Inservice Inspector. Suitable protection from deterioration and damage shall be provided by the owner. All records and reports shall be retained as specified in the owners QAP for the lifetime of the component or system.

~~o)~~p) Corrective Action

The provisions identified in ASME NQA-1, Part 1, Requirement 16 shall apply.

1) Measures shall be established to ensure that conditions adverse to quality such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and other non-conformances are promptly identified and corrected.
2) In the case of significant conditions adverse to quality, the measures shall also ensure that the cause of these conditions be determined and corrected to preclude repetition. The identification of significant conditions adverse to quality, the cause, condition, and the corrective action taken shall be documented and reported to the appropriate levels of management.
3) These requirements shall also extend to the performance of subcontractors' corrective action measures.

~~p)~~q) Inspection or Test Status (not to include operating status)

The provisions identified in ASME NQA-1, Part 1, Requirement 14 shall apply. Measures shall be established to indicate inspection and test status of parts, items, or components during the repair/replacement activity. The system used shall provide positive identification of the part, item, or component by means of stamps, labels, routing cards, or other acceptable methods. The system shall include any procedures or instructions necessary to achieve compliance. Procedures shall be provided for the identification of acceptable and unacceptable items and for the control of status indicators. The authority for application and removal of status indicators shall also be specified.

~~q)~~r) Nonconforming Materials or Items

The provisions identified in ASME NQA-1, Part 1, Requirement 15 shall apply. Measures shall be established to control materials or items that do not conform to requirements to prevent their inadvertent use, including measures to identify and control the proper installation of items and to preclude nonconformance with the requirements of these rules These measures shall include procedures for identification, documentation, segregation when practical, and disposition. Nonconforming items shall be reviewed for acceptance, rejection, or repair in accordance with documented procedures. The responsibility and authority for the disposition of nonconforming items shall be defined. Repaired or replaced items shall be re-examined in accordance with the applicable procedures. Measures that control further processing of a nonconforming or defective item, pending a decision on its disposition, shall be established and maintained. Ultimate disposition of nonconforming items shall be documented.

~~r)~~s) Audits

The provisions identified in ASME NQA-1, Part 1, and Requirement 18 shall apply and shall include the following:

A comprehensive system of planned and periodic ~~internal~~ audits of the "NR" Certificate Holder's Quality Assurance Program shall be performed ~~by the "NR" Certificate Holder~~. Audits shall include internal audits by the Certificate Holder and audits by the Authorized Inspection Agency. Audit frequency shall be specified in the organization's Quality Assurance Manual. Audits shall be conducted at least annually for any ongoing code activity to verify compliance with Quality Assurance Program requirements, performance criteria, and to determine the effectiveness of the Quality Assurance Program. When no code work has been performed, the required annual audit need only include those areas of responsibility required to be continually maintained such as

training, audits, organizational structure, and Quality Assurance Program revisions. The Quality Assurance Manual shall as a minimum describe the following:

1) Audits shall be performed in accordance with written procedures or checklists by qualified audit personnel not having direct responsibility in areas being audited;
2) Audit personnel shall be qualified in accordance with the current requirements of ASME NQA-1;
3) Audit results shall be documented and reviewed by responsible management ;for adequacy and effectiveness of the quality assurance program.
4) Requirements for follow-up actions shall be specified for any deficiencies noted during the audit;
5) Audit records and applicable documentation shall be made available to the Authorized Nuclear Inspector for review;
6) Audit records shall include as a minimum;
   a. Written procedures;
   b. Checklists;
   c. Reports;
   d. Written replies; and
   e. Completion of corrective actions.

s)t) Authorized Nuclear Inspector

Measures shall be taken to reference the commissioned rules for National Board Authorized Nuclear Inspector, in accordance with NB-263, RCI-1 *Rules for Commissioned Inspectors*. The "NR" Certificate Holder shall ensure that the latest documents including the Quality Assurance Manual, procedures and instructions are made available to the Authorized Nuclear Inspector. The Authorized Nuclear Inspector shall be consulted prior to the issuance of a repair/replacement plan by the "NR" Certificate Holder in order that the Authorized Nuclear Inspector may select any in-process inspection or hold points when performing repair/replacement activities. The "NR" Certificate Holder shall keep the Authorized Nuclear Inspector informed of progress of the repair/replacement activity so that inspections may be performed. The Authorized Nuclear Inspector shall not sign Form NR-1 or Form NVR-1, as applicable, unless satisfied that all work carried out is in accordance with this Section. The Authorized Nuclear Inspector and Authorized Nuclear Inspector Supervisor shall have access to areas where work is being performed including subcontractors facilities in order to perform their required duties. The ANI shall be involved in dispositions and verification for non-conformances and corrective actions involving quality or code requirements.

t)u) Exhibits

Forms and exhibits referenced in the Quality Assurance Manual shall be explained in the text and included as part of the referencing document or as an appendix to the Quality Assurance Manual. Forms shall be controlled and identified to show the latest approved revision, name, and other corresponding references as stated in the Quality Assurance Manual.

1.6.7 QUALITY ASSURANCE PROGRAM REQUIREMENTS FOR CATEGORY 2 ACTIVITIES

1.6.7.1 SCOPE

Owners or organizations other than owners shall have a written Quality Assurance Program meeting one of the criteria specified in Table 1.6.2 of this section. Organizations applying for a Category 2 "NR" *Certificate of Authorization* shall specify in their written Quality Assurance Program which program criteria their Quality Assurance Program follows. Owners shall have a Quality Assurance Program meeting the requirements of either 10 CFR 50, Appendix B or NQA-1 Part 1 and shall include the additional requirements specified in ASME Section XI, IWA-4142 when applicable. Organizations other than the owner shall comply with

requirements specified in either 10 CFR 50, Appendix B supplemented as needed with the owner's QAP; NQA-1 Part 1; or NCA-4000. Organizations may elect to choose to follow all the rules specified in one of the allowed QAP criteria specified in Table 1.6.2 or they may elect to combine or supplement requirements from other specified QAP's. When organizations elect to combine QAP requirements, it shall be clearly specified and understood in the QAM which QAP requirement is being followed for each activity specified in their QAM. The following quality elements shall be specified and described within the QAM.

1.6.7.2 QUALITY PROGRAM ELEMENTS

a) Organization

The authority and responsibility for individuals involved in activities affecting quality shall be clearly established and documented throughout the Quality Assurance Program and identified on a functional organizational chart contained within the QA Manual.

b) Statement of Policy and Authority shall:

1) identify the titles of individuals who have the authority and responsibility charged with ensuring the quality program is implemented as described,
2) confirm their freedom in the organization to identify quality problems and to initiate, recommend and provide solutions,
3) include a statement that if there is a disagreement in the implementation of the quality assurance program, the matter is to be referred for resolution to a higher authority and shall be resolved in a manner that will not conflict with code, jurisdiction/regulatory authority or quality program requirements
4) include a statement of the full support of management, and
5) be dated and signed by a senior management official within the organization.

c) Quality Assurance Program (QAP)

1) Qualification of non-destructive examination personnel shall be as required by the code or as specified in the owner's Quality Assurance Program.
2) Prior to returning an item to service, the owner shall evaluate the suitability of the item subjected to the repair/replacement activity. Corrective actions shall be taken when an item is determined to be deficient or does not satisfy the requirements of this section.
3) The "NR" Certificate Holder shall provide a copy of the Quality Assurance Manual to the owner for review and acceptance. The "NR" Certificate Holder shall make a current controlled copy of the Quality Assurance Manual available to the Authorized Nuclear Inspector and Authorized Nuclear Inspector Supervisor. When a repair/replacement activity is split between the owner and an "NR" Certificate Holder, each Quality Assurance Program shall comply with this section for their respective activities. The owner shall establish interfaces for assuring this section is met for the two Quality Assurance Programs.
4) The "NR" Certificate Holder shall be responsible for advising the Authorized Nuclear Inspection Agency of proposed changes to the Quality Assurance Manual to obtain acceptance of the Authorized Nuclear Inspector Supervisor before putting such changes into effect. The Certificate Holder shall be responsible for notifying the Authorized Nuclear Inspector of QAM changes, including evidence of acceptance by the Authorized Nuclear Inspector Supervisor.
5) The Quality Assurance Manual need not be in the same format or sequential arrangement as the requirements in these rules as long as all applicable requirements have been covered.
6) The "NR" Certificate Holder shall implement and maintain a program for qualification, indoctrination, training and maintaining proficiency of personnel involved with quality functions, including personnel of subcontracted services.
7) The "NR" Certificate Holder shall address in their QAM the requirements for interfacing with the

owner specified in 1.6.9 of this section.

~~7)~~8) Specified controls including responsibilities for personnel shall be described in the quality assurance program.

d) Design Control

1) Repair/replacement activities, code edition and addenda used shall correspond with the owner's Inservice Inspection Program unless later code editions and addenda have been accepted by the owner, the Enforcement and/or the Regulatory authority having jurisdiction at the plant site.
2) The repair/replacement plan [see 1.6.7.2 j)] shall identify expected life of the item when less than the intended life as specified in the owner's requirements and the owner shall be advised of the condition.
3) The "NR" Certificate Holder shall assure that specifications, drawings, procedures and instructions do not conflict with the owner's requirements. A system must be described in the Quality Assurance Manual to resolve or eliminate such conflicts. Resolution shall consider the design specification requirements, as well as, the owner Requirements, Jurisdictional and Regulatory requirements as applicable.
4) ASME Section XI establishes that the owner is responsible for design in connection with repair/replacement activities. The "NR" Certificate Holder must ensure that the design specification, drawings, or other specifications or instructions furnished by the owner satisfy the code edition and addenda of the owner's requirements. To satisfy this requirement, the "NR" Certificate Holder shall establish requirements that correctly incorporate the owner's requirements into their specifications, drawings, procedures, and instructions, which may be necessary to carry out the work. The "NR" Certificate Holder's system shall include provisions to ensure that the appropriate quality standards are specified and included in all quality records. These records shall be reviewed for compliance with the owner's requirements and the requirements of ASME Section XI.

e) Procurement Document Control

Procurement documents shall require suppliers to provide a Quality Assurance Program consistent with the applicable requirements of ASME Section III, NCA and this section. Documents for procurement of materials, items, and subcontracted services shall include requirements to the extent necessary to ensure compliance with the owner's requirements and IWA-4000 of ASME Section XI. To the extent necessary, procurement documents shall require suppliers to maintain a Quality Assurance Program consistent with the applicable requirements of the edition and addenda of the code of construction to which the items are constructed. Measures shall be established to ensure that all purchased material, items, and services conform to these requirements.

f) Instructions, Procedures and Drawings

Repair/replacement plans and any verification of acceptability (evaluations) shall be subject to review by Jurisdiction and Regulatory Authorities having jurisdiction at the plant site. Activities affecting quality shall be prescribed by documented instructions, procedures or drawings of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Instructions, procedures, or drawings shall include appropriate quantitative and qualitative criteria for determining that activities affecting quality have been satisfactorily accomplished. The "NR" Certificate Holder shall maintain a written description of procedures, instructions, or drawings used by the organization for control of quality and examination requirements detailing the implementation of the Quality Assurance Program requirements. Copies of these procedures shall be readily available to the Authorized Nuclear Inspector and Authorized Nuclear Inservice Inspector, as applicable.

g) Document Control

The program shall include measures to control the issuance, use, and disposition of documents, such as specifications, instructions, procedures, and drawings, including changes thereto. These measures shall ensure that the latest applicable documents, including changes, are reviewed for

adequacy and approved for release by authorized personnel and distributed for use at the location where the prescribed activity is performed.

h) Control of Purchased Material, Items, and Services

Purchase of materials and small products shall meet the requirements specified in ASME Section XI, IWA 4142. Measures shall be established to ensure that purchased material, items, and services conform to the owner's requirements and applicable edition and addenda of the code of construction and ASME Section XI. These measures shall include identification for material traceability. Provisions shall be identified for source evaluation and objective evidence shall be provided evidencing quality standards for material examination upon receipt.

i) Identification and Control of Items

1) Measures shall be established for identification and control of material and items, including partially fabricated assemblies. These measures shall ensure that identification is maintained and traceable, either on the material or component, or on records throughout the repair/replacement activity. These measures shall be designed to prevent the use of incorrect or defective items and those which have not received the required examinations, tests, or inspections.
2) Identification for traceability shall be applied using methods and materials that are legible and not detrimental to the component or system involved. Such identification shall be located in areas that will not interfere with the function or quality aspects of the item.
3) Certified Material Test Reports shall be identified as required by the applicable material specification in ASME Section II and shall satisfy any additional requirements specified in the original code of construction. The Certified Material Test Report or Certificate of Compliance need not be duplicated for submission with compliance documents when a record of compliance and satisfactory reviews of the Certified Material Test Report and Certificate of Compliance is provided. Quality documents shall provide a record that the Certified Material Test Report and Certificate of Compliance have been received, reviewed, and found acceptable. When the "NR" Certificate Holder authorizes a subcontracted organization to perform examinations and tests in accordance with the original code of construction, the "NR" Certificate Holder shall certify compliance either on a Certified Material Test Report or Certificate of Compliance that the material satisfies the original code of construction requirements.

j) Control of Processes

1) The "NR" Certificate Holder shall operate under a controlled system such as process sheets, checklists, travelers, plans or equivalent procedures. Measures shall be established to ensure that processes such as welding, nondestructive examination, and heat treating are controlled in accordance with the rules of the applicable section of the ASME Code and are accomplished by qualified personnel using qualified procedures.
2) Process sheets, checklists, travelers, or equivalent documentation shall be prepared, including the document numbers and revisions to which the process conforms with space provided for reporting results of completion of specific operations at checkpoints of repair/replacement activities.

k) Examinations, Tests and Inspections

1) A repair/replacement plan shall be prepared in accordance with the Quality Assurance Program whenever repair/replacement activities are performed. As a minimum, the repair/replacement plan shall include the requirements specified in ASME Section XI, IWA-4150.
2) In-process and final examinations and tests shall be established to ensure conformance with specifications, drawings, instructions, and procedures which incorporate or reference the requirements and acceptance criteria contained in applicable design documents. Inspection, test and examination activities to verify the quality of work shall be performed by persons other than those who performed the activity being examined. Such persons shall not report directly to the immediate supervisors responsible for the work being examined.
3) Process sheets, travelers, or checklists shall be prepared, including the document numbers and revision to which the examination or test is to be performed, with space provided for recording

results.

4) Mandatory hold/inspection points at which witnessing is required by the “NR” Certificate Holder’s representative or the Authorized Nuclear Inspector/Authorized Nuclear Inservice Inspector shall be indicated in the controlling documents. Work shall not proceed beyond mandatory hold/inspection points without the consent of the “NR” Certificate Holder’s representative or the Authorized Nuclear Inspector/Authorized Nuclear Inservice Inspector, as applicable.

l) Test Control

1) Testing shall be performed in accordance with the owner’s written test procedures, or procedures acceptable to the owner, that incorporate or reference the requirements and acceptance criteria contained in applicable design documents.

2) Test procedures shall include provisions for ensuring that prerequisites for the given test have been met, that adequate instrumentation is available and used, and that necessary monitoring is performed. Prerequisites may include calibrated instrumentation, appropriate equipment, trained personnel, condition of test equipment, the item to be tested, suitable environmental conditions, and provisions for data acquisition.

3) Test results shall be documented and evaluated to ensure that test requirements have been satisfied.

m) Control of Measuring and Test Equipment

1) Measures shall be established and documented to ensure that tools, gages, instruments, and other measuring and testing equipment and devices used in activities affecting quality are of the proper range, type, and accuracy to verify conformance to established requirements. A procedure shall be in effect to ensure that they are calibrated and properly adjusted at specified periods or use intervals to maintain accuracy within specified limits. Calibration shall be traceable to known national standards, where these standards exist, or with the device manufacturer’s recommendation.

n) Handling, Storage and Shipping

Measures and controls shall be established to maintain quality requirements for handling, storage, and shipping of parts, materials, items, and components.

o) Quality Assurance Records

Documentation, reports and records shall be in accordance with ASME Section XI, IWA-6000.

1) The owner is responsible for designating records to be maintained. Measures shall be established for the “NR” Certificate Holder to maintain these records [See 1.6.7.2 n) 2)] required for Quality Assurance of repair/replacement activities. These shall include documents such as records of materials, manufacturing, examination, and test data taken before and during repair/replacement activity. Procedures, specifications, and drawings used shall be fully identified by pertinent material or item identification numbers, revision numbers, and issue dates. The records shall also include related data such as personnel qualification, procedures, equipment, and related repairs. The “NR” Certificate Holder shall take such steps as may be required to provide suitable protection from deterioration and damage for records while in his care. Also, it is required that the “NR” Certificate Holder have a system for correction or amending records that satisfies the owner’s requirements. These records may be either the original or a reproduced, legible copy and shall be transferred to the owner ~~at his~~ upon request.

2) Records to be maintained as required in NBIC Part 3, 1.6.7.2 n) 1) above shall include the following, as applicable:

a. An index that details the location and individual responsible for maintaining the records;

b. Manufacturer’s Data Reports, properly executed, for each replacement component, part, appurtenance, piping system, and piping assembly, when required by the design specification or the owner;

c. The required as-constructed drawings certified as to correctness;

d. Copies of applicable Certified Material Test Reports and Certificates of Compliance;

e. As-built sketch(es) including tabulations of materials repair/replacement procedures, and instructions to achieve compliance with ASME Section XI;

f. Nondestructive examination reports, including results of examinations, shall identify the name and certification level of personnel interpreting the examination results. Final radiographs shall be included where radiography has been performed. Radiographs may be microfilmed or digitally reproduced in accordance with the requirements listed in ASME Section V, Article 2, Mandatory Appendix VI. The accuracy of the reproduction process shall be verified and monitored for legibility, storage, retrievability and reproduction quality;

g. Records of heat treatments may be either the heat treatment charts or a summary description of heat treatment time and temperature data certified by the "NR" Certificate Holder. Heat treatments performed by the material manufacturer to satisfy requirements of the material specifications may be reported on the Certified Material Test Report; and

h. Nonconformance reports shall satisfy IWA-4000 of ASME Section XI and shall be reconciled by the owner prior to certification of the Form NR-1 or NVR-1, as applicable.

3) After a repair/replacement activity, all records including audit reports required to verify compliance with the applicable engineering documents and the "NR" Certificate Holder's Quality System Program, shall be maintained at a place mutually agreed upon by the owner and the "NR" Certificate Holder. The "NR" Certificate Holder shall maintain records and reports for a period of five years after completion of the repair/replacement activity.

4) When the "NR" Certificate Holder is the owner, designated records and reports received by the owner, shall be filed and maintained in a manner to allow access by the Authorized Nuclear Inservice Inspector. Suitable protection from deterioration and damage shall be provided by the owner. These records and reports shall be retained as specified in the owners QAP for the lifetime of the component or system.

5) The original of the completed Form NR-1 or Form NVR-1, as applicable, shall be registered with the National Board and, if required, a copy forwarded to the Jurisdiction where the nuclear power plant is located. A log shall be maintained in accordance with NBIC Part 3, 5.6.

p) Corrective Action

1) Measures shall be established to ensure that conditions adverse to quality such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and other nonconformances are promptly identified, controlled and corrected.

2) In the case of significant conditions adverse to quality, the measures shall also ensure that the cause of these conditions be determined and corrected to preclude repetition. The identification of significant conditions adverse to quality, the cause, condition, and the corrective action taken shall be documented and reported to the appropriate levels of management.

3) Corrective action requirements shall also extend to the performance of subcontractors' activities.

q) Inspection or Test Status (not to include operating status)

Measures shall be established to indicate examination and test status of parts, items, or components during the repair/replacement activity. The system used shall provide positive identification of the part, item, or component by means of stamps, labels, routing cards, or other acceptable methods. The system shall include any procedures or instructions necessary to achieve compliance. Also, measures shall be provided for the identification of acceptable and unacceptable items. They shall also include procedures for control of status indicators, including the authority for application and removal of status indicators.

r) Nonconforming Materials or Items

Measures shall be established to control materials or items that do not conform to specified requirements to prevent their inadvertent use, including measures to identify and control the proper installation of items and to preclude nonconformance with the requirements of these rules. These measures shall include procedures for identification, documentation, segregation, and disposition.

Nonconforming items shall be reviewed for acceptance, rejection, or repair in accordance with documented procedures. The responsibility and authority for the disposition of nonconforming items shall be defined. Repaired/replaced or altered items shall be re-examined in accordance with the applicable procedures.

Measures that control further processing of a nonconforming or defective item, pending a decision on its disposition, shall be established and maintained. Ultimate disposition of nonconforming items shall be documented.

s) Audits

A comprehensive system of planned and periodic ~~internal~~ audits of the "NR" Certificate Holder's Quality Assurance Program shall be performed ~~by each organization~~,. Audits shall include internal audits by the Certificate Holder and audits by the Authorized Inspection Agency. Audit frequency shall be specified in the organization's Quality Assurance Manual. Audits shall be conducted at least annually to verify compliance with Quality Assurance Program requirements, performance criteria and to determine the effectiveness of the Quality Assurance Program. When no code work has been performed, the required annual audit need only include those areas of responsibility required to be continually maintained such as training, audits, organizational structure, Quality Assurance Program revisions, etc. The Quality Assurance Manual shall as a minimum describe the following:

1) Audits shall be performed in accordance with written procedures or checklists by qualified audit personnel not having direct responsibility in areas being audited;
2) Audit personnel shall be qualified in accordance with the current requirements of NQA-1;
3) Audit results shall be documented and reviewed by responsible management for adequacy and effectiveness of the quality assurance program~~;~~
4) Requirements for follow-up actions for any deficiencies noted during the audit;
5) Audit records and applicable documentation shall be made available to the Authorized Nuclear Inspector for review;
6) Audit records shall include as a minimum:
   a. written procedures;
   b. checklists;
   c. reports;
   d. written replies; and
   e. completion of corrective actions.

t) Authorized Nuclear Inspector

Measures shall be taken to reference the commissioned rules for National Board Authorized Nuclear Inspector, in accordance with NB-263, RCI-1 *Rules for Commissioned Inspectors*. The "NR" Certificate Holder shall ensure that the latest documents including the Quality Assurance Manual, procedures and instructions are made available to the Authorized Nuclear Inspector. The Authorized Nuclear Inspector shall be consulted prior to the issuance of a repair/replacement plan by the "NR" Certificate Holder in order that the Authorized Nuclear Inspector may select any in process inspection or hold points when performing repair/replacement activities. The "NR" Certificate Holder shall keep the Authorized Nuclear Inspector informed of progress of the repair/replacement activity so that inspections may be performed. The Authorized Nuclear Inspector shall not sign Form NR-1 or Form NVR-1, as applicable, unless satisfied that all work carried out is in accordance with this section. The Authorized Nuclear Inspector and Authorized Nuclear Inspector Supervisor shall have access to areas where work is being performed including subcontractors facilities in order to perform their required duties. The ANI shall be involved in dispositions and verification for nonconformances and corrective actions involving quality or code requirements.

u) Exhibits

Forms and exhibits referenced in the Quality Assurance Manual shall be explained in the text and included as part of the referencing document or as an appendix to the Quality Assurance Manual. Forms shall be controlled and identified to show the latest approved revision, name, and other corresponding references as stated in the Quality Assurance Manual.

1.6.8 QUALITY ASSURANCE PROGRAM REQUIREMENTS FOR CATEGORY 3 ACTIVITIES

1.6.8.1 SCOPE

Organizations requesting a Category 3 "NR" *Certificate of Authorization* may elect to follow the requirements specified in ASME NQA-1 Part 1 or follow specific Quality Assurance Program requirements outlined in other specified standards as required by the owner, Regulatory Authority or Jurisdiction. Organizations shall specify in the QAM what QAP requirements are followed. When standards other than ASME NQA-1 are followed, the organization shall have available a copy of that standard for review by the NB Survey Team and the ANIA, as applicable. Each organization shall, as a minimum, include in their written QAM the specified elements listed in Category 1 and/or 2 (1.6.6, 1.6.7) QAP requirements. Additional requirements, as specified within NBIC Part 3, 1.6.8 and 1.6.9 shall be included within the QAP. Also, limitations or additions to ASME NQA-1, as ~~–~~specified for Category 1 or 2 may be incorporated and referenced within the QAM.

1.6.8.2 QUALITY PROGRAM ELEMENTS

a) Organization

~~Persons and organization shall have authority and freedom to identify quality problems; initiate, recommend or provide solutions and verify implementation of solutions.~~ The authority and responsibility for individuals involved in activities affecting quality shall be clearly established and documented throughout the Quality Assurance Program and identified on a functional organizational chart contained within the QA Manual.

b) Statement of Policy and Authority shall:

1) identify the titles of individuals who have the authority and responsibility charged with ensuring the quality program is implemented as described,
2) confirm their freedom in the organization to identify quality problems and to initiate, recommend and provide solutions,
3) include a statement that if there is a disagreement in the implementation of the quality assurance program, the matter is to be referred for resolution to a higher authority and shall be resolved in a manner that will not conflict with code, jurisdiction/regulatory authority or quality program requirements
4) include a statement of the full support of management, and
5) be dated and signed by a senior management official within the organization.

c) QAP

The quality assurance program shall be documented by written policies, procedures and instructions. It s~~S~~hall account for special controls, processes, test equipment, tools and skills to obtain quality and for verification of quality by inspections and tests. Indoctrination, training and maintaining proficiency of personnel effecting quality shall be described. The status, ~~and~~ adequacy and effectiveness of the QAP shall be regularly reviewed by management. ~~.~~ The scope shall be included within the written QAM. The "NR" Certificate Holder shall make a current controlled copy

of the Quality Assurance Manual available to the Authorized Nuclear Inspector and Authorized Nuclear Inspector Supervisor. The “NR” Certificate Holder shall address in their QAM the requirements for interfacing with the owner specified in 1.~~8~~6.9 of this section. Specified controls including responsibilities for personnel shall be described in the quality assurance program.

d) Design Control

Established measures to assure ~~approximate~~ applicable quality standards and regulatory requirements are accurately specified and translated ~~included~~ into design documents. Any deviations shall be identified and controlled. Control measures (such as review, approval, release, distribution and revisions) for suitability of materials, parts, equipment, procedures, instructions and processes, shall be performed to ensure adherence to specified design basis requirements. Qualifications, responsibilities and certifications of design personnel shall be clearly defined within the quality assurance program.

e) Procurement Document Control

Documents for procurement of material, equipment and services shall ensure regulatory requirements, design bases and other quality requirements ~~and~~ are included or referenced. Procurement documents shall require contractors or subcontractors provide a Quality Assurance Program consistent with the provisions specified herein. ~~in this NBIC Part 3, 1.8.8.~~ Controls necessary to ensure materials, equipment, and services meet specified design criteria shall be clearly described within the quality assurance program.

f) Instructions, Procedures and Drawings

Activities affecting quality shall be accomplished in accordance with prescribed instructions, procedures or drawings and shall include ~~approximate~~ appropriate quantitative or qualitative ~~qualified~~ acceptance criteria to determine activities are satisfactorily accomplished.

g) Document Control

Shall define measures to control the preparation, issuance, use, review, approval, revisions and distribution of all documents, including procedures, instructions and drawings related to quality. Responsibilities shall be described within the quality program.

h) Control of Purchase~~d~~s, Materials, Items and Services

Purchased material, items and services shall conform to the procurement documents. Measures shall be established for source evaluation and selection, objective evidence of quality, inspections at the source and examination of products upon delivery. Effectiveness of quality of suppliers shall be assessed by the applicant or designee at specified intervals. Documented evidence shall be performed and made available to assure materials and services conform to procurement documents, quality procedures and instructions.

i) Identification and Control of Items

Specified controls shall ensure only correct and acceptable items, parts and components are used and installed and traceable to required documents such as certified material test reports, certificates of conformance, or data reports. These controls shall include traceability on the items or on records traceable to the items during fabrication and final acceptance and test.

j) Control of Processes

Documents used to control processes shall be prepared, including the document numbers and revision to which the process conforms and ~~conform to specified acceptance criteria~~ shall include space for providing reporting of results of specific operations at checkpoints of repair/replacement activity, and provide for signatures, initials, stamps and dates for activities performed by the Certificate Holders’ representative and the Authorized Nuclear Inspector. Special processes

including welding, nondestructive examinations, heat treating, and bending are performed using qualified and approved procedures and qualified personnel in accordance with applicable codes, standards and other specified criteria.

k) Examinations, Tests and Inspections

A repair / replacement plan, developed in accordance with Table 1.6.9, shall address all required information for performing examinations, tests and inspections including but not limited to:

1) Establishing hold points

2) Identifying procedures, methods, acceptance criteria

3) Defects identified, removal methods, welding, brazing, fusing, and material requirements, reference points used for identification

4) Evaluations of results

Examinations, tests and inspections shall be performed using trained and qualified personnel. Personnel records for qualification and training shall be available for review.

l) Test Control

Tests shall be performed using~~to~~ written procedures identifying prerequisites, acceptance limits, calibration, equipment, personnel qualifications, environmental conditions, and required documentation. ~~required.~~ Personnel responsibilities shall be described for performance, acceptance/inspection and documenting results.

m) Control of Measuring and Test Equipment

Procedures, methods and frequency of calibration shall be described for all types of measuring and test equipment used to verify quality. Controls shall ensure accuracy within specified limits. Any discrepancies shall be identified and resolved.

n) Handling, Storage and Shipping

Processes or procedures shall be established to prevent damage, deterioration or misuse of material, items or components used and stored. Controls for handling, shipping, storage, cleanliness and preservation shall be specified in the quality program.

o) Records

1) All quality related records shall be classified, identified, verified, maintained, distributed~~, retraceable,~~ retrievable and accessible. When the “NR” Certificate Holder is the owner, designated records and reports received by the owner, shall be filed and maintained in a manner to allow access by the Authorized Nuclear Inservice Inspector (ANII). Suitable protection from deterioration and damage shall be provided by the owner. These records and reports shall be retained as specified in the owner’s QAP for the lifetime of the component or system. Records to support evidence of activities affecting quality shall include as applicable:

a. Inspections and acceptance criteria/results

b. Tests performed and supporting reports

c. Procedures/instructions

d. Qualification of personnel, procedures, and equipment

e. Types of observations and results

f. Audits,

g. Nonconformances, and;

h. Corrective actions

~~1)~~2) ~~T~~The original of the completed Form NR-1 or Form NVR-1, as applicable, shall be registered with the National Board and, if required, a copy forwarded to the Jurisdiction where the nuclear power plant is located. A log for registration shall be maintained in accordance with NBIC Part 3, 5.6.

p) Corrective Action

1) Measures shall be established to ensure that conditions adverse to quality such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and other non-conformances are promptly identified and corrected.
2) In the case of significant conditions adverse to quality, the measures shall also ensure that the cause of these conditions be determined and corrected to preclude repetition. The identification of significant conditions adverse to quality, the cause, condition, and the corrective action taken shall be documented and reported to the appropriate levels of management.
3) Corrective action requirements shall also extend to the performance of subcontractors' activities.

~~Measures established to assure conditions adverse to quality are promptly identified and corrected and action taken to preclude repetition.~~

q) Inspection or Test Status

Measures shall be established to indicate inspection and test status of parts, items or components during repair/replacement activity. Measures shall include identification, procedures, control indicators (acceptable, unacceptable) and responsibility of personnel.

r) Nonconforming Material or Items

Measures to control material or items, nonconforming to specified criteria shall be established. Measures shall include identifying, controlling, documenting, reviewing, verifying, dispositioning and segregation when practical.

s) Audits

~~A system of planned and periodic audits shall be established to verify compliance of the Quality Assurance Program. Audits shall include; written procedures, checklists, trained/qualified personnel not having direct responsibility for areas being audited, documentation, review by management and follow up actions when required.~~ A comprehensive system of planned and periodic audits of the "NR" Certificate Holder's Quality Assurance Program shall be performed. Audits shall include internal audits by the Certificate Holder and audits by the Authorized Inspection Agency. Audit frequency shall be specified in the organization's Quality Assurance Manual. Audits shall be conducted at least annually to verify compliance with Quality Assurance Program requirements, performance criteria and to determine the effectiveness of the Quality Assurance Program. When no code work has been performed, the required annual audit need only include those areas of responsibility required to be continually maintained such as training, audits, organizational structure, Quality Assurance Program revisions, etc. The Quality Assurance Manual shall as a minimum describe the following:

1) Audits shall be performed in accordance with written procedures or checklists by qualified audit personnel not having direct responsibility in areas being audited;
2) Audit personnel shall be qualified in accordance with recognized standards, such as NQA-1;
3) Audit results shall be documented and reviewed by responsible management for adequacy and effectiveness of the quality assurance program

4) Requirements for follow-up actions for any deficiencies noted during the audit;
5) Audit records and applicable documentation shall be made available to the Authorized Nuclear Inspector for review;
6) Audit records shall include as a minimum:
   a. written procedures;
   b. checklists;
   c. reports;
   d. written replies; and
   e. completion of corrective actions.

t) Authorized Nuclear Inspector

Qualifications and duties shall be as specified in ASME QAI-1 and NB-263, RCI-1 for the Authorized Inspection Agencies, Authorized Nuclear Inspector and the Authorized Nuclear Inspector Supervisor. ~~for the Authorized Inspection Agencies, Authorized Nuclear Inspector and the Authorized Nuclear Inspector Supervisor.~~ Additional requirements are specified in Sections 1.~~8~~6.6.2 s), 1.~~8~~6.7.2 s), and 1.6~~8~~.9.

u) Exhibits

Quality related forms and exhibits described in the Quality Assurance Program shall be identified, controlled and where applicable included as a reference document within the QAM or referenced procedures.

1.6.9 INTERFACE WITH THE OWNER'S REPAIR/REPLACEMENT PROGRAM (FOR CATEGORIES 1, 2, AND 3 AS APPLICABLE)

Interface with the owner's repair/replacement program shall meet the following:

a) The "NR" Certificate Holder's repair/replacement plan (see Table 1.6.9) shall be subject to the acceptance of the owner and the owner's Authorized Nuclear Inservice Inspector (ANII) and shall be subject to review by the Jurisdiction and Regulatory Authorities having jurisdiction at the plant site.

b) Repair/Replacement activities of nuclear components shall meet the requirements of ASME Section III, ASME Section XI, and/or other applicable standard, and the owner's requirements, and shall be subject to verification by the Jurisdiction and Regulatory Authorities having jurisdiction at the plant site.

c) Documentation of the repair/replacement activities of nuclear components shall be recorded on the Report of Repair/Replacement Activities of Nuclear Components and Systems for Nuclear Facilities, Form NR-1, or Report of Repair/Replacement Activities for Nuclear Pressure Relief Devices, Form NVR-1, in accordance with the NBIC Part 3, Section 5. The completed forms shall be signed by a representative of the "NR" Certificate Holder and the Authorized Nuclear Inspector when the repair/replacement activity meets the requirements of this section. For repair/replacement activities that involve design changes, Form NR-1, or Form NVR-1, as applicable, shall indicate the organization responsible for the design or design reconciliation in accordance with the owner's requirements.

d) The "NR" Certificate Holder shall provide a copy of the signed Form NR-1 or Form NVR-1, as applicable, to the owner, the Enforcement, and the Regulatory Authority if required, and the Authorized Nuclear Inspection Agency. The original Form NR-1 or Form NVR-1, as applicable, shall be registered with the National Board by the "NR" Certificate Holder. A NB registration log shall be maintained by the "NR" Certificate Holder. See NBIC Part 3, Section 5.5 and 5.6.

e) The "NR" Certificate Holder shall provide a nameplate/stamping for repair/replacement activities for each nuclear component unless otherwise specified by the owner's Quality Assurance Program. The

required information and format shall be as shown in NBIC Part 3, Section 5.

Table 1.6.9		
Repair/Replacement Plan Criteria		
	Essential Requirements	Instruction
A	Edition and/or addenda of codes	Including codes of construction, code cases, or standards used for the work performed, the NBIC Code edition, and the owner's requirements.
B	Identification of items	Description of items affected by the repair/replacement activity, including serial numbers, vendor identification, and code classes if applicable.
		Location of installation if applicable.
C	Performance of the Repair/Replacement activity	Description of any defects, and nondestructive examination methods used to detect the defects
		Defect removal method, measurement, and area identification/reference points.
		Applicable welding/brazing procedures, heat treatment, nondestructive examination, and tests.
		Final examination criteria to verify acceptability.
		Preservice examination criteria if applicable.
D	Materials	Original specifications, new material specifications, including heat numbers, code edition/class and reconciliation requirements if applicable.
E	Description of Repair/Replacement activity	Include expected life of the item after completion if different from the original intended life as specified by the design specification. Application of the "NR" code symbol stamp if required.
F	Documentation	Generated as required by the quality assurance program and/or the owner's requirements.
		Retention and submittal in accordance with the quality assurance program and/or the owner's requirements.
G	Evaluations/Acceptance	Evaluations/acceptance by the jurisdictional/regulatory authority as applicable.
H	Testing	Post repair/replacement testing criteria.
		Test acceptance criteria to verify acceptability.
		Types (pneumatic, hydrostatic, system leakage, or other).
I	Design	When applicable, design documents shall be certified by qualified/certified engineer.
J	Authorized Inspection Agency	Authorized Nuclear Inspector review/acceptance.
		Authorized Nuclear Inservice Inspector review/acceptance.
K	Responsibilities for review, verification, and acceptance	Design, quality, work performed, examination/test, and records.
		Owner acceptance of the repair/replacement plan.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 1, 2018

Mr. Gary Scribner
Assistant Executive Director - Technical
The National Board of Boiler and
Pressure Vessel Inspectors
1055 Crupper Avenue
Columbus, OH 43229

SUBJECT: REVIEW OF "RECOGNITION OF NR AND NR-VR NATIONAL BOARD ACCREDITATION PROGRAM," FOR FINAL U. S. NUCLEAR REGULATORY COMMISSION ENDORSEMENT

Dear Mr. Scribner:

In a letter dated October 11, 2016 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16286A162), your organization requested a fee waiver under Title 10 of the *Code of Federal Regulations* (10 CFR) 170.11(a)(1)(ii) for the U.S. Nuclear Regulatory (NRC) staff's review of "Recognition of NR and NR-VR National Board Accreditation Program," for final NRC endorsement. Subsequently, in a letter dated December 6, 2016 (ADAMS Accession No. ML16307A066), the NRC staff concluded that the NRC review of "Recognition of NR and NR-VR National Board Accreditation Program," for final NRC endorsement met all the criteria under 10 CFR 170.11(a)(1)(ii); and approved your fee waiver request.

After careful consideration, the NRC staff has decided not to move forward with the endorsement of the NR and NR-VR National Board Accreditation Program. The decision is based on the following factors:

1. The American Society of Mechanical Engineers Boiler and Pressure Vessel Code already provides several options to repair components under Section III, "Rules for Construction of Nuclear Facility Components," in addition to Code Case N-801-1, "Rules for repair of N-Stamped Class 1, 2, and 3 Components, Section III, Division 1."

2. Stakeholders (e.g., owners, repair organizations, etc.), have not shown any interest in the NRC's endorsement of this program.

3. There are currently only two units under construction with no plans for any new future construction.

Should you have any questions regarding this matter, please contact Mr. Yamir Diaz-Castillo at 301-415-2228, or via electronic mail at Yamir.Diaz-Castillo@nrc.gov.

Sincerely,

Adrian Muñiz, Acting Chief
Licensing Branch 3
Division of New Reactor Licensing
Office of New Reactors