Exelon Generation®

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10 CFR 50.54(a)(3)
10 CFR 71.106(b)

RS-22-003
TMI-22-001
JAFP-22-0007
NMP1L3441

January 31, 2022

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555

Braidwood Station, Units 1 and 2
Renewed Facility Operating License Nos. NPF-72 and NPF-77
NRC Docket Nos. STN 50-456, STN 50-457, 71-0008, and 72-0073

Byron Station, Units 1 and 2
Renewed Facility Operating License Nos. NPF-37 and NPF-66
NRC Docket Nos. STN 50-454, STN 50-455, 71-0008, and 72-0068

Calvert Cliffs Nuclear Power Plant, Units 1 and 2
Renewed Facility Operating License Nos. DPR-53 and DPR-69
NRC Docket Nos. 50-317, 50-318, 71-0008, and 72-0008

Clinton Power Station, Unit 1
Facility Operating License No. NPF-62
NRC Docket No. 50-461 , 71-0008, and 72-1046

Dresden Nuclear Power Station, Units 1, 2 and 3
Facility Operating License No. DPR-2
Renewed Facility Operating License Nos. DPR-19 and DPR-25
NRC Docket Nos. 50-10, 50-237, 50-249, 71-0008, and 72-0037

James A. FitzPatrick Nuclear Power Plant
Renewed Facility Operating License No. DPR-59
NRC Docket Nos. 50-333, 71-0008, and 72-0012

LaSalle County Station, Units 1 and 2
Renewed Facility Operating License Nos. NPF-11 and NPF-18
NRC Docket Nos. 50-373, 50-374, 71-0008, and 72-0070

Limerick Generating Station, Units 1 and 2
Renewed Facility Operating License Nos. NPF-39 and NPF-85
NRC Docket Nos. 50-352, 50-353, 71-0008, and 72-0065

Nine Mile Point Nuclear Station, Units 1 and 2
Renewed Facility Operating License Nos. DPR-63 and NPF-69
NRC Docket Nos. 50-220, 50-410, 71-0008, and 72-1036

Peach Bottom Atomic Power Station, Units 1, 2 and 3
Facility Operating License No. DPR-12
Renewed Facility Operating License Nos. DPR-44 and DPR-56
NRC Docket Nos. 50-171, 50-277, 50-278, 71-0008, and 72-0029

Quad Cities Nuclear Power Station, Units 1 and 2
Renewed Facility Operating License Nos. DPR-29 and DPR-30
NRC Docket Nos. 50-254, 50-265, 71-0008, and 72-0053

R.E. Ginna Nuclear Power Plant
Renewed Facility Operating License No. DPR-18
NRC Docket No. 50-244, 71-0008, and 72-0067

Three Mile Island Nuclear Station, Unit 1
Renewed Facility License No. DPR-50
NRC Docket No. 50-289, 71-0008, and 72-0077

Subject: Summary of Changes to Exelon Generation Company, LLC, Quality Assurance Topical Report, NO-AA-10, and Decommissioning Quality Assurance Program, NO-DC-10.

Reference: 1. Letter from D. Helker, Exelon Generation Company, LLC, to U.S. Nuclear Regulatory Commission, "Summary of Changes to Exelon Generation Company, LLC, Quality Assurance Topical Report, NO-AA-10, and Decommissioning Quality Assurance Program, NO-DC-10," dated February 10, 2021 (ADAMS Accession No. ML21043A364).

In accordance with the requirements of 10 CFR 50.54(a)(3) and 10 CFR 71.106(b), Exelon Generation Company, LLC (Exelon) is submitting a summary of changes to the Exelon Quality Assurance Topical Report (QATR), NO-AA-10, and the Exelon Decommissioning Quality Assurance Program (DQAP), NO-DC-10, that did not reduce commitments in the quality assurance program description, and therefore, did not require NRC approval prior to implementation.

Since the previous quality assurance program description summary of changes submitted on February 10, 2021 (Reference 1), QATR Revision 97 has been implemented in accordance with the requirements of 10 CFR 50.54(a)(3) and 10 CFR 71.106(b). Revision 97 is the current version of the QATR in use and was effective on June 1, 2021.

Since the previous quality assurance program description summary of changes submitted on February 10, 2021 (Reference 1), there have been no revisions to the DQAP. Revision 1 is the current version of the DQAP in use and was effective on September 10, 2019.

The summary of the changes for Revision 97 of the QATR is provided in Attachment 1 of this letter. Attachment 2 of this letter provides a copy of Revision 97 of the QATR for information purposes only. Attachment 3 of this letter provides a copy of Revision 1 of the DQAP for information purposes only.

If you have any questions or require additional information, please contact Glenn Stewart, Licensing and Regulatory Affairs, at 610-765-5529.

Respectfully,

David P. Helker
Sr. Manager, Licensing and Regulatory Affairs
Exelon Generation Company, LLC

Attachments: 1 - QATR NO-AA-10, Revision 97 - Summary of Changes
2 - QATR NO-AA-10, Revision 97 (Information Only)
3 - DQAP NO-DC-10, Revision 1 (Information Only)

cc: (w/ Attachments)
Regional Administrator - NRC Region I
Regional Administrator - NRC Region III
NRC Senior Resident Inspector - Braidwood Station
NRC Senior Resident Inspector - Byron Station
NRC Senior Resident Inspector - Calvert Cliffs Nuclear Power Plant
NRC Senior Resident Inspector - Clinton Power Station
NRC Senior Resident Inspector - Dresden Nuclear Power Station
NRC Senior Resident Inspector - James A. FitzPatrick Nuclear Power Plant
NRC Senior Resident Inspector - LaSalle County Station
NRC Senior Resident Inspector - Limerick Generating Station
NRC Senior Resident Inspector - Nine Mile Point Nuclear Station
NRC Senior Resident Inspector - Peach Bottom Atomic Power Station
NRC Senior Resident Inspector - Quad Cities Nuclear Power Station
NRC Senior Resident Inspector - R. E. Ginna Nuclear Power Plant

NRC Project Manager, NRR - Braidwood Station
NRC Project Manager, NRR - Byron Station
NRC Project Manager, NRR - Calvert Cliffs Nuclear Power Plant
NRC Project Manager, NRR - Clinton Power Station
NRC Project Manager, NRR - Dresden Nuclear Power Station
NRC Project Manager, NRR - James A. FitzPatrick Nuclear Power Plant
NRC Project Manager, NRR - LaSalle County Station
NRC Project Manager, NRR - Limerick Generating Station
NRC Project Manager, NRR - Nine Mile Point Nuclear Station
NRC Project Manager, NRR - Peach Bottom Atomic Power Station
NRC Project Manager, NRR - Quad Cities Nuclear Power Station
NRC Project Manager, NRR - R. E. Ginna Nuclear Power Plant
NRC Project Manager, NRR - Three Mile Island Nuclear Station, Unit 1
NRC Project Manager, NMSS/DUWP/RDB – Three Mile Island Nuclear Station, Unit 1
Decommissioning Branch Chief, NRC Region I
Decommissioning Branch Chief, NRC Region III
Illinois Emergency Management Agency - Division of Nuclear Safety
Director, Bureau of Radiation Protection, PA Department of Environmental Protection
Chairman, Board of County Commissioners of Dauphin County, PA
Chairman, Board of Supervisors of Londonderry Township, PA
S. Seaman, State of Maryland
A. L. Peterson, NYSERDA
J. W. Dougherty, Mid-American Energy

ATTACHMENT 1

EXELON GENERATION COMPANY, LLC

QUALITY ASSURANCE TOPICAL REPORT, NO-AA-10
REVISION 97

SUMMARY OF CHANGES

Revision 97 effective June 1, 2021

The Quality Assurance Topical Report (QATR) has been revised to:

- Clarify that procurement engineering resides in Corporate Business Services Company (BSC) Supply Operations (GENCO).
- Incorporate NRC endorsement of revision 1 of NEI 14-05A, recognition of the 2017 edition of ISO / IEC-17025 for procurement of calibration and testing services, and limitations provided in the associated Safety Evaluation Report (SER) dated February 19, 2021 (ADAMS Accession No. ML20322A019).
- Correct section numbering sequencing.

These changes have been reviewed in accordance with 10CFR50.54(a) and did not reduce Exelon's commitments previously approved by the NRC.

Specific changes are described as follows:

Chapter 1, Organization

- Section 1.2.2. Corporate Organization
  - Paragraph 1.2.2.1.3.A., removed procurement engineering and organization's wording and added Business Services Company (BSC) Supply Operations (GENCO).
  - Paragraph 1.2.2.1.5., bullet # 4, added procurement engineering.

Chapter 7, Control of Purchased Material, Equipment, and Services

- Section 7.2.4.8. Acceptance of Calibration and / or Testing Services
  - Updated SER information for revision 1 of NEI technical report 14-05A, *Guidelines for the use of Accreditation in Lieu of Commercial Grade Survey for Procurement of Laboratory Calibration and Test Services*, ADAMS Accession No. ML20322A019.
- Section 7.2.4.8.1.
  - Bullet "a" updated to ISO / IEC-17025:2017.
  - Bullet "d" was added to provide remote accreditation assessment limitations.
- Section 7.2.4.8.2.
  - Bullet "a" updated to ISO / IEC-17025:2017.
  - Bullet "d" was added to provide subcontracting limitations.
  - Bullet "f" was added to provide timing limitations between performance of services and completion of the accreditation assessment.
- Section 7.2.4.8.3.
  - Bullet "a" updated to ISO / IEC-17025:2017.

Appendix C, Codes, Standards, and Guides

- C.1.3. Site Specific Clarifications and Exceptions
  - Corrected paragraph numbering C.1.3.3. to C.1.3.2.
  - Corrected paragraph numbering C.1.3.4. to C.1.3.3.
  - Corrected paragraph numbering C.1.3.5. to C.1.3.4.

ATTACHMENT 2

EXELON GENERATION COMPANY, LLC

QUALITY ASSURANCE TOPICAL REPORT, NO-AA-10
REVISION 97

Exelon Generation Company, LLC

QUALITY ASSURANCE TOPICAL REPORT (QATR)

NO-AA-10

Revision 97

Exelon Nuclear

Corporate Headquarters

4300 Winfield Road
Warrenville, IL 60555

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Standard Quality Assurance Topical Report (NO-AA-10) - Revision 97 Transmittal and Summary of Changes

To: All Site Document Control Centers
These changes are effective June 1, 2021, with implementation required no later than August 1, 2021.

The Quality Assurance Topical Report (QATR) has been revised to:

- Clarify that procurement engineering resides in Corporate Business Services Company (BSC) Supply Operations (GenCo).
- Incorporate NRC endorsement of revision 1 of NEI 14-05A, recognition of the 2017 edition of ISO/IEC 17025 for procurement of calibration and testing services, and limitations provided in the SER dated February 19, 2021, ML20322A019.
- Correct section numbering sequencing.

Administrative changes have been reviewed in accordance with 10CFR50.54 (a) and did not reduce Exelon's commitments previously approved by the NRC. (Ref. AT 4392839-10 for supporting 50.54(a) evaluations). This revision to the QATR will be submitted to the NRC for post implementation review as tracked by Action Tracking Number 4392839-10-05.

Specific changes are described as follows:

Chapter 1, Organization

- Section 1.2.2. Corporate Organization
  - Paragraph 1.2.2.1.3.A. removed procurement engineering and organization's wording and added Business Services Company (BSC) Supply Operations (GENCO)
  - Paragraph 1.2.2.1.5. bullet # 4, added procurement engineering

Chapter 7, Control of Purchased Material, Equipment, and Services

- Section 7.2.4.8. Acceptance of Calibration and / Testing Services
  - Updated SER information for revision 1 of NEI technical report 14-05A, *Guidelines for the use of Accreditation in Lieu of Commercial Grade Survey for Procurement of Laboratory Calibration and Test Services*, ADAMS Accession No. ML20322A019.
- Section 7.2.4.8.1.
  - Bullet "a" updated to ISO / I EC-17025:2017.
  - Bullet "d" was added to provide remote accreditation assessment limitations.

Standard Quality Assurance Topical Report (NO-AA-10) - Revision 97 Transmittal and Summary of Changes

- Section 7.2.4.8.2.
  - Bullet “a” updated to ISO / I EC-17025:2017.
  - Bullet “d” was added to provide subcontracting limitations.
  - Bullet “f” was added to provide timing limitations between performance of services and completion of the accreditation assessment.
- Section 7.2.4.8.3.
  - Bullet “a” updated to ISO / I EC-17025:2017.

Appendix C, Codes, Standards, and Guides

- C.1.3. Site Specific Clarifications and Exceptions
  - Corrected paragraph numbering C.1.3.3. to C.1.3.2.
  - Corrected paragraph numbering C.1.3.4. to C.1.3.3.
  - Corrected paragraph numbering C.1.3.5. to C.1.3.4.

This summary is provided to familiarize the readers with the changes included in Revision 97 of the QATR. Personnel engaged in activities covered by the Quality Assurance program are required to review the revised chapters. Affected procedures should be changed and training provided as needed to ensure compliance with the updated requirements.

Prepared By: _____
Mike Porter / Date
Nuclear Oversight Quality Assurance Specialist

Approved BY: _____
Rob Radulovich / Date
Nuclear Oversight Audit and Programs Director

CHAPTER 1, ORGANIZATION

CHAPTER 2, QUALITY ASSURANCE PROGRAM

CHAPTER 3, DESIGN CONTROL

P.1. POLICY STATEMENT

The Quality Assurance Topical Report (QATR), NO-AA-10, is the highest tiered document that assigns major functional responsibilities plants owned or operated by Exelon Generation Company, LLC. Implementing documents assign more specific responsibilities and tasks and define the organizational interfaces involved in conducting activities and tasks within the scope of this Plan. These requirements apply to those organizations and positions, which manage and perform activities within its scope.

The Company organization is structured on the basis that the attainment of the objectives of this Plan relies on those who manage, perform, and support the performance of activities within the scope of this plan. Assurance of this attainment relies on those who have no direct responsibility for managing or performing the activity.

The Company will maintain and operate its nuclear plants in a manner that will ensure the health and safety of the public and our workers. All facilities shall be at a minimum compliance with the requirements on the Code of Federal Regulations, NRC Operating Licenses, and the applicable laws and regulations of the state and local governments.

P.2. APPLICABILITY

All Company personnel who work directly, or indirectly, for the Company are responsible for the achievement of quality in their work. Accordingly, all Company personnel and its contractors engaged in supporting nuclear generation activities shall comply with the requirements of our Quality Assurance Program (QAP).

This QATR does not apply to units that have submitted a Certification of Permanent Cessation of Operations and Certification of Permanent Removal of Fuel to the NRC per 10 CFR 50.82(a)(1)(i) and (ii), respectfully. Such units meet the requirements outlined in the Exelon Decommissioning Quality Assurance Plan (NO-DC-10.) Exceptions to this include, Dresden Unit 1 and Peach Bottom Unit 1 that meet quality program requirements established in this QATR.

1.1. SCOPE

This chapter identifies those portions of the Company organization as it applies to the Quality Assurance Program (QAP), and defines the responsibility and authority for establishing, executing, and verifying its implementation. The responsibility for the program is retained and executed by the Company exclusively.

Organizational responsibilities are described for assuring that activities affecting quality are prescribed and implemented by documented instructions, procedures, and drawings. The achievement of quality in the performance of quality related activities is the responsibility of each individual in support of nuclear operations.

The requirements and commitments contained in the QAP are mandatory and must be implemented, enforced, and adhered to by all individuals and organizations.

1.2. REQUIREMENTS

Note: Minor variations may occur between the titles contained herein and those used in practice. Specific position descriptions may be contained in approved Company documents.

1.2.1. Organization

The organizational structure of the Company consists of corporate functions, and the nuclear facilities. Organizational titles for the quality assurance functions described are identified in Company policies and procedures.

Lines of authority and responsibility are established from the highest management level through intermediate levels to the implementing personnel. The responsibility, authority, and relationships of the various personnel and organizations are documented and maintained current.

The authority to accomplish the quality assurance functions described herein may be delegated to the incumbent's staff as necessary to fulfill the identified responsibilities.

1.2.2. Corporate Organization

1.2.2.1. Sr. Executive Vice President, Exelon Generation and President and Chief Nuclear Officer, Exelon Nuclear

The Sr. Executive Vice President, Exelon Generation and President and Chief Nuclear Officer (CNO), Exelon Nuclear, reports to the Executive Vice President, Chief Operations Officer, Exelon Generation Company and has overall responsibility for the safe and reliable operation of the Company's nuclear stations. This is the senior executive responsible for setting and implementing policies, objectives, expectations, and priorities to ensure activities are performed in accordance with QAP and other requirements. The following management positions and committees report to and / or receive direction from the CNO with respect to their assigned roles and responsibilities associated with the execution of the Exelon Nuclear Quality Assurance Program:

1. The Chief Operating Officer (COO), Fleet Operations, Exelon Nuclear, is responsible to provide management oversight and support of the day-to-day operations of the stations for the safe and efficient operation of the nuclear fleet in compliance with the QAP. The COO is responsible for planning, organizing, and directing and controlling the operations, maintenance and improvement of the nuclear facilities. This position participates in the formulation of nuclear group strategy and policy and provides leadership and direction to implement industry best practices. The following management positions report to the COO:

   A. A regional management position (s) responsible for site Operations. This position implements policies, goals, and objectives, in accordance with the QAP and other requirements, to assure the safe and reliable operation of assigned nuclear stations.

   B. A management position responsible for Outage Services, Maintenance, Work Management, Exelon Industrial Services, and Power Labs. This position is responsible for defining standard programs and processes, delivering effective services and support, providing technical oversight of program implementation, and supporting the deployment and sharing of best practices throughout the nuclear organization in accordance with the QAP and other requirements, as applicable.

   C. A management position responsible for Safety, Radiation Protection, Chemistry, Environment, Operations, and Emergency

Preparedness. This position is responsible for defining standard programs and processes, delivering effective services and support, providing technical oversight of program implementation, and supporting the deployment and sharing of best practices throughout the nuclear organization in accordance with the QAP and other requirements, as applicable.

2. A management position responsible for Strategic Planning, Project Management, License Renewal, Nuclear Projects, and Decommissioning. This position is responsible for defining standard programs and processes, delivering effective services and support, providing technical oversight of program implementation, and supporting the deployment and sharing of best practices throughout the nuclear organization in accordance with the QAP and other requirements, as applicable.

3. A management position responsible for Engineering & Technical services. This position is accountable for defining standard programs, processes, policies, procedures, delivering effective services and support, providing technical oversight of program implementation, and supporting the deployment and sharing of best practices throughout the nuclear organization in accordance with the QAP, regulatory requirements, and the ASME Code. The following management positions report to this position:

   A. A management position responsible for the Centralized Design Organization (CDO) provides support to the nuclear stations, design authority under the ASME Code, and configuration management programs A support staff provides the necessary discipline and expertise for setting technical policy, developing design standards, and performing engineering discipline reviews. This staff develops and supports common approaches for technical and regulatory engineering issues, as well as performing design activities. Corporate Business Services Company (BSC) Suppl Operations (GENCO) provides governance and oversight of the nuclear procurement engineering process and technical operations. This includes parts evaluation, upgrading of stock material, equivalent item evaluation, and examination and testing in accordance with the applicable ASME Code and Federal Regulations. The following positions report to this position:

      a. A management position(s) responsible for Engineering Design for East and West sites.

- A management position responsible for Records Management.

B. A management position responsible for Engineering provides support of plant system oversight, program engineering, equipment reliably, special processes, engineering and document control and records management programs. A support staff provides the necessary discipline and expert support for setting technical policy and performance of activities as appropriate. The following management positions report to this position:

a. A management position(s) responsible for East and West sites, Engineering. The following position reports to this position.

- A management position responsible for Records Management.

C. A management position responsible for Nuclear Fuels provides BWR / PWR nuclear fuel procurement and fabrication services, technical support to monitor fuel reliability and certain in-core components, design and licensing analyses for core reloads, safety analyses, wet and dry spent fuel storage governance, oversight and technical support, and long-term spent fuel management strategies. This position is responsible for reactivity management oversight and corporate support of reactor operations to ensure safe and reliable plant operations, as the manager of nuclear materials, and for controls and reports associated with special nuclear material accountability. The following management positions report to this position:

a. A management position responsible for PWR Design.

b. A management position responsible for BWR Design.

c. A management position responsible for Nuclear Fuel Supply.

d. A management position responsible for Technical Support.

D. A management position responsible for Risk Management

E. A management position responsible for NEIL and ANI Programs.

4. The Management position responsible for Nuclear Oversight (NOS), Organizational Effectiveness and Integrated Performance Assessments (OR&IPA). This position is independent of production and assures that an appropriate QAP is established, maintained, and effectively executed

throughout the nuclear organization. This position provides overall direction for the implementation of the QAP and for the effective implementation of quality assurance functions that verify activities affecting safety-related functions. This position is responsible for initiating, trending, and recommending solutions for deficiencies, initiating stop work, ordering a unit shutdown, or requesting any other actions deemed necessary to avoid unsafe plant conditions or a significant violation of the QAP, periodic assessment to determine that the Quality Assurance Policy is being carried out, and maintaining a suitably trained and qualified staff as appropriate. This position is responsible to prioritize and communicate common quality issues to appropriate senior management including the resolution of these issues. This includes periodically apprising the President and CNO on the status of the quality assurance aspects at Company facilities and immediate notification of significant problems affecting quality. The following management positions report to the management position responsible for Nuclear Oversight, Organizational Effectiveness and Integrated Performance Assessments:

- A management position responsible for Nuclear Oversight Auditing and Programs. Functional areas of responsibility include: Establishing, maintaining, and interpreting Company quality assurance policies and procedures.
    - Maintaining and executing the regulatory required compliance auditing program. This includes obtaining required periodic independent audit of QAP functions performed by NOS.
    - Maintaining and implementing the Quality Verification (QV) program.
    - Managing supplier assessments, audits, or surveys (including their sub-tier suppliers) as required. Verifies that supplier quality assurance programs comply with Company requirements and has the authority and responsibility for QA activities applicable to supplier evaluation including, stop work as deemed necessary when a violation of the QAP is identified.
    - Providing training on quality assurance subjects.
    - Establishing the requirements for auditor and inspector certification.

- Controlling and maintaining the QATR.
- Provides an offsite point of contract for station Quality verification personnel if assistance is necessary for quality verification activities.
- Authority to escalate matters.
- Initiate, trend, and recommend solutions for deficiencies identified by oversight
- Promptly communicate significant issues to NOS and appropriate site management.
- Stop work or request any other significant actions to avoid unsafe plant conditions.
- Provide management with periodic reports on the adequacy of the QAP.
- Managing changes to and implementation of the program for employee concerns.
- Participation in joint membership groups

- A management position responsible for Organizational Performance, which includes functional results and organizational effectiveness performance. This position is responsible for the Fleet Assessment Program, Operational Experience, and Corrective Action Programs.
  - Reporting to the management position for Organizational Performance is a management position responsible for Fleet Assessments.
  - Also, reporting to the management position for Organizational Performance is a management position for Performance Improvement.
- A management position responsible for Innovation.
- A management position responsible for Training.

5. Ancillary Functional Areas

   Functional areas that also maintain a dotted line report to CNO supporting the Exelon Nuclear organization are:

   - Human Resources

- Information Technology

  Information technology supports the entire Exelon Corporation. The management position responsible for operations support will supply oversight and governance for the functional area of information systems as it applies to Exelon Nuclear. The oversight and governance of this functional area is performed to ensure that organizational and functional responsibilities and the reporting relationship to the management position responsible for all nuclear activities, the CNO, is maintained within the requirements stated within the QATR. This includes all regulatory requirements committed to by the QATR. Specifically, the management position responsible for operations support supplies oversight and governance for management and supervision of information systems related services and activities including the software quality assurance program (DTSQA). This includes the creation, acquisition, the enhancement of computer hardware, communication, and software systems to support operational requirements.

- The management position responsible for business operations provides integrated support to senior management and the nuclear sites for all business functions. This position dotted line reports to the CNO. Reporting to this position is a staff of supervisory, administrative, and technical personnel. Functional areas of responsibility include:

  - Business planning and process improvement.
  - Communications.
  - Decommissioning financial reporting and trust fund reimbursements.

- A management position responsible for Supply Management provides oversight and governance for the functional area of supply as it applies to Exelon Nuclear in the procurement, procurement Engineering, and warehousing areas. The oversight and governance of this functional area is performed to ensure that organizational and functional responsibilities and the reporting relationship to the management position responsible for all nuclear activities, the CNO, is maintained within the requirements stated within the QATR. This includes all regulatory requirements

committed to by the QATR. The management position responsible for business operations supplies oversight and governance for:

Exelon Nuclear supply function including the establishment of priorities and providing operational control of the purchase of non-fuel goods and services required for nuclear operations. This organization is also responsible for the areas of material procurement, procurement engineering, services procurement, supply programs, inventory management, and investment recovery. Supply establishes policies, common administrative controls and processes to ensure compliance with applicable requirements and effective use of resources.

- Sr. Vice President Regulatory Affairs and General Counsel

  The Senior Vice President Regulatory Affairs and General Counsel serves as the primary legal and regulatory advisor to the company's senior management with respect to all legal and regulatory matters within his or her area of expertise, sets the company vision and overall legal strategy for his or her area of expertise, is responsible for all legal and regulatory services relating to one or more practice areas and provides leadership for and manages attorneys and other legal and regulatory professionals in those practice areas throughout the company. This position performs legal and regulatory services involving high- level or complex legal matters in his or her practice area. The following management positions report to this position:

  - A management position responsible for licensing and regulatory affairs, provides organizational support and management oversight of the stations to ensure prompt and proper disposition of regulatory issues, develops regulatory positions and advises senior management on priorities and activities affecting regulatory issues at the nuclear sites. Other responsibilities include developing policies and standardized processes and procedures for the maintenance of the licensing basis, the preparation of submittals to the NRC and other regulatory organizations, the dissemination of regulatory experience information, and responsible for ensuring independent reviews of matters involving the safe operation of the nuclear fleet are performed, with a minimum of one such review being conducted for each generating site each year.

- A management position responsible for security. This position is responsible for defining standard programs and processes, delivering effective services and support, providing technical oversight of program implementation, and supporting the deployment and sharing of best practices throughout the nuclear organization in accordance with the QAP and other requirements, as applicable.

1.2.3. Site Organization

1.2.3.1. The Site Vice President for each nuclear site reports through the applicable management position responsible for each designated operating group and is responsible for overall plant nuclear safety and the implementation of the Company's QAP. This position is also responsible for the station compliance with its NRC operating license, governmental regulations, and ASME Code requirements. Day to-day direction and management oversight of activities associated with the safe and reliable operation of a nuclear station is provided.

The Site Vice President has overall responsibility and accountability for the safe and efficient operation of a nuclear power plant. The following positions report through the Site Vice President.

1. The management position responsible for site engineering. This position has accountability and authority for day-to-day engineering support activities, develops and maintains engineering programs, policies, procedures, and provides engineering services in accordance with the QAP. A staff of supervisory, technical, and administrative personnel supports engineering activities. The following management positions report to this position:

   A. A management position responsible for Design Engineering.

   B. A management position responsible for Component Maintenance Optimization.

   C. A management position responsible for Plant Engineering.

   D. The following Corporate Organization management positions maintain a dotted line reporting relationship:

      - Centralized Engineering Programs maintains a dotted line reporting to the Site Engineering.

      - Centralized Design Organization maintains a dotted line reporting to the Site Design Engineering.

- Corporate Risk Management maintains a dotted line reporting to the Site Design Engineering.
- Records Management maintains a dotted line reporting to the Site Engineering.

2. The management position responsible for Organizational Performance, Regulatory Assurance, Training, Performance Improvement, Security, and Emergency Preparedness. This position is responsible for the development and implementation of appropriate controls in accordance with the QAP and other requirements. The following management positions report to this position:

   A. A management position responsible for Regulatory Assurance. Functional areas of responsibilities include:

      - Maintains an interface and liaison between the station and federal and state regulators.
      - Radiological environmental monitoring
      - Environmental services.

   B. The Management position responsible for Training provides direction, control, and overall supervision of personnel as required by regulations and training for all site personnel as required. Functional areas of responsibility include:

      - Learning services.
      - Maintenance technical training.
      - Operations training.

   C. The management position responsible for Performance Improvement and Organizational Effectiveness and integrated Performance Assessment. Functional area of responsibilities includes:

      - Corrective Action Program.
      - Self-assessments / Benchmarking.
      - Operating Experience.

   D. A management position responsible for Security.

   E. A management position responsible for Emergency Preparedness.

3. Plant Manager has the day-to-day responsibility for managing the safe and efficient operation of a nuclear power plant. This management position assures the safe, reliable, and efficient operation of the plant within the constraints of applicable regulatory requirements, operating license, and the QAP. Supervisory direction is provided for the Technical Review Program, including approval of individuals as technical reviewers, and the Plant Operations Review Committee (PORC). During periods that exceed three months, when unavailable, responsibility is designated in writing to an established alternate who satisfies the experience requirements of this position. The following management positions report to the plant manager:

   A. A management position responsible for Operations. This position has responsibility for safe, reliable, and efficient plant operations within the constraints of the operating license and regulatory requirements. This position is also responsible for the development and implementation of appropriate controls in accordance with the QAP and other requirements. The following management positions report to this position:

      a. Management position responsible for operations shift crews and administration, direction and supervision of operating staff. This position is also responsible for routine plant operations activities and evolutions that are performed within the constraints of the operating license, the QAP, and other requirements. Typically, this position is the senior individual on site who holds a Senior Reactor Operator license.

      b. A management position responsible for Operations Services and Support. Functional responsibilities include:

         - Managing Operations procedure and policies
         - Implementation of the Fire Protection Program
         - Establishing work priorities for daily, outage, and emergent work
         - Identify, develop, and implement industry best operating practices
         - Oversight of corrective action / Self Assessments program/Performance Indicators for Operations and Chemistry.

c. A management position responsible for advisory technical support to shift management in the areas of thermal hydraulics, reactor engineering and plant analysis with regards to the safe operations of the facility. In addition, this position shall meet the qualifications as specified by the NRC.

d. A management position responsible for Reactor Engineering provides advisory technical support to shift management in the area of reactivity management with regards to the safe operations of the facility. This position may fulfill the role at multiple sites.

e. The management position responsible for Chemistry. Functional area activities include, laboratory and system processes, related procedures and programs, and radioactive waste.

B. A management position responsible for Maintenance is accountable for the performance of corrective, predictive and preventive maintenance, cleanliness controls and modification installation of mechanical and electrical equipment and instrumentation in accordance with the QAP and other requirements. A staff of supervisory, technical, administrative, and contract personnel supports day-to-day maintenance of equipment within their functional area. The following positions report to this position:

a. The management position responsible for Work Execution has accountability for the control of work, coordination, administration, execution, and monitoring of daily work schedules.

b. A management position responsible for Work Preparation has accountability for planning corrective, preventive, surveillance and predictive maintenance activities. Additional accountabilities include material management and site supply, which coordinates parts requirements, specifies and evaluates parts, procures all materials for the site, ships and receives material, and controls the onsite inventory. The site supply chain provides and coordinates scope and priority for station procurement engineering efforts.

c. The Corporate Turbine and Reactor Service Organizations maintains a dotted line reporting relationship to the position responsible for maintenance:

C. A management position responsible for Health Physics / Radiological Protection and Safety.

D. A management position responsible for Outage Services is accountable for managing site outages, fuel related activities, and providing support of day to day operations and emergent issues.

E. Plant Operations Review Committee (PORC) is a multi-disciplined committee responsible for review of activities that affect nuclear safety, reports to, and advises the management position responsible for plant operation on matters related to nuclear safety. The PORC shall ensure that plant activities are conducted safely and do not require NRC review and approval prior to implementation or changes to the Technical Specifications. The PORC functions in accordance with written instructions which delineate committee composition, responsibility, authority, member qualifications, meeting frequency, subjects to be reviewed, reporting requirements, and administrative controls under which the group operates.

In discharging its independent review responsibilities, PORC shall keep safety considerations paramount when opposed to cost or schedule considerations. Should a voting member have direct responsibility for preparation or technical review of the item requiring PORC independent review, where conflict of such considerations is likely, that member shall be replaced (to fill the quorum) by another voting member not having such potential conflict. PORC review responsibilities include, but not limited to:

- Results of investigations, including evaluations and recommendations to prevent recurrence, for events and conditions that involve violations of TS and the Operating License (affecting nuclear safety) and any accidental, unplanned or uncontrolled radioactive release.
- Events reportable to the NRC via 10 CFR 50.72 (Affecting nuclear safety), 10 CFR 50.73, 10 CFR 72.74, and 10 CFR 72.75.

- Investigations and reports requested by the Site Vice President, Plant Manager, or anyone within the owner organization, PRA model revisions, and operability evaluations.

4. The following management positions maintain a dotted line reporting relationship to the Site Vice President:

   - The management position(s) responsible for human resources.
   - The management position(s) responsible for project management.

1.2.4. The Company uses a multi-tiered approach to accomplish the oversight of safety which are:

- A collection of program elements for implementing and / or reviewing areas of quality of plant operations and nuclear safety. These elements include system performance monitoring, review of operating experience information, operability evaluations, and reviews of changes to technical specifications and final safety analysis reports that affect design bases. Specific guidance is contained in applicable procedures and programs.
- A PORC which is an on-site committee that reports to and advises the Plant Manager on all matters related to nuclear safety in plant operations.

1.2.5. Decommissioning Site Organization

Similar to the operating units, the management position responsible for plant operations is also responsible for the management oversight, directing, and implementing appropriate controls to maintain the site within the requirements and constraints applicable to a permanently shut down station or unit (or those stations or units not under the control of an NRC approved decommissioning plan), and to ensure the safe storage of spent nuclear fuel.

1.2.6. Responsibility

Each holder of position as identified in this Chapter, has the responsibility for the scope and effective implementation of the QAP and may delegate all or part of the activities of planning, establishing, and implementing the QAP to others, but retains the responsibility for the program's effectiveness.

The Company is responsible for ensuring that the applicable portion(s) of the QATR is properly documented, approved, and implemented before an activity within the scope of the QAP is undertaken by the Company or by others.

Personnel performing oversight functions for the Company have the responsibility, authority, organizational freedom, and sufficient independence from cost and schedule to:

- Assure that further processing, delivery, installation, or use is controlled until proper disposition of a nonconformance, deficiency, or unsatisfactory condition has occurred.
- Identify quality problems.
- Initiate, recommend, or provide solutions to quality problems through designated channels.
- Initiate stop work, order unit shutdown, or request any other actions deemed necessary to avoid unsafe plant conditions or a significant violation of the QAP.
- Verify implementation of solutions for significant conditions adverse to quality.

The Company may delegate certain phases of the work to non-company labor and contracted services, which act as the Company's agents in assigned areas. They shall work to a Company accepted quality program (or in accordance with the Company's program) under overall site direction and document their organization and any delegated responsibilities necessary to establish, execute, and verify their quality program. The Company may also assign the authority for certification and stamping in accordance with the ASME Code.

1.2.7. Authority

When the Company delegates responsibility for planning, establishing, or implementing any part of the overall QAP, sufficient authority to accomplish the assigned responsibilities is delegated. Regardless of delegation, the Company retains responsibility.

2.1. SCOPE

The purpose of this chapter is to define how the Company's QAP applies to those activities such as design, procurement, fabrication, installation, modification, maintenance, repair, refueling, operation, inspection, and tests related to systems, structures, and components (SSCs). The QAP also applies to certain non-safety related SSCs and activities to a degree consistent with their importance to safety. Policies, directives, procedures, guidelines, manuals, or instructions shall be reviewed, approved, distributed, and revised in accordance with administrative procedures.

2.2. REQUIREMENTS

2.2.1. General

The QAP comprises all those planned and systematic actions necessary to provide adequate confidence that SSCs will perform satisfactorily in service. Quality assurance includes quality verification, which comprises the examination of those physical characteristics of material, SSCs, which provide a means to control the quality of the material, SSC to predetermined requirements. All persons and organizations involved in activities in support of the nuclear sites and governed by this program are responsible for implementing the requirements of this manual.

The QAP is based upon 10 CFR 50, Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants. The requirements of 10 CFR 50.54, Conditions of License, 10 CFR 50.55a, Codes and Standards, 10 CFR 50.59, Changes, Test, and Experiments, 10 CFR 50 Appendix A, General Design Criteria for Nuclear Power Plants, 10 CFR 50 Appendix R, Fire Protection Programs for Nuclear Power Plants, are included in the basis for the QAP.

10 CFR 50.69, Risk-informed Categorization and Treatment of SSCs for Nuclear Power Reactors, is a voluntary regulation that provides alternative approaches for establishing the requirements for treatment of a SSC using a risk informed method of categorization according to safety significance. Applicability and scope of SSCs will be in accordance with approved processes and detailed in site licensing documents. This regulation is applicable to Exelon sites that have received NRC approval.

The requirements of 10 CFR 21, Reporting of Defects and Non-Compliance, 10 CFR 71, Subpart H, Quality Assurance for Packaging and Transportation of Radioactive Material, and 10 CFR 72, Subpart G, Quality Assurance for

Licensing Requirements for the Independent Storage of Spent Nuclear Fuel and High-Level Radioactive Waste, are also included. The Company is committed to carrying out the provisions of various NRC regulatory guides and industry standards which further define Quality Assurance Program requirements (see attached Appendix C).

2.2.2. Supplier's Quality Assurance Program

Company's procurement documents require that each vendor, supplier, or contractor maintain a quality assurance program that satisfies the applicable portions of:

- ASME NQA-1 and the ANSI N45.2 Standards not covered by NQA-1 or the ANSI N45.2 series of standards for previously accepted non-ASME quality assurance programs.
- ANSI N18.7 Standards
- ASME Section III, Appendix XXIII for suppliers of ASME Code Design Services.

2.2.3. Planning

Planning establishes the systematic, sequential progression of actions to meet the defined requirements. The Company documents these plans in appropriate communications, approvals, instructions, and procedures. Activities described in the QAP are accomplished under controlled conditions that include appropriate equipment, qualified personnel, suitable environment, and use of appropriate procedures.

2.2.4. Program Description

The Company's total program for providing administrative controls and quality assurance is incorporated in many diverse documents. The Company's nuclear document hierarchy describes the implementation of the QAP. Approved implementing procedures and instructions are written to the extent necessary to implement the quality requirements of 10 CFR 50 Appendix B. Line, staff, administrative, and quality oversight organizations issue and control these implementing procedures. All activities affecting quality are described in sufficient detail to assure quality.

2.2.5. Indoctrination and Training

Formal indoctrination and training programs for personnel performing or verifying activities within the scope of this Plan are established and maintained. A training organizational element is established and staffed with qualified instructors and is responsible for planning, scheduling, developing and providing training to Company personnel. The indoctrination and training programs are established by on-site and by off-site organizational units responsible for the performance or verification of activities within the scope of the QAP. Indoctrination, training, and qualification programs are established such that:

- Personnel responsible for performing quality-affected activities are instructed as to the purpose, scope, and implementation of the quality-related manuals, instructions, and procedures.
- Personnel verifying activities affecting quality are trained and qualified in the principles, techniques, and requirements of the activity being performed.
- Formal training and qualification programs documentation includes the objective, content of the program, attendees, and date of attendance.
- Proficiency tests are given to those personnel performing and verifying activities affecting quality and the acceptance criteria are developed to determine if individuals are properly trained and qualified.
- As applicable, qualifications clearly delineate the specific functions personnel are qualified to perform and the criteria used to qualify personnel in each function.
- Proficiency of personnel performing and verifying activities affecting quality is maintained by re-training, re-examining, re-qualifying, and/or re-certifying as determined by management or program commitment.

2.2.6. Program Review

The effectiveness of the QAP and its implementation is periodically reviewed by various organizations at various levels. The results of these reviews are documented in reports to senior management for evaluation and corrective action is initiated as required. The effectiveness of the QAP is evaluated and reported by NOS through the monitoring, audit, and inspection functions. Other organizational elements provide additional information / evaluations as requested.

The Company periodically performs independent reviews of matters involving the safe operation of its fleet of nuclear power plants, with a minimum of one such review being conducted for each generating site each year. The review addresses matters that plant and corporate management determine warrant special attention. The review is performed by a team consisting of personnel with experience and competence in the activities being reviewed, but independent (from cost and schedule considerations) from the organizations responsible for those activities. The review is supplemented by outside consultants or organizations as necessary to ensure the team has the requisite expertise and competence. Results are documented and reported to responsible management.

2.2.7. Quality Assurance Manual

This Quality Assurance Manual (QAM) contains the Company's QAP. The QAM is made available to NRC, Company personnel, the Authorized Nuclear Inspector, and other regulatory authorities. The Company submits revisions to the QAP document (as a topical report) to the NRC for acceptance.

3.1. SCOPE

The purpose of this chapter is to establish the requirements and control measures for assuring design bases and regulatory requirements are correctly translated into design documents. The scope of design control covers all phases of engineering design, including: identification of design inputs (criteria and bases); identification and control of design interfaces; production of design documents, calculations and analyses; procurement related engineering and design verification.

3.2. REQUIREMENTS

3.2.1. General

The Company has overall responsibility for design and design control activities including, preparing, reviewing, approving, and verifying design documents related to the plant's SSCs within the scope of the QAP. Additionally, the Company is responsible for reactor core design analysis, core design specifications and design reviews, for nuclear fuel and in-core components.

Qualified personnel perform detailed design activities or review and control design work involving electrical, mechanical, structural, and instrumentation and control designs. Design activities are conducted to written procedures that include consideration of quality standards, quality assurance requirements, suitability of material parts, equipment, and processes, control of design interfaces, analytical or testing requirements, design basis, and configuration management.

3.2.2. Design Input

The Company has the responsibility to properly translate applicable safety analysis reports, regulatory requirements, ASME Code requirements, and design bases into specifications, drawings, procedures and instructions. The Company is responsible for electrical, mechanical, structural, instrumentation and control; nuclear engineering activities involved in nuclear station modifications, and also maintains a configuration management program.

Design inputs, such as design bases, performance requirements, regulatory requirements, codes, and standards shall be identified and documented. Their selection shall be reviewed and approved by the responsible design organization. The design input shall be specified and approved in a timely manner and be to the level of detail necessary to provide a consistent basis

for making design decisions, accomplishing design verification, and evaluating design changes. Changes from approved design inputs, including the reason for the changes shall be identified, approved, documented, and controlled.

3.2.3. Design Process

The Company is responsible for design changes, performs detailed design activities, and issues design documents in accordance with approved procedures. The responsible design organization shall prescribe and document design activities in a timely manner and to the level of detail necessary to permit verification that the design meets requirements.

Included in this scope of activities are considerations for field design engineering, fire hazards, human factors, physics, seismic, stress, compatibility of materials, application of special process, associated computer programs, thermal, hydraulic, ALARA and radiation factors, the safety analysis accident scenarios, and accessibility for in-service inspection, maintenance and repairs, and quality standards. Design documents shall be adequate to support facility design, construction, and operation. Selection of the appropriate quality standards shall be documented, reviewed and approved.

Reasons for changes from specified quality standards, shall be identified, documented, approved and controlled. Design methods, materials, parts, equipment, and processes that are essential to the function of the structure, system, or component shall be selected and reviewed for suitability of application. Applicable industry experience, as set forth in reports or other documentation, shall be made available to cognizant design personnel.

The final design output documents and approved changes thereto shall be relatable to the design input by documentation in sufficient detail to permit design verification. The final design shall identify assemblies and/or components that are part of the item being designed. If materials, parts, equipment, or processes are different from the published supplier information, these differences shall be documented.

Commercially standard (catalog items) materials, parts, or equipment, which have been previously approved for different applications, are reviewed for suitability in the design process.

3.2.4. Design Analyses

Design analyses shall be performed in a planned, controlled, and documented manner. Design analysis documents shall be legible and suitable for reproduction, filing, and retrieval. They shall be sufficiently detailed as to purpose, method, assumptions, design input, references, and units such that a person technically qualified in the subject can review, understand the analysis, and verify the adequacy of the results without recourse to the originator. Calculations shall be identified for retrievability by subject including SSC, originator, reviewer, and date or by other unique identifiers.

Computer programs shall be controlled to assure that changes are documented and approved. Verification shall be required for changes to previously verified computer programs including evaluation of the effects of these changes as specified below.

Computer programs may be utilized for design analysis without individual verification of the program for each application provided:

— The computer program has been verified to show that it produces correct solutions for the encoded mathematical model within defined limits for each parameter employed.

— The encoded mathematical model has been shown to produce a valid solution to the physical problem associated with the particular application.

3.2.5. Design Verification

Design control measures shall be applied to verify the adequacy of design, such as by one or more of the following:

— Performance of design reviews.

— Use of alternate calculations.

— Performance of qualification tests.

The results of design verification shall be documented including the identification of the verifier. Design verification shall be performed by competent individual(s) other than those who performed the original design but may be from the same organization. This verification may be performed by the originator's supervisor, provided the supervisor did not specify a singular design approach, rule out certain design considerations, did not establish the design inputs used in the design, or the supervisor is the only

individual in the organization competent to perform the verification. Cursory supervisory reviews do not satisfy the intent of design verification.

Verification shall be performed in a timely manner. Design verification, for the stage of design activity accomplished, shall be performed prior to release for procurement, manufacture, construction, or release to another organization for use in other design activities provided sufficient data exists. Any unverified portion of the design shall be identified and controlled. In all cases the design verification shall be completed prior to relying upon the SSC, or computer program to perform its function.

3.2.5.1. Extent of Design Verification

The extent of the design verification required is a function of the importance to safety, the complexity of the design, the degree of standardization, the state of the art, and the similarity with previously proven designs.

Where the design has been subjected to a verification process, the process need not be duplicated for identical designs. For each application, the applicability of standardized or previously proven designs for design inputs shall be verified.

Known problems affecting the standard or previously proven designs and their effects on other features shall be considered. The original design and associated verification shall be adequately documented and referenced in subsequent applications.

Design verification shall be required for changes to previously verified designs. This includes evaluation of the effects of those changes on the overall design and on any affected design analyses.

3.2.5.2. Design Reviews

Verification consists of a check of design adequacy by such methods as design reviews, use of alternate calculations or methods, or performance of verification or qualification testing. The method, or combination of methods, used to verify a design will be selected on a case-by-case basis.

Acceptable verification methods include one or more of the following items:

— Alternate calculations using alternate methods that verify the correctness of original calculations or analyses.

— Critical design reviews providing assurance that the final design is correct and satisfactory.

— Where design adequacy is to be verified by qualification tests, the tests are identified.

3.2.6. Change Control

Changes to final designs, field changes, modifications to operating facilities, and nonconforming items dispositioned use-as-is or repair shall be justified and subject to design control measures commensurate with those applied to the original design.

These measures shall include assurance that the design analyses for the SSCs are still valid. A 10 CFR 50.59 / 72.48 review is performed for changes to the facility.

Changes shall be approved by the same affected groups or organizations, which reviewed and approved the original design documents. In the case where the original organization is no longer responsible for design approval, then a new responsible design organization shall be designated. The designated organization shall have demonstrated competence in the specific design area of interest and have an adequate understanding of the requirements and intent of the original design.

When a design change is approved, other than by revision to the affected design documents, measures shall be established to incorporate, where appropriate the change into these documents. Plant personnel will be made aware of design changes / modifications, which may affect the performance of their duties. Where a significant design change is necessary because of an incorrect design, the design process and verification procedure shall be reviewed and modified as necessary.

3.2.7. Design Errors

The Company detects deficiencies or errors in design or in the design quality assurance program by:

— Actual failure during operation.

— Assessments.

— Design verification measures.

— Other means.

— Personnel using the design documents.

— Tests conducted.

3.2.8. Interface Control

Design interfaces shall be identified and controlled. The Company shall coordinate design efforts among the participating organizations. Interface controls shall include the assignment of responsibility and the establishment of procedures among participating design organizations. Controls shall be established for the review, approval, release, distribution and revision of documents involving design interfaces. Design information transmitted across interfaces shall be documented and controlled.

3.2.9. Vendor Design Control

The Company reviews and accepts the specifications and drawings for electrical, mechanical, instrumentation, nuclear and structural material, equipment, and erection work, prepared by the Architect Engineer and NSSS Supplier. The purpose of these reviews is to verify inclusion of inspection, testing and acceptance criteria.

The Architect Engineer's evaluation of fabricator and erector's detailed designs, drawings, and work instructions are reviewed for reasonableness and completeness. Audits are conducted by the company for design review systems of architect engineers, nuclear fuel, and NSSS suppliers.

The Company assures that:

— Personnel certifying ASME Section III design activities are qualified Registered Professional Engineers in accordance with ASME Section III, Appendix XXIII.

— Architect engineers and NSSS suppliers maintain procedures to assure that their personnel certifying ASME Section III design activities are qualified Registered Professional Engineers in accordance with ASME Section III, Appendix XXIII.

The Company provides qualified personnel to review and approve the resolution of nonconformances relating to electrical, mechanical, instrumentation and structural portions of the plant and to evaluate discrepant modification test results for operating plants.

3.2.10. Modifications

The Company performs modifications that may affect the function of safety-related SSCs in a manner to assure quality at least equivalent to that specified in original design bases and requirements, materials specifications, and inspection requirements.

3.2.11. Documentation and Records

Company notifies jurisdictional authorities of the location of ASME Code related permanent records. Design documentation and records which provide evidence that the design and design verification process were performed in accordance with the requirements of this chapter, shall be stored and maintained.

Documentation of design analyses shall include the following:

- Statement of the objective of the analyses.
- List of design inputs and their sources.
- Results of literature searches or other applicable background data.
- List of assumptions and indication of those that must be verified as the design proceeds.
- List of any computer calculation and the bases for its use.
- Review and approval.

4.1. SCOPE

This Chapter identifies the requirements for preparation, review, approval, release, and retention of procurement documents.

4.2. REQUIREMENTS

4.2.1. General

The Company establishes measures for the preparation, review, and approval of procurement documents for those items and activities within the scope of the QATR. Procurement documents at all tiers include or reference the appropriate regulatory, technical, and quality requirements necessary to assure adequate quality. These requirements include reference to 10 CFR 21 when applicable.

4.2.2. Content of Procurement Documents

Procurement documents at all tiers include the following items as deemed necessary by the Company.

4.2.2.1. Scope of Work

Procurement documents describe the scope of the items or services to be furnished by a supplier. For those items that are important to plant safety, applicable requirements should be specified in the procurement document.

4.2.2.2. Technical Requirements

The Company establishes measures in controlled procedures to; specify technical requirements by reference to the appropriate specific drawings, specifications, codes, standards, regulations, procedures, or instructions, including revisions thereto that describe the items or services to be furnished.

The procurement documents identify test, inspection and acceptance requirements as appropriate. These documents identify as appropriate special instructions and requirements for such activities as design, material and component identification, fabrication, special process controls, cleaning, erecting, packaging, handling, shipping, and extended storage.

4.2.2.3. Quality Assurance Program Requirements

Measures are established, in controlled procedures, to ensure the appropriate technical and quality requirements are established, by qualified personnel, for the material, equipment, and services purchased from vendors, suppliers, or contractors.

Any changes to these requirements require prior approval by the Company. Each vendor, supplier, or contractor has an acceptable quality assurance program, which is consistent with applicable regulatory requirements for the item or service.

The Nuclear Oversight Vendor Audit Group (NOVA) maintains a controlled list of evaluated suppliers that are audited on a triennial basis. The evaluated list of such vendors, suppliers, and contractors is described in controlling procedures for the appropriate safety classification except for procurement from other licensees that has a NRC approved quality program.

Procurement documents require the vendors to incorporate quality assurance program requirements in sub-tier procurement documents and allow right of access to the vendors, sub-tier vendors, and contractors facilities and records for inspection or audit by the Company or designated representative.

4.2.2.4. Nonconformances

The Company procurement documents specify the requirements for reporting and approving the disposition of supplier non-conformances. “Use as is” or “Repair” requires approval of the supplier disposition by the appropriate Company representative.

4.2.2.5. Documentation Requirements

The procurement documents shall identify, at all tiers, the documentation required to be submitted for information, review, and approval including the time requirements for submittal. The Company procurement documents require the supplier to maintain specific quality assurance documents including retention times and disposition requirements.

4.2.2.6. Spare and Replacement Parts

The procurement documents require the identification of appropriate spare and replacement parts or assemblies and the appropriate delineation of the technical and quality assurance related data required for ordering these parts or assemblies. These spare parts and replacement items are at least equivalent to the original design requirements or those specified by a properly reviewed and approved revision.

4.2.3. Procurement Document Review

Measures are established in controlled procedures to ensure the appropriate technical and quality requirements are established for the material, equipment, and services purchased from vendors, suppliers, or contractors prior to release for bid and contract award.

These documented reviews, including changes to the specification or purchase order, ensure the technical and quality requirements are correctly stated, inspectable, and controllable and have adequate acceptance and rejection criteria and are prepared, reviewed, and approved in accordance with QAP requirements.

Review of the exceptions or changes requested by the supplier shall be analyzed to ensure they do not change or impact the technical or quality requirements and are incorporated in to the procurement documents, prior to the supplier proceeding, using the same review and approval process as appropriate except for commercial terms and editorial changes.

Personnel who have access to pertinent information and who have an adequate understanding of the requirements and intent of the procurement documents shall perform reviews required by this chapter.

4.2.4. Procurement Records

Records as required by the procurement documents or the QATR are retained in the Company's department files, vendor files, or both locations.

5.1. SCOPE

Activities governed by the Company's QAP shall be performed as directed by documented instructions, procedures, and drawings appropriate for the activity. The requirements for the use of these procedures shall also be prescribed in writing. These instructions, procedures, and drawings shall include responsibilities and acceptance criteria as applicable or appropriate for the activity.

Those participating in any activity shall be aware of and use the proper and current revision of instructions, procedures, drawings, and engineering requirements for performing the activity. Procedures may include reference to vendor equipment manuals, design drawing and specifications, prerequisites, special precautions, and the delineation of work to be performed. Equipment manuals and manufacturer's instructions shall be readily available for use.

5.2. REQUIREMENTS

5.2.1. General

Operation, maintenance, or modification of equipment shall be preplanned and performed in accordance with written procedures that are appropriate to the circumstances and that conform to applicable codes, standards, specifications, and criteria. Documents identify and specify the content of records to be Generated in conducting the activity. The establishment and execution of quality procedures shall be used by the station staff or those under their direction, for operating, maintenance, modifications, in-service inspection, refueling, and stores activities.

Temporary procedures may be issued to provide guidance in unusual situations that are not within the scope of the normal procedures. Temporary procedures shall be subject to review and approval, and shall include designation of the time period during which they may be used. In the event of an emergency not covered by an approved procedure, authorized personnel shall provide appropriate direction to minimize personnel injury and damage to the facility and to protect the health and safety of plant personnel and the general public.

5.2.2. Preparation and Review

Procedures shall be prepared, reviewed, approved, and used as prescribed in writing, and shall contain step by step instructions in the degree of detail necessary for qualified individuals to perform the required function or task. Where appropriate, these procedures will include checklists containing the necessary attributes to be observed or measured.

These documents shall include or reference appropriate quantitative or qualitative acceptance criteria for determining that prescribed activities have been satisfactorily accomplished.

The procedures will be independently reviewed and evaluated by other involved company organizations with interface responsibilities and the comments forwarded to the issuing department.

5.2.3. Procedures and Programs

Review and approval of site procedures are performed in accordance with technical specification requirements as delineated in the Technical Review or Station Qualified Review (SQR) programs.

5.2.3.1. Technical Review and Control

1. Procedures required by a station's Technical Specifications and other procedures which affect nuclear safety, as determined by the manager responsible for station operation, and changes thereto, other than editorial or typographical changes, shall be reviewed as follows prior to implementation, except as noted in item 5 (below).

   — Each procedure or procedure change shall be independently reviewed by a qualified individual knowledgeable in the area affected other than the individual who prepared the procedure or procedure change. This review shall include a determination of whether or not additional cross-disciplinary reviews are necessary. If deemed necessary, the reviews shall be performed by the qualified review personnel of the appropriate discipline(s).

   — Changes to the approved fire protection program may be made without prior Plant Operations Review Committee (PORC) approval provided that the changes would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire, and specific features of the approved program may be altered provided

such changes do not otherwise involve a change to the Operating License or technical specifications, or require an exemption.

- Reviews of procedures or changes to procedures, that describe the means for controlling or operating structure, systems, and / or components as described in the UFSAR, will include a review to determine if NRC review and approval is necessary prior to the implementation of the procedure activity. This review is based on the review of a written 10 CFR 50.59 / 72.48 review and evaluation prepared by qualified individual(s), or documentation that a 10 CFR 50.59 / 72.48 evaluation is not required. The PORC shall review and recommend approval of items requiring NRC review and approval prior to station approval for implementation. NRC approval shall also be obtained prior to station approval for implementation.
- Department head approval authority shall be as specified in station procedures.
- Written records of reviews performed in accordance with this specification shall be prepared and maintained.
- Editorial and typographical changes shall be made in accordance with station procedures.

2. Technical reviewers shall advise their supervisors and / or PORC on all matters related to nuclear safety that are identified during reviews. The reviewer shall be other than the originator. The reviewer shall determine if additional cross-disciplinary reviews are required to ensure all applicable technical disciplines are included. This review shall ensure technical accuracy, compliance with regulatory requirements, and shall verify the originator's determination of whether items reviewed constitutes a change to the Technical Specifications, Operating License, or if NRC review and approval is required prior to implementation.
3. Technical reviewers shall be qualified to perform technical reviews based on the individual's training, experience, and knowledge level. Technical reviewers, assigned the responsibility for reviewing 10 CFR 50.59 / 72.48 reviews and evaluations, shall receive training in this process. Technical reviewers shall be qualified to perform this function and meet the experience requirements per applicable standards. Personnel shall have expertise in one or more of the following disciplines as appropriate, for the subject or subjects being reviewed:

- chemistry
- instrumentation and controls
- mechanical and electrical systems
- nuclear power plant technology
- radiological controls
- reactor engineering
- reactor operations

4. Technical reviews shall be documented and records maintained.
5. Temporary Changes

   Temporary changes to procedures required by 5.2.3.1.1 (above) may be made provided:

   - The intent of the original procedure is not altered.
   - The change is approved by two members of the plant management staff knowledgeable in the areas affected by the procedures, at least one of whom holds a Senior Reactor Operator's License on the unit affected.
   - The change is documented, reviewed, and approved in accordance with 5.2.3.1 (above) within 14 days of implementation.

5.2.3.2. On-site Qualified Technical Review (Dresden Unit 1)

A Qualified Technical Reviewer shall conduct thorough reviews of the documents specified below. Persons performing these reviews shall be knowledgeable in the subject area being reviewed. Qualified technical reviews must be completed prior to implementation of proposed activities.

1. Qualified Technical Reviewers shall be individuals without direct responsibility for the document under review; these reviewers may be from the same functionally cognizant organization as the individual or group performing the original work.
2. Qualified Technical Reviewers shall have at least 5 years of professional experience and either a Bachelor's degree in Engineering or the Physical Sciences or shall have equivalent qualifications evaluated on a case by case basis and approved by the manager responsible for

decommissioning activities. The appointment of Qualified Technical Reviewers shall be documented.

3. A Qualified Technical Reviewer shall independently review the following subjects:

   — Proposed changes to the license, technical specifications, or bases.

   — Proposed changes to the programs required by the Technical Specifications to verify that such changes do not involve a change to the Technical Specifications and will not require NRC review and approval as defined in 10 CFR 50.59 / 72.48.

   — 10 CFR 50.59 evaluations for changes in the facility as described in the De-fueled Safety Analysis Report (DSAR), changes in procedures as described in the DSAR, and tests or experiments not described in the DSAR to verify that such actions do not involve a change to the Technical Specifications or will not require NRC review and approval as defined in 10 CFR 50.59.

6.1. SCOPE

Measures shall be established to control and coordinate the classification, review, approval, issuance, revision, and change of documents that prescribe methods or provide the technical and / or quality requirements for activities and items within the scope of this program. These measures shall ensure that such documents are reviewed for adequacy, approved for release and use, and distributed to the location where the activity is performed.

6.2. REQUIREMENTS

6.2.1. General

The Company document control process ensures that procedures are reviewed and approved before initial use. The Company has in place programmatic controls, which ensure that procedures are technically and administratively correct before use. These programmatic controls ensure that procedures are reviewed and revised as needed, when pertinent source material is changed, when the plant design is changed, or when deficiencies are identified and corrected. Provisions shall be established to ensure that infrequently used procedures are reviewed prior to use, unless they have been reviewed within the previous two years. The periodic biennial review requirements are satisfied by implementation of several processes and programs. Except as noted in appendix C, due to their importance to safety, biennial review of abnormal procedures (such as emergency operating procedures) shall continue. These processes and programs provide the programmatic controls that ensure the required reviews are accomplished and include the following:

— Commitment Management and Tracking Process.

— Integrated Reporting / Corrective Action Program.

— Operational Experience Feedback Program.

— Plant Modification Program.

— Procedure Feedback Process.

— Technical Specification and Updated Final Safety Analysis Report Revision Programs.

— Vendor Information Program.

6.2.2. Reviews

The company has also established provisions to ensure that the following reviews are conducted:

- Inspection, identification of inspection personnel, and documentation of inspection results.
- Maintenance, modification, and inspection procedures are reviewed by qualified personnel, knowledgeable in quality assurance disciplines.
- Necessary inspection requirements, methods, and acceptance criteria have been identified.

6.2.3. Controlled Documents

Written document control procedures shall be established to provide for the control of approved documents. Documents that are controlled include, but are not limited to, the following items:

- Administrative procedures.
- As-built and design drawings.
- Assessments.
- Calibration procedures.
- Computer codes and software.
- Corrective action reports.
- Design specifications.
- Emergency operating procedures.
- Engineering calculations.
- Inspection and test reports.
- Maintenance procedures.
- Nonconformance reports.
- NOS procedures.
- Operating procedures.
- Purchase orders and related documents.
- Safety analysis reports.
- Supplier audit and surveillance procedures.

— Technical specifications (station and Independent Spent Fuel Storage Installations.)

— Temporary and emergency procedure changes.

— Topical reports.

— Work instructions and procedures.

6.2.4. Control Measures

The Company document control process includes the following document control measures:

— Coordinating and controlling interface documents.

— Distributing documents approved for issuance in accordance with updated and current distribution lists.

— Establishing document control procedures to assure that proper documents are accessible and are being used.

— Establishing lists of documents controlled by organizations involved with activities affecting quality.

— Establishing procedural requirements for the protection of safeguards information.

— Identifying and assuring that proper documents are used in performing activities affecting quality.

— Identifying qualified individuals or organizations responsible for preparing, reviewing, approving and issuing documents, including revisions.

— Recalling or identifying obsolete documents.

6.2.5. Document Changes

The Company document control process ensures changes to documents are reviewed and approved by the same organizations that performed the original review and approval, unless delegated to another responsible organization. The reviewing organization has access to pertinent background data or information upon which to base their approval. To avoid a possible omission of a required review, the Company document control process includes provisions to control minor changes.

7.1. SCOPE

The Company establishes measures to assure the quality of purchased material, equipment and services conform to procurement document requirements for items contained within the QATR.

7.2. REQUIREMENTS

7.2.1. Supplier Selection

7.2.1.1. General

The Company establishes measures to assure that purchased material, equipment, and services conform to the procurement documents for safety related and ASME code specifications as appropriate. This assurance is accomplished by controlling both the selection of procurement sources and acceptance of the product at the source and/or upon receipt at the appropriate location.

The company procedures, which address the procurement process and receipt and storage of material and equipment, clearly define the responsibilities and interfaces between the line requisitioning organization, engineering, supply and quality assurance.

7.2.1.2. Methods

The Company establishes and implements measures for the evaluation and selection of procurement sources. These measures must be completed prior to the award of contract. These measures include one or more of the following:

- Evaluation of the supplier's history of providing an identical or similar product that performs satisfactorily in actual use.
- Supplier’s current quality records supported by documented qualitative and quantitative information that can be objectively evaluated.
- Supplier’s technical and quality capability of meeting the applicable quality requirements of 10CFR50 Appendix B as determined by a direct evaluation of its facilities and personnel and the implementation of its quality assurance program.
- Review and evaluation of audits, surveys, and inspections conducted by other utilities, or American Society of Mechanical Engineers (ASME).

— If there is insufficient evidence of implementation of a QAP, the initial evaluation is of the existence of a QAP addressing the scope of the services to be provided. The initial audit is performed after the supplier has completed sufficient work to demonstrate that its organization is implementing a QAP.

The Company documents and files the results of these measures and maintains an evaluated list of suppliers.

7.2.2. Bid Evaluations

The Company reviews and evaluates bids and awards contracts using written procedures and documents the results. The Company designates individuals or organizations to review bids to assure that they conform to the procurement document requirements and the supplier has the appropriate technical ability, Quality Program, production capability, personnel, and acceptable past performance to supply the product or service. The Company obtains commitments to resolve unacceptable quality conditions identified as part of the bid evaluation before award of the contract and ensure exceptions and alternatives do not impact the technical or quality requirements.

7.2.3. Supplier In-Process Control

7.2.3.1. General

The Company establishes measures to interface with and to verify supplier performance. These measures include the following items:

— Establishing an understanding between the Company and the supplier of the provisions and specifications contained in the procurement documents.

— Establishing a method of document information exchange between the Company and the supplier.

— Establishing the extent of source surveillance and inspection activities.

— Identifying and processing necessary change information.

— Requiring the supplier to identify planning techniques, tests, inspections, and processes to be used in fulfilling procurement document requirements.

— Reviewing supplier documents that are generated or processed during activities fulfilling procurement requirements.

7.2.3.2. In-Process Control and Verification Planning

The Company and the supplier, establish as appropriate, notification points, including hold and witness points and incorporate into the appropriate documents based upon the complexity and scope of the item or service. When required by the procurement document or specification, surveillances and evaluations at the supplier's facility are conducted to verify continued compliance with the quality assurance requirements of the procurement documents.

Qualified individuals or its agents accomplish source inspections at the supplier's facility to verify that the procurement item or service is being supplied in accordance with the requirements of the procurement documents.

Such inspections, examinations or tests are accomplished in accordance with written procedures, plans, and/or checklists containing or referencing appropriate acceptance criteria. Upon acceptance by source verification, the Company furnishes documented evidence of acceptance to the receiving destination of the item, to the purchaser, and to the supplier.

7.2.3.3. Programmatic Verification

The Company or its agents verify the effectiveness of the supplier's quality program by survey, audit or surveillance. Verification is performed at intervals consistent with the importance to safety, complexity and quality of the product or services furnished. Activities are witnessed or observed and the results documented when source verification is performed.

The Company conducts audits per the requirements established in Chapter 18 or reviews audits performed by other license holders as defined in procedures. The results of these audits are used to support the maintenance of the list of evaluated suppliers. Verification activities are conducted as early as practicable so that subsequent activities do not prevent disclosure of deficiencies. The Company's verification activities do not relieve the supplier of its responsibility for quality verification.

7.2.3.4. Supplier and Verification of Supplier Performance Records

The Company establishes methods to control, handle and approve supplier documents. Suppliers submit their documents per procurement requirements. Acceptance criteria is used for the acquisition, processing, and record evaluation of technical inspection and test data.

The Company records activities to verify supplier conformance with the requirements of procurement documents. Source surveillances, procurement

plans, inspections, audits, surveys, receiving inspections, non-conformance dispositions, waivers and corrective actions concerning supplier activities are documented. This documentation is used to determine the supplier's quality assurance program effectiveness.

7.2.3.5. Control of Procurement Changes

The Company documents changes to procurement documents involving technical or quality assurance matters. These changes are subjected to the same review and approval process as the original procurement document except for commercial terms and conditions and editorial changes.

7.2.4. Acceptance of Purchased Items and Services

7.2.4.1. General

Upon receipt the applicable materials, parts, and components are controlled. Qualified inspection personnel are responsible for inspecting, releasing, and maintaining the inspection status of purchased material and equipment. After receipt inspection, the purchased material is placed in a controlled storage area or issued for installation or further work.

7.2.4.2. Acceptance by Receiving Inspection

The Company uses approved procedures to accept purchased items and services. Acceptance of an item or service from a supplier includes certificate of conformance, source verification, receiving inspection or post installation testing at the plant location or a combination thereof. Items are inspected during receipt using approved procedures and checklists.

The Company does receiving inspections using procedures and inspection instructions to verify conformance to the specified requirements, using objective evidence to check such features as: complete documentation and visual inspection of: proper configuration; identification; dimensional, physical and other characteristics; freedom from shipping damage; and cleanliness. Items, which cannot meet the purchase order requirements, will be segregated and controlled as defined in the applicable procedures.

The Company coordinates the review of supplier documentation with the receiving inspection when procurement documents require such documentation to be furnished prior to the receiving inspection. Source verification and audit activities are factored into the receipt inspection activities as appropriate.

7.2.4.3. Acceptance by Source Verification

The Company considers acceptance by source verification when the item or service is:

- Vital to plant safety, or
- Difficult to verify quality characteristics after delivery, or
- Complex in design, manufacture, and test.

Source verification shall be implemented in accordance with plans to perform inspections, examinations, or tests at pre-determined points. Upon acceptance by source verification, the Company furnishes documented evidence of acceptance to the receiving destination of the item, to the purchaser, and to the supplier.

7.2.4.4. Acceptance by Certificate of Conformance

The supplier's certificate of conformance attests the product or service provided is in accordance with the procurement documents is reviewed during source and / or receipt inspections to verify compliance. This document provides the purchase order number; codes, standards or other specifications required to be met in the purchase order. Requirements which cannot be met must be included with an explanation why and a means to resolve the nonconformances. A person who is responsible for quality assurance function attests to this certificate.

The validity of a supplier's certificate of conformance is ascertained through any of the following methods source inspection, independent inspection agency, receipt inspections, surveillance, testing of hardware, quality assurance audits or surveillances at intervals commensurate with the suppliers past performance.

Inspection and test activities verify that the hardware performs in accordance with applicable technical requirements and serve to demonstrate that the hardware meets the requirements stated in a certificate of conformance.

The results of the source and/or receipt inspections, the acceptability of supplier furnished documentation, and the resulting determination of conformance or nonconformance is documented.

7.2.4.5. Acceptance by Post Installation Testing

When post-installation testing is used, the Company establishes post-installation test requirements, giving due consideration to supplier recommendations. Acceptance by this method is satisfactory when performed following the accomplishment of at least one preceding method and when:

- It is difficult to verify the quality characteristics of the item without it being installed and in use, or
- The item requires an integrated system checkout or test with other items to verify its quality characteristics, or
- The item cannot prove its ability to perform its intended function except when in use.

7.2.4.6. Acceptance of Services Only

In cases involving procurement of services only, the Company accepts the service by any of the following methods:

- Technical verification of data produced.
- Surveillance, audit, survey, or assessment of the activity.
- Review of objective for conformance to the procurement document requirements such as certifications, stress reports, etc.

In lieu of the above the Company performs a receiving inspection for items arriving back onsite that were sent offsite for repair, testing, or rework.

7.2.4.7. Commercial Grade Items

Where the safety related design utilizes commercial grade items, the following requirements are a permissible alternative for acceptance, to other requirements of this Chapter:

1. An approved design document identifies the commercial grade item. (An alternate commercial grade item may be applied, provided the cognizant design organization provided verification that the alternate commercial grade item will perform the intended function and will meet design requirements applicable to both the replaced item and its application.)

2. Company performs source evaluation and selection, where determined necessary, based on complexity and importance to safety:
   - Commercial grade dedication plans for use in a safety related applications state responsibility for 10 CFR 21 requirements
   - The Company identifies commercial grade items in the purchase order by the supplier's published product description.
3. One or a combination of the following methods shall be utilized to provide reasonable assurance that the item meets the acceptance criteria for the characteristics identified to be verified for acceptance:
   - Acceptable supplier / item performance records.
   - Commercial grade survey of the supplier.
   - Source verification.
   - Special test(s) or both.
4. After receipt of a commercial grade item, the Company determines the following:
   - Damage was not sustained during shipment.
   - Documentation, as applicable to the item, was received and is acceptable.
   - Inspections and / or testing are accomplished, as required by the purchaser, to assure conformance with the manufacturer's published requirements.
   - The item received was the item ordered.

7.2.4.8. Acceptance of Calibration and / or Testing Services

Commercial grade calibration and / or testing services may be procured from domestic and international commercial calibration and/or testing laboratories based on the laboratory's accreditation to ISO / IEC-17025 by an Accreditation Body (AB) which is a signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) provided all of the following are met (SER for revision 1 to NEI technical report 14-05A, *Guidelines for the use of Accreditation in Lieu of Commercial Grade Survey for Procurement of Laboratory Calibration and Test Services*, ADAMS Accession No. ML20322A019):

1. A documented review of the supplier's accreditation is performed and includes a verification of the following:
    a. The calibration or test laboratory holds accreditation by an accrediting body recognized by the ILAC MRA. The accreditation encompasses ISO/ IEC-17025:2017. "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 laboratory has achieved accreditation based on an on-site accreditation assessment by the selected AB within the past 48 months. The laboratory's accreditation cannot be based on two consecutive remote accreditation assessments.
2. The purchase documents require that:
    a. The service must be provided in accordance with their accredited ISO/ IEC-17025:2017 program and scope of accreditation.
    b. As found calibration data must be reported in the certificate of calibration when calibrated items are found to be out-of-tolerance. (for calibration services only)
    c. The equipment /standards used to perform the calibration must be identified in the certificate of calibration. (for calibration services only)
    d. Subcontracting of these accredited services is prohibited.
    e. The customer must be notified of any condition that adversely impacts the laboratory's ability to maintain the scope of accreditation.
    f. Performance of the services listed on this order is contingent on the laboratory's accreditation having been achieved through an on-site accreditation assessment by the AB within the past 48 months.
    g. Additional technical and quality requirements, as necessary, based upon a review of the procured scope of services, which may include, but are not necessarily limited to, tolerances, accuracies, ranges, and industry standards.

3. It is validated, at receipt inspection, that the laboratory's documentation certifies that:

   a. The contracted calibration or test service has been performed in accordance with their ISO/IEC-17025:2017 program, and has been performed within their scope of accreditation; and

   b. The purchase order's requirements are met

7.2.5. Presence of documentary Evidence

Documented evidence that material or equipment conforms to procurement requirements is present at the site before use or installation. This documentary evidence is traceable to the item and shall be retained at the nuclear power plant site and shall be sufficient to identify the specific requirements such as codes, standards, or specifications met by the purchased material and equipment.

7.2.6. Spare or Replacement Items

Procedures control the procurement, storage and issuance of materials and components including spare and replacement parts. Procurement documents for these items identify the appropriate technical and quality related requirements. The Company purchases spare parts and replacement items, equipment and components to at least the original design requirements or those specified by a properly reviewed and approved revision.

Where the QA requirements of the original item cannot be determined, qualified individuals conduct an engineering evaluation to establish appropriate requirements and controls. This evaluation ensures that interfaces, interchangeability, safety, fit and function are not adversely affected or are contrary to applicable regulatory or ASME Code requirements. The evaluators document their results.

Where the company procured the original item with no specifically identified quality assurance program requirements or from an Original Equipment Manufacturer/Supplier (OEM / OES) who no longer is on a list of evaluated suppliers, identical (like-for-like) items may be similarly procured from the OEM / OES through the use of procurement plans.

In such cases, the Company conducts a joint technical engineering and quality assurance documented evaluation to established requirements and controls to assure at least equivalent product performance. The evaluation shall assure that interfaces, interchangeability, safety, fit and function are not

adversely affected or are not contrary to applicable regulatory or ASME Code requirements.

7.2.6.1. Procurement from Other Utilities

Purchases of safety related items can be made from other utilities who have had an NRC approved QAP in effect at the time of their procurement and receipt and such utility has maintained a quality system program for storage, handling, and maintenance with documented traceability to the manufacturer of the items.

Certificates-of-Conformance to the above requirements and associated required documentation are provided.

7.2.6.2. Maintenance or Modification

The Company performs maintenance or modifications that may affect the function of safety related SSCs in a manner to assure quality at least equivalent to that specified in original design bases and requirements, materials specifications, and inspection requirements.

8.1. SCOPE

Controls are established to assure that only correct and accepted items are used or installed. Identification shall be maintained on the items or in documents traceable to the items, or in a manner, which assures that identification is established and maintained.

8.2. REQUIREMENTS

8.2.1. General

The Company establishes measures for the identification and control of materials, parts and components, including partially fabricated assemblies, and assures that only correct and accepted items are used or installed. Identification is maintained on the items or in documents traceable to the items. Physical identification shall be used to the maximum extent possible.

Provisions are in place to maintain markings, which could be damaged during shipping or handling or deterioration due to environmental exposure. Provisions are also established to control nonconforming items and maintain parts, material, and equipment in storage traceable to quality assurance documents.

8.2.2. Traceability

Items within the scope of the QAP shall be identified, so that they can be traced to the appropriate documentation, which provides objective evidence that the technical and quality requirements are met.

Responsible organizations document and maintain identification and traceability of items from initial receipt, throughout fabrication, installation, and use of the items such as: subassemblies, components, equipment numbers, part numbers, serial number, heat treatment number, batch or lot numbers.

When installed material or equipment is removed for maintenance, repair, or modification, control measures are implemented to ensure proper identification and traceability is maintained. Before use or installation of an item, the installer verifies that identification has been maintained.

8.2.3. Identification Methods

Identification is on the item where practicable. Identification is clear, unambiguous and indelible. Identification does not affect the fit, function, quality, and service life of the item. If the item cannot be practicably marked, the Company uses records traceable to the item for identification.

If physical identification is either impractical or insufficient for proper control, the Company controls an item by physical separation, procedural control or other appropriate means.

8.2.4. Transfer of Markings

Prior to cutting or dividing material, each new piece shall be marked with the same traceability markings of the original piece to ensure that the traceability of the material is maintained. These markings shall not be obliterated or hidden by surface treatment or coatings unless other means of identification are substituted. The Company independently verifies proper identification of each piece.

8.2.5. Limited Life Items

The Company identifies and controls items having limited life to preclude use of items whose shelf life or operating life has expired.

8.2.6. Stored Items

The Company uses procedures to assure proper control of identification for items in storage.

9.1. SCOPE

Processes affecting quality of items or services shall be controlled. Special processes that control or verify quality, shall be performed by qualified personnel, using qualified procedures, in accordance with specified requirements and are properly documented and evaluated. These requirements are defined in codes, standards, specifications, or special instructions. The quality of such processes is assured through reliance on operator skill and in-process control. Examples of special processes include, but are not limited to welding, heat treating, chemical cleaning, and non-destructive examination (NDE.)

9.2. REQUIREMENTS

9.2.1. General

The Company organization directing work during repair, replacement, modification, or in-service inspection (ISI) activities is responsible for controlling special processes. Special process controls are assured through independent assessment and inspection activities.

9.2.2. Process Control

Instructions, procedures, drawings, checklists, or other appropriate means control processes. Process controls specify the prerequisite steps, processing details, conditions to be maintained during the process, equipment requirements, inspection and test requirements, acceptance criteria, and record requirements. Controlling includes:

- Maintenance and retention of records.
- Personnel qualification.
- Procedure development and qualification.
- Procedure implementation.
- Qualification of equipment.

9.2.3. Special Processes

Measures shall be established and documented to assure that special processes are accomplished under controlled conditions in accordance with applicable codes, standards, applications criteria, regulatory requirements and commitments, and other special requirements including the use of

qualified personnel and procedures. Special processes are controlled by instructions, procedures, drawings, checklists, travelers, or other appropriate means.

Special process controls specify the preparatory steps, processing details, conditions to be maintained during the process, equipment requirements, inspection and test requirements, acceptance criteria, and record requirements. Special process procedures are written and qualified in accordance with applicable requirements. Special process procedures are reviewed and approved as follows:

- Coating and ASME Code concrete placement procedures are reviewed and approved by the appropriate Company organizations.
- Company, contractor and subcontractor heat treating, welding, and brazing procedures are reviewed in accordance with the company welding program as approved by Engineering.
- Company NDE procedures are reviewed and approved by the appropriate Company NDE Level III.
- Contractor, subcontractor, Section III, XI, and other ISI-related NDE procedures that will be utilized on site are reviewed and approved by a Company NDE Level III.
- The responsible Company engineering organization reviews contractor and subcontractor non-welding special process procedures.

When permitted by applicable requirements, the Company may direct contractors or subcontractors to use Company special process procedures. When there is a specific reason to question whether special process procedure requirements are being met, the Company, or the Authorized Inspection Agency (AIA) may require re-evaluation of the procedure before work may proceed.

For special processes not covered by the existing codes or standards, or when the quality requirements of an item exceed the requirements of established codes or standards, the necessary qualifications of personnel, procedures and equipment shall be defined in the procedure.

9.2.4. Personnel Qualification

Company and contractor personnel performing special processes are trained, tested, qualified, or certified in accordance with a company procedure that meets applicable requirements.

For NDE personnel, the Company and contractor personnel performing NDE are trained, tested, qualified, or certified in accordance with a company procedure that meets applicable requirements of 10 CFR 50.55a and ASME Section XI with specific exceptions and clarifications. When permitted by applicable requirements, the Company may qualify and control contractor personnel certifications.

The Company assures compliance with the ASME Code through an agreement with an AIA who verifies compliance in accordance with their procedure that describes the ANI duties and responsibilities. When there is a specific reason to question the ability of an individual performing special processes, the Company, or the AIA may require re-evaluation before that individual will be permitted to resume work. Individuals failing any retest will be removed from applicable operations pending re-qualification.

The Company designates a principal(s) NDE Level III and they are responsible for personnel qualification and procedure development to ASME Code requirements for nondestructive examination. These NDE personnel are qualified and certified in accordance with the Company procedure and may designate other NDE Level III's for certification of personnel. NDE Level III's have authority for the interpretation of any NDE indication that has been recorded by a company or supplemental vendor Level II / III Examiner.

Training and certification of NDE personnel associated with nondestructive examination are carried out in accordance with the requirements of 10 CFR 50.55a and ASME Section XI with specific exceptions and clarifications are met. The company develops and maintains a procedure detailing the program that will be used for qualification and certification and has ultimate responsibility for determination of the qualification process. Qualified personnel administer all ASME Code examination activities.

9.2.5. Special Process Records

Special process records provide evidence that special processes were performed in accordance with approved procedures by qualified personnel. These records are retained by the Company or by the contractor or subcontractor as required by procurement documents. Records are maintained for currently qualified personnel, processes, and equipment for each special process.

10.1. SCOPE

The Company plans and executes an inspection program to verify that activities affecting the quality of safety-related SSCs conform to documented requirements. For modification and non-routine maintenance activities, inspections are conducted in a manner similar (i.e. frequency, type and personnel performing such inspections) to those associated with construction phase activities. The independent inspections described in this Chapter are not intended to dilute or replace the clear responsibility of the first line supervisors for the quality of work performed under their supervision or personnel performing the activity.

10.2. REQUIREMENTS

10.2.1. General

The Company establishes controls for coordination and execution of inspection plans. Company quality verification organizations or other qualified organizations are responsible for implementation of established inspection plans. If an inspection plan includes inspections by personnel other than those in a quality verification organization, the inspection requirements, personnel qualification criteria, and inspector independence will be accepted by the responsible quality organization prior to implementation.

10.2.2. Inspection Plans

The Company prepares documented inspection plans. These inspection plans are applied when the activity is started. The inspection plans may be separate documents or an integral part of approved instructions, procedures or drawings. Related codes, standards, specifications and design documents are used to develop the inspection plans. Procedures used for documenting inspection plans are selectively reviewed, as appropriate, by NOS to assure that necessary verification points and inspection criteria are included. The plans identify:

— Acceptance criteria.

— Activities to be inspected.

— Inspection characteristics.

— Inspection techniques / equipment (including accuracy requirements).

— Provisions for inspection and test status.

— Provisions for the recording of inspection results.

— Qualification requirements.

— Responsible organization.

10.2.3. Inspection Personnel and Qualification

A qualification program is established and documented to conform to applicable codes, standards, or licensing requirements. Qualifications and certifications are kept current.

Qualified personnel perform inspections. Inspectors with valid certifications perform inspections for acceptance. Inspectors are independent of those who perform or directly supervise the activity being inspected. On-the-Job training inspections shall be performed under the direct supervision of qualified personnel.

Second line supervisory personnel or other qualified personnel not assigned first line supervisory responsibility for the conduct of the work may conduct inspection of operating activities. Operating activities are defined as work functions associated with normal operations of the plant, routine maintenance, and certain technical services routinely assigned to the onsite operating organization.

10.2.4. Inspection Process

Inspections are performed using approved instructions, procedures, process sheets, travelers, or checklists and applicable drawings.

— Inspections are performed for each work or operating activity where necessary to verify quality. Where inspection sampling is used to verify the acceptability of a group of items, the sampling procedure shall be based on recognized standard practices.

— Process monitoring may be used when inspection of processed material or products is impossible or impractical. When necessary, to ensure quality throughout the duration of the process, both inspection and process monitoring will be systematically used to verify conformance to requirements.

— When inspections must be performed before work can continue, hold points are established in appropriate documents. Consent to waive hold points are recorded prior to continuation of work. When inspection is desired, but not mandatory before work can continue, witness points are established. Completion of hold and witness points is documented.

- When acceptance criteria are not met, corrected areas are re-inspected. Such inspections are documented in the Corrective Action Program.
- Changes to, or rework of, an item after inspection requires re-inspection of the affected areas.
- A final evaluation is performed. Inspection results are reviewed to confirm that required inspections and quality records have been completed, identified non-conformances have been resolved and the item conforms to specified requirements. Engineering, Maintenance, Operations or Quality Verification approves final acceptance of the item.
- Inspection records are of sufficient detail to confirm completion and, as a minimum, identify:
  - Authorized individual approving results.
  - Date of inspection.
  - Inspector / Data recorder.
  - M&TE used.
  - Reference to action taken in connection with identified nonconformances.
  - Results or acceptability.
  - Type of observation.
- When the inspection activity is performed using a procedure not referenced or included within the work package, the procedure and its revision should be recorded.

10.2.5. In-Service Inspections

A program for the required ISI / IST inspection of completed systems, structures and components shall be planned and executed by or for the organization responsible for the operation of the plant to assure that plant components perform satisfactorily under all operating conditions.

Inspection methods shall be established and executed to applicable codes, standards and regulations, including baseline examinations and subsequent periodic examinations, which continue through the life of the plant in accordance applicable technical specifications.

10.2.6. Independent Verification

Independent verifications are conducted by qualified personnel using approved procedures. Characteristics to be verified and methods to be employed shall be specified. Verification results and unacceptable conditions identified shall be documented. Verifications shall be performed by persons other than those who performed or directly supervised the work being verified.

11.1. SCOPE

A documented test program shall be established in accordance with applicable technical specifications, license conditions, and design documents to assure that all testing required demonstrating that the structures, systems, or components within the scope of this QAP will perform satisfactorily in service.

11.2. REQUIREMENTS

11.2.1. General

11.2.1.1. Testing Program

The Company establishes and controls a test program to assure that design and performance criteria have been satisfied and assures that testing does not adversely affect the safe operation of the plant. The test program includes, as appropriate, procedures to ensure those structures, systems, subsystems, and components will perform in service. Testing is conducted by appropriately trained and qualified personnel. The extent of testing shall be based on the complexity of the modification, replacement, or repair. The test program covers all required tests including:

- Operational tests.
- Production tests.
- Prototype qualification test.
- Tests during design.
- Tests during fabrication.
- The demonstration of satisfactory performance following plant maintenance and modifications or procedural changes.
- Those tests required by plant maintenance or modification.

11.2.1.2. Test Procedures

The program uses written test procedures which include the requirements and acceptance limits from applicable design documents. The Company reviews and approves test procedures and changes to test procedures, including changes that alter test sequence, in a similar manner to the original.

The organization responsible for the design of the item to be tested establishes the test requirements and acceptance criteria. Test requirements and acceptance criteria are based upon specified requirements contained in applicable design or other pertinent documents. Test requirements include specific characteristics to be tested.

The Company specifies specific test methods when they must be employed, uses written procedures or checklists, and documents the status of equipment both before and after testing.

The Company may use appropriate sections of related documents, such as ASTM methods, supplier manuals, equipment maintenance instructions, or approved drawings or travelers with acceptance criteria in lieu of specially prepared written test procedures. Such documents must include adequate instructions to assure the required quality of work. Test and inspection procedures contain:

- A description of objectives.
- Acceptance criteria or limits contained in applicable design or other source documents, such as vendor's literature, engineering drawings or plant specifications that will be used to evaluate results.
- Any special equipment or calibrations required to conduct the test or inspection.
- Responsibilities.
- Instructions or checklists used to verify or document that affected plant systems are arranged in their correct lineup and for restoring the system to the condition consistent with the normal operating status.
- Limiting conditions.
- Prerequisites for, or checks to be made prior to performing the tests or inspections including any special conditions to be used to simulate normal or abnormal operating conditions.
    - Data documentation is in compliance with test procedures.
    - Equipment to be tested is properly released for testing.
    - Inspections and tests are done under suitable environmental conditions.
    - Proper calibrated inspection and test instruments are used.
    - Retention control of test data documentation is adequate.

— Test or inspection requirements contained in applicable design documents.

Where tests and inspections are to be witnessed, the procedure identifies hold points or witness points in the testing sequence to permit witnessing. The procedure requires appropriate approval for the test to continue beyond the designated hold points.

1. Prerequisites

   Prerequisites include the following, as applicable:

   — Appropriate test equipment.

   — Calibrated instrumentation in accordance with Chapter 12, Control of Measuring and Test Equipment.

   — Condition of test equipment and the item to be tested.

   — Provisions for data acquisition.

   — Suitable environmental conditions.

   — Trained Personnel.

   Procedures ensure that prerequisite steps for equipment testing have been or will be performed. Such steps include:

   — Completion of necessary construction maintenance and modification activities.

   — Formal release for testing.

   — Measures to preserve equipment status

   — Prior testing

   — Safety precautions.

   A detailed prescribed physical inspection of equipment components and facilities is performed to ensure readiness for operation. Typical inspection items include:

   — Calibration of instruments.

   — Cleanliness.

   — Lubrication.

   — Presence of safety devices.

   — Setting of limit switches.

2. Schedule

   Schedules are provided to assure that all necessary tests are performed and properly evaluated on a timely basis. Testing is scheduled so that the safety of the plant is never dependent on the performance of an untested system.

3. Test Results and Records

   Appropriate Company personnel evaluate test results to assure conformance with design and performance requirements. Inspection and test results are documented in a test report or data sheet. Each report identifies the following:

   — Acceptability of the test.

   — Actions taken to correct the deviations noted.

   — Any deviation of test results from acceptance criteria (nonconformance).

   — As-found condition.

   — As-left condition.

   — Completion date and other significant dates and times.

   — Data sheets completed during the tests.

   — Documents that provide acceptance criteria.

   — Identification of the conditions encountered which were not anticipated.

   — Identity of inspector or tester.

   — Item to which it applies.

   — Location where testing was performed or where test samples were taken.

   — Measuring and test equipment used

   — Person evaluating test results.

   — Procedures or instructions followed in performing the task.

   — Test procedures.

   — Test results.

11.2.2. Instrumentation and Control

The Company tests instrumentation and control channels to assure that they are properly calibrated. In addition, specific tests are performed at critical levels such as set points in a manner simulating the approach toward the set point. These calibrations are made with the devices in their normal positions if the calibration is dependent upon location or attitude.

Testing determines that a proper response is obtained over the operating range of the device. It gives particular attention to verifying independence and dependence, as appropriate, of the elements of the systems. Calibration documentation includes indicating the date and identity of the person that performed the calibration.

The Company prepares and documents installation, inspection and test procedures and work instructions for instrumentation and electrical equipment. These documents are kept current and revised as necessary to assure that installation, inspections and tests are performed in accordance with latest information. They include as appropriate:

- Approvals.
- Data report forms.
- Frequency of inspection or test.
- Identification of test equipment and date for required re-calibration where required for interpretation of test results.
- Inspection and test acceptance limits.
- Inspection and test equipment required.
- Inspection and test objectives.
- Installation specifications.
- Precautions to avoid component or system damage during testing or inspection.
- Prerequisites.
- Sequence of tests (if applicable).
- Sequential actions to be performed.

11.2.3. Electrical Tests

Electrical tests include as appropriate:

- Continuity tests, short circuit tests, polarity and rotational tests.
- Control system tests including indicating meters, recorders, transducers, targets and lamps, annunciators and alarms, controls and interlocks.
- Insulation resistance measurements as specified.
- Over potential (HIPOT) tests as specified. Overpotential tests conform to the applicable codes and standards. The manufacturer's recommendations are considered.
- Voltage breakdown tests on liquid insulation.

11.2.4. Mechanical Tests

The Company performs mechanical tests to ascertain that electric and / or instrumentation components or systems can withstand system pressure ratings. As a minimum, the Company applies such tests to pressure sensing and transmitting devices operating in steam, hydraulic, and vacuum systems and their hydraulic or pneumatic interconnecting piping or tubing and associated instruments.

Pressurized equipment that is part of electrical apparatus such as heat exchangers, circulating systems, actuating systems, and electric and instrumentation containment penetrations are likewise tested if site assembled or fabricated. Tests are conducted after the assembly is complete even though the components may have been tested previously. These tests are performed in accordance with the applicable codes and standards.

11.2.5. Physical and Chemical Tests

Physical and chemical tests, in accordance with the applicable codes, include, as appropriate:

- Chemical analysis of fluids for oxygen or moisture content and purity.
- Radiation sensitivity testing to confirm that radiation sensor and controlling devices is properly functioning.

11.2.6. Surveillance Tests

The Company's test program covers surveillance testing during the operational phase to provide assurances that failures or substandard performance do not remain undetected and that the required reliability of safety related systems is maintained.

11.2.7. Maintenance or Major Procedure Change

Company performs tests following plant modification or significant changes in operating procedures to confirm that the modification or changes produce expected results. These tests also demonstrate that the change does not produce an unsafe operating condition.

12.1. SCOPE

Measures and responsibilities are established to assure tools, gauges, instruments, and other Measuring and Testing Equipment (M&TE) used in activities affecting quality are properly controlled, calibrated, and adjusted at specified periods to maintain accuracy within specified limits. Measures shall also be established for the control of permanently installed instrument and control devices.

12.2. REQUIREMENTS

12.2.1. General

Power Labs is responsible for the governance of M&TE and oversight of the site calibration process for Exelon plants. This includes the establishment of calibration practices, intervals, accuracy requirements, certification / de-certification, and equivalency decisions (except where accuracy is impactive non-conservatively), as well as the resolution of technical issues regarding M&TE calibration.

Corporate Maintenance is responsible for governance and oversight of site M&TE Control. This includes assessment of site compliance to the control of M&TE as defined in corporate maintenance procedural guidance.

The engineering organizations are responsible for decisions regarding the acceptability of changes to M&TE specifications where accuracies are less conservative than those currently established. The engineering organization performs M&TE equivalency calculations for these items to assure associated specifications are consistent with plant design, test procedures, and accuracy requirements (excluded are analytical chemistry and radiochemistry instruments).

The stations are responsible for the control and maintenance of calibrated M&TE for the station. The stations are also responsible for the control of station analytical chemistry instrumentation, radiochemistry instrumentation, and standard solutions.

12.2.2. Control

A control program specifies how M&TE are stored, handled, and used. As a minimum the following items are addressed:

- Administrative controls (including equipment marking and traceability to calibration records).
- Certification requirements.
- Damaged or suspect M&TE.
- Environmental restrictions.
- Items not requiring certification.
- M&TE selection.
- Out of tolerance resolution.
- Personnel qualifications.
- Repairs and maintenance.
- Status and usage history.

12.2.3. Labeling

Equipment shall be suitably marked to indicate calibration status. Where neither labeling nor coding is practical, procedures shall provide for monitoring of records to ensure control.

12.2.4. Accuracy

Calibration of M&TE should be against reference standards that have an accuracy of at least four times the required accuracy of M&TE. Calibration of reference standards will be against hierarchical standards more accurate than the reference standards calibrated. When this is not possible, standards must have an accuracy that assures the M&TE is within the required tolerance, and that the basis for acceptance is documented and authorized by responsible management.

12.2.5. Traceability and Intervals

M&TE is calibrated against and traceable to certified standards having valid relationships to nationally recognized standards. Where national standards do not exist, provisions are established to document the basis for calibration. Calibration intervals are established for all M&TE and the Company program specifies how this interval is established.

12.2.6. Certified M&TE

Certified M&TE is required where measurements with specific accuracy / tolerance requirements are delineated

- Calibration of other M&TE.
- Environmental monitoring.
- Safety related and applicable ASME applications.
- Technical Specification related applications (including balance of plant systems).
- Verification of design parameters.

Certified M&TE is not required when measurements do not require specific accuracy or when commercial devices (such as rulers, tape measures, levels) provide adequate accuracy. Electronic stopwatches are not required to be calibrated.

12.2.7. Corrective Actions

When M&TE is found to be out-of-tolerance, an evaluation is made of its previous uses to determine corrective action. Suspect equipment is identified and segregated to prevent inadvertent use. Devices that are consistently found out of calibration are repaired or replaced.

12.2.8. Vendor Control

Vendors supplying calibration services are on the Company's approved suppliers list.

12.2.9. Commercial Devices

Control measures are not required for rulers, tape measures, levels, and other such commercial devices, if such equipment provides adequate accuracy.

12.2.10. Calibration Records

M&TE calibration records contain, as a minimum:

- As found / as left condition.
- Calibration data.
- Calibration procedure used.
- Calibration results.

- Equipment location.
- Established accuracy.
- Individual performing calibration.
- Last calibration date.
- Next calibration date.
- Out of tolerance notification.
- Repairs (if any).
- Serial number.
- Standards used.

13.1. SCOPE

The Company establishes measures to control and specify special protective conditions in accordance with an item's design and procurement requirements, as necessary, to prevent damage or deterioration of materials, components, and systems during handling, packaging, preservation, storage, and shipping.

13.2. REQUIREMENTS

13.2.1. General

The Company uses written procedures or instructions for cleaning, packaging, shipping, storage, preservation, and to specify detailed requirements for access to storage areas, housekeeping, and removal of items from storage. Procedures include provisions for inspection, examination, testing and documentation. These procedures specify special protective conditions necessary to prevent damage, deterioration or loss before and after receipt of materials, equipment, special nuclear material, and radioactive wastes.

Procurement documents or the vendor's quality program specifies the establishment of controls, to assure through the use of shipping procedures to provide protection during loading and transit and inspections, that items are delivered in acceptable condition.

13.2.2. Special Equipment and Environments

When required, the Company:

- Provides special equipment and special protective environments.
- Specifies special equipment (such as containers, shock absorbers and accelerometers).
- Specifies special protective environments (such as inert gas atmosphere, specific moisture content levels and temperature levels).
- Verifies the maintenance of special equipment and special protective environments.

13.2.3. Classification of Items

Levels and methods of storage are classified to minimize the possibility of damage, deterioration, or contamination of items. This is based on the important physical characteristics and the importance to safety and reliability of the item. This classification considers the manufacturer's requirements.

The Company packages, ships, receives, stores, and handles items according to established manufacturers requirements or the Company's' prescribed level. When a package or assembly contains items of different levels, the Company classifies it to the highest level designated for any of the items contained.

13.2.4. Special Handling tools and Equipment

The Company inspects and tests special handling tools and equipment using procedures at specified time intervals to verify adequate maintenance. The Company provides special handling procedures and instructions for items that are susceptible to handling damage. These procedures delineate acceptable techniques, necessary qualifications and precautions for maintenance and use. Operators of special handling and lifting equipment have experience or are trained in their usage.

13.2.5. Marking and Labeling

The Company establishes instructions for marking and labeling to identify, maintain, and preserve an item, including indication of the presence of special environments or the need for special controls.

Consumable materials such as chemicals, reagents, and lubricants maintained in storerooms and warehouses are controlled procedurally by an inventory control system, which includes provisions for identifying storage requirements and shelf lives by commodity, when applicable. Disposal of commodities whose shelf life has expired is addressed and controlled by procedures.

13.2.6. Storage

Periodic monitoring is performed to assure that storage areas are being maintained in accordance with applicable requirements. Access to storage areas shall be controlled and limited. Cleanliness and good housekeeping practices shall be enforced at all times in the storage areas. Fire protection measures commensurate with the type of storage area shall be provided and maintained.

14.1. SCOPE

Measures shall be established and documented to identify inspection, test, and operating status of SSCs in the scope of this QAP. Such measures shall provide means for assuring that required inspections and tests are performed and that the acceptability of items with regard to inspections and tests performed is known throughout procurement, installation, and operation in order to preclude inadvertent bypassing or altering the sequence of such inspections and tests.

14.2. REQUIREMENTS

14.2.1. General

The Company uses markings, tags, stamps, routing cards, labels, forms, inspection records, or other means to identify the operating status of plant equipment. This identification helps avoid inadvertent bypassing of the inspections and tests required prior to its use.

In cases where documentary evidence is not available to confirm that an item has passed required inspections and tests, that item shall be considered nonconforming. An operability determination for the nonconforming item with timeliness commensurate with the potential safety significance of the issue is performed. The operability determination is focused on whether the non-conforming item is capable of performing or supporting its specified functions of prevention or mitigation as described in the current licensing basis and will result in the determination of continued plant operation. If operability is assured based on this prompt determination, plant operation can continue while an appropriate corrective action program is implemented to restore qualification of the nonconforming item.

Control procedures describe the use of such tags, stamps, routing cards, labels, forms, inspection records, and other methods. The authority for application and removal of tags, markings, labels and stamps is specified. Tagging, labeling, color-coding, physical separation, or using an inventory system identifies acceptable or unacceptable items for installation.

The Company:

— Clearly identifies and documents all temporary connections, such as jumpers and bypass lines, and temporary set points of control equipment to allow restoration before placing the item in service.

— Conditionally releases items for installation pending subsequent correction of any nonconformances.

— Indicates the date the item was placed in the acceptable or unacceptable installation status.

— Maintains records, marks equipment to indicate calibration status, and identifies test equipment found out of calibration.

14.2.1.1. Procedures

The Company uses procedures for control of equipment to maintain personnel and reactor safety and to avoid unauthorized operation of equipment. These procedures require control measures such as locking or tagging to secure and identify equipment in a controlled status. The procedures require independent verifications, where appropriate, to ensure that necessary measures, such as equipment tagging, have been done correctly.

14.2.2. Operating Status

14.2.2.1. Release for Maintenance

Operating personnel, including a senior reactor operator, as applicable, may grant permission to release plant systems or equipment for maintenance or surveillance testing. Prior to granting permission, such operating personnel:

— Verify that the equipment or system can be released.

— Determine how long it may be out of service.

— Determine what functional testing or redundant systems are required prior to and during the out-of-service period.

The Company documents such permission. The Company uses independent verification to the extent necessary to ensure that the proper system was removed from service. The Company considers the degraded protection available when one subsystem of a redundant safety system has been removed for maintenance or surveillance testing.

14.2.2.2. Preparation for Work

After permission has been granted to take the equipment out of service, measures provide for protection of equipment and workers. The Company clearly identifies the status of equipment and systems at any location where the equipment can be operated. The Company enforces strict control

measures for such equipment. The operating staff can easily identify equipment, which is in other than normal conditions.

In addition to the requirements of the technical specifications, conditions to be considered in preparing equipment for maintenance or surveillance testing include, for example:

- Electrical hazards.
- Entry into closed vessels.
- Establishment of a path for decay heat removal.
- Handling hazardous materials.
- Hazardous atmospheres and ALARA considerations.
- Method of emergency core cooling.
- Shutdown margin.
- Temperature and pressure of the system.
- Valves between work and hazardous materials.
- Venting, draining, and flushing.

When entering a closed system, the Company prevents the entry of extraneous material and removes foreign material before re-closing the system. Appropriate personnel inform control room supervision of changes in equipment status, including temporary modifications, and the effects of such changes.

14.2.2.3. Temporary Modifications

The Company controls temporary modifications, such as temporary bypass lines, electrical jumpers, lifted electrical leads, and temporary trip point settings with approved procedures. These procedures include requirements for the period of time when the temporary modification is in effect. They also include a requirement for:

- A verification by a second person of the proper installation or removal of the temporary modification, or
- A functional test which conclusively proves the proper installation or removal of the temporary modification.

The Company maintains a log or other documented evidence for the current status of such temporary modifications. The Company reviews temporary modifications periodically to assess their continued need and propriety.

14.2.2.4. Return to Service

When equipment is ready to be returned to service, operating personnel place the equipment in operation and verify and document its functional acceptability. The Company assures return to normal conditions using approved procedures, including:

- Removal of electrical jumpers.
- Removal of signals used during testing.
- Returning valves, breakers, or switches to proper start-up or operating positions.
- Assuring that all alarms, which are indicative of inoperative status, are cleared.

A second qualified person verified proper alignment of equipment unless:

- All equipment, valves and switches involved in the activity can be proven to be in their correct alignment by functional testing without adversely affecting the safety of the plant, or
- Such verification would result in significant radiation exposure.

The person who performs verifications (independent or concurrent) is qualified to perform such tasks. When placed into service, equipment receives additional surveillance during the run-in period. The on-duty supervisor responsible for the unit formally accepts equipment, which is returned to service.

15.1. SCOPE

Controls shall provide for identification, evaluation, segregation when practical, disposition of nonconforming items, and for notification to affected organizations. Items that do not conform to specified requirements shall be controlled to prevent inadvertent installation or use.

15.2. REQUIREMENTS

15.2.1. General

Nonconforming items are processed in accordance with the corrective action program and / or documented procedures. The Company uses written procedures to identify and control items, services or activities that do not conform to requirements. These procedures address the:

- Disposition of nonconforming items.
- Documentation of identified nonconformances.
- Identification of nonconforming items.
- Notification of affected organizations.
- Operability determination of the SSC with the identified nonconforming condition.
- Segregation of nonconforming items.

Implementation of these procedures prevents the inadvertent use, operation, or unauthorized installation of nonconforming items.

15.2.1.1. Supplier Nonconforming Items

The Company and its suppliers establish and document measures for the identification, control and disposition of items and services that do not meet procurement document requirements. These measures provide for:

- A review of nonconforming items.
- Supplier notification to the Company of a nonconformance. These notifications include a supplier recommended disposition (e.g. use - as - is or repair) and technical justification. The supplier submits nonconformances to the Company for approval if:
    - The supplier has violated a technical or material requirement, or

- The supplier has violated a requirement in supplier documents, which have been approved by the Company, or
- The supplier cannot correct the nonconformance by continuation of the original manufacturing process or by rework, or
- The item does not conform to the original procurement requirement even though the item can be restored to a condition such that the capability of the item to function is unimpaired.

— Company disposition of supplier recommendations

— Verification of disposition for nonconformances

— Maintenance of records for supplier nonconformances

15.2.2. Identification

The Company identifies nonconforming items by marking, tagging, or other methods, which do not adversely affect the end use of the item. The identification is legible and easily recognizable.

15.2.3. Segregation

When practical, the Company segregates nonconforming items by placing them in a clearly identified and designated hold area until properly dispositioned. When segregation is impractical or impossible due to physical conditions such as size, weight or access limitations, other precautions are employed to preclude inadvertent use of a nonconforming item.

15.2.4. Disposition

15.2.4.1. Control

Nonconforming characteristics shall be reviewed and recommended dispositions of nonconforming items shall be proposed and approved in accordance with documented procedures. Further processing, delivery, installation, or use of a nonconforming item shall be controlled pending an evaluation and an approved disposition by authorized personnel.

15.2.4.2. Evaluation

The Company has responsibility for resolution of nonconformances in accordance with written procedures. Where ASME Code requirements are involved, the Authorized Inspection Agency reviews and accepts or rejects the disposition and justification. Engineering provides technical justification and independent review of nonconformances dispositioned as repair or use-

as-is. For items under a contractor's direct control, the Company may delegate to the contractor the authority to perform a technical evaluation of nonconformances, if the contractor has an acceptable procedure for handling nonconforming items. Where the Company delegates such authority, the contractor is responsible for establishing that:

- All actions fall within the requirements set by the Company.
- An accepted nonconformance meets the design intent.
- ASME Code items meet the requirements of the ASME Code.
- Personnel performing the evaluation meet the requirements of section 15.2.4.3 below.

When a technical evaluation has not been delegated to a supplier, the Company makes a technical evaluation of all pertinent data relating to the nonconformity, including the cause, where known, and the corrective action either taken or planned to prevent recurrence per the corrective action program. The Company retains the responsibility for the satisfactory resolution of supplier nonconformances.

15.2.4.3. Personnel

Personnel having expertise in the pertinent discipline determine whether a nonconforming item may be accepted as - is, may be repaired to an acceptable condition, or must be rejected. These personnel have adequate competence and knowledge necessary to make this evaluation and have access to pertinent background information.

15.2.4.4. Documentation

The Company identifies nonconforming items and documents their disposition as applicable (e.g. use - as - is, reject, repair, or rework). Technical justification for the acceptability of a nonconforming item, dispositioned as repair, or use-as-is, is documented and traceable to each item. Appropriate documentation is retained.

Nonconformance to design requirements that are dispositioned as use - as - is or repair are subject to design control measures commensurate with those applied to the original design. The Company technically justifies dispositions designated use - as - is, and repair to assure that the final condition of any nonconforming item meets applicable code requirements and will not adversely affect the safety, operability, or maintainability of the item, or of the

component or system in which it is installed. The as - built records, if such records are required, reflect the accepted deviation.

If the nonconformance can be corrected after installation, the item may be released for installation on a conditional release basis. The Company documents the authority and technical justification for the conditional release of the item and makes it part of the documentation.

15.2.4.5. Repaired, Reworked, or Scrapped Items

The Company re-examines repaired or reworked items using procedures and the original acceptance criteria unless the nonconforming item's disposition has established alternate acceptance criteria. Items that have been corrected are re-inspected or re-tested as required by the approved disposition.

The area of inspection may be confined to the area of the nonconformance. When it has been determined that the corrected item is satisfactory, the status of the item is changed to acceptable and an appropriate entry is made in the documentation after acceptance is determined.

The Company scraps, discards or transfers to training usage a nonconforming item that cannot be corrected or accepted as - is. Nonconforming items that are being used for training must be controlled (e.g. administratively controlled, permanently identified, marked, obliterate Material ID Tag or Q level indicators) to prevent inadvertent or inappropriate use of the item.

16.1. SCOPE

This Chapter describes the Company program to identify and correct conditions adverse to quality.

16.2. REQUIREMENTS

16.2.1. General

The Company implements a Corrective Action Program to promptly identify and correct items or occurrences that are adverse to quality or might adversely affect the safe operation of a nuclear generating station. These items or occurrences are screened for reportability, operability, Part 21, etc. The Company makes a thorough investigation of occurrences and identifies corrective action to prevent recurrence of an event, as appropriate. Events may include reactor trips, failed equipment, personnel errors, and procedural infractions. Measures are taken to assure that the cause of any significant condition adverse to quality is determined and takes corrective action to prevent recurrence.

16.2.2. Conditions Adverse to Quality

Measures are established to assure that conditions adverse to quality are identified and corrected. Examples of conditions adverse to quality are provided in procedures. Examples include failures, malfunctions, adverse trends, deficiencies (including programmatic), deviations, defective material, design errors, equipment, and nonconformance to specified requirements.

An independent review body reviews violations, deviations and reportable events that require a report to the NRC in accordance with regulatory requirements and company procedures. This includes the review of results of any investigations made and the recommendations resulting from such investigations. These include items such as:

— Licensee Event Reports (LER)

— Significant operating abnormalities or deviations from normal or expected performance of plant safety related SSCs.

— Violations of applicable codes, regulations, orders, technical specifications, license requirements or internal procedures or instructions having safety significance.

16.2.2.1. Significant Condition Adverse to Quality

In cases of significant conditions adverse to quality the cause of the condition is determined and documented, resolution determined and documented, and corrective action taken and documented to preclude recurrence.

1. Procurement

   The Company uses procedures that include methods for the identification of conditions adverse to quality and for timely corrective action. The Company requires individual vendors and their contractors to include corrective action measures in their quality assurance programs. In cases of significant conditions adverse to quality that arise during the procurement process, the Company uses procedures to describe the method used to:

   — Identify and document deviations and non-conformances.

   — Review and evaluate the conditions to determine the cause, extent and measures needed to correct and prevent recurrence.

   — Report the conditions and corrective action to the appropriate levels of management.

   — Implement and maintain required corrective actions.

2. Plant Hardware Malfunctions

   The causes of malfunctions are determined, evaluated, and recorded, as appropriate. Experience with the malfunctioning equipment and similar components are reviewed and evaluated to determine if a replacement component of the same type can be expected to perform the function reliably. If evidence indicates that common components in safety-related systems have performed unsatisfactorily, corrective measures are planned prior to replacement or repair of all such components. Appropriate procedures are revised in a timely manner to prevent recurrence of equipment malfunction or abnormal operations.

3. Incorrect Design

   When a significant design change is necessary because of an incorrect design, the Company reviews and modifies the design process and verification procedures, as appropriate. In cases of significant or recurring deficiencies (or errors), the Company follows written procedures to correct the deficiency (or error), determine the cause and make changes in the design process and the QAP to prevent similar types of deficiencies (or errors) from recurring.

16.2.3. Verification and Follow-up

The Company verifies completion of corrective actions for maintenance, repair, refueling, operation activities, completion of corrective action taken for assessment deficiencies (including programmatic), and performs assessments of site corrective action. The Company tracks and verifies completion of corrective action taken for independent assessment findings and approves the completion of corrective actions.

Trending and assessment results are evaluated to assure that corrective measures are implemented effectively and that actions to prevent recurrence are effective as appropriate. The Company also requires contractors and vendors to follow-up on corrective action commitments within their quality programs.

The Company regularly reviews and analyzes records to:

- Assure that the causes of a nonconformance and the corrective action have been clearly described.
- Assure that authorized Company personnel have evaluated the overall effect resulting from the use of nonconforming items.
- Determine whether corrective measures will preclude recurrence.

16.2.4. Evaluation and Qualification

Personnel performing the evaluation function are responsible for considering the cause and the feasibility of corrective action to assure that the necessary quality of an item is not deteriorated. Where it is determined that the cause cannot be corrected immediately, the due date of corrective action will be determined during the review and evaluation. Evaluation may indicate the need for investigations to assure that corrective measures are considered complete and may also indicate that the nature of the deficient condition is minor and does not require corrective action.

Qualified personnel are responsible for determining the root cause(s) of an event and developing recommendations to preclude recurrence. These personnel report the results of their determination to appropriate station personnel and Company management.

16.2.5. Documentation and Reporting

The Company documents the identification of significant conditions adverse to quality, the cause of the condition, the corrective action taken, and reports these items to the appropriate levels of management, and as applicable, PORC. If the identified issue is not an indication of a significant failure in any portion of the QAP, the Company does not require reporting to management.

Reports are made immediately if prompt corrective action is required. Formal reports are filed with the appropriate regulatory agency, when required. Reports of investigations include a detailed description of the occurrence, the findings of the investigation, and the recommended corrective measures. The Company notifies the rest of the nuclear industry of significant events with generic implications and its circumstances to help preclude a similar event occurring at another plant.

The Company keeps records to identify incidents (e.g., major damage, personal injury, major schedule delays.), non-conforming items, unfavorable conditions, programmatic deficiencies identified in assessment reports, significant equipment failures, and malfunctions that occur during station operations.

The Company tracks the completion of corrective actions for conditions adverse to quality and maintains records of their resolution. Parts or all of this system may be electronically monitored and electronic records may be used as the sole record of such a system.

17.1. SCOPE

The Company establishes and implements a program, which defines requirements and responsibilities for identification, generation, collection, compilation, storage, maintenance, retention, and retrieval of records necessary to provide evidence of quality in assessment, corrective action, decommissioning, design, engineering, fabrication, installation, inspection, maintenance, modification, operations, testing, and associated reviews.

17.2. REQUIREMENTS

17.2.1. Programs

The records program provides for:

- Administration.
- Generation
- Receipt and transmittal.
- Storage and preservation (includes temporary and permanent records)
- Safekeeping and classification.
- Retention and disposition

17.2.2. Administration

Authority and responsibility for record control activities are delineated in procedures. Records are administered through a system, which includes an index of record type, retention period, and storage location. Distribution of records shall be controlled in accordance with written procedures. Measures are established for replacement, restoration, or substitution of lost or damaged records.

Records are legible, accurate, complete, identifiable, and retrievable. Records are considered valid and complete when dated and stamped, initialed, signed, or otherwise authenticated. Corrections, revisions, or supplements to completed records are reviewed and approved by an authorized individual in the originating organization. Such changes are dated and stamped, initialed, signed, or otherwise authenticated including the use of electronic approval and authorization.

Records may be stored in electronic media provided that the process for managing and storing data is documented in procedures that comply with

applicable regulations, including NRC guidance in RIS 2000-18 and as recognized in NIRMA (Nuclear Information Records Management Association) technical guides TG-11, TG-15, TG-16, TG-21. Media used for the retention of records include (but are not limited to): microform, compact disk-recordable (CD-R), and magnetic media including videotape, computer tape, optical disks, and hard disk storage. Electronic records retention must be an integral component of the Corporate Records Management Program, approved by the management position responsible for Nuclear Generation records. The format used must be capable of producing legible, accurate, and complete documents during the required retention period. Electronic approval and authorization procedures are established to assure that only those persons authorized grant the required approvals.

17.2.3. Receipt and Transmittal

A system for receipt control of records is established. Receipt control is required for records transferred between Company locations, vendors and the Company, and from Company department files to final storage locations. Systems are established to transfer records between Company locations and between vendors and the Company. Records transferred from Company department files to a final storage location are also under such systems. The system of receipt control of records for permanent or temporary storage includes inventory of transmitted records, receipt acknowledgment, and control of records during receipt.

17.2.4. Storage and Preservation

Records storage facilities are established and maintained in a manner that minimizes the risk of damage or destruction. Records may be kept by suppliers and maintained on an available basis for a specified period of time. Storage and Preservation systems provide for:

- Assignment of responsibilities.
- Attachment in binders, folders, or envelopes for storage in steel file cabinets or on shelving in containers.
- Control and accountability of records removed.
- Damage from natural disasters such as winds, floods, and fires.
- Following manufacturer recommendations for special recording media.
- Protection from environmental conditions such as high and low temperatures and humidity.

— Protection from infestation of insects, mold, or rodents etc.

— Special processed records such as radiographs, photographs, negatives, microfilm, and magnetic media to prevent damage from excessive light, stacking, electromagnetic fields, temperature and humidity.

Permanent storage alternative below applies to Calvert Cliffs Nuclear Power Plant. In lieu of the reinforced concrete, concrete block, masonry, or equal construction requirements of Supplement 17S-1, Section 4.4.1(a), the records vault is entirely enveloped by a structurally sound, fire-resistive building. The vault rests on a reinforced slab on grade and its walls extend fully to the underside of the structural deck. The walls of the vault are constructed of gypsum wallboard on metal studs per Underwriters Laboratory Test Number U412, assuring the equivalent of 2-hour fire resistant construction. This is equal construction to concrete block in terms of fire protection. The walls carry no structural load; hence, they provide equivalent structural integrity to that needed of concrete block. Supplement 17S-1 Section 4.4.1(b) requires floor and roof drainage control. If a floor drain is provided, a check valve (or equal) shall be included. In lieu of this requirement, the vault is contained within an environmentally protected building. As such, it has no roof, or need for floor drain.

Interim storage provisions shall be established to properly maintain and protect records until they are permanently transferred to record storage facilities for retention and shall meet one of the following conditions:

1. Records shall be stored in steel cabinets located in a fire-resistant building or non-combustible building with a fire suppression system.

   A fire-resistant building must meet the following: A facility constructed to resist the initiation or spreading of fire; fire-suppressive and / or non-combustible materials used; building certified as fire-resistant by a person who specializes in the technical field of fire prevention and fire extinguishing.

2. Temporary storage per section 17.2.4.1.

17.2.4.1. Temporary Storage

Measures are established for temporary storage of records when required by an organization's procedures for activities such as; for processing, review, or use. These measures require that these records are stored in a 1-hour fire rated container and that a maximum allowable storage time limit is specified.

17.2.5. Safekeeping and Classification

Measures are established to prevent access to records by unauthorized personnel. These measures guard against theft and vandalism. Records are classified and retained in accordance with applicable regulations.

17.2.6. Retention and Disposition

Records retention periods are established to meet regulatory, UFSAR, and License requirements. The most stringent retention period is implemented when multiple requirements exist. Records are dispositioned at the end of the prescribed retention period.

17.2.7. Plant Operating Records

17.2.7.1. Records and / or Logs, 5-Years Retention (unless otherwise noted)

Records and / or logs relative to the following items shall be kept in a manner convenient for review and shall be retained for at least 5 years unless otherwise noted. These items apply to Braidwood, Byron, Calvert Cliffs, Clinton, Dresden, Ginna, LaSalle, Limerick, Nine Mile Point, Peach Bottom (including the Independent Spent Fuel Storage Installation), and Quad Cities Stations unless otherwise noted:

- Records of normal plant operation, including power levels and periods of operation at each power level.
- Records and periodic checks, inspection and/or calibrations performed to verify that the surveillance requirements of the Technical Specifications (and Fire Protection Program at Clinton) are being met. All equipment failing to meet surveillance requirements and the corrective action taken shall be recorded.
- Records of physics tests and other tests pertaining to nuclear safety. (Braidwood, Byron, Dresden, LaSalle, Peach Bottom, Quad Cities)
- Records of changes to procedures required by a station's Technical Specifications and other procedures, which affect nuclear safety, as determined by the management position holder responsible for plant operation.
- Shift manager / engineers' logs (Braidwood, Byron, Dresden, LaSalle, Quad Cities)
- Records of principal maintenance activities, including inspection and repair, (and replacement for Braidwood, Byron, Limerick and Peach

Bottom) regarding principal items of equipment pertaining to nuclear safety.

- Records of changes made to the equipment or reviews of tests and experiments to comply with 10 CFR 50.59 (Dresden and Quad Cities).
- Records of changes made to the procedures as required by Technical Specifications and the Operational Requirements Manual (Clinton).
- Reportable events required by 10 CFR 50.73 and 10 CFR 72.216 as applicable (Clinton 10 CFR 50.73 only, Calvert Cliffs, Ginna, Limerick, Nine Mile Point, and Peach Bottom).
- Records of radioactive shipments (Calvert Cliffs, Ginna, Limerick, and Nine Mile Point)
- Records of secondary water sampling and water quality. (Calvert Cliffs, Ginna, Nine Mile Point) (Lifetime)
- Records of the service lives of all snubbers, including the date at which the service life commences and associated installation and maintenance records. (Calvert Cliffs, Ginna, Nine Mile Point Unit 2) (Lifetime)
- Records of evaluations performed for changes made to procedures or equipment or evaluations of tests and experiments pursuant to 10 CFR 50.59 or 10 CFR 72.48. (Calvert Cliffs, Ginna, Nine Mile Point) (Lifetime)
- Records of QA activities required by this QATR and not otherwise listed. (Calvert Cliffs, Ginna, Nine Mile Point) (Lifetime)

17.2.7.2. Lifetime Records

Lifetime records are those that are specified by applicable regulations, standards, codes, and licensing basis documents.

18.1. SCOPE

A documented, comprehensive system consisting of regulatory audits of the Company and its vendors are conducted to verify QAP compliance, adequacy, and effectiveness. Audits are conducted in accordance with written procedures or checklists. Audits are performed to the requirements of ASME NQA-1 to evaluate the audited organization and to assure completion of required corrective actions, commitments, or improvements and determine effectiveness in meeting program objectives.

18.2. REQUIREMENTS

18.2.1. General

18.2.1.1 Scheduling

The internal audit program is conducted on a performance driven frequency that is commensurate with the status and importance of the activity to be completed. Audits governed by regulations will be performed on a frequency specified by the regulation. All other audits are nominally scheduled at a 36-month frequency. Audits shall be performed at the intervals designated in Appendix B, *Audit Frequency*. Schedules are based on the month in which the audit starts.

An evaluation will be performed once per calendar year**,** to determine the need for additional audit activities. When determined necessary, an additional audit activity will be performed within a timeframe established by the evaluation.

Audits or surveys of vendors and their sub-tier suppliers are performed to a pre-established schedule. Audits are nominally scheduled at a 36-month frequency. Documented supplier performance monitoring is performed in accordance with approved procedures as an acceptable alternate to the performance of the annual evaluation of suppliers. The management position responsible for audits and programs or designee, shall review and approve the audit / survey schedule and checklists, and sign reports. Schedules are reviewed semi-annually and revised accordingly to assure that suppliers are audited or surveyed as required.

Audits may be extended beyond their originally scheduled due date based on the following criteria:

A. For internal and vendor audits or surveys, a maximum extension not to exceed 25 percent of the audit interval is allowed. Unless extension is

allowed by regulations, regulatory required audits will be performed on a frequency not to exceed 24 months.

B. When an audit interval extension greater than one month is used, the next audit for that audit area is scheduled from the original anniversary month rather than from the month of the extended audit.

18.2.1.2. Preparation

A documented plan or an agenda identifies the audit scope, requirements, personnel, activities to be evaluated, organizations to be notified, applicable documents, and schedule. An approved checklist or procedure for each scheduled audit identifies the requirements of the area or items to be evaluated. Audit plans, agendas, checklists, and procedures as applicable are prepared in advance under the direction of an Audit Team Leader.

18.2.1.3. Personnel

Experienced and qualified personnel perform audits and are familiar with written procedures, standards, and processes applicable to the area being evaluated. Audit personnel shall have sufficient authority and organizational freedom to make the audit process meaningful and effective and shall not have direct responsibilities in the areas to be audited. They shall have access to the plant records necessary to fulfill their function.

The Audit Team Leader shall organize and direct audits and ensure the team collectively has the required experience or training for the activities to be evaluated. Technical Specialists may supplement the team to provide additional experience and competence.

18.2.1.4. Performance

Audits are initiated early to assure effective quality assurance during design, procurement, manufacturing, construction, installation, inspection, testing, and operations. Additional unscheduled audits may also be performed at various stages of activities, based on the nature and safety significance of the work being done; to verify continued adherence to and effectiveness of the quality systems. Objective evidence shall be examined to the extent necessary to determine that a quality program is being effectively implemented.

18.2.1.5. Reporting and Follow-up

An audit report includes the description of the audit scope, identification of the team and personnel contacted during audit activities, a summary of results

(including a statement on effectiveness of the QAP elements), and a description of each finding. The ATL shall sign the audit report for which he or she is responsible.

Audit results are documented and distributed to the management position responsible for NOS, and to the appropriate managerial level of the organization having responsibility for the area or activity audited. Findings or deficiencies requiring prompt corrective action are reported immediately to the management of the audited organization.

Findings, deficiencies, and recommendations of each audit shall be reported to appropriate site management and the management position responsible for NOS. All findings of noncompliance with NRC requirements, and any significant nuclear safety or quality issues requiring escalated action, will be directed through the management position responsible for NOS to the President and CNO in accordance with procedural requirements.

Responsible management shall take the necessary actions to correct findings identified in the audit. They will identify the corrective action to be taken, actions that will prevent recurrence as applicable, and a schedule for implementing these actions. Responses to audit findings are reviewed for adequacy.

Follow-up verification of the completion of scheduled corrective action commitments are performed by NOS to assure findings or adverse conditions are corrected in accordance with procedural requirements. Follow-up action of previous deficient areas or adverse conditions (including re-audit) is taken to verify that corrective action has been completed, is effective, implementation continues, and is properly documented, when indicated.

18.2.1.6. Records

Audit results are documented, and reports are generated and retained as applicable. Associated documentation is on file at the appropriate location. Personnel qualification records for audit team members are established, maintained, and reviewed as required.

18.2.2. Vendor Audits

Audit program requirements are imposed on suppliers by appropriate contract or procurement documents. The Company's active participation in nuclear industry audits provides an alternative means to fulfilling its responsibility for examining supplier activities.

18.2.3. Independent Management Audit

A periodic audit of the status and adequacy of the QAP is performed by an independent organization to assure that audits are being accomplished to program requirements. In addition, this will include an evaluation of the independent review as defined in Chapter 2, section 2.2.6. The management position responsible for NOS submits the results of this audit to the President and CNO. The periodic audit will include a sampling of sites and are nominally scheduled at a 36-month frequency with a 25 percent grace allowed. A self-assessment will be performed once per calendar year to evaluate the need for additional audit activities.

A.1. SCOPE

It is the Company's policy to assure a high degree of availability and reliability for its nuclear plants while ensuring the health and safety of the public and its workers. Therefore, the QAP is applied in a graded manner to certain areas and activities that are not clearly defined as safety related. The Company calls this application Augmented Quality. Augmented Quality includes systems and components that are subject to the requirements of ASME Code Sections: I Power Boilers, IV Hot Water Heaters, and VIII Non-Fired Pressure Vessels (see sub-section A.2.7 below). This appendix applies to all sites unless otherwise noted.

A.2. REQUIREMENTS

The Company applies the following augmented quality requirements to certain systems, structures, components (SSCs), and activities that are not safety related to a degree consistent with their importance to safety. Unless otherwise noted:

- Routine audits are performed of the program's content and implementation.
- Deficiencies are addressed in accordance with the corrective action program.
- Program Records of audits and reviews are maintained as required.

A.2.1. Health Physics and ALARA (As Low As Reasonably Achievable)

The Company develops, documents, and implements a radiation protection program sufficient to ensure compliance with the provisions of 10 CFR 20. The Company uses, to the extent practical, procedures and engineering controls based on sound radiation protection principles to achieve occupational doses and doses to the public that are as low as reasonably achievable.

A.2.2. Transport of Radioactive Waste

When the Company contracts with vendors to transport radioactive waste in NRC approved shipping packages, it meets the requirements of 10 CFR 71, Subpart H. The Company assures that this service is procured from an organization with a QAP and if applicable, includes a NRC licensed transport system. Loading, surveying, closure, placarding, and inspections are conducted in accordance with written procedures and instructions.

Transport casks and trailers are inspected before release in accordance with Department of Transportation (DOT) 49 CFR.

Shipping manifests, including final radiation surveys, are completed and retained. Radioactive waste shipments not meeting the requirements for NRC approved packaging, shall meet the requirements of DOT 49 CFR.

A.2.3. Services

The Company procures services from qualified suppliers. It is not necessary that these suppliers have a QAP approved by the licensee, however, suppliers should provide a quality QAP that includes the QAP elements presented in Reg. Guide 4.15, and routinely provide program data summaries sufficiently detailed to permit evaluation of the program for the following areas:

- Meteorology
- Offsite Dose Calculation Manual
- Radiological environmental monitoring

A.2.4. Fire Protection

10 CFR 50 Appendix A, General Design Criteria (GDC) 3, requires that the Company's nuclear facilities have an established fire protection program that provides fire protection features such that the adverse effect of fires on SSCs important to safety is minimized. The QAP established for these fire protection SSCs ensures that design, procurement, instruction, procedures, drawings, inspection, installation, testing, maintenance, operations, nonconforming items, corrective actions, records, audits and administrative controls meet the applicable Quality Assurance guidelines as described in the applicable edition of Branch Technical Position (BTP) 9.5-1, Final Safety Analysis Report, or Design document for each Exelon site. Engineering determines what fire protection SSCs protect SSCs important to safety. Engineering also establishes the requirements for the design, procurement, fabrication, installation and / or modification of these fire protection SSCs. Routine testing of fire protection systems assures reliability. All other fire protection equipment and supplies will be of commercial quality, in accordance with National Fire Protection Association (NFPA) guidelines.

A.2.5. Station Blackout (Regulatory Guide 1.155)

Calvert Cliffs, Dresden, FitzPatrick, LaSalle, Limerick, Nine Mile Point Unit 1, Nine Mile Point Unit 2, and Quad Cities stations rely on non-safety related

equipment to achieve the redundancy required by 10 CFR 50.63. Quality Assurance requirements for these sites are implemented in accordance with Regulatory Guide 1.155 (Station Blackout), Appendix A and B. Replacement and consumable parts and supplies are classified non-safety related in accordance with original specification and procured as commercial items. Routine testing of Station Black out (SBO) SSCs assures the necessary redundancy is maintained. Station Blackout SSC reliability is monitored in accordance with the Station Maintenance Rule program.

A.2.6. Augmented Quality Requirements for Dresden 1 and Peach Bottom 1

Dresden 1 and Peach Bottom 1 have ceased commercial operation and will ultimately be decommissioned. Staffing, qualification of personnel, and organization will be in accordance with the Dresden 1 De-fueled Technical Specification (DTS) and De-fueled Safety Analysis Reports (DSAR) and the Peach Bottom 1 Updated Final Safety Analysis Report (UFSAR) and Technical Specifications.

Except for inspections or examinations required for ASME repairs and replacements, station personnel may perform inspections provided they are experienced, task-qualified personnel or supervisors who did not supervise the activity being inspected. Nuclear Oversight will monitor this activity through periodic overview.

Timeliness of corrective actions is prioritized commensurate with the safety significance. Sufficient records of maintenance and modification activities will be maintained to evaluate failures, perform root cause analysis, if applicable, and determine appropriate corrective actions and to meet the requirements of the applicable DSAR or Peach Bottom unit 1 UFSAR.

A.2.7. Repairs and Alterations

The requirements of ASME Code Sections II, V, and IX shall be imposed as applicable for the repair or alteration job specific work scope.

A.2.7.1. State of Illinois

Welded repairs and all alterations to non-ISI boilers and pressure vessels, as described in Section 505.2500 of the rules contained in the Illinois emergency Management Agency (IEMA) Safe Operation of Nuclear Facility Boilers and Pressure Vessels (Part 505), and the repair of pressure relief valves, as described in Section 505.2500(b) are conducted in accordance with Section 505.2500(a)(1)(A) of these rules.

Section 505.2500(a)(1)(A) requires that the Company apply an approved QAP to such repairs and alterations and describe how it is applied. The following describes the Company's application of these rules:

- The Company has a QAP that is reviewed and accepted by the NRC. In addition, the QAP is reviewed and accepted by an accredited Authorized Inspection Agency. Authorized Inspectors present at each of the Company's plants while ASME Code work is in progress.
- Chapter 1 of this QAP describes the authority and responsibilities of the organization. It also describes the retention of responsibility by the Company when repair and modification activities are subcontracted.
- Chapter 3 requires that design and changes to designs be defined, documented, and controlled.
- Chapter 5 requires that all work be accomplished in accordance with documented instructions and procedures and be subject to appropriate process controls. Specifically, the Company uses the Nuclear Work Orders (NWO) to authorize, track, and control work in the plant. The NWO system includes provisions for specifying when work is ASME Code related and is not limited to any particular section of the ASME Code. It further provides for detailed instruction to accomplish the work. This includes the need for qualified inspectors, qualified welders, qualified procedures, special processes, required documentation, approved drawings, and post-maintenance / post-modification testing. NWOs marked as ASME Code work is offered to the Authorized Inspector for the insertion of hold and witness points.
- Chapters 4, 7, 8, and 13 address the procurement, receiving, handling, storage, disbursement, and marking of materials. Implementing procedure establish traceability of materials to the procurement and receiving processes and provide assurance that only ASME Code acceptable materials are utilized. Any specific requirements for heat traceability will be in accordance with the applicable sections of the ASME Code being used.
- Chapter 9 details the controls for special processes while Chapter 10 details those for inspection. This includes the requirement for the use of independent, qualified inspectors and examiners when required by the ASME Code, and invokes the Company's Special Processes and Procedures Manual (SPPM). The SPPM is also reviewed and accepted by the Authorized Inspection Agency.

— Chapter 6 and 17 require that documents and records be generated and maintained to satisfy the requirements of the ASME Code and the jurisdiction.

— Chapter 18 provides for overview and audit of ASME Code activities.

Repairs and alterations performed as described above meet the requirements of the approved QAP and meet the requirements of the IEMA B&PV rules, regardless of the safety classification of the boiler or pressure vessel or pressure relief valve being repaired.

A.2.8. Radioactive Waste / Augmented D - Clinton

QATR Chapters that are applicable to Radioactive Waste / Augmented D Systems are 1 through 7, 9 through 11, and 13 through 18. Chapters 8 and 12 do not apply. The extent of imposition of these requirements shall be determined on a case-by-case basis by the design organization.

A.2.9. Emergency Planning

Requirements with respect to audits and records for Emergency Preparedness are described in an Emergency Plan that meets the requirements of 10 CFR 50.47.

A.2.10 Security

Requirements with respect to audits and records for Security are controlled for each station by an NRC approved Station Security Plan that is prepared and implemented in accordance with the requirements contained in 10 CFR 73.55.

A.2.11 License Renewal

Consistent with the requirements of 10 CFR 54.21(a)(3), the company implements the requirements of QATR Chapters 1 through 18 to Aging Management Programs (AMP) for safety-related SSCs subject to Aging Management Review (AMR). Additionally, to manage the aging effects of non-safety related SSCs that were determined to be within the scope of License Renewal, the company implements the administrative controls, corrective actions and confirmation processes described in QATR Chapters 6, 16 and the applicable requirements of this appendix to AMPs for non-safety related SSCs subject to AMR.

A.2.12 10CFR 50.69, Risk-informed Categorization and Treatment of Structures, Systems, and Components, for Nuclear Power Reactors.

Applicability of this regulation should be verified by reviewing the site specific Updated Safety Analysis Report (UFSAR). 10CFR 50.69, provides alternative approaches for establishing the requirements for treatment of SSCs using a risk informed method of categorization according to safety significance. Engineering will establish a collection of program elements to monitor and / or maintain SSC critical attributes ensuring continued capability and reliability of the design basis functions. These elements include, inspection and testing, corrective actions, feedback and process adjustments, performance monitoring, program documentation, and reporting, as applicable to meet 10CFR 50.69(d), (e), (f), and (g). The Company implements the requirements of the QATR commensurate with the safety classification of the SSCs, as described in applicable licensing and design documents, and implementing procedures.

A.2.13. Dry Cask Storage System

A.2.13.1. Transnuclear Dry Cask Storage System

Limerick, Peach Bottom, Calvert Cliffs, Ginna, and Nine Mile Point

ISFSI quality assurance program requirements are performed in accordance with the applicable 10 CFR 72.212 report which invokes the portions of the NRC approved 10 CFR 50 Appendix B QAP as described in this QATR, commensurate with the safety classification of the component and quality requirements specified in the cask vendor Final Safety Analysis Report (FSAR) or site-specific license.

A.2.13.2. Holtec Dry Cask Storage System

Braidwood, Byron, Clinton, Dresden, FitzPatrick, Ginna, LaSalle, Peach Bottom and Quad Cities Stations

The ISFSI SSCs that are important to safety are categorized as Category A, B, or C in accordance with NUREG / CR-6407 Classification of Transportation Packaging and Dry Spent Fuel Storage System Components According to Importance to Safety. Per 10 CFR 72, Sub part G, the QATR applies to the ISFSI SSCs and activities consistent with their importance to safety. The Classification Table below identified the graded approach and applicability of the Exelon QAP Chapters based on the safety categories that are defined in NUREG / CR-6407.

Dry Cask Storage System Classification Table

ISFSI REQUIREMENTS				
Chapter	**Title**	**Important to Safety SSCs Category**		
		A	**B**	**C**
1	Organization (Roles and Responsibilities)	M	M	R
2	Quality Assurance Program (Paragraphs 2.1, 2.4, 2.5, and 2.6)	M	M	NR
3	Design Control	M	M	R
4	Procurement Document Control	M	R	NR
5	Instructions, Procedures, and Drawings	M	M	R
6	Document Control	M	M	R
7	Control of Purchase Material, Equipment, and Services	M	R	R
8	Identification and Control of Materials, Parts, and Components	M	R	R
9	Control of Special Processes	M	M	R
10	Inspections	M	M	R
11	Test Control (Design, Fabrication, Installation, and Maintenance)	M	M	R
12	Control of Measuring, and Test Equipment	M	M	R
13	Handling, Storage, and Shipping	M	R	NR
14	Inspection, Test, and Operating Status	M	M	NR
15	Nonconforming Materials, Parts, or Components	M	M	R
16	Corrective Action	M	M	R
17	Quality Assurance Records	M	M	R
18	Audits	M	M	R

(M) Mandatory = Indicates the Appendix B QA Program shall be used.

(R) Recommended = Indicates application of the applicable quality assurance criterion may benefit the user. The Engineering organization shall determine the extent of application required for the SSCs in question.

(NR) Not Required = Indicates that little benefit has been identified or no regulatory basis has been found to require application of applicable QA criteria. Imprudent use of this criterion may add unnecessary burden.

Internal audits shall be conducted on a performance driven frequency in calendar months as indicated below, in accordance with the Company's QAP. Audits shall include the following safety-related functions as applicable:

AUDIT	FREQUENCY
a. The conformance of unit operation to provisions contained within the technical specifications and applicable license conditions.	36 Months
b. The adherence to procedures, training, and qualification of the station staff.	36Months
c. The results of actions taken to correct deficiencies occurring in facility equipment, structures, systems, components, or method of operation that affect nuclear safety (CAP).	36 Months
d. The performance of activities required by the Quality Assurance Program to meet the criteria of Appendix B of 10 CFR 50. • Chemistry • Engineering – Design Control, • Engineering – Programs • Procurement / Materials Management • Maintenance • Nuclear Fuels • Operations • Quality Assurance Functions (See Chapter 18, paragraph 18.2.3.)	36 Months
e. Deleted	
f. The fire protection equipment, programmatic controls, implementing procedures, and program implementation, including loss prevention, utilizing either a qualified offsite licensee fire protection engineer or an outside, independent fire protection consultant.	36 Months
g. The Radiological Environmental Monitoring Program (REMP) and its results.	36 Months
h. The Offsite Dose Calculation Manual (ODCM) and implementing procedures.	36 Months
i. The Process Control Program (PCP) and implementing procedures for the solidification of radioactive wastes.	36 Months

AUDIT	FREQUENCY
j. The non-radiological environmental monitoring activities required by the Appendix B of the Facility Operating Licenses. (Note: Dresden andGinna do not have an Environmental Appendix to their Facility Operating Licenses.)	36 Months
k. Randomly selected procedures to ensure that the programmatic control processes used to assure that procedures are technically and administratively correct prior to use are resulting in timely and accurate procedure revisions.	36 Months
l. The Security Plan and implementing procedures per 10 CFR 73.55. Minimally review each element of the physical protection program at least every 24 months. Including: (i) Within 12 months following initial implementation of the physical protection program or a change to personnel, procedures, equipment, or facilities that potentially could adversely affect security. (ii) As necessary based upon site-specific analyses, assessments, or other performance indicators. (Reference 10 CFR 73.55 and 10 CFR 50.54(p)(3)(ii))	24 Months
m. The Emergency Plan and implementing procedures (Reference 10 CFR 50.54(t)(1)(ii) for lesser frequency requirements).	24 Months
n. Deleted	
o. The conformance of Spent Fuel Storage Installation operation to provisions contained within the technical specifications and applicable license conditions and results of actions taken to correct deficiencies occurring in facility equipment, structures, systems, components, or methods of operation affecting nuclear safety (Reference NUREG / CR-6407, and 10 CFR 72, Subpart G) (ISFSI sites only).	36 Months
p. Access Authorization Program (10CFR73.56) (Initial Audit frequency is 12 months and 24 months thereafter) (Ref. RIS 2005-14)	24 Months
q. Personnel Access Data System (PADS) (10 CFR 73.56) (Initial Audit frequency is 12 months and 24 months thereafter) (Ref RIS 2005-14)	24 Months

AUDIT	FREQUENCY
r. Deleted	
s. Fitness For Duty (FFD) Program (10 CFR 26.41)	24 Months
t. Station Black Out (Reg. Guide 1.155, Appendix A) Audits should be conducted and documented to verify compliance with design and procurement documents, instructions, procedures, drawings, and inspection and test activities developed to comply with 10 CFR 50.63.	36 Months
u. Radiation Protection activities as defined in 10 CFR 20.	36 Months
v. Plant Operations Review Committee (PORC)	36 Months
w. Decommissioned Units	36 Months
x. Cyber Security Program (10 CFR 73.55(m)). (Initial Audit frequency is 12 months and 24 months thereafter)	24 Months

C.1.1. Codes and Standards

The QAP takes into account the need for special controls, processes, test equipment, tools, and skills necessary to attain the required quality and the need for the verification of quality by inspection and test. The Codes and Standards listed below represent a listing of quality assurance codes and standards used to define the quality assurance program. A general listing of quality assurance related codes and standards, such as: ASME B&PV, ANSI, AWS, and IEEE used throughout Exelon at each nuclear site can be found in the applicable site specific Updated Final Safety Analysis Reports (UFSARs). The UFSAR should be referenced to identify site specific commitments (including dates and/or addenda) with respect to these codes and standards. This Quality Assurance Program (QAP) complies with the quality requirements of the following codes and standards as indicated in site specific UFSARs unless otherwise noted in sub-section 1.3 (the UFSAR may address position specific exceptions or clarifications on a site by site basis).

- ANSI / ANS-3.1-2014, “Selection, Qualification and Training of Personnel for Nuclear Power Plants” and exceptions identified in Regulatory Guide 1.8, revision 4. Applicable to all Exelon Operating Sites.
- ANSI N18.7 – 1976 / ANS 3.2, “Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants” Applicable to Limerick, FitzPatrick, and Clinton Only
- ANSI N18.7 – 1972 “Administrative Controls for Nuclear Power Plants” Applicable to Peach Bottom Only
- ANSI / ANS 3.2 – 1988, “Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants” (Exception – Exelon will implement the requirements of 10 CFR 26 for control of work hours in lieu of those specified in section 5.2.1.7 of this standard.) Applicable to Braidwood, Byron, Dresden, LaSalle, and Quad Cities Only
- ASME NQA-1 (1994) (Revision and Consolidation of ASME NQA-1-1989 and ASME NQA-2 1989 Edition) “ Quality Assurance Requirements for Nuclear Facility Application’s” Part I, “Basic Requirements and Supplementary Requirements for Nuclear Facilities, Part II, “Quality Assurance Requirements for Nuclear Facility Applications;” and Part III, “Nonmandatory Appendices,” limited to Appendix 2A-1, “Nonmandatory Guidance on Qualifications of Inspection and Test Personnel,” and Appendix 17A-1, Nonmandatory Guidance on Quality Assurance Records.”

  Exceptions: Exelon qualifies personnel in accordance with the applicable editions of the codes and standards accepted by the NRC as identified in Company NDE procedures and the Station ISI plans in lieu of SNT-TC-1A, June 1980, as specified in NQA-1, 1994, Supplement 2S-2.

As noted above, the plants in the Exelon Fleet comply with the ANSI standards associated with administrative controls and quality assurance for the operational phase of nuclear power plant operation. Each plant complies with their specific standards with the following exceptions:

1. The independent review of Technical Specification changes, license amendments, or Emergency Plan changes shall be performed by the PORC.
2. ANSI N18.7/ ANS 3.2

   The independent plant safety review committee responsibilities are distributed to various independent groups and activities as described in Chapters 1 and 2 of this QATR.

C.1.2. Regulatory Guides

Although the QAP complies with the regulatory positions and programmatic quality requirements of the Regulatory Guides identified in this section, the site-specific Clarifications and Exemptions identified in section C.1.3 should always be verified by reviewing the applicable site-specific Updated Safety Analysis Report (UFSAR).

- 1.8, “Personnel Qualification and Training.”
- 1.26, “Quality Group Classification and Standards for Nuclear Power Plants.”
- 1.28, “Quality Assurance Program Requirements for Design and Construction.”
- 1.29, “Seismic Design Classification.”
- 1.31, “Control of Ferrite Content in Stainless Steel Weld Material”
- 1.33, “Quality Assurance Program Requirements.”

  Exceptions: Audits will be at the frequency defined in Appendix B of this QATR and PORC review and approval of new or revised administrative procedures recommended by RG 1.33 is not required.
- 1.68, “Pre-Operational and Initial Start-Up Test Programs for Water Cooled Reactors.”
- 1.142, “Safety Related Concrete Structures for Nuclear Power Plants.”
- 1.143, “Design Guidance for Radioactive Waste Management SSCs Installed in Light Water-Cooled Nuclear Power Plants.”
- 4.15 “Quality Assurance for Radiological Monitoring Programs (Normal Operations) - Effluent Streams and the Environment.”

C.1.3. Site Specific Clarifications and Exceptions

C.1.3.1. Limerick (LGS) and Peach Bottom Atomic Power Station (PBAPS)

1. Regulatory Guide 1.33, "Quality Assurance Program Requirements, (Operations)," endorses ANSI N18.7.

   LGS shall comply with Regulatory Guide 1.33, Revision 2, February 1978, and ANSI N18.7-1976/ANS-3.2, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants during the operational phase except for the following clarifications or alternatives.

   A. ANSI N18.7-1976/ANS-3.2, Section 5.2.2, Procedure Adherence – The term "supervisor in charge of the shift" means either the Shift Manager or Shift Supervisor.

   B. ANSI N18.7-1976/ANS-3.2, Section 5.2.7.1, Maintenance Programs:

      1. Emergency maintenance to safety-related equipment (work which must proceed immediately to correct a degraded condition) may be performed concurrent with procedure preparation and documentation of steps actually taken. Such maintenance may be performed with the authorization of designated personnel and subsequent procedure review by the PORC and / or SQR, per Technical Specification requirements.

      2. The cause of repetitive malfunction should be determined; however, it is not practical, and may not be possible, to determine the cause of every malfunction.

   C. ANSI N18.7-1976/ANS-3.2, Section 5.2.10, "Housekeeping and Cleanliness Control".

      1. Control measures to prevent contamination with foreign materials will be specified in administrative procedures and will include, as appropriate, access control.

      2. Second paragraph, first and second sentences are taken to mean: "Where needed to prevent contamination…"

   D. ANSI N18.7-1976/ANS-3.2, Section 5.2.13, "Procurement and Materials Control" – Item (1) – Administrative procedures shall specify the means for control of procurement of commercially "off-the-shelf" items. The administrative procedures shall describe the receipt inspection, storage, and handling prior to installation and operation. Off-the-shelf (catalog) items are evaluated by qualified personnel for their intended use. The administrative procedures restrict the use of catalog items for only these evaluated

applications. The purchase order shall require the vendor to notify the requisitioning organization of a change in an item described in the catalog.

E. ANSI N18.7-1976/ANS-3.2, Section 5.2.13.1, "Procurement Document Control," (second sentence) – QA Program requirements or alternate approved methods will be used to ensure quality. Examples of alternates for suppliers without QA programs include material analysis, sample testing, in-process inspection and monitoring, and design review by LGS/PBAPS.

F. ANSI N18.7-1976/ANS-3.2, Section 5.2.15, "Review, Approval, and Control of Procedures" – The frequency of review of plant procedures is discussed in UFSAR Section 13.5, except for the following alternative.

1. Programmatic controls and processes described in UFSAR Section 13.5 are used to assure that procedures are current. These controls take the place of scheduled periodic reviews.

G. Emergency / Abnormal procedures do not require biennial review based on the equivalent processes noted in NO-AA-10, Chapter 6, Section 2.1.

2. Regulatory Guide 1.143, Revision 1, October 1979, "Design Guidance for Radioactive Waste Management Systems, Structures, and Components Installed in Light-Water-Cooled Nuclear Power Plants."

LGS shall comply with Regulatory Guide 1.143, Revision 1, October 1979, for major modifications, subject to the exceptions and clarifications listed in LGS UFSAR Table 3.2-1, Note 18.

3. ASTM D3843-93, "Standard Practice for Quality Assurance for Protective Coatings applied to Nuclear Facilities."

LGS/PBAPS shall comply with ASTM D3843-93 for safety-related protective coating work in service level 1 areas during operation with the following additional clarification, exception, and requirement.

A. For coating formulations developed prior to issuance of ASTM D3843-93, service level 1 qualification based on ANSI N5.9 (Revised as ANSI N512-1974) and ANSI N101.2 remains valid.

B. Section 10.1, last sentence – instead of references to ANSI 45.2 and NQA-1, inspections will be documented for record purposes as required by 10 CFR 50, Appendix B, and by this QA program description.

C. Limitations on use of coatings and cleaning materials which contain elements which could contribute to corrosion, inter-granular cracking, or stress corrosion cracking of safety-related stainless

steel will be followed as described in Section C.4 of Regulatory Guide 1.54, June 1973.

4. Branch Technical Position (BTP) CMEB 9.5-1:

   For modification work performed by Exelon Engineering during the operations phase, Exelon Engineering will maintain compliance with the requirements of CMEB 9.5-1 in accordance with Section 9.5.1.

5. NQA-1, 1994 Supplement 2S-2

   PBAPS will comply with NQA-1, 1995 Supplement 2S-2 except for the following clarification.

   A. NQA-1, 1995 Supplement 2S-2 states that SNT-TC-1A, June 1980 shall apply for personnel performing NDE. PDAPS personnel who perform ISFSI cask leak testing or approved ISFSI leak test procedures and test results and direct or supervise the conduct of ISFSI leak tests shall be qualified to either SNT-TC-1A or ANSI N18.1-1971.

C.1.3.2. Clinton Power Station (CPS)

1. The CPS QAPD also includes the following section of the Operations Requirements Manual (ORM) and the Updated Safety Analysis Report (USAR). The specific section are as follows:

   A. ORM Section 6.8.2, Procedures and Programs – Review and Approval

   B. ORM Section 6.8.3, Procedures and Programs – Temporary Changes

   C. USAR Section 13.4

   D. USAR Table 3.2-1

2. Site specific clarification and exceptions applicable to Clinton Power Station include:

   A. The CPS USAR Section 1.8, “Conformance to NRC Regulatory Guides”, which provides the CPS project position for implementation of regulatory guides.

   B. CPS complies with Regulatory Guide 1.33, Rev. 2 (February 1978); “Quality Assurance Program Requirements (Operation).” CPS complies with this guide and with the following additional exception:

      1. ANSI N18.7-1976/ANS-3.2, Section 5.2.17 Inspections: During plant operations emergencies, inspections may be performed under the direction of the duty shift manager.

C.1.3.3. Calvert Cliffs, Ginna, and Nine Mile Point

1. Regulatory Guide 1.28, Revision 3, August 1985, "Quality Assurance Program Requirements (Design and Construction)" (ASME NQA-1, 1983a) – Calvert Cliffs, Nine Mile Point, and Ginna will implement the requirements and guidance of the standard and Regulatory Guide during the design and construction phases of the facilities subject to the following:

   A. Regulatory Position C endorses the basic and supplementary requirements of ANSI/ASME NQA-1-1983 and the ANSI/ASME NQA-1a-1983 Addenda. In place of the specific edition and addenda of NQA-1 addressed in the Regulatory Guide, Calvert Cliffs, Nine Mile Point, and Ginna commit to implement the requirements of NQA-1-1994 Part 1. Calver Cliffs, Ginna, and Nine Mile Point are not committed to Part II of NQA-1 unless otherwise noted. The commitment to these requirements and any exceptions/alternatives to these requirements are addressed in this QATR.

2. Regulatory Guide 1.30, August 1972, "Quality Assurance Requirements for the Installation, Inspection and Testing of Instrumentation and Electric Equipment," (ANSI N45.2.4-1972/IEEE336-1971):

   A. Calvert Cliffs, Nine Mile Point, and Ginna commits to ANSI N45.2.4-1972/IEEE 336-1971 in its commitment to Position C of Regulatory Guide 1.30.

   B. As noted in Regulatory Position C.1 ANSI N45.2.4-1972 is being used in conjunction with NQA-1-1994, Part 1, which replaced ANSI N45.2.

   C. As noted in Regulatory Position C.2, other industry standards may be referenced. The commitment in this QATR to ANSI N45.2.4-1972 includes commitment to those standards to the extent necessary to implement ANSI N45.4-1972 requirements. If NRC guidance applies to those referenced standards, it is followed.

   D. Consistent with Regulatory Position C.3, the requirements of the endorsed standard are also considered applicable during the operation phase of the nuclear power plant.

   E. In lieu of the requirements of the last paragraph of ANSI N45.2.4-1972 Section 6.2.1, the calibration program at Calver Cliffs, Nine Mile Point, and Ginna does not use calibration stickers on installed plant instrumentation that contain the date of calibration and identity of person that performed the calibration. Calibrations of instruments are scheduled and tracked by computer database.

3. Regulatory Guide 1.33, Revision 2, February 1978, "Quality Assurance Program Requirements (Operation)" (ANSI N18.7-1976/ANS-3.2):

   A. NQA-1-1994 Part 1 contains quality assurance requirements equivalent to those of ANSI N18.7-1976/ANS-3.2. Although this QATR complies with the requirements of NQA-1-1994 and ANSI N18.7-1976/ANS-3.2, Calvert Cliffs, Ginna, and Nine Mile Point does not commit to compliance with the requirements of ANSI N-18.7/ANS-3.2 as defined in their Safety Evaluation Report dated December 21, 2006.

   B. As recommended by Regulatory Position C.1, Calvert Cliffs, Nine Mile Point, and Ginna uses Appendix A of Regulatory Guide 1.33, Revision 2, as guidance in establishing the types of procedures required for plant operation and support.

   C. Calvert Cliffs, Nine Mile Point, and Ginna's commitment to the applicable Regulatory Guides and associated standards listed in Regulatory Position C.2 is addressed within this QATR. A number of these Regulatory Guides and standards have been incorporated into NQA-1-1994 Part 1.

4. Regulatory Guide 1.38, Revision (facility-specific), "Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of items for Water-Cooled Nuclear Power Plants," (ANSI N45.2.2-1972)- The commitment to this Regulatory Guide is facility-specific as described in the approved SAR or License for each Nuclear facility. Where items do not conform to the requirements of the Regulatory Guide, they are addressed in the applicable facility's SAR.

   A. This alternative applies to Nine Mile Point Nuclear Station (NMPNS). NMPNS commits to ANSI/ASME NQA-2-1983 Part 2.2, "Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Nuclear Power Plants," for nuclear safety-related activities pertaining directly to permanent plant modifications only. NQA-2-1983 Section 7.1 refers to NQA-2-1983 Part 2.15 for requirements related to handling of items. The scope of Part 2.15 includes hoisting, rigging, and transporting of items for nuclear power plants. This scope exceeds the scope of the NRC original endorsement of ANSI N45.2.2 in Regulatory Guide 1.38, and establishes requirements for which there is no NRC regulatory position. In lieu of compliance with Part 2.15, NMPNS is committed to the requirements of applicable heavy load reports for Nine Mile Point Units 1 and 2 that have been approved by the NRC. Unit 2's report is a part of the SAR (Appendix 9C). Unit 1's is a separate report.

5. Regulatory Guide 1.39, Revision 2, September 1977, Housekeeping Requirements for Water-Cooled Nuclear Power Plants," (ANSI N45.2.3-1973) – Calvert Cliffs, Nine Mile Point and Ginna substitutes NQA-1-1994, Subpart 2.3 for N45.2.3 in its commitment to Regulatory Guide 1.39. As noted in Regulatory Position C.1, other industry standards may be referenced; the commitment in this QATR to NQA-1, subpart 2.3 includes commitment to those standards to the extent necessary to implement Subpart 2.3 requirements. If NRC guidance applies to those referenced standards, it is followed. Regulatory Position C.2 indicates that the provisions of section 3.2.3 of N45.2.3 are not part of the regulatory endorsement. As NQA-1, Subpart 2.3, section 3.2.3 has the same wording as N45.2.3; the Regulatory Position is applicable and will be followed in Calvert Cliffs, Nine Mile Point, and Ginna's implementation of Subpart 2.3. Regulatory Position C.3 indicates that the endorsed standard is "applicable for housekeeping activities during the operations phase that are comparable to those occurring during construction." This is addressed in appendix C of this QATR, which also establishes any necessary exceptions or alternatives to the provisions of Subpart 2.3.

   A. In lieu of the five-level zone designated in Subpart 2.3, Calvert Cliffs, Ginna, and Nine Mile may base its control over housekeeping activities on a consideration of what is necessary and appropriate for the activity involved. The controls are effected through procedures or instructions. Factors considered in developing the procedures and instructions include cleanliness control, personnel safety, fire prevention and protection, radiation control and security. The procedures and instruction make use of standard janitorial and work practices to the extent possible.

6. Regulatory Guide 1.116, Revision 0-R, May 1977, "Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems," (ANSI N45.2.8-1975) – Calvert Cliffs, Nine Mile Point, and Ginna substitutes NQA-1-1994, Subpart 2.8 for N45.2.8 in its commitment to Regulatory Guide 1.116. As noted in Regulatory Position C.1, other industry standards may be referenced; the commitment in this QATR to NQA-1, Subpart 2.8 includes commitment to those standards to the extent necessary to implement Subpart 2.8 requirements. If NRC guidance applies to those referenced standards, it is followed. Regulatory Position C.2 indicates that the endorsed standard should be "followed for those applicable operations phase activities that are comparable to activities occurring during the construction phase." This is addressed in Appendix C of this QATR, which also establishes any necessary exceptions or alternatives to the provisions of Subpart 2.8.

7. Regulatory Guide 1.152, Revision 0, November 1985, "Criteria for Programmable Digital Computer System Software in Safety-Related Systems of Nuclear Power Plants" – Calvert Cliffs, Nine Mile Point and Ginna does not make a commitment to Regulatory Guide 1.152. Calvert Cliffs, Nine Mile Point and Ginna commit to Generic Letter 95-02, and its endorsement of NUMARC/EPRI Report TR-102348, Guidelines on Licensing Digital Upgrades."

8. Generic Letter 89-02/EPRI-NP-5652 (June 1988) - Calvert Cliffs, Nine Mile Point and Ginna commits to compliance with the endorsed industry guidance regarding selection and qualification of commercial grade suppliers and dedication of commercial grade items for use in safety-related applications.

9. Regulatory Guide 4.15, Revision 1, February 1979, "Quality Assurance for Radiological Monitoring Programs (Normal Operations) – Effluent Streams and the Environment" - Calvert Cliffs, Nine Mile Point and Ginna commits to compliance with the Regulatory Positions of Section C with the following alternatives/exceptions:

   A. In lieu of plotting background parameters and setting predetermined control values for gamma spectroscopy instrumentation as described in Regulatory Position C.6.2, background results may be logged and evaluated to ensure the background does not bias reported results.

   B. The NRC's independent sampling and analysis program described in Regulatory Position C.6.3.2 may not be performed.

   C. In lieu of performing source check calibrations at least once per 18 months as described in Regulatory Position C.7, Calvert Cliffs, Nine Mile Point and Ginna may perform these calibrations at least once per refueling interval.

10. Calvert Cliffs, Nine Mile Point and Ginna will use the guidance contained in Generic Letters 91-05 and 89-02/EPRI NP-5652 to procure commercial grade items in lieu of these requirements NQA-1-1994 Supplement 4S-1 and Supplement 7S-1.

C.1.3.4. FitzPatrick

1. Regulatory Guide 1.33, Revision 2, February 1978

   FitzPatrick will provide procedures for the guide's Appendix A activities as discussed. However, does not consider all activities listed to be "safety-related."

D.1. SCOPE

This Appendix consists of definitions for words or phrases found in the QAP and provides a common basis for understanding those words or phrases that may have a different meaning when used elsewhere. All words and phrases are subject to review and revision, as circumstances require. Site specific items are noted.

D.2. GLOSSARY OF TERMS

D.2.1. Approval
Approval as used herein means by signature or initialing and date by an authorized individual.

D.2.2. ASME Boiler and Pressure Vessel Code Section I
Refers to ASME Section I, Power Boilers

D.2.3. ASME Boiler and Pressure Vessel Code, Section III, Division 1 and Division 2 for Concrete Containment.
Refers to ASME Section III, Division 1 and Division 2 for Concrete Containment; ASME Section III; ASME Code; ASME, or Code.

D.2.4. ASME Boiler and Pressure Vessel Code, Section IV
Refers to ASME Section IV, Heating Boilers.

D.2.5. ASME Boiler and Pressure Vessel Code, Section VIII
Refers to ASME Section VIII, Pressure Vessels

D.2.6. ASME Boiler and Pressure Vessel Code, Section XI
Refers to ASME Section XI, Rules for In-Service Inspection of Nuclear Power Plant Components.

D.2.7. Audit
A planned and documented activity performed to determine by investigation, examination, or evaluation of objective evidence the adequacy of and compliance with established procedures, instructions, drawings, and other applicable documents, and the effectiveness of implementation. An audit should not be confused with surveillance or inspection activities performed for the sole purpose of process control or product acceptance.

D.2.8. Audit Team Leader
An individual appointed to lead an Audit Team. The Audit Team Leader coordinates the preparation of the audit report.

D.2.9. Auditor

One qualified and authorized to examine quality assurance practices and verify whether requirements are being

D.2.10. Augmented D (CPS Only)

A term applied to those components within the Augmented D boundaries as defined in the engineering specifications. See K-2882, USAR Table 3.2.1, and Appendix C of this manual for scope of requirements and boundaries pertaining to Augmented D.

D.2.11. Authorized Inspector or AI or ANI

As used herein is meant to mean Authorized Nuclear Inspector. An Authorized Nuclear Inspector is an employee of an Authorized Inspection Agency who has qualifications for and has been properly accredited for Division 1 or Division 2.

D.2.12. Authorized Nuclear In-service Inspector or ANII

As used herein is meant to mean the Authorized Nuclear In-service Inspector. An ANII is an employee of an Authorized Inspection Agency who has qualifications for and has been properly accredited for ASME Section XI.

D.2.13. Balance of Plant

Generating station items and equipment not designed, furnished or installed as a part of the Nuclear Steam Supply System. Balance of Plant items include safety-related and ASME Code items, such as the containment as well as non safety-related and non-ASME Code items.

D.2.14. Basic Component

Basic component, when applied to nuclear power reactors means a plant SSC or part thereof necessary to assure (1) the integrity of the reactor coolant pressure boundary, (2) the capability to shut down the reactor and maintain it in a safe shutdown condition, or (3) the capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to those referred to in 10CFR100.11 Chapter 1 (1-1-87), Part 21.

D.2.15. Bid Package

The total of drawings, specifications, codes, standards, quality and other requirements that describes the task on which a prospective contractor/supplier will bid.

D.2.16. Calibration

A method of assuring accuracy of gauges and instruments used for measuring and testing by comparing with recognized standards.

D.2.17. Certificate of Compliance
A written statement signed by a qualified person, attesting that the materials or items are in compliance with the purchasing documents.

D.2.18. Certified Personnel
Personnel who have passed a formal training program and a formal proficiency test for special processes such as welding, plating and nondestructive testing.

D.2.19. Certified Standards
Standards of measurement whose accuracy can be traced to standards at the National Institute of Standards and Technology or established standards.

D.2.20. Certified Material Test Report
A document attesting that material is in accordance with specified requirements including the actual results of all required chemical analyses, tests and examinations.

D.2.21. Change Order
A formal award to a vendor or contractor covering revision(s) to the original Purchase Order or Change Order, involving but not limited to quantity, technical requirements, quality assurance requirements or scope of work.

D.2.22. Change Order Requisition
A document describing revisions to be made to the original Purchase Order or subsequent Change Order and which is converted into a Change Order.

D.2.23. Characteristic
Any property or attribute of an item, process or service that is distinct, describable and measurable, as conforming or nonconforming to specified quality requirements. Quality characteristics are generally identified in specifications and drawings, which describe the item, process or service.

D.2.24. Code
ASME Boiler and Pressure Vessel Code, Section III or Section XI, whichever is applicable.

D.2.25. code
A recognized standard for using or processing materials, or for the skill involved in use or processing

D.2.26. Cognizant Engineer
The engineer assigned a specific task or area of responsibility in the design or testing of a component or system.

D.2.27. ComEd
Commonwealth Edison Company (an Exelon Company)

D.2.28. Company Level III
Chief Level III (NDE) for the Company

D.2.29. Component
An item designed and manufactured to perform a specific function within a system. It consists of a combination of parts and will be combined with other components to form an assembly.

And for ASME
ASME Code items such as vessels, concrete containments, piping systems, pumps, valves, core support structures and storage tanks which will be combined with other items to form an assembly or installation of a nuclear power plant.

D.2.30. Component Identification Number
An identification number assigned (where appropriate) to an item for use throughout its lifetime.

D.2.31. Condition Adverse to Quality
An all-inclusive term used in reference to any of the following: failures, malfunctions, deficiencies, defective items, and non-conformances. A significant condition adverse to quality is one which, if left uncorrected, could have a serious effect on safety or operability.

D.2.32. Construction
Activities at the building site necessary to erect, inspect and accept a power generating station and its associated installation. This definition applies unless otherwise indicated.

- Construction (ASME Section III Div.1) comprises all activities relating to materials, design fabrication, examination, testing, inspection and certification required in the manufacture and installation of items.
- Construction (ASME Section III Div. 2) includes all those operations required to build the component and its parts in accordance with the Design Drawings and Construction Specification which have been prepared by the Designer (AE).

D.2.33. Construction Tests
Those tests necessary to verify that the installation of each component of a system is complete and complies with the applicable specifications, standards, codes, drawings and engineering information.

D.2.34. Contract (including purchase order)
A binding agreement between two or more persons or companies.

D.2.35. Contractor
Any organization under contract for furnishing items or services. It includes the terms vendor, supplier, subcontractor, fabricator and sub-tier levels of these where appropriate. A "Code" contractor is a contractor holding a valid ASME Section III Certificate of Authorization.

D.2.36. Control Point
In a sequential operation, a checkpoint at which certain data are taken, inspections are made or approval is required.

D.2.37. Control Stamp
A stamp used to mark a unique identification of inspection or test status upon items, tags, labels, routing cards or records traceable to an item. Control stamp impressions clearly identify the person who applied it such that traceability to their authorization is provided.

D.2.38. Corrective Action
Measures taken to rectify conditions adverse to quality, and, where necessary, to preclude repetition.

D.2.39. Department
When a responsibility is given to a department in this Manual it is meant that the department head has the responsibility.

D.2.40. Design Change
Any change in design that may affect functional requirements, operating conditions, safety-, regulatory-, reliability-, and ASME Code-related requirements, performance objectives, plant reliability or design life and would require that affected documentation be changed.

D.2.41. Design Controls
Methods for assuring that basic design requirements are formalized and translated into design documents with proper review to assure the scheduled release of a valid design.

D.2.42. Design Criteria
Statements of the form, function and interface requirements within well-defined limitations.

D.2.43. Designer (Division 2)
As used in ASME Code Division 2 construction, the Designer (AE) is the organization responsible for the preparation and completion of the Design Report, design drawings, and construction specifications for applicable items.

D.2.44. Design Requirements
Documents that set the functional requirements, operating conditions, safety requirements, performance objectives, design margins and design life. Included are any special requirements for size, weight, ruggedness, materials, fabrications or constructions, testing, maintenance, operating environments, safety margins and derating factors.

D.2.45. Design Review
An analysis of design with respect to technical adequacy, interface control, inspectability, maintainability and conformance to applicable codes, standards, regulations and design criteria.

D.2.46. Design Specification
A document that sets the functional requirements; design requirements; environmental conditions, including radiation; ASME Code classification; definition of the boundaries; and material requirements. Sufficient detail shall be contained within the document to provide a complete basis for design. For Section III ASME Code, Division I: A document prepared by the owner or owner's designee which provides a complete basis for construction in accordance with the ASME Code, Section III.

D.2.47. Desk Survey
An evaluation of a supplier's quality control capability made from documented procedures and records of past performance.

D.2.48. Destructive Test
A test to determine the properties of a material or the behavior of an item which results in the destruction of the sample or item.

D.2.49. Deviation
A non-conformance. Departure of a characteristic from specified requirements.

D.2.50. Discrepancy
A non-conformance

D.2.51. Documentation
Any written or pictorial information describing, defining, specifying, reporting or certifying activities, requirements, procedures or results.

D.2.52. Drawing Manifest
A document for transmitting drawings released for construction to an engineering, construction and/or production organization.

D.2.53. Erector
An organization involved in assembling and building equipment or structures at the site.

D.2.54. Examination
Specific actions by qualified personnel using qualified procedures to verify that items and fabrication processes are in conformance with specified requirements. This term, when used in conjunction with qualification of personnel to perform quality-related activities shall mean a written examination.

D.2.55. Extended Quality Assurance Program (CPS Only)
The selected use of technical and management controls to improve the operational performance of equipment important to reliable station operation but not included in compliance based QAP.

D.2.56. Fabricator
An organization involved in the manufacture of equipment.

D.2.57. Fabricator (ASME Section III Div. 2)
The NPT Certificate holder.

D.2.58. Final Safety Analysis Report (FSAR)
A finalization of the preliminary safety analysis report prepared for the Nuclear Regulatory Commission prior to issuance of an operating license.

D.2.59. First Level Design Review
A review conducted by the responsible project engineer within the design agency for a specific design discipline.

D.2.60. Flow Chart
A representation of the sequence of activities such as procurement, fabrication, processing, assembly, inspection and test, or the sequence of individual operations within one or more of those functions.

D.2.61. Hold Point
A designated stopping place during or following a specific activity at which inspection or examination is required before further work can be performed.

D.2.62. Incident
Occurrence of major damage, serious personal injury or significant schedule

D.2.63. Independent Review
Review completed by personnel not having direct responsibility for the work functions under review regardless of whether they operate as a part of an organizational unit or as individual staff members.

D.2.64. In-service Inspection

A mandatory program of examinations, testing, inspections and control of repairs and replacements to ensure adequate safety in maintaining the nuclear power plant and to return the plant to service in a safe and expeditious manner.

D.2.65. Inspection

A phase of quality verification that, by means of examination, observation or measurement, determines the conformance of materials, supplies, components, parts, appurtenances, systems, processes or structures to predetermined quality requirements.

D.2.66. Inspection and Test Plan

A listing, with optimum sequencing, of all the inspections and tests required to be performed for a specific item, component, structure or service.

D.2.67. Interface

When two or more organizations have responsibilities for accomplishing an activity, the functional relationship that one organization has to the others in completing the activity is called an "interface" relation. One example of interface is when one organization must perform a step, which is a prerequisite to another organization accomplishing its function. Interface can also mean that several organizations accomplishing similar activities are under the coordination control of one organization.

D.2.68. Interface control

Consideration that components and structures are geometrically and functionally compatible and those materials are compatible with both process.

D.2.69. Item

Any level of unit assembly, including structure, system, subsystem, subassembly, component, part or material. When ASME Code items are referenced, this means products constructed under a certificate of authorization and materials.

D.2.70. Jurisdictional Boundaries

The physical limits of an ASME Code item, which are identified to determine the applicability of ASME Code rules for that item.

D.2.71. Lifetime Record

A record that meets one or more of the following criteria:

— those that would be of significant value in demonstrating capability for safe operation;

— those that would be of significant value in maintaining, reworking, repairing, replacing, or modifying an item;

— those that would be of significant value in understanding the cause of an accident or malfunction of an item;

— those that provide required baseline data for in-service

D.2.72. Like - for - Like Replacement
The replacement of an item with an item that is identical in all physical and performance characteristics.

D.2.73. Local Purchase Order
A purchase order initiated through the computer by a station for the purchase of only Company Stores Coded items.

D.2.74. Maintenance
Repair, rework, or replacement of a SSC with equipment of the same design, i.e., meeting the same engineering requirements.

D.2.75. Maintenance / Modification Work Package
The complete set of documentation that enables the station to fabricate, examine, test and install ASME and safety related items. The work package consists of the work request, provisions for station traveler, document checklist and maintenance/modification procedures and supporting information such as, but not limited to, approved drawings, design specifications, and special process procedures.

D.2.76. Material
A substance or combination of substances forming components, parts, pieces and equipment. (Intended to include such things as machinery, castings, liquids, formed steel shapes, aggregates and cement.)
When ASME Code material is referenced (this refers to metallic materials) which are manufactured to a SA, SB, or SFA Specification or any other material specification permitted by Section III of the ASME Code. For Division 2, refers to metallic materials, as well as to nonmetallic materials, conforming to the specifications permitted in Section III of the ASME code.

D.2.77. Material Supplier
An organization which supplies material produced and certified by Material Manufacturers, but does not perform any operations that affect the material except when agreed upon by the Certificate Holder who uses the material in ASME Code construction or when so authorized by a Quality System Certificate (Materials). The Material Supplier may perform and certify the

results of tests, examinations, repairs, or treatments required by the material specification that were not performed by the Material Manufacturer.

D.2.78. Measuring and Test Equipment (M&TE)

Equipment used to quantitatively generate or measure physical or electrical parameters with a known degree of accuracy for the purpose of calibration, inspection, test, or repair of plant mechanical, electrical, or instrument control equipment.

D.2.79. Modification

A change to an item made necessary by, or resulting in, a change in design requirements (ASME - NCA 9000). A planned change in plant design or operation and accomplished in accordance with the requirements and limitation of applicable codes, standards, specifications, licenses and predetermined safety restrictions.

D.2.80. National Standards

Standards maintained at or issued by the National Institute of Standards and Technology (NIST) or other designated institutions, and the values for natural physical constants and conversion factors recommended by NIST.

D.2.81. Non-compliance

A failure to comply with a regulatory requirement.

D.2.82. Nonconformance

A nonconformance is a deficiency in characteristic, documentation, or procedure that renders the quality of a SSC or activity unacceptable or indeterminate. Some examples of nonconforming conditions include the following:

- There is failure to conform to one or more applicable codes or standards specified in the UFSAR or procurement documents.
- As-built equipment, or as modified equipment, does not meet UFSAR descriptions or design bases.
- Requirements cannot be substantiated with proper documentation.
- Physical defects.
- Test failures.
- Deviation from prescribed processing, inspection, or test

D.2.83. Nonpermanent Record

A record that is required to show evidence that an activity was performed in accordance with the applicable requirements but do not meet the criteria for a lifetime record.

D.2.84. NQA - 1 (ASME NQA - 1)

Quality Assurance Program Requirements for Nuclear Facilities. For ASME Section III activities, NQA - 1 is as modified by the ASME Code.

D.2.85. Nuclear Steam Supply System (NSSS)

That portion of the nuclear generating plant that provides steam from nuclear heat. It includes the reactor, its control systems, main coolant and steam generation systems, fuel handling equipment, emergency core cooling system and other safeguards, associated electrical equipment, instrumentation, spent fuel handling and radioactive waste disposal system.

D.2.86. Objective Evidence

Any statement of fact, information or record, either quantitative or qualitative, pertaining to the quality of an item or service based on observations, measurements or tests that can be verified.

D.2.87. Operable / Operability

A system, subsystem, train, component or device shall be operable or have operability when it is capable of performing its specified function(s) and when all necessary attendant instrumentation, controls, electrical power, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component or device to perform its function(s) are also capable of performing their related support function(s). NOTE: Safe operation of the plant is determined by licensed operators.

D.2.88. Operational Tests

Tests that are performed during the operations of the plant to verify continued satisfactory performance of safety-related SSCs.

D.2.89. Personnel Access Data System (PADS)

A computerized and restricted access data system used by the domestic commercial nuclear power industry to share information necessary to process the applications of workers for unescorted access to nuclear power plants. This system is intended to meet regulatory requirements mandating that certain information be available to any power reactor licensee by retaining certain access information in a central computer database.

D.2.90. Permanently Installed Instrument and Control Devices
The installed plant equipment including computer points used in determining acceptance criteria of Technical Specification surveillances (Category A and Surveillance Instruments for CPS).

D.2.91. Phased Replacement
Where several identical items are to be replaced with a new model, they are replaced a few at a time to allow monitoring of the new items.

D.2.92. Preliminary Safety Analysis Report (PSAR)
The initial detailed safety evaluation prepared for the U.S. Nuclear Regulatory Commission prior to issuance of the site construction permit. The PSAR delineates design, normal and emergency operation, potential accidents and predicted consequences of such accidents and the means proposed to prevent such accidents and/or reduce their consequences to acceptable levels.

D.2.93. Pre-Operational Testing
Preliminary testing prior to fuel loading and plant operation to assure that construction and installation are complete and to verify design and system functions.

D.2.94. Procedure
A controlled document that specifies or describes how an activity is to be performed. It may include methods to be employed, equipment or materials to be used, accept/reject criteria and sequence of operations.

D.2.95. Proprietary Designs
Designs engineered, produced and sold by manufacturers in accordance with their criteria and warranty.

D.2.96. Purchase Requisition
The basic document describing a material, component or service that is converted into a purchase order for procurements.

D.2.97. Quality Assurance
All those planned and systematic actions necessary to provide adequate confidence that an item or a facility will perform satisfactorily in service. For the ASME Code, Quality Assurance comprises all those planned and systematic actions necessary to provide adequate confidence that all items designed and constructed are in accordance with the applicable ASME Code.

D.2.98. Quality Assurance Program (QAP)
The Quality Assurance Program is the method for complying with the provisions of 10CFR50 Appendix B for nuclear power plant systems,

structures, and components that prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public. The Quality Assurance Program is defined in the Quality Assurance Topical Report and implementing procedures.

D.2.99. Quality Assurance Topical Report (QATR)
A NRC approved regulatory document that describes quality assurance program elements for the operational phase of nuclear power plants. This term is synonymous with Quality Assurance Program Description (QAPD), Operation Quality Assurance Program (OQAP), and Quality Assurance Manual (QAM).

D.2.100. Quality Control
See Quality Verification

D.2.101. Quality Receipt Inspection Report
A form utilized by station Quality Control to document technical receipt inspection of ASME Code and safety-related items received by the station.

D.2.102. Quality Related
Activities which influence quality of safety-related items or work related to those SSCs as identified in the USAR, Table 3.2-1, including design, purchasing, fabricating, handling, shipping, storing, cleaning, preserving, erecting, installing, inspecting, testing, operating, maintaining, repairing, refueling or modifying.

D.2.103. Quality Verification
Those quality assurance examinations and actions that provide a means to control and measure the characteristics of an item, process or facility to determine or establish conformance to acceptance standards and specified requirements.

D.2.104. Receipt Inspection
An inspection which verifies that items are in satisfactory condition, that they match the purchase order requirements and that required documentation accurately reflects the item(s) received. Visual and physical inspection will be performed as necessary to determine the acceptability of the items.

D.2.105. Receiving Inspection Notice (RIN)
A form initiated by the station upon receipt of ASME Code or safety-related items to record inspection for damage, to record receipt of documentation and to notify station Quality Control that item(s) are available for technical receipt inspection.

D.2.106. Record

A completed document that:

— furnishes evidence of the quality of items or activities.

— furnishes evidence of compliance with regulations or requirements.

— is required by Technical Specifications.

Included are such related documents as drawings, specifications, procurement documents, procedures, operating logs, and reportable occurrences. Such documents may be originals or reproduced copies.

D.2.107. Registered Professional Engineer (RPE)

A person competent in the applicable field of design and qualified in accordance with the requirements of ASME Section III, Appendix XXIII.

D.2.108. Repair

The process of restoring a nonconforming characteristic to a condition such that the capability of an item to function reliably and safely is unimpaired, even though that item still may not conform to the original requirements. For ASME Section III items, repair is the process of physically restoring a nonconformance to a condition such that an item complies with ASME Code requirements.

D.2.109. Request for Bid

Invitation made to suppliers or contractors to bid on a specific task for materials, goods and services.

D.2.110. Request for Purchase

A generating station's document originated by supervisors or department heads that designates the required items and services and delineates the design specifications, applicable codes and standards, as well as, any special requirements. This document is the basis of initiating a Purchase Requisition.

D.2.111. Resolution (CPS Only)

The process by which a nonconforming item is corrected or determined to adequately perform its design function without adversely affecting safety. The resolution may contain controls or limitations that are to apply until the nonconformance is fully corrected.

D.2.112. Rework

The process by which a nonconforming item is made to conform to a prior specified requirement by completion, re-machining, and re-assembling using previously approved procedural requirements. (For ASME Section III, rework is same as repair.

D.2.113. Safety Related

Systems, structures and components, which are considered important to safety because they perform safety actions, required to avoid or mitigate the consequences of abnormal operation transients or accidents. In addition, design requirements are placed upon such equipment to assure the proper performance of safety actions, when required (Safety-related items are those designated Seismic Category 1, Safety Class 1, 2, 3, "Other" and Electrical Class 1E as identified in the CPS USAR, Section 3.2).

D.2.114. Second Level Design Review

Independent objective assessment of a design by qualified personnel who have no direct project responsibility for the design.

D.2.115. Seismic Classification

Plant SSCs important to safety which are designed to withstand the effects of a safe shutdown earthquake and remain functional if they are necessary to assure:

- The integrity of the reactor coolant pressure boundary, or
- The capability to shutdown the reactor and maintain it in a safe condition, or
- The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the guideline exposures of 10CFR100.

(Plant SSCs, including their foundations and supports, which are designed to remain functional in the event of an SSE are designated as Seismic Category 1 as indicated in Table 3.2-1 of the CPS UFSAR.)

D.2.116. Source Acceptance

Acceptance made at a vendor's plant prior to shipment of purchased items.

D.2.117. Source Inspection

Inspection carried out at a vendor's plant prior to shipment of purchased items.

D.2.118. Special Process

A process, the results of which are highly dependent on the control of the process or skill of the operator, or both.

D.2.119. Special Process Procedures Manual

A compilation of Company procedures governing nondestructive examination and special processes such as welding and heat treating.

D.2.120. Specification

A concise set of requirements to be satisfied by a product, material or process. The set of requirements may, also, indicate the procedure by which one may determine if the given requirements are satisfied.

D.2.121. Start Up Tests

Tests that are performed after initial fuel loading and proceed through several power level plateaus to 100% power.

D.2.122. Stock Material

Material which is or may be used for conversion to an ASME SA, SB, or SFA Specification or allowable ASTM Specification. As used in this Program, Stock Material is that material that has not been produced in accordance with an NCA 3800 QAP.

D.2.123. Stop Work

Collective term used to describe the following three levels of stopping work activities:

- The stopping of a single or specific work activity by NOS or Line personnel.
- A hold imposed by a Department Head on a department or general work activity.
- A Stop Work Action initiated by the NOS Manager.

D.2.124. Surveillance

Examination of supplier's manufacturing, inspection and test operations and of records of work in progress. This activity is documented.

D.2.125. Survey

A documented evaluation of an organization's ability to perform activities as verified by a determination of the adequacy of the organization's quality program and by a review of the implementation of that program at the location of work.

D.2.126. System Safety Classifications (CPS Only)

System, structures, and components are classified as Safety Class 1, Safety Class 2, Safety Class 3, Safety Class Other or Class 1E in accordance with the importance to Nuclear Safety. Equipment is assigned a specific safety class, recognizing that components within a system may be a differing safety importance. Definitions of various Safety Classes are:

1. **Safety Class 1 (CPS Only)**
   Components of the reactor coolant pressure boundary or core support structure whose failure could cause a loss of reactor coolant at a rate in excess of the normal make-up system

2. **Safety Class 2 (CPS Only)**
   System, structures, and components, other than service water systems, that are not Safety Class 1, but are necessary to accomplish the safety functions of:

   A. Inserting negative reactivity to shut down the reactor,

   B. Preventing rapid insertion of positive reactivity,

   C. Maintaining core geometry appropriate to all plant process conditions,

   D. Providing emergency core cooling,

   E. Providing and maintaining containment,

   F. Removing residual heat from the reactor and reactor core, or

   G. Storing spent fuel.

3. **Safety Class 3 (CPS Only)**
   System, structures and components that are not Safety Class 1 or Safety Class 2, but whose function is to process radioactive fluids and whose postulated failure would result in conservatively calculated offsite doses that exceed 0.5 rem to the whole body or its equivalent to any part of the body in accordance with Regulatory Guide 1.26.

4. **Safety Class "Other" (CPS Only)**
   System, structures, and components used in the power conversion or other portions of the facility which have no direct safety function, but which may be connected to or influenced by the equipment within the Safety Classes 1, 2 or 3.

5. **Safety 1E (CPS Only)**
   The safety classification of the electric equipment and systems that are essential to emergency reactor shutdown, containment isolation, reactor

core cooling and containment and reactor heat removal or otherwise are essential in preventing significant release of radioactive material to the environment. (SSC safety classifications and related Quality Assurance Program requirements classifications are summarized in Table 3.2-1 of the CPS USAR.)

D.2.127. Technical Review (nonconforming item)
A determination as to whether a nonconforming item will be accepted "as is", reworked, repaired to an acceptable condition or rejected.

D.2.128. Technical Specification
The design and performance criteria and operating limits and principles of an operating license to be observed during initial fuel loading, critical testing, start-up, power operations, refueling and maintenance operations.

D.2.129. Test
Determination of the physical and functional properties of an item by subjecting the item to a set of physical, chemical, environmental or operating conditions.

D.2.130. Test Plan
An outline, narrative description or flow diagram indicating the tests to be performed, the methods to be used and the points in the process where they are to be executed. It may be in the form of a test procedures.

D.2.131. Traceability
The ability to verify the history, location, or application of an item by means of recorded identification.

D.2.132. USAR
Abbreviation for the Updated Safety Analysis Report, which is the document submitted by the Company to the Nuclear Regulatory Commission in accordance with 10 CFR 50.71.

D.2.133. Use - As - Is
A disposition which may be imposed for a nonconformance when it can be established that the discrepancy will result in no adverse conditions to safety and that the item under consideration will continue to meet all engineering functional requirements including performance, maintainability, fit and safety.

D.2.134. Variation
A nonconformance. Departure of a characteristic from specified requirements.

D.2.135. Verification

The act of confirming, substantiating, assuring, and documenting that a task, element, or condition is implemented in conformance with the specified requirements. Two commonly used type of verification as are described as follows:

- Concurrent Verification is also known as "apart-in-action" because the verification is being done concurrently as the action is implemented. Concurrent Verification is accomplished when two individuals verify the actions concurrently and apart from each other as they perform the task. Concurrent verification should be used for any action that if performed incorrectly, could result in an immediate threat to personnel safety, nuclear safety, reliable plant operation, or for an activity that can't be verified after it's completed.
- Independent Verification is also known as "apart-in-time" because the verification occurs at some time after the action has been performed. An independent verification is performed at a later time by a second qualified individual who is not part of the initial job performance checking the actions previously performed by others. Independent verification may be used in cases were actions if done incorrectly, could significantly affect nuclear and personnel safety, regulatory or other issues important to safe and reliable plant operations, but would not result in immediate consequences.

D.2.136. Witness Points

In a sequential operation, a notification to the Company, or its authorized agent, that a phase of work is about to be reached, so that it may be witnessed at a specific time, or in process, to verify acceptable performance of the phase. Witness points may be established in the traveler, procedure or in the course of monitoring the work activity.

D.2.137. Work Instructions

Actions to be completed by personnel while they are performing specific tasks in areas such as material controls and identification and fabrication or installation of

D.2.138. Workmanship

That quality of an item expressing its skillful and artful manufacture, without apparent blemishes.

ATTACHMENT 3

EXELON GENERATION COMPANY, LLC

DECOMMISSIONING QUALITY ASSURANCE PROGRAM, NO-DC-10
REVISION 1

Exelon Generation Company, LLC

DECOMMISSIONING QUALITY ASSURANCE PROGRAM (DQAP)

NO-DC-10

Revision 1

Exelon Nuclear

Corporate Headquarters

4300 Winfield Road
Warrenville, IL 60555

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Decommissioning Quality Assurance Program (NO-DC-10) - Revision 1 Transmittal and Summary of Changes

To: All Site Document Control Centers

These changes are effective September 10, 2019, with a site and corporate implementation no later than November 8, 2019.

The Decommissioning Quality Assurance Plan (DQAP) has been revised as follows:

- Oyster Creek site specific information was removed from Appendix E.
- Three Mile Island Unit 1 site specific information was added to Appendix E.

This DQAP has been reviewed in accordance with 10CFR50.54 (a) and did not reduce Exelon's commitments previously approved by the NRC. (Ref. AT 4182346-10 for supporting 50.54(a) evaluations). This revision to the DQAP will be submitted to the NRC for post implementation review as tracked by Action Tracking Number 4182346-10-03.

Personnel engaged in activities covered by the DQAP are required to review the chapters and appendices. Affected procedures should be changed and training provided as needed to ensure compliance with the requirements.

Prepared By: _____ 8/19/19
Mike Porter / Date
Nuclear Oversight Quality Assurance Specialist

Approved BY: _____ 8/19/2019
Rob Radulovich / Date
Nuclear Oversight Audit and Programs Director

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Policy Statement

The Decommissioning Quality Assurance Program (DQAP), NO-DC-10, is the highest tiered document that assigns major functional responsibilities for decommissioning facilities owned and operated by Exelon Generation Company, LLC (Company).

Implementing documents assign more specific responsibilities and define the organizational interfaces involved in conducting safety-related and important to safety activities within the scope of this DQAP. These requirements apply to those organizations and positions, which manage and perform activities within its scope.

The Company organization is structured on the basis that the attainment of the objectives of this Program relies on those who manage, perform, and support the performance of activities within the scope of the DQAP. Assurance of this attainment relies on those who have no direct responsibility for performing the activity.

The Company will maintain our decommissioning facilities in a manner that will ensure the health and safety of the public and our workers. All facilities shall, at a minimum, be in compliance with the applicable requirements of the Code of Federal Regulations, NRC Licenses, and the laws and regulations of the state and local governments.

1. ORGANIZATION

The Company is responsible for the establishment and execution of the DQAP at sites that have submitted a Certification of Permanent Cessation of Operations and Certification of Permanent Removal of Fuel to the NRC per 10 CFR 50.82(a)(1)(i) and (ii), respectfully. This DQAP does not include Dresden Unit 1 and Peach Bottom Unit 1 that meet quality program requirements established in the Exelon Fleet Quality Assurance Topical Report. The titles of managers used in the DQAP are generic, or functional titles and their formal titles may vary. Unless otherwise specifically prohibited, responsibilities of managers described in the DQAP may be delegated to, and be performed by, other qualified individuals. Site organizations will be commensurate with the activities and risks associated with Decommissioning (DC) Phases 2, 3, and 4. The different phases are defined in Appendix A of this DQAP.

1.1. Responsibilities

1.1.1. The authorities and duties of persons and organizations performing activities within the scope of this DQAP are established and delineated in writing. These activities include both performing the functions of attaining quality objectives and the Quality Assurance functions.

1.1.2. All Company personnel who work directly, or indirectly, for the Company are responsible for the achievement of quality in their work. Accordingly, all Company personnel and its contractors engaged in supporting decommissioning activities shall comply with the requirements of this DQAP.

1.1.3. The overall responsibility for operation, maintenance, inspection, test, modification, decommissioning, and storage of spent fuel resides with the Sr. Executive Vice President, Exelon Generation and President and Chief Nuclear Officer (CNO), Exelon Nuclear. The Decommissioning Plant Manager is responsible for the administration and implementation of the DQAP at the applicable facility.

1.1.4. The DQAP is reviewed and approved by the management position responsible for Nuclear Oversight. The management position responsible for Nuclear Oversight is responsible for periodically appraising the CNO on the effectiveness of the DQAP implementation and immediately apprises the CNO of significant problems affecting quality.

1.1.5. Management of line organizations at the decommissioning facilities are responsible to ensure that the quality of work and activities meets the requirements set forth in the DC technical specifications, this DQAP, and implementing procedures.

1.2. Corporate Organizations

1.2.1. The Sr. Executive Vice President, Exelon Generation and President and Chief Nuclear Officer (CNO), Exelon Nuclear, has overall responsibility for the safe and reliable operation of the Company's nuclear stations. This is the senior executive responsible for setting and implementing policies, objectives, expectations, and priorities to ensure activities are performed in accordance with the DQAP and other requirements. The following management positions and committees report to and / or receive direction from the CNO with respect to their assigned roles and responsibilities associated with the execution of this DQAP:

- A management position responsible for Strategic Planning, Project Management, License Renewal, Nuclear Projects, and Decommissioning. This position reports to the CNO and is responsible for defining standard programs and processes, delivering effective services and support, providing technical oversight of program implementation, and supporting the deployment and sharing of best practices throughout the nuclear organization in accordance with the QAP and other requirements, as applicable.
- A management position responsible for Nuclear Oversight, Organizational Effectiveness and Integrated Performance Assessment (OR&IPA) reports to the CNO and is responsible to provide management and oversight to ensure compliance with the DQAP. The following management position reports to OR&IPA:
  - A management position responsible for Nuclear Oversight maintains a staff of supervisory, administrative, and technical personnel to verify the DQAP is effectively implemented. Nuclear Oversight personnel shall have sufficient authority and organizational freedom to identify any quality problems and to verify implementation of corrective actions. Additionally, Nuclear Oversight personnel shall have direct access to appropriate levels of management necessary to perform their function and shall be independent from cost and schedule when opposed to quality and safety considerations. Functional responsibilities include:
    - Managing the performance of periodic audits and quality verification inspections in order to verify that activities within the scope of this DQAP have been correctly performed.
    - Establishing quality assurance practices and policies.
    - Authority and obligation to raise any conditions adverse to quality to the CNO for resolution as necessary.
    - Assuring quality activities are performed in accordance with implementing procedures.

- Employee Concerns Program.
- Reporting on oversight activities to the CNO.
- Authority to stop work when quality is adversely affected.

1.2.2. Additional support organizational activities such as Emergency Preparedness, calibrations, procurement, training, legal, communications, records and document control, information technology, business operations, and human resources may be provided by the site or by the corporate organizations.

1.3. Station Management

1.3.1. The Decommissioning Plant Manager shall be responsible for overall safe operation of the facility and shall have control over those onsite activities necessary for safe storage and maintenance of spent nuclear fuel, including maintaining the facility within the constraints of applicable regulatory requirements, license, DC technical specifications and training. The Decommissioning Plant Manager, or specified designee, shall approve, prior to implementation, all tests, experiments, and modifications to systems or equipment that affect the safe storage and maintenance of spent nuclear fuel. Supervisory direction is provided for the technical review program, including approval of individuals as technical reviewers as applicable. The following positions report to the plant manager:

- A management position responsible for Operations, with responsibility for operating strategies that support nuclear and personnel safety within the constraints of the decommissioning license and regulatory requirements. (DC Phases 2 and 3).
- A management position responsible for managing decommissioning projects that support nuclear and personnel safety within the constraints of the decommissioning license and regulatory requirements. (DC Phases 2, 3, and 4). The following management positions report to this position:
- A management position responsible for analysis, problem solving, abandonment, and modification development of systems, components, and structures supporting storage of nuclear fuel. (DC Phases 2, 3, and 4).
- A management position responsible for development, coordination, and implementation of decommissioning project plans. This position is also responsible for material management and site supply, which coordinates, evaluates, and procures materials for the site. (DC Phases 2, 3, and 4).
- A management position responsible for coordination of decommissioning resources, and execution of maintenance and modification activities. (DC Phase 2).

- A management position responsible for maintenance activities. (DC Phases 2, 3, and 4).
- A management position responsible for engineering support activities, development and maintenance of engineering programs, policies, procedures, and providing engineering services in accordance with the DQAP. Also, responsible for document control and records management functions. (DC Phases 2 and 3).
- A management position responsible for implementation of the site security plan. (DC Phases 2, 3, and 4).
- A management position responsible for ALARA planning, chemistry and environmental activities. (DC Phases 2, 3, and 4).
- A management position responsible for maintaining an interface between the station and federal and state regulators. Also, has a functional responsibility that includes Emergency Preparedness. (DC Phases 2, 3, and 4).
- A management position responsible for the Corrective Action Program. (DC Phases 2 and 3).

2. QUALITY ASSURANCE PROGRAM

2.1. The QA Program for Exelon decommissioning facilities is described in this DQAP which provides control over activities affecting quality to an extent consistent with their importance to safety and compliance. The DQAP includes specific monitoring activities which are measured against acceptance criteria in a manner sufficient to provide Exelon management assurance that the activities affecting quality are performed in an acceptable manner. The DQAP requirements apply to (i.e. the following are in the scope of the DQAP) structure, system, or components (SSCs) designated as safety related and important to safety, regulatory programs, and for other activities and SSCs identified in either the facility specific DSAR or Appendix of this DQAP.

2.2. The DQAP satisfies the requirements of 10 CFR 50 Appendix B, *Quality Assurance Criteria for Nuclear Power Plants and Fuel Processing Plants,* 10 CFR 71 Subpart H, *Quality Assurance for Packaging and Transportation of Radioactive Material,* and 10 CFR 72 Subpart G, *Quality Assurance for Independent Storage of Spent Nuclear Fuel and High-Level Radioactive Waste*. Regulatory commitments are listed within Appendix C of the DQAP. Implementation of this DQAP is controlled through separately issued procedures, instructions, and drawings. Each organization is responsible for the establishment and implementation of procedures and instructions prescribing the activities within the scope of this DQAP for which they are responsible.

2.3. Activities affecting quality shall be accomplished under suitably controlled conditions. Controlled conditions include the use of appropriate equipment; suitable environmental conditions for accomplishing the activity, such as adequate cleanliness; and assurance that all prerequisites for the given activity have been satisfied. The DQAP takes into account the need for special controls, processes, test equipment, tools, and skills to attain the required quality, and the need for verification of quality by inspection and test where required.

2.4. Changes to the DQAP will be implemented in accordance with 10 CFR 50.54(a).

2.5. Program Control and Authority

2.5.1. The management position responsible for Nuclear Oversight is responsible for ensuring that the applicable portions of the DQAP are properly documented, approved and implemented before an activity within the scope of the DQAP is executed. Disputes arising between departments or organizations on any QA matter that cannot be resolved at a lower level of management will be referred to the CNO.

2.5.2. Additional requirements for specific programs are described in Administrative Controls, of the applicable facility DC technical specifications or in the DQAP, with the exception of security requirements which are contained in the applicable facility Physical Security Plan; and Emergency Plan requirements which are contained within the applicable facility Site Emergency Plan. Fire Protection Program requirements are addressed in Appendix D of this DQAP.

2.6. Program Review

2.6.1. The status and effectiveness of the DQAP and its implementation is periodically reviewed by the management of the organization responsible for its execution. In addition, the effectiveness of the DQAP is evaluated and reported by Nuclear Oversight through the audit and inspection functions.

2.7. Personnel Training and Qualifications

2.7.1. Formal indoctrination and training programs for personnel performing or verifying activities within the scope of this DQAP are established and maintained. The indoctrination and training programs are established by on-site and/or off-site organizational units responsible for the performance or verification of activities within the scope of this DQAP.

2.7.2. All personnel shall have sufficient qualifications, as applicable, to perform their assigned duties. Implementing procedures provide the criteria utilized for determining and assessing appropriate staff qualifications. Indoctrination, training, and qualification programs are established such that:

- Personnel performing and/or verifying activities affecting quality are trained and qualified in the principles, techniques, and requirements of the activity being performed.
- Formal training and qualification program documentation includes the objective, content of the program, attendees, and date of attendance.
- Proficiency tests are given as applicable to those personnel performing and verifying activities affecting quality and the acceptance criteria are developed to determine if individuals are properly trained and qualified.
- Certificate of qualification, as applicable, clearly delineates the specific functions personnel are qualified to perform and the criteria used to qualify personnel in each function.
- Proficiency of personnel performing and verifying activities affecting quality is maintained by re-training, re-examining, re-qualifying, and/or recertifying as determined by management or program commitment.

3.0. DESIGN CONTROL

3.1. Measures shall be established to assure that the designs, including applicable regulatory requirements and design bases, technical and quality requirements are correctly translated to design documents which include specifications, drawings, procedures and instructions. Exelon has overall responsibility for design and design control activities including, preparing, reviewing, approving, and verifying design documents related to the facility's structures, systems, and components (SSCs) within the scope of the DQAP.

3.2. Design changes to SSCs within the scope of this DQAP shall be properly controlled using design control measures commensurate with those applied to the original design. Design changes are reviewed and approved by the same design groups cognizant in the discipline affected by the change that reviewed and approved the original documentation unless alternative design groups are designated. Design activities associated with the facility changes or modifications may be performed by Exelon or qualified contractors. Design groups shall have access to background information, shall be competent in the specific area of design interest, and shall understand the requirements and intent of the original design.

3.3. Measures shall be established for the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to SSCs that have current safety-related and important to safety functions. Design control implementing procedures shall define responsibility for the following:

- Design Input
- Design Performance
- Design Interface Control
- Design Verification
- Design Change

3.4. Design inputs shall be identified, documented and correctly translated into design outputs. Design inputs shall be specified to a level of detail necessary to allow the design activities to be carried out in a controlled manner. The final design output shall relate to the design input in sufficient detail to facilitate design verification.

3.5. The design organization shall prescribe and document the design activities to the level of detail necessary to permit the design process to be completed in a correct manner which permits verification that the design meets requirements. Design documents shall support facility design, construction, safe storage and handling of spent fuel, and decommissioning projects. Appropriate quality standards shall be identified and documented, and their selection reviewed and approved. Deviations from original design standards shall be reviewed to ensure that the designated quality requirements remain in the design of SSCs as applicable.

3.6. Design control measures shall be applied to those SSCs within the scope of this DQAP. Design analyses shall be sufficiently detailed such that a person technically qualified in the subject can review and understand the analyses and verify the adequacy of the results without additional input.

3.7. Design interfaces for SSCs within the scope of this DQAP shall be identified and controlled. Interface controls shall include the assignment of responsibility and the establishment of procedures among participating design organizations. Controls shall be established for the review, approval, release, distribution and revision of documents involving design interfaces. Design information transmitted across interfaces shall be documented and controlled.

3.8. Changes or modifications to designated SSCs shall be approved by the Design Authority or designee. Procedures for implementing design changes and field changes shall assure that the impact of the change is considered, required actions documented, and information concerning the change transmitted to affected persons or organizations. Applicable regulatory criteria (i.e. 10 CFR 50.59, 10 CFR 50.82(a), or 10 CFR 72.48) shall be used to determine if NRC approval is required prior to implementation of a design change. For SSCs within the scope of this DQAP, these changes shall be subject to design control measures commensurate with those applied to the original design.

3.9. Design verification for SSCs within the scope of this DQAP shall provide assurance that the final design is correct and has been performed in accordance with approved procedures describing position responsibilities and authorities for the design reviews. Documentation to be reviewed for this design work includes the necessary calculations and/or analysis, design criteria specifications, drawings, procedures, and instructions to permit a comprehensive review.

3.10. Design verification may be accomplished through design reviews, alternate calculations, or qualification testing. These methods of design verification are defined in design procedures as applicable. The results of the design verification activities shall be documented with the identification of the verifier clearly documented. Design verification shall be performed by competent individual(s) other than those who performed the original design but may be from the same organization. This verification may be performed by the originator’s supervisor, provided the supervisor did not specify a singular design approach,

rule out certain design considerations, did not establish the design inputs used in the design, or the supervisor is the only individual in the organization competent to perform the verification. Cursory supervisory reviews do not satisfy the intent of design verification. Design verification shall be completed prior to relying upon the SSC to perform its important to safety function.

3.11. Nonconforming activities such as deviations, errors, or deficiencies in the approved design documents, including design methods (e.g., computer codes), shall be identified, documented, and controlled. Computer programs used to calculate or develop data for important to safety activities shall be subject to validation and verification.

3.12. Design documentation and records which provide evidence that the design and design verification process was performed in accordance with the DQAP, shall be collected, stored and maintained in accordance with approved procedures. This documentation includes final design documents, such as drawings, specifications, calculations, and revisions there to and documentation which identifies important steps, including sources of design inputs that support the final design.

4.0. PROCUREMENT DOCUMENT CONTROL

4.1. Measures shall be established for the preparation, review, and approval of procurement documents for those items and activities within the scope of this DQAP. Procurement documents include or reference the appropriate regulatory, technical, and quality requirements necessary to assure adequate quality for those materials, equipment, and services that are within the scope of this DQAP. Measures are established to assure that, to the extent necessary, contractors or subcontractors provide a QA Program consistent with the provisions of 10 CFR 50 Appendix B, 10 CFR 71 Subpart H, or 10 CFR 72 Subpart G, and 10 CFR 21, as applicable.

4.2. Exelon maintains a controlled list of evaluated suppliers that are audited on a triennial basis. The evaluated list of such vendors, suppliers, and contractors is described in controlling procedures for the appropriate important to safety classification except for procurement from other licensees that have a NRC approved quality program.

4.3. Procurement documents require the vendors to incorporate quality assurance program requirements in sub-tier procurement documents and allow right of access to the vendors, sub-tier vendors, and contractors facilities and records for inspection or audit by the Company or designated representative.

4.4. Procurement document control applies to SSCs within the scope of this DQAP and any spare or replacement parts for those SSCs. Procurement documents shall include those requirements necessary to assure that the items and services to be provided meet the specified technical and quality requirements. Specifically, the procurement system assures that the appropriate technical and quality requirements are specified for procurement of items and services considering the important to safety function, complexity of the design, manufacturing, degree of inspection/testability upon receipt and other factors which affect the quality of products and services.

4.5. Procedures that implement procurement document control shall describe the organizational responsibilities for procurement planning, preparation, review, approval and control of procurement documents; supplier selection; bid evaluation; identification of replacement parts where applicable; and review and evaluation of supplier's QA Program prior to release for bid and contract award for activities within the scope of this DQAP.

4.6. Procedures shall be established to review the adequacy of the technical and QA requirements specified within procurement documents. Personnel who have access to pertinent information and who have an adequate understanding of the requirements and intent of the procurement documents shall perform reviews required to ensure the adequacy of the technical and QA requirements. Changes to procurement documents shall be subject to the same controls as the original documents.

5.0. INSTRUCTIONS, PROCEDURES AND DRAWINGS

5.1. Measures shall be established to assure that quality activities are prescribed by and performed in accordance with documented instructions, procedures, or drawings. Documented and approved instructions, procedures, and drawings are required to accomplish work on SSCs within the scope of this DQAP.

5.2. These instructions, procedures, and drawings include, as appropriate, quantitative or qualitative acceptance criteria for determining that activities have been satisfactorily accomplished. Procedures may include reference to vendor equipment manuals, design drawings and specifications, prerequisites, special precautions, and the delineation of work to be performed. Equipment manuals and manufacturer's instructions shall be readily available for use as appropriate.

5.3. Controls are established which ensure that instructions, procedures, and drawings are current and accurately reflect plant design and regulatory requirements. Documents comprising of instructions, procedures, specifications, and drawings prepared by outside contractors for the performance of site activities are reviewed and approved by the responsible manager or designated representative.

6.0. DOCUMENT CONTROL

6.1. Measures shall be established to control the issuance of documents, such as instructions, procedures, drawings, including changes thereto, which prescribe activities affecting quality and activities within the scope of this DQAP. These measures assure that documents, such as procedures, instructions and drawings, are reviewed for adequacy by qualified personnel other than the personnel that prepared the document, approved for release and use, and available at the location where the activity is performed. Written procedures shall define the type of documents to which the document control system applies. These procedures also define the process for controlling the preparation, review, approval, issuance, and distribution.

6.2. Documents and changes to documents that prescribe or verify activities within the scope of this DQAP shall be controlled in a manner that precludes the use of inappropriate or outdated documents. The document control system procedures shall be established to identify the current revision of instructions, procedures, specifications, drawing and procurement documents.

6.3. Changes to documents shall be reviewed and approved by the same organization that performed the original review and approval unless another qualified organization has been designated. Administrative controls shall be established that provide the methods by which temporary changes can be made to procedures which are approved, including the designation of persons authorized to approve such changes, and the time period during which they may be used. Minor changes to documents, such as inconsequential editorial corrections, shall not require that the revised documents receive the same review and approval as the original documents. To avoid a possible omission of a required review, the type of minor changes that do not require such a review and approval and the persons who can authorize such a decision shall be clearly delineated.

7.0. CONTROL OF PURCHASED MATERIAL, EQUIPMENT AND SERVICES

7.1. Measures shall be established for the control of purchased material, equipment, and services to assure they conform to the procurement documents as they apply to activities within the scope of this DQAP. These measures provide for the following as appropriate: source evaluation and selection, evaluation of objective evidence of quality furnished by the supplier, source inspection, audit, and examination of items or services. Procedures shall describe each organization's responsibilities for the control of purchased material, equipment, and services, including the interfaces between all affected organizations.

7.2 Verification that a supplier can meet the specified technical and quality requirements shall be documented. Exelon maintains a controlled list of evaluated suppliers that are audited on a triennial basis. Documented supplier performance monitoring is performed in accordance with approved procedures as an acceptable alternate to the performance of the annual evaluation of suppliers. The evaluated list of such vendors, suppliers, and contractors is described in controlling procedures for the appropriate important to safety classification except for procurement from other licensees that have an NRC approved quality program. Suppliers of commercial grade calibration services may be qualified based on their accreditation by a nationally - recognized accrediting body, as an alternative to qualification by supplier audit, commercial grade survey, or in-process surveillance as described below.

7.3 This DQAP considers that other 10 CFR Parts 50 and 52 licensees, Authorized Nuclear Inspection Agencies, National Institute of Standards and Technology, or other State and Federal agencies which may provide items or services to the facility are not required to be evaluated or audited.

7.4 Commercial grade calibration and/or testing services may be procured from domestic and international commercial calibration and/or testing laboratories based on the laboratory's accreditation to ISO/IEC-17025 by an Accreditation Body (AB) which is a signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (MRA) provided all of the following are met:

7.4.1 A documented review of the supplier's accreditation is performed and includes a verification of the following:

- The calibration or test laboratory holds accreditation by an accrediting body recognized by the ILAC MRA. The accreditation encompasses ISO/IEC-17025:2005, "General Requirements for the Competence of Testing and Calibration Laboratories."
- For procurement of calibration services, the published scope of accreditation for the calibration laboratory covers the needed measurement parameters, ranges, and uncertainties.
- 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.

7.4.2. The purchase documents require that:

- The service must be provided in accordance with their accredited ISO/IEC-17025:2005 program and scope of accreditation.
- As found calibration data must be reported in the certificate of calibration when calibrated items are found to be out-of-tolerance. (For calibration services only)
- The equipment /standards used to perform the calibration must be identified in the certificate of calibration. (For calibration services only)
- The customer must be notified of any condition that adversely impacts the laboratory’s ability to maintain the scope of accreditation.
- Additional technical and quality requirements, as necessary, based upon a review of the procured scope of services, which may include, but are not necessarily limited to, tolerances, accuracies, ranges, and industry standards.

7.4.3. It is validated, at receipt inspection, that the laboratory's documentation certifies that:

- The contracted calibration or test service has been performed in accordance with their ISO/IEC-17025:2005 program, and has been performed within their scope of accreditation; and
- The purchase order's requirements are met.

7.5. The effectiveness of contractors and supplier's QA program shall be assessed at intervals consistent with the importance, complexity, and quantity of the product or service. Supplier performance and compliance with procurement documents are monitored by source verification, receipt inspection, audit, or a combination to ensure continued acceptable supplier performance. Receiving inspection shall verify, by objective evidence, the acceptability of items in accordance with facility procedures. Accepted items are appropriately marked and located in a controlled storage area until use. Documentary evidence shall be retained in accordance with facility requirements and applicable regulatory requirements and shall be sufficient to identify the specific requirements, such as codes, standards, or specifications, met by the purchased material and equipment.

7.6. For acquiring of services only, such as: third-party inspection, engineering and consulting services; auditing and installation; and repair, overhaul, or maintenance work, from suppliers whose QA Program has not been reviewed or accepted, those suppliers may be used provided additional controls such as technical verification of data produced, surveillance and/or audit of the activity, or review of objective evidence are employed. These additional controls shall be documented in the request for services and approved by the appropriate level of management.

7.7. Spare and replacement parts are procured such that their performance and quality are at least equivalent to those of the parts that will be replaced, as determined by engineering where applicable.

7.8. Designated quality personnel or other personnel with appropriate qualifications are responsible for assuring source inspections, surveys, or audits of suppliers are performed as necessary. Documentation of acceptance shall be available prior to installation or acceptance for use.

8.0. IDENTIFICATION AND CONTROL OF MATERIALS, PARTS, AND COMPONENTS

8.1. Measures shall be established for the identification and control of material, parts, and components, including partially fabricated assemblies and consumables, to assure that only correct and accepted items are used or installed. Identification is maintained on the items or in documents traceable to the items, and physical identification shall be used to the maximum extent possible. If physical identification is either impractical or insufficient for proper control, the Company controls an item by physical separation, procedural control or other appropriate means.

8.2. Markings are applied using materials and methods that are clear, legible and do not detrimentally affect the function or service life of the items that are marked. Markings are transferred to each part of an identified item prior to being subdivided. Markings are not obliterated or masked by surface treatments or coatings unless alternative identification methods are established. When codes, standards, or specifications require specific identification or traceability requirements of an item, procedures shall describe how to maintain traceability as applicable.

8.3. Provisions are made in procedures for maintenance or replacement of markings or identification due to damage from handling or aging, excessive deterioration due to environmental exposure, and for updating records while in storage. Items having limited shelf or operating life are controlled to preclude use after the shelf life or operating life has expired.

9.0. CONTROL OF SPECIAL PROCESSES

9.1. Measures shall be established to assure that special processes that require interim process controls to assure quality, such as welding, heat treating, and nondestructive examination, are controlled. These provisions include assuring that special processes are accomplished by qualified personnel using instructions, procedures, drawings, checklists, or other appropriate means. Personnel are qualified and special processes are performed in accordance with applicable codes, standards, specifications, criteria or other specially established requirements. Special processes are those where the results are highly dependent on the control of the process or the skill of the operator, or both, and for which the specified quality cannot be fully and readily determined by inspection or test of the final product. Records are maintained, as appropriate, for the qualified personnel, processes, and equipment.

9.2. Exelon qualifies NDE personnel in accordance with the applicable editions of the codes and standards accepted by the NRC as identified in Company NDE procedures.

10. INSPECTION

10.1. Measures shall be established for inspection of activities within the scope of this DQAP by or for the organization performing the activity, in order to verify conformance with approved instructions procedures, drawings, and specifications for accomplishing the task.

10.2. A comprehensive program of inspections shall be established and implemented to verify conformance of an item or activity with the specified requirements and inspection methods used and will be performed by personnel qualified to validate that the activities meet this acceptance criteria specified in applicable design documents. Inspections shall be performed by qualified individuals other than those who perform or directly supervise the activity being inspected.

10.3. Where mandatory hold or witness points are required for witness or inspection activities by designated personnel, the designated hold points shall be indicated in appropriate documentation. Work shall not progress beyond the point of an assigned hold point unless the inspection is complete or consent to waive the hold point is given by the designated organization.

10.4. Inspections shall be planned to ensure the characteristic to be inspected and the methods used to perform the inspection and acceptance criteria are documented. If inspection of processed or fabricated items is impractical, monitoring of the processing method and equipment shall be utilized. Process monitoring shall be performed by qualified personnel or a qualified automated process. Inspection and process monitoring shall both be used if quality control is inadequate without both.

10.5. Final inspections shall include record review and examinations, measurements / tests as appropriate to verify adequate quality measures were employed in the construction, fabrication and/or processing. Final inspection results shall document the as-found condition including final acceptance / rejection criteria evaluation.

10.6. Unacceptable inspection results shall be evaluated and resolved in accordance with approved procedures. Any modifications, repairs, and replacements are re-inspected to the same standard or method to verify acceptability of the items. Inspection records shall identify the item inspected, date of inspection, inspector's identity, results of inspection, and reference to information taken in connection with nonconformances.

11. TEST CONTROL

11.1. Measures shall be established for a documented test program in accordance with applicable DC technical specifications, license conditions, and design documents to assure that all required testing demonstrate that the structures, systems, or components within the scope of this DQAP will perform satisfactorily in service. The test program shall ensure that design and performance criteria have been satisfied and that the testing does not adversely affect the important to safety SSCs.

11.2. The test program shall include criteria for determining when testing is required, such as proof tests prior to installation, preoperational tests, and operational tests of SSCs. The procedures that implement testing shall specify the appropriate prerequisites for the test (e.g., personnel qualification requirements, environmental conditions, equipment requirements) sufficient instruction for the performance of the testing, hold or witness points, acceptance / rejection criteria and limits, and the required test documentation. Test results are evaluated by qualified personnel to determine compliance with established acceptance criteria. Test results which do not meet acceptance criteria, shall be documented and evaluated in order to determine the appropriate corrective actions. The test program shall require that modifications, repairs, and replacement of items that have a current important to safety function be tested, utilizing the same criteria as the original items to the extent applicable to the current important to safety function. If alternative tests are required, the alternative tests must be reviewed and approved by the same organization that established the original requirements unless the applicable manager designates another responsible organization. Test records shall be maintained in accordance with approved procedures.

12. CONTROL OF MEASURING AND TEST EQUIPMENT

12.1. Measures shall be established to assure those tools, gauges, instruments, and other measuring and test equipment (M&TE), used for activities within the scope of this DQAP, are controlled, calibrated and adjusted in order to maintain accuracy within necessary limits and to ensure its traceability to calibration test data. Measures shall also be established for the control of permanently installed instrument and control devices that are within the scope of this DQAP.

12.2. Organizational responsibilities shall be delineated for establishing, implementing, and assuring the effectiveness of the calibration program for M&TE. Reference standards used to determine the acceptability of items and activities, shall be of appropriate type, and maintained within prescribed accuracy limits, suitable range and accuracy in order to verify conformance to specified requirements.

12.3. Power Labs is responsible for the governance of M&TE and oversight of the site calibration process for Exelon operating and decommissioning facilities. This includes the establishment of calibration practices, intervals, accuracy requirements, certification/de-certification, and equivalency decisions, as well as the resolution of technical issues regarding M&TE calibration. Corporate Maintenance is responsible for governance and oversight of site M&TE Control. This includes assessment of site compliance to the control of M&TE as defined in corporate maintenance procedural guidance.

12.4. Procedures for the control and calibration of permanently installed plant equipment that are within the scope of this DQAP shall specify identification requirements (labeling, codes, or other documented control system), the recall process and calibration process and frequencies (including documented pre-calibration checks) of the M&TE to nationally recognized standards. Calibration methods are documented and performed by competent personnel in an environment that does not adversely affect the calibration. The calibration procedures shall specify recording of as-found conditions and a means for determining which equipment shall be included in the calibration program. M&TE used in the calibration of permanently installed plant equipment shall have ranges, precision, and accuracy equal to or greater than that to be calibrated and where this is impractical; the cognizant authority shall document rationale for accuracy.

12.5. The calibration procedures shall delineate special controls where applicable, for usage, handling, and storage required for environmental conditions such as temperature, humidity, cleanliness, or radiation in order to maintain accuracy and operating characteristics of the M&TE.

12.6. Calibration reference standards shall be based on nationally recognized standards or accepted values of natural physical constants. Where national standards do not exist, the basis for the calibration shall be documented. Special calibration and control measures are not required when normal commercial practices provide adequate accuracy (e.g. rulers, tape measures, levels, and other such devices).

12.7. M&TE which is found to be damaged, out-of-calibration or for which accuracy is suspect, shall be tagged and segregated and processed in accordance with approved procedures. When M&TE is found to be out-of-tolerance, an evaluation is made of its previous uses to determine corrective action.

13. HANDLING, STORAGE, AND SHIPPING

13.1. Measures shall be established to control the handling, storage, shipping, packaging, cleaning and preservation of items, material and equipment within the scope of this DQAP, in accordance with applicable design, work, and procurement requirements in order to prevent damage or deterioration during handling, packaging, preservation, storage, and shipping.

13.2. Special coverings, equipment and protective environments shall be specified and provided where necessary for the protection of items, material, and equipment from damage and deterioration. Special protective measures are specified and provided when required to maintain acceptable quality. When special protective features are required, their existence shall be verified and monitored as necessary to assure that the special protective features continue to serve its intended function. Special handling tools and equipment shall be provided, where necessary, to ensure items, material and equipment can be handled safely and without damage.

13.3. Controls for hoisting, rigging, and transporting shall be established to protect SSCs within the scope of this DQAP as applicable. Markings or labeling shall be used to indicate the presence of special environments, or the need for special controls. Provisions shall be described for the storage of chemicals, reagents (including control of shelf life), lubricants and other combustible materials. Cleanliness controls shall be implemented to protect applicable SSCs from the introduction of foreign material and maintain system cleanliness as applicable throughout maintenance and modification activities.

14. INSPECTION, TEST, AND OPERATING STATUS

14.1. Measures shall be established for indicating the status of items within the scope of this DQAP undergoing inspections and tests to prevent the inadvertent bypassing or altering the sequence of such inspections or tests and avoid inadvertent operation. Where necessary to preclude inadvertent bypassing of inspections or tests, or to preclude inadvertent operation, these measures require the inspection, test, or operating status be verified before release, fabrication, receipt, installation, test or use. These measures also establish the necessary authorities and controls for the application and removal of status indicators or labels. The methods used to indicate inspection, test and operating status, including control of these indicators, are prescribed by approved procedures and shall be readily apparent and verifiable.

14.2. In addition, temporary design changes (temporary modifications), such as temporary bypass lines, electrical jumpers and lifted wires, and temporary trip-point settings, are controlled by procedures that include requirements for appropriate installation and removal, independent/concurrent verifications where necessary, and status tracking.

14.3. Deviations from the required sequence shall be subject to the same level of control as the generation of the original sequence to prevent the bypassing or omission of required test or inspection. The operating status of nonconforming, inoperable or malfunctioning SSCs shall be identified and documented to prevent inadvertent operation.

15. NONCONFORMING MATERIAL, PARTS, OR COMPONENTS

15.1. Measures shall be established for the identification, evaluation, segregation when practical, disposition of nonconforming items, and for notification to affected organizations. Items (including applicable services) that do not conform to specified requirements shall be controlled to prevent inadvertent installation or use.

15.2. Measures shall require that the individual (or designee), discovering a nonconformance, identify, describe, and document the nonconformance in accordance with the requirements of the corrective action program. Actions taken to address nonconforming items shall be documented. Controls are provided to address conditional release of nonconforming items for use on an at-risk basis prior to resolution and disposition of the nonconformance, including maintaining identification of the item and documenting the basis for such release. Conditional release of nonconforming items for installation requires the approval of the designated management. Nonconformances are corrected or resolved prior to depending on the item to perform its intended important to safety function. Nonconformances to design requirements dispositioned as repair or use-as-is are subject to design control measures commensurate with those applied to the original design. Significant trends in nonconformances are reported to management in accordance with applicable procedures, regulatory requirements, and industry standards.

15.3. Nonconforming items that are being used for training must be controlled (e.g., administratively controlled, permanently identified, marked, obliterate Material ID Tag or Q level indicators) to prevent inadvertent or inappropriate use of the item.

16. CORRECTIVE ACTION

16.1. Measures shall be established to promptly identify, control, document, classify, and correct conditions adverse to quality. Procedures assure that corrective actions are documented and initiated following the determination of conditions adverse to quality in accordance with regulatory requirements and applicable quality standards. Procedures require personnel to identify known conditions adverse to quality. When a complex issue arises where it cannot be readily determined if a condition adverse to quality exists, measures shall be established for documentation and timely evaluation of the issue. Significant conditions adverse to quality are documented and reported to responsible management. In the case of a significant condition adverse to quality, the cause is determined and actions to preclude recurrence are taken and followed up on to verify implementation.

16.2. In the case of suppliers performing activities within the scope of this DQAP, or other similar situations, the applicable manager may delegate specific responsibilities for corrective actions but maintains responsibility for the effectiveness of corrective action measures.

17. QUALITY ASSURANCE RECORDS

17.1. Measures shall be established which define the requirements and responsibilities for identification, generation, collection, compilation, storage, maintenance, retention, and retrieval of records necessary to provide objective evidence that activities within the scope of this DQAP are in compliance with the regulations and facility implementing procedures.

17.2. Distribution of records shall be controlled in accordance with written procedures. Measures are established for replacement, restoration, or substitution of lost or damaged records. A system for receipt control of records is established. Receipt control is required for records transferred between Company locations, vendors and the Company, and from Company department files to final storage locations.

17.3. Records are legible, accurate, complete, identifiable, and retrievable. Records are considered valid and complete when dated and stamped, initialed, signed, or otherwise authenticated. Corrections, revisions, or supplements to completed records are reviewed and approved by an authorized individual in the originating organization. Such changes are dated and stamped, initialed, signed, or otherwise authenticated including the use of electronic approval and authorization as applicable.

17.4. Record storage facilities are established and maintained in a manner that minimizes the risk of damage or destruction. Records may be kept by suppliers and maintained on an available basis for a specified period of time. Records may be stored in electronic media provided that the process for managing and storing data is documented in procedures that comply with applicable regulations, including NRC guidance in RIS 2000-18 and as recognized in NIRMA (Nuclear Information Records Management Association) technical guides TG-11, TG-15, TG-16, and TG-21 as approved in NRC SERs.

17.5. Record retention periods are established to meet regulatory, UFSAR / DSAR, DQAP, and License requirements. The most stringent retention period is implemented when multiple requirements exist. Records are dispositioned at the end of the prescribed retention period.

18. AUDITS

18.1. Measures shall be established for a system of planned and documented audits in order to verify compliance with all aspects of the DQAP and determine the effective implementation of programs covered by the DQAP. Internal and supplier audits are conducted in accordance with written procedures or checklists. Audit personnel shall not have direct responsibilities in the areas to be audited.

18.2. The internal audit program is conducted on a performance driven frequency that is commensurate with the status and importance of the activity to be completed but does not exceed 24-months, unless otherwise required by regulation. Audits may be extended beyond their originally scheduled due date based on the following criteria:

A. Audits shall be performed at the intervals designated and the schedules are based on the month in which the audit starts.

B. A maximum extension not to exceed 25 percent of the audit interval is allowed unless restricted by regulation.

C. When an audit interval extension greater than one month is used, the next audit for that particular audit area is scheduled from the original anniversary month rather than from the month of the extended audit.

D. Item B applies to supplier audits and evaluations except that a total combined interval for any three (3) consecutive inspection or audit intervals does not exceed 3.25 times the specified inspection or audit interval.

18.3. Audit scheduling, preparation, personnel selection, personnel qualification, performance, reporting, response, follow-up, and records management for audits are performed in accordance with written procedures. Audit scopes and schedules are based upon the status of work progress, activities being performed, regulatory requirements, and/or experience with the organization being audited. An audit schedule shall be maintained, reviewed, and revised as necessary at least annually, to ensure that programs receive necessary audits to support regulatory compliance.

18.4. External audits of suppliers providing materials, parts, equipment or services within the scope of this DQAP are scheduled and performed based on the importance of the activity and to confirm implementation of the supplier's Quality Assurance Program at a frequency of not less than three (3) years with an audit extension period identified in D above.

18.5. Audit reports shall be prepared, reviewed, approved and distributed in accordance with approved procedures.

APPENDIX A

TERMS AND DEFINITIONS

A.1. DC Phase 1

- The period from Permanent Shutdown until permanent fuel removal

A.2. DC Phase 2

- The period from permanent fuel removal until end of the Zirconium (Zr) Fire Analysis (a.k.a. zirc-fire) period

A.3. DC Phase 3

- The period from the end of the Zr Fire Analysis period until fuel pool is empty (fuel is in the Independent Spent Fuel Storage Installation (ISFSI))

A.4. DC Phase 4

- The period from fuel in the ISFSI until License termination

A.5. Important to safety (for this DQAP)

- Systems, structures, and components (SSC) whose functions are to protect spent fuel and / or the capability to prevent or mitigate the consequences of accidents that could result in potential for offsite exposure comparable to the guidelines in 10 CFR 50.34(a)(1), 10 CFR 50.67(b)(2) or 10 CFR 100.11, as applicable. These SSCs are typically listed in site specific DSARs or ISFSI design documents. Refer to NUREG/CR-6407, Classification of Transportation Packaging and Dry Spent Fuel Storage System Components According to Importance to Safety, for application of this term to transportation packaging and dry fuel storage systems for compliance with 10 CFR 71 and 10 CFR 72.
- Safety Related - Systems, structures and components, which are considered important to safety because they perform safety actions, are required to avoid or mitigate the consequences of abnormal conditions or accidents. These SSCs are typically listed in site specific DSARs or ISFSI design documents.

A.6. For other terms and definitions refer to the applicable standard or guidance such as:

- ASME NQA-1, 1994, Quality Assurance Requirements for Nuclear Facility Applications
- 10 CFR 50.2, Definitions
- 10 CFR 71.4, Definitions
- 10 CFR 72.3, Definitions

APPENDIX B

WRITING REFERENCE DOCUMENTS

B.1. Quality Standards and Regulatory Guidance

- ASME NQA-1, 1994, Quality Assurance Requirements for Nuclear Facility Applications" Part I and Part II.
- Regulatory Guide 7.10, Establishing Quality Assurance Programs for Packaging Used in the Transportation of Radioactive Materials (Revision 2-March 2005.

B.2. Safety Evaluation Reports

- Revision 1, U.S. NRC, Safety Evaluation by the Office of Nuclear Reactor Regulation quality assurance independent review program alternative, Duane Arnold Energy Center, Kewaunee Nuclear Power Plant, Monticello Nuclear Plant, Palisades Nuclear Plant, Point Beach Nuclear Plant, Units 1 and 2, Docket No. 50-331, 50-305, 50-263, 50-255, 50-266, 50-301, 50- 282, and 50-306, Dated January 13, 2005, ADAMS Accession No. ML050210276
- U.S. NRC, Safety Evaluation by the Office of Nuclear Reactor Regulation related to revision 15 of the operational quality assurance manual, Entergy operations, Inc. Grand Gulf Nuclear Station, Unit 1, Docket No. 50-416, November 18, 1997
- U.S. Nuclear Regulatory Commission, Safety Evaluation by the Office of Nuclear Reactor Regulation request for change to the operating quality assurance manual, revision 31, change notice 15-002, Union Electric Company, Callaway Plant, Unit 1, Docket No. 50-483, April 1, 2016, ADAMS Accession No. ML16089A167
- U.S. NRC, Safety Evaluation by the Office of Nuclear Reactor Regulation proposed change to the Quality Assurance Program Common Safety Review Board Conduct of Operations Southern Nuclear Operating Company, INC. for Joseph M. Farley Nuclear Plants, Units 1 and 2; Edwin I. Hatch Plant, Units 1 and 2; Vogtle Electric Generating Plant, Units 1 and 2, Docket Nos. 50-348, 50-364, 50-321, 50-366, 50-424, and 50-425. June 17, 2005, ADAMS Accession No. ML051570349
- U.S. NRC, Safety Evaluation by the Office of Nuclear Reactor Regulation Decommissioning Quality Assurance Program changes San Onofre Nuclear Generating Station, Units 1, 2, and 3 and the Independent Spent Fuel Storage Installation Docket NOS. 50-206, 50-361, 50-362, and 72-041Common Safety Review Board Conduct of Operations. July 23, 2015, ADAMS Accession No. ML15191A461

APPENDIX C

REGUALTORY COMMITMENTS

C.1. 10 CFR 50 Appendix B, *Quality Assurance Criteria for Nuclear Power Plants and Fuel Processing Plants*

C.2. 10 CFR 71 Subpart H, Quality Assurance

C.3. 10 CFR 72, Subpart G, Quality Assurance

C.4. NUREG/CR-6407, Classification of Transportation Packaging and Dry Fuel Storage System Components According to Important to Safety (2/1996)

APPENDIX D

GENERAL ADMINISTRATIVE REQUIREMENTS

D.1. Fire Protection

10 CFR 50.48(f) requires that licensees that have submitted the certification required under 50.82(a)(1) shall maintain a fire protection program to address the potential for fires that could cause the release or spread of radioactive materials. The quality assurance program established for these fire protection SSCs ensures that design, procurement, instruction, procedures, drawings, inspection, installation, testing, maintenance, operations, nonconforming Items, corrective action, records, audits and administrative controls meet the applicable quality assurance guidelines as described in the applicable edition of Branch Technical Position (BTP) 9.5-1 for each facility during decommissioning and permanent shutdown. Engineering determines what fire protection SSCs are required to prevent fires, rapidly detect, control, and extinguish fires that do occur and could result in a radiological hazard and, minimize the risk the public, environment, and plant personnel resulting from fires that could result in a release of radioactive materials. Engineering also establishes the requirements for the design, procurement, fabrication, installation and/or modification of these fire protection SSCs. All other fire protection equipment and supplies will be of commercial quality, in accordance with National Fire Protection Association (NFPA) guidelines.

D.2. Transport of Radioactive Waste

D.2.1 When the Company contracts with vendors to transport radioactive waste in NRC approved shipping packages, it meets the requirements of 10 CFR 71, Subpart H. The Company assures that this service is procured from an organization with a QA program and if applicable, includes a NRC licensed transport system. Loading, surveying, closure, placarding, and inspections are conducted in accordance with written procedures and instructions. Transport casks and trailers are inspected before release in accordance with Department of Transportation (DOT) 49 CFR. Shipping manifests, including final radiation surveys, are completed and retained. Radioactive waste shipments not meeting the requirements for NRC approved packaging, shall meet the requirements of DOT 49 CFR.

D.3. Services

D.3.1. The Company procures services from qualified suppliers. It is not necessary that these suppliers have a quality assurance program approved by the licensee, however, suppliers should provide a quality assurance program that includes the quality assurance program elements presented in Regulatory Guide 4.15, Quality Assurance for Radiological Monitoring Programs (Normal Operations) – Effluent Streams and the Environment, and routinely provide program data summaries sufficiently detailed to permit evaluation of the program for the following areas:

- Meteorology.
- Offsite Dose Calculation Manual.
- Radiological environmental monitoring.

D.4. License Renewal

D.4.1. Consistent with the requirements of 10 CFR 54.21(a)(3), the Company implements the requirements of DQAP Section 1 through 18 for aging management activities related to safety related SSCs as described by licensing documents for those systems that remain active.

D.4.2. Additionally, to manage the aging effects of non-safety related SSCs that were determined to be within the scope of License Renewal, the Company implements the administrative controls, corrective actions and confirmation processes described in DQAP Sections 6, 16 and the applicable requirements of this appendix.

D.5. Safety Review Committee

D.5.1. The Safety Review Committee (SRC) serves the CNO as an on-site review body that performs procedure and program reviews for decommissioning activities and ISFSI operation as necessary on matters of Nuclear Safety. Details regarding the membership, quorum, agenda, and meeting schedule are contained in implementing procedures.

D.6. Independent Spent Fuel Storage Installation (ISFSI) SSC

D.6.1. ISFSI quality assurance program requirements are performed in accordance with the applicable 10 CFR 72.212 report which invokes the portions of the NRC approved 10 CFR 50 Appendix B quality assurance program as described in this DQAP, commensurate with the safety classification of the component and quality requirements specified in the cask vendor Final Safety Analysis Report (FSAR) or site-specific license.

APPENDIX E

THREE MILE ISLAND (UNIT 1) SPECIFIC ADMINISTRATIVE REQUIREMENTS

E.1. Regulatory Guide 1.33

E.1.1. Written procedures applicable to safe storage of nuclear fuel recommended in Appendix A of Regulatory Guide 1.33, shall be established, implemented, and maintained. (ref. TMI DC Technical Specification Section 6.8.1 Procedures and Programs)

E.2. Records Retention

E.2.1 The following records shall be retained for at least five years:

- Records and logs of activities related to the safe storage of irradiated fuel.
- Records and logs of principle maintenance activities, including inspection, repairs, substitution, or replacement of principal items of equipment related to safe storage of irradiated fuel.
- All REPORTABLE EVENTS.
- Records of periodic checks, tests and calibrations.
- Changes to the procedures required by the Technical Specification 6.8.1.
- Test results, in units of microcuries, for leak tests performed on licensed seal sources on record.
- Records of annual physical inventory verifying accountability of licensed sources on record.

E.2.2. The following records shall be retained for the duration of the Facility Operating License:

- Records and drawing changes reflecting facility design modification made to systems and equipment needed for the safe storage of irradiated fuel as described in the Safety Analysis Report.
- Records of irradiated fuel inventory, fuel transfers and assembly burnup histories.
- Routine unit radiation surveys and monitoring records.
- Records of doses received by all individuals for whom monitoring was required.

- Records of radioactive liquids and gaseous wastes released to the environment, and records of environmental monitoring surveys.
- Records of training and qualification for current members of the unit staff.
- Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR 50.59.
- Records of analyses required by the radiological environmental monitoring program.
- Records of solid radioactive shipments.
- Records of reviews performed for changes made to the Offsite dose Calculation Manual and the Process Control Plan.

E.3. Facility Staff Qualifications

E.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI/ANS 3.1 of 1978 for comparable positions unless otherwise noted in the Technical Specifications. Individuals who do not meet ANSI/ANS 3.1 of 1978, Section 4.5, are not considered technicians or maintenance personnel for purposes of determining qualifications but are permitted to perform work for which qualification has been demonstrated.

E.3.2 The management position responsible for radiological controls shall meet or exceed the qualifications of Regulatory Guide 1.8 of 1977. Each radiological control technician/supervisor shall meet or exceed the qualifications of ANSI-N 18.1-1971, paragraph 4.5.2/4.3.2, or be formally qualified through an NRC approved TMI-l Radiation Controls training program. All radiological controls technicians will be qualified through training and examination in each area or specific task related to their radiological controls' functions prior to their performance of those tasks.