ENCLOSURE (A)

QUALITY ASSURANCE MANUAL

VOLUME II

OPERATION

OF

PILGRIM NUCLEAR POWER STATION

QUALITY ASSURANCE MANUAL

VOLUME II

OPERATION OF PILGRIM NUCLEAR POWER STATION

FOREWORD

The Boston Edison Quality Assurance Program for operation of Pilgrim Nuclear Power Station (PNPS) is defined in this Manual. It is the governing document for control of quality related and quality assurance activities. The requirements herein were established to comply with the requirements of Title 10, Code of Federal Regulations, Part 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants." All Boston Edison Company personnel who perform quality related and quality assurance activities associated with operation of PNPS are responsible to comply with the requirements of this Manual.

W D Harrington
Senior Vice President (Nuclear)

Date July 7, 1983

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VOLUME II
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1.0 PURPOSE

This section describes the Nuclear Organization and other organizational units of Boston Edison Company (BECo) involved in the operation of Pilgrim Nuclear Power Station (PNPS). In addition, it describes the responsibilities and authority of key management individuals who control activities governed by the Quality Assurance Program.

1.1 Organization

The BECo Nuclear Organization is depicted in Figure No. 11-1-1. The organization for Pilgrim Nuclear Power Station is further detailed in the Technical Specifications. Changes in Boston Edison's Nuclear Organization are reported to the Nuclear Regulatory Commission in accordance with the Technical Specification requirements. Quality related activities associated with the operational phase of nuclear power plants are performed primarily by the Nuclear Organization. These operational phase activities are governed by the requirements established in the Boston Edison Quality Assurance Manual (BEQAM) for Operation of Nuclear Power Plants. Other Departments within Boston Edison that are subject to certain requirements of the BEQAM are:

(a) Purchasing Department

(b) Stores Department

(c) Engineering, Planning and Research Department, Testing and Standards Section

Boston Edison has established the following committees which perform quality related functions:

Nuclear Safety Review and Audit Committee (NSRAC)

Operations Review Committee (ORC)

The makeup, qualifications, and responsibilities of these committees are described in the Technical Specifications for the nuclear power plant and/or in Committee charters. NSRAC members are appointed by the Senior Vice President (Nuclear).

The corporate organization is more fully described in Boston Edison's Bulletin Book, Section A. Revisions or additions to the Bulletin Book are controlled by the Chief Executive Officer of Boston Edison Company.

1.2 Key Management Responsibilities and Authority

1.2.1 Office of the President

The President, as chief administrative officer of Boston Edison Company subject to the direction of the Board of Directors, supervises the administration of the business and affairs of the corporation. He is a member of the Executive Committee of the Board of Directors as well as President and Chief Executive Officer.

The Executive Vice President has such powers and duties as may from time to time be prescribed by the Board of Directors or the Chief Executive Officer. During the absence or inability of the President, the Executive Vice President shall possess all the powers and perform all the duties of the President.

The Senior Vice Presidents are senior corporate officers responsible for the administration and conduct of Company business relating to specific areas as assigned within the Office of the President.

1.2.2 Senior Vice President-(Nuclear)

The Board of Directors has designated a Senior Vice President as the corporate officer with responsibility and authority to manage and direct the Nuclear Organization. He is responsible for all activities related to the operation of PNPS and reports to the Chief Executive Officer. He is responsible to establish overall policies and to assure effective implementation of those policies. Boston Edison has established a Quality Assurance Program to implement the requirements in Appendix B to 10 CFR Part 50 and the Senior Vice President is assigned responsibility for assuring that the Program is aggressively implemented. He has delegated responsibilities and authorities to accomplish required activities according to his written policies.

The Senior Vice President-(Nuclear) is designated as the officer to whom defects and non-compliances relating to nuclear safety hazards are to be reported and is designated as the officer responsible for notifying NRC of defects and non-compliances when required by 10 CFR Part 21. The assignment of corporate responsibilities for implementation of 10 CFR Part 21 is more fully described in Boston Edison Company's Bulletin Book, Bulletin B-2.

The following vice presidents and managers report to the Senior Vice President:

(1) Vice President-Nuclear Operations

(2) Vice President-Nuclear Engineering and Quality Assurance

(3) Director, Nuclear Operations Review

(4) Director, Outage Management

(5) Planning, Scheduling and Cost Control Manager

1.2.3 Vice President-Nuclear Operations

The Vice President-Nuclear Operations is responsible for all activities related to operation and maintenance of PNPS. He is responsible for establishing procedures and controls to assure that requirements of the BEQAM are effectively implemented by Departments within his organization.

The Vice President-Nuclear Operations is responsible to develop, maintain and control interdepartmental Nuclear Operations Procedures (NOP's). The QA Manager reviews each NOP to assure that the described quality-related activities meet the requirements of the BEQAM.

The following departments report to the Vice President-Nuclear Operations:

(1) Nuclear Operations Department

(2) Nuclear Operations Support Department

(3) Nuclear Management Services Department

(4) Nuclear Training Department

1.2.4 Vice President-Nuclear Engineering and Quality Assurance

The Vice President-Nuclear Engineering and Quality Assurance is responsible for all activities related to engineering and design for PNPS, including design changes and plant modifications. He is also responsible to oversee implementation of those quality assurance and quality control activities assigned to the Quality Assurance Department by the Senior Vice President (Nuclear).

The following departments report to the Vice President-Nuclear Engineering and Quality Assurance:

(1) Nuclear Engineering Department

(2) Quality Assurance Department

1.2.5 Quality-Related Responsibilities Common to All Department Managers and Directors

Each of the Department Managers and Directors identified in following paragraphs have certain quality-related responsibilities in common, as follows:

- Provide and implement policies and procedures for all quality-related activities which fulfill the requirements of this manual; ensure policies and procedures applicable to quality-related activities are approved by the QAD.

- Choose qualified, competent personnel to maintain a staff adequate to perform all quality-related activities. Identify indoctrination and training needs and ensure they are fulfilled; coordinate training with the Nuclear Training Department. Evaluate the performance of personnel and take required actions.

- Provide the means and conditions (e.g., facilities, tools, supplies, etc.) to allow personnel to carry out quality-related activities within the constraints of corporate budget controls.

- Ensure coordination of activities across the interfaces with other departments and organizations.

- Be cognizant and maintain departmental awareness of applicable regulatory requirements, as well as BECo commitments and related industry codes and standards.

- Recognize, obtain, evaluate, and act upon feedback information, from internal and external sources, to improve management controls and personnel performance. Apprise upper management of activities and potential and actual problems. Communicate and resolve problems with other departments. Take corrective action when it is warranted, including measures to prevent problem recurrence.

The functional roles and responsibilities of departments and organizational units that implement the QA program are more fully described in Nuclear Operations Procedures, department procedures, or charters approved by appropriate levels of management.

1.2.6 Director-Nuclear Operations Review (DNOR)

The Director-Nuclear Operations Review is responsible to perform a daily surveillance of plant operations,

to ensure appropriate feedback information is provided to responsible corporate management-level review of operational decisions important to safety, to monitor implementation of nuclear safety-related activities, and to ensure corporate management is informed of operational problems and the status of corrective actions in response. He is responsible to make reports directly to the Chief Executive Officer, both routinely and on request.

The DNOR chairs the NSRAC.

1.2.7 Director of Outage Management

The Director of Outage Management is responsible to coordinate planning and to direct scheduled plant outages necessary to maintain, modify, and refuel the plant.

1.2.8 Planning, Scheduling and Cost Control (PS&CC) Manager

The PS&CC Manager is responsible for planning, scheduling, and cost control services and for coordinating procurement interfaces between the Nuclear Organization and the Purchasing Department.

1.2.9 Nuclear Operations Department (NOD)

The Pilgrim Station Manager is head of the Nuclear Operations Department and is responsible for the overall safe, reliable, and economic operation of PNPS in accordance with corporate policies and regulatory requirements.

1.2.10 Nuclear Operations Support Department (NOSD)

The Nuclear Operations Support Department is responsible for certain on-site activities which support the Pilgrim Station Manager and the Vice President-Nuclear Operations.

1.2.11 Nuclear Management Services Department (NMSD)

The Nuclear Management Services Department is responsible for certain on and off-site activities which support the Pilgrim Station Manager and the Vice President-Nuclear Operations. The Department is responsible for maintenance and control of the Facility Operating License and the PNPS Final Safety Analysis Report, and for Records Management/Document Control activities for the Nuclear Organization.

1.2.12 Nuclear Training Department (NTD)

The Nuclear Training Department is responsible to establish and coordinate implementation of a training program for all Boston Edison personnel who perform

quality-related activities. This overall program shall indoctrinate all personnel in the Boston Edison Quality Assurance Program for PNPS and other management controls, and provide suitable training to permit personnel to perform their assigned activities. It includes special qualification training and certification activities, as required. Training responsibilities assigned to other managers are carried out within the framework established by this program.

1.2.13 Nuclear Engineering Department (NED)

The Nuclear Engineering Department is responsible for engineering and design activities and construction associated with plant design changes and modifications, including safety evaluations required by 10CFR50.59. It is also responsible for all engineering evaluations (e.g., studies, analyses, reviews) to support PNPS operation, maintenance, and refueling. These responsibilities include establishment and maintenance of a system to incorporate approved design changes into engineering documents.

1.2.14 Quality Assurance Department (QAD)

The Senior Vice President (Nuclear) has delegated authority and responsibility for directing and administering the Quality Assurance Program to the Manager of the Quality Assurance Department. Specifically, the Quality Assurance Department is accountable for:

- Establishing, maintaining, and assuring the implementation of a Quality Assurance Program, which effectively complies with 10CFR50, Appendix B, applicable codes and standards, and the Nuclear Organization's policies.

- Providing quality assurance expertise to assist line departments in the planning and implementation of design, procurement, construction, operations, and maintenance activities for the Pilgrim Nuclear Power Station.

- Establishing, maintaining, and implementing an effective quality control function for the Nuclear Organizations.

- Assuring that detailed, approved procedures are utilized throughout the Nuclear Organizations and by interfacing departments subject to Quality Assurance Program requirements such as Purchasing, Stores, Engineering, Planning and Research, etc.

- Preparation, revision, and control of the Boston Edison Quality Assurance Manual (BEQAM), which is the primary quality assurance document.

In order to implement these responsibilities, the Quality Assurance Manager is provided with "Stop Work" authority whereby he can suspend any quality related activity or process which may, in his opinion, adversely affect the safe operation of Pilgrim Nuclear Power Station.

QAD personnel have sufficient authority and organizational freedom to identify quality problems; initiate, recommend, or provide solutions through designated channels; and verify implementation of solutions. The QA Manager and his subordinates communicate directly with cognizant department managers and responsible personnel for the identification and resolution of deficiencies.

The QAD Manager is responsible for the review, evaluation and approval of selected contractor, supplier, and engineering service organization quality assurance programs prior to the issuance of BECo Purchase Orders/Contracts. After award of BECo Purchase Orders/Contracts, he is responsible for performance of audits and source/surveillance inspections, as appropriate, at contractor, supplier, and engineering service organization facilities to assure compliance with BECo Purchase Order/Contract requirements.

The Quality Assurance Manager is responsible to review all procurement requirements, including technical and quality assurance requirements of specifications, preliminary procurement

documents, and supplier exception/deviations, to ensure proper consideration and incorporation of quality assurance and quality control requirements.

The QAD is responsible to establish and maintain the Inservice Inspection and Test Program required by ASME Section XI and the PNPS Technical Specifications.

1.2.15 Purchasing Department

The Purchasing Department is responsible to coordinate procurement of items and services required for PNPS including approval of commercial conditions associated with procurement activities. The Purchasing Department is not authorized to change technical and quality assurance requirements specified by the department requesting procurement action. The Purchasing Department is responsible to implement procedural controls according to requirements established in the BEQAM.

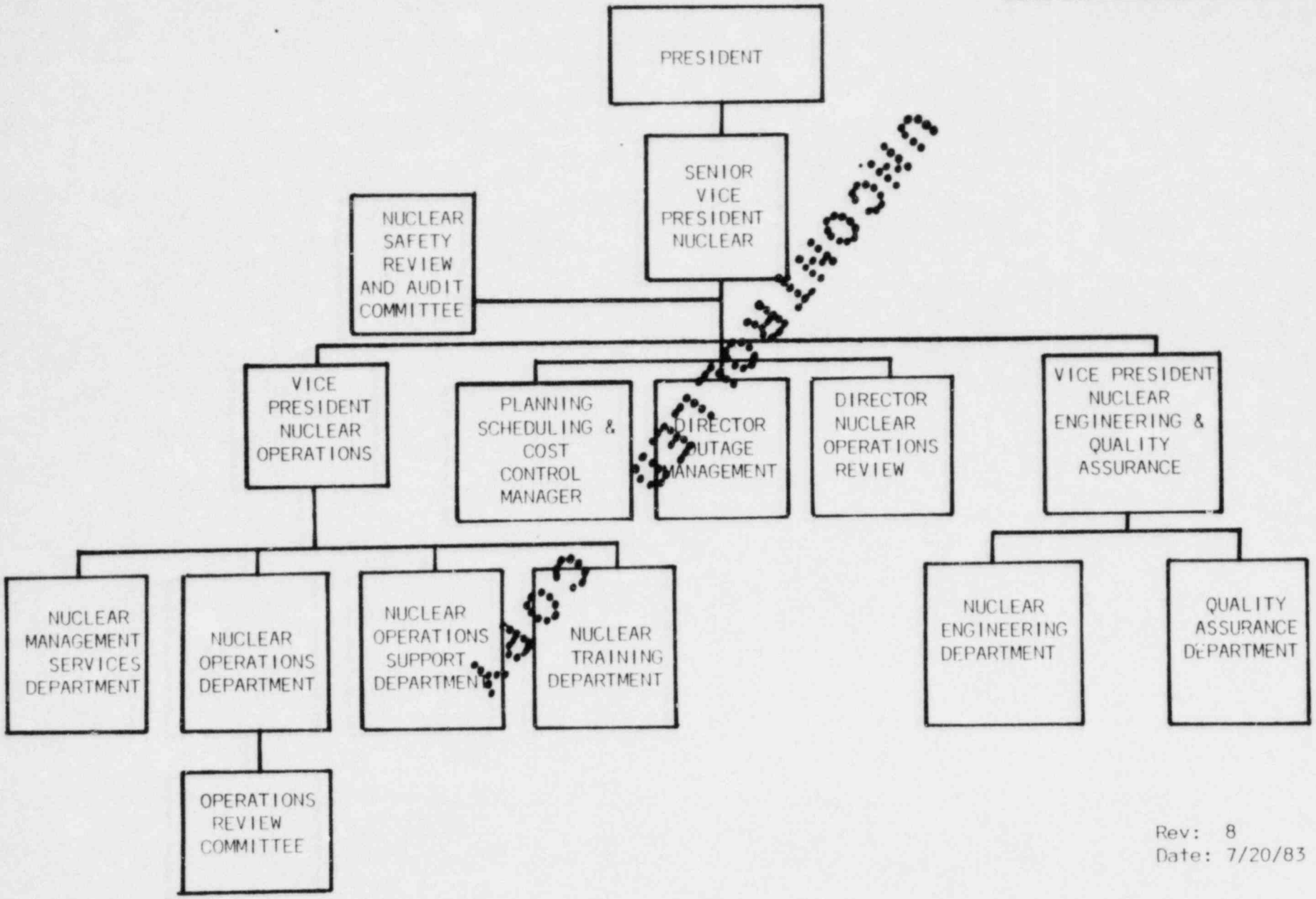
1.2.16 Stores Department

The Stores Department is responsible to coordinate preparation of purchase orders for material based on approved preliminary procurement documents and is also responsible to receive, store, and control purchased material before it is released to PNPS. The Stores Department is not authorized to change technical and quality assurance requirements specified by the department requesting the procurement action. The Stores Department is responsible to implement procedural controls according to requirements established in the BEQAM.

1.2.17 Engineering, Planning and Research Department, Testing and Standards Division

The Testing and Standards Division is responsible to direct and coordinate the activities within the Testing and Standards Section and to implement the requirements of the BEQAM related thereto.

BOSTON EDISON COMPANY
NUCLEAR ORGANIZATION



Rev: 8
Date: 7/20/83

FIGURE 11-1-1

2.1 PURPOSE

This section establishes requirements for the Boston Edison Quality Assurance Program for operation of PNPS, the applicability of the program, and the indoctrination and training program to ensure its proper implementation and effectiveness.

2.2 POLICY

A Statement of Policy, which was signed by the President, establishes the overall quality assurance policy of the Boston Edison Company (BECo). This statement sets the goal of safe and reliable operation of PNPS: commits the Company to a quality assurance program designed to ensure compliance with regulatory requirements, Company commitments, and established practices for efficient plant operation; and requires every person involved in quality assurance program related activities to comply with the provisions of the program. Employees should refer to Boston Edison Company Bulletin B-5 for specific details of this corporate quality assurance policy.

2.3 PROGRAM REQUIREMENTS

2.3.1 The Boston Edison Quality Assurance Manual (BEQAM) for Operation of Nuclear Power Plants establishes the Quality Assurance Program applicable to operation of Pilgrim Nuclear Power Station. The requirements in the BEQAM were established to comply with the requirements of Title 10, Code Federal Regulations, Part 50 (10 CFR 50), Appendix B, "Quality Assurance Criteria for Nuclear Power Plants" and are structured in accordance with its eighteen criteria.

This program requires implementing procedures to be written. These procedures may be prepared as Nuclear Operations Procedures (NOP's), Department Procedures, or Group procedures/instructions. Specific assignment of responsibilities for executing and controlling activities related to the program are identified in these procedures.

Activities falling within the scope of the QA Program categorically include: designing, purchasing, fabricating, handling, shipping, storing, cleaning, erecting, installing, inspecting, testing, operating, maintaining, repairing, refueling, training, and modifying.

Changes to the BEQAM are controlled in accordance with the requirements of 10 CFR 50.54(a).

Operational phase activities are also controlled in accordance with the requirements of the Facility Operating License No. DPR-35 for the Pilgrim Nuclear Power Station and 10 CFR 50.59 requirements.

2.3.2 This QA Program conforms to the following NRC Regulatory Guides and associated ANSI Standards to the extent that they are applicable to operational phase activities:

Regulatory Guide 1.8 Rev. IR, 1975 (ANSI N18.1-1971/ANS3.1)	Personnel Selection and Training
Regulatory Guide 1.33, Rev. 2 1978 (ANSI N18.7-1976/ANS 3.2)	QA Program Requirements (Operational)
Regulatory Guide 1.64 Rev. 1, 1975 (ANSI N45.2.11-1974)	QA Program Requirements for the Design of Nuclear Power Plants
Regulatory Guide 1.88 Rev. 2, 1976 (ANSI N45.2.9-1974)	Collection, Storage and Maintenance of Nuclear Plant Quality Assurance Records
Regulatory Guide 1.123 Rev. 1, 1977 (ANSI N45.2.13-1976)	QA Requirements for Control of Procurement of Equipment, Materials and Services for Nuclear Power Plants
Regulatory Guide 1.144 Rev. 1, 1980 (ANSI N45.2.12-1977)	QA Program Auditing Requirements for Nuclear Power Plants
ANSI N45.2.16 (IEEE Std. 498-1975)	Requirements for the Calibration and Control of Measuring and Test Equipment used in the Construction and Maintenance of Nuclear Power Generating Stations
Regulatory Guide 1.146 1980 (ANSI N45.2.23-1978)	Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants
Regulatory Guide 1.58 Rev. 1 (9/80) (ANSI N45.2.6-1978 and ASNT-SNT-TC-1A-1975)	Qualification of Nuclear Power Plant Inspection, Examination and Testing Personnel

2.3.3 Certain plant modification work can be expected to be comparable in nature and extent to related activities during the initial design and construction of the plant. The requirements of this manual and the current implementing procedures may need to be supplemented or replaced for such work. The Quality Assurance Manager will review upcoming modification work and shall determine whether a Project Quality Plan is needed for a specific modification.

When needed, the Project Quality Plan is developed before modification work begins at the plant. The Project Quality Plan is prepared with appropriate input assistance from other managers. It describes the activities included in the work, and identifies requirements which differ from, or are in addition to, the requirements in this manual. It identifies participating organizations and their interfaces, and the governing procedures which implement the QA Program. Each Project Quality Plan is approved by the Quality Assurance Manager.

2.3.4 The following Regulatory Guides and Standards contain requirements which will be applied to those construction related activities associated with major modifications during the operational phase that are comparable in nature and extent to related activities occurring during initial plant design and construction:

Regulatory Guide 1.28 Rev. 2, 1979 (ANSI N45.2-1977)	QA Program Requirements (Design and Construction)
Regulatory Guide 1.30 Rev. 0, 1973 (ANSI N45.2.4-1972	QA Requirements for the Installation, Inspection and Testing of Instrumentation and Electric Equipment
Regulatory Guide 1.37 Rev. 0, 1973 (ANSI N45.2.1-1973)	QA Requirements for Cleaning of Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants
Regulatory Gudie 1.38 Rev. 2, 1977 (ANSI N45.2.2-1972)	QA Requirements for Packaging, Shipping, Receiving, Storage and Handling of Items for Water-Cooled Nuclear Power Plants
Regulatory Guide 1.39 Rev. 2, 1977 (ANSI N45.2.3-1973)	Housekeeping Requirements for Water-Cooled Nuclear Power Plants
Regulatory Guide 1.54 Rev. 0, 1973 (ANSI N101.4-1972)	QA Requirements for Protective Coatings Applied to Water-Cooled Nuclear Power Plants
Regulatory Guide 1.55 Rev. 0, 1973	Concrete Placement in Category I Structures
Regulatory Guide 1.74 Rev. 0, 1973 (ANSI N45.2-10-1973)	QA Terms and Definitions
Regulatory Guide 1.94 Rev. 1, 1976 (ANSI N45.2.5-1974)	QA Requirements for Installation, Inspection and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants
Regulatory Guide 1.116 Rev. 0-R, 1977 (ANSI N45.2.8-1975)	Quality Assurance Requirements for Installation, Inspection and Testing of Mechanical Equipment and Systems

2.4 PROGRAM APPLICATION

2.4.1 The BEQAM is applied to activities affecting structures, systems, and components which have been designated safety related because they prevent or mitigate the consequences of postulated accidents which could cause undue risk to the health or safety of the public. Structures, systems, and components which are designated as safety related are classified as Q and are identified on the Q-List.

2.4.2 In addition, the Q-List may include other structures, systems, and components for which the Vice President-Nuclear Operations and the Vice President-Nuclear Engineering and Quality Assurance have agreed to utilize the management controls and implementing procedures of this QA Program for the control of selected work activities.

2.4.3 The BEQAM is also applied to activities affecting fire protection systems and equipment required to limit fire damage to safety related structures, systems and components so that the capability to safely shut down the plant is ensured. Applicable fire protection systems and equipment are identified on the Fire Protection List.

2.4.4 In accordance with the requirements of 10 CFR 71.51, the BEQAM is also applied to Boston Edison activities, including procurement activities, related to delivery of licensed material to a carrier for transport under the license provisions of 10 CFR 71.12. Applicable shipping containers or transport packages are identified on the 10 CFR 71.12 Licensed Shipping Container List.

2.4.5 Provisions have been made for establishing and maintaining the Q-List and the Fire Protection List under the control of the Nuclear Engineering Manager.

2.4.6 Provisions have been made for establishing and maintaining the 10 CFR 71.12 Licensed Shipping Container List under the control of the Pilgrim Station Manager.

2.4.7 To the extent necessary to ensure the quality procured items and services, suppliers and subsuppliers are required to provide quality assurance programs which implement the pertinent provisions of 10 CFR 50, Appendix B. Specification of this requirement and evaluation of supplier quality assurance programs by the QAD are covered in Section 4.

2.5 PROGRAM CONTROL

2.5.1 The Quality Assurance Manager is responsible for establishing and maintaining the BEQAM and for assuring the implementation of a Quality Assurance Program which effectively complies with 10 CFR 50, Appendix B, applicable codes and standards, and corporate policies.

2.5.2 Proposed revisions to the Boston Edison Quality Assurance Manual are prepared by BECo personnel based on predetermined need and NRC regulatory requirements and guides using a Boston Edison Quality Assurance Manual Change Request, Exhibit II-2-1.

The Quality Assurance Department is responsible to review each Change Request to verify conformance with QA Program requirements and to control BEQAM changes in accordance with the requirements of 10 CFR 50.54(a). The resulting Change Requests are approved for implementation by both Vice Presidents after approval by the Quality Assurance Manager.

Holders of controlled Boston Edison Quality Assurance Manuals are responsible for insertion of the latest revisions in their assigned Manuals, and are required to sign and return the revision transmittal form thereby acknowledging receipt.

2.5.3 The Quality Assurance Program is implemented using procedures prepared and controlled according to BEQAM Section 5. Review and approval by the QA Department is required to assure compliance with BEQAM requirements and for ensuring that such procedures are approved by the QAD prior to use.

2.5.4 The Nuclear Training Department is responsible to establish and coordinate implementation of a training program for all Boston Edison nuclear personnel who perform quality-related activities. This overall program shall indoctrinate all personnel in the Boston Edison Quality Assurance Program for PNPS and other management controls, and provide suitable training to permit personnel to perform their assigned activities. It includes special qualification training and certification activities, as required. Training responsibilities assigned to other managers are carried out within the framework established by this program.

Department Managers and Directors are responsible for assuring that their personnel are adequately trained and proficient in the use of department procedures approved by the Quality Assurance Manager and that training is performed and scheduled in compliance with the requirements of the Boston Edison Training Program.

2.5.5 Implementation of an aggressive Quality Assurance Program is essential to achieve the goal of continued safe and reliable operation of the Pilgrim Nuclear Power Station. Each person involved in quality related activities concerning design, construction, preoperational testing, operation and maintenance of PNPS is responsible for attaining quality in his/her work and for compliance with the requirements of the applicable quality assurance approved procedures. Each person is also responsible for promptly reporting to his/her supervisor whenever a noncompliance with a QAD approved procedure occurs and whenever a potential unsafe condition is recognized.

2.5.6 Audits are conducted by QAD on a regularly scheduled basis to assure compliance with established BEQAM requirements, and the results of these audits are reported to responsible management personnel.

If a difference of opinion arises between Quality Assurance personnel and those of another department, resolution is first attempted by the Quality Assurance Manager and the other cognizant manager. If a solution acceptable to the QA Manager cannot be obtained, the matter shall be promptly referred by the QA Manager to the Vice President-Nuclear Engineering and Quality Assurance for resolution. If a resolution

acceptable to the QA Manager is not obtained after it has been referred to the Vice President, the matter shall be promptly referred by the QA Manager to the Senior Vice President (Nuclear) and, if necessary, to the President, for resolution.

2.5.7 The scope, implementation, and effectiveness of the Boston Edison Quality Assurance Program is assessed at least bi-annually; the results are reported to the NSRAC and to upper management (vice presidents and above).

(QA1-A39)

Boston Edison Company

QUALITY ASSURANCE MANUAL

CHANGE REQUEST

VOLUME_____SECTION_____PARAGRAPH NO._____PAGE NO._____REV. NO._____

REVISION (Exact Wording)

PURPOSE OF REVISION

ORIGINATOR DATE

APPROVAL SIGNATURES:

QUALITY ASSURANCE MANAGER DATE

VICE PRESIDENT-NUCLEAR OPERATIONS DATE

VICE PRESIDENT-NUCLEAR ENGINEERING AND QUALITY ASSURANCE

DESIGN CONTROL

3.1 PURPOSE

This section establishes the requirements for the control of design activities to assure that appropriate quality standards are specified and design reviews are accomplished in a planned and orderly manner.

3.2 GENERAL

3.2.1 Engineering and design activities associated with plant design changes and modifications of nuclear safety related structures, systems, and components are accomplished according to ANSI N45.2.11-1974 as amended by Regulatory Guide 1.64, Rev. 1.

3.2.2 Before implementation plant design changes and modifications are reviewed by responsible NED, QA, ORC, and Station personnel, and safety evaluations are performed for design changes to assure compliance with 10 CFR 50.59. If the Operations Review Committee (ORC) determines that an unreviewed safety item is involved, the Nuclear Safety Review and Audit Committee (NSRAC) review, and Nuclear Regulatory Commission (NRC) approval is required through NOSD prior to performing the change. Approved design changes are implemented under the direction of NED.

3.2.3 When services are purchased by the NED for performance of work associated with plant design changes and modifications, QAD reviews and approves the procurement documents to assure that appropriate quality assurance program requirements are included.

3.2.4 Controls are established in written procedures to assure that revised design documents which describe the design changes to safety related structures, systems, and components are reviewed either by the organization that performed the original design, by NED or by a responsible alternate organization designated by Boston Edison.

3.3 DESIGN CHANGE PROCESS

3.3.1 A Plant Design Change (PDC) Request is used by BECo personnel to obtain authorization for and to implement plant design changes and modifications to systems, structures and components at the Station. Subsequent changes to an approved PDC package are made using Field Revision Notices (FRNs).

3.3.2 The cognizant personnel within the BECo Nuclear Organization, or approved supplier of engineering services, who are responsible for the engineering design inputs and design verifications perform their functions according to written procedures to assure the following:

3.3.2.1 Design documents are identified and controlled, and revisions thereto are reviewed, approved, collected, stored, and controlled in a systematic manner.

3.3.2.2 The individuals or groups responsible for design reviews and other design verification activities and their authority and responsibilities are identified and design interfaces are controlled.

3.3.2.3 Plant design changes and modifications are reviewed, approved and controlled to assure compliance with 10 CFR 50.59.

3.3.2.4 Applicable regulatory requirements and design bases are correctly translated into specifications, drawings, written procedures, and instructions.

3.3.2.5 Appropriate standards for quality are specified in design documents and deviations and changes from such standards are controlled.

3.3.2.6 Suitable design controls are used in applying principles of reactor physics and in making seismic, stress, thermal, hydraulic, radiation, and accident analyses.

3.3.2.7 Design changes and revisions to design documents are appropriately controlled to assure compatibility of materials; accessibility for inservice inspection, maintenance, and repair; and delineation of acceptance criteria for inspections and tests.

3.3.2.8 Methods for verifying design changes, such as design reviews, alternative calculations, and qualification testing are properly chosen and followed; the most adverse design conditions are specified for test programs used to verify the adequacy of designs.

3.3.2.9 Individuals or groups responsible for design verification meet the requirements for independence prescribed in Regulatory Guide 1.64, Rev. 1.

3.3.2.10 Design documents, including drawing and specification registers and approved revisions thereto, are controlled and distributed to responsible individuals in the user organization in a timely manner, to preclude inadvertent use of superseded material.

3.3.2.11 Errors and deficiencies that adversely affect safety related structures, systems, and components in the design process are documented and appropriate corrective action is taken.

3.3.2.12 Standard off-the-shelf commercial or previously approved materials, parts, and equipment essential to the safety functions of structures, systems and components are reviewed for suitability of application before procurement.

PROCUREMENT DOCUMENT CONTROL

4.1 PURPOSE

This section establishes the requirements for preparation, review, approval and control of procurement documents for items and services to assure applicable technical requirements and quality assurance requirements are included and that spare or replacement parts are subject to controls at least equivalent to those used for the original equipment.

4.2 PROCUREMENT PROCESS

4.2.1 Preliminary procurement documents prepared for equipment, parts and services shall include appropriate technical requirements, and QAD-approved quality assurance requirements. In addition, these documents shall specify when quality category Q applies and identify any other specific or special requirements; in particular, storage level, shelf life, and storage maintenance requirements. Additional information to be provided should include as appropriate:

a) Applicable Specifications and Drawings
b) Regulatory Requirements
c) Component Identification Requirements (including Q List No.)
d) Applicable Codes and Standards
e) Test and Inspection Requirements
f) Documentation Requirements (See Paragraph 4.2.2)
g) Special packaging, shipping, and handling requirements.
h) Installation, Operating and Maintenance manuals, including Preventive Maintenance Instructions
i) Suggested Suppliers based on QAD's Approved Suppliers List

4.2.2 The originator of the preliminary procurement documents shall identify any documentation required to be submitted by the supplier, including documentation to be submitted to BECo. for review and approval and documentation to be submitted for acceptance of the items or service. Required documentation shall also include documents to be provided to BECo. for records retention purposes.

For quality category Q items and services, supplier documentation for acceptance may be a Certificate of Conformance, unless requirements of the applicable Codes and Standards preclude this option (i.e., more specific documentation is called for). If a Certificate of Conformance is required, the procurement documents shall also specify that the Certificate of Conformance must meet the requirements given in Exhibit II-4-1. In addition, the originator shall determine if additional documentation is required from the supplier to support the Certificate of Conformance; and identify any such documentation in the procurement documents.

4.2.3 Preliminary procurement documents shall be reviewed to ensure proper identification of items and inclusion of appropriate technical requirements for items and/or services being procured. This review shall verify the quality category and the completeness of the requirements.

4.2.4 Preliminary procurement documents for all items and services shall be submitted to QAD for review to ensure inclusion of appropriate quality assurance requirements.

4.2.4.1 If the preliminary procurement documents require the supplier to submit a Certificate of Conformance, and BECo QA/QC will not perform source inspection (off-site), surveillance inspection (on-site), or audits, the QA reviewer shall identify acceptance inspections or tests by BECo, QQC which will verify the validity of the supplier's certificate and the effectiveness of his certification syster

4.2.5 The procurement documents for spare or replacement parts are subject to controls at least equivalent to those applied for original equipment.

4.3 PURCHASE ORDERS/CONTRACTS

4.3.1 The procurement documents (Purchase Order and accompanying documents) shall be issued according to corporate policies and procedures and shall contain all the technical requirements and QA requirements specified by the Nuclear Organization. Added technical or quality assurance requirements and any changes to the issue Purchase Order/ Contract are subject to the same review, and approval as the original preliminary procurement documents.

4.4 SUPPLIER QUALITY ASSURANCE PROGRAM EVALUATION AND APPROVAL

4.4.1 Evaluation of the Quality Assurance Programs of potential suppliers of Q items and services shall be performed by QAD or by others when authorized by the QA Manager. For fire protection systems and components, evidence of UL or FM approval will be accepted in lieu of supplier evaluation. An evaluation includes review of the supplier's QA Program Description and a survey of his implementation of that program before the supplier initiates any activities affected by the program under a BECo PO. The supplier's QA Program Description is reviewed to ensure inclusion of pertinent requirements of the BEQAM and 10 CFR 50, Appendix B. The evaluation must be completed and the supplier approved by QAD. The names of approved suppliers are placed on the BECo QA-Approved Suppliers List which is maintained by QAD.

4.4.2 Q items and services may be procured from suppl ers with quality assurance programs that have not been approved by BECo Quality Assurance. BECo Purchase Orders/Contracts to suppliers who have not been approved must, however, contain detailed supplementary quality assurance requirements to assure that material, equipment, parts, and services meet the BECo Purchase Order/Contract requirements. In such cases the preliminary procurement documents are reviewed by QAD to assure additional

QAD action(s) are planned, e.g., source inspection, additional receipt inspection, as deemed necessary to provide the required assurance that quality standards have been met.

4.5 DEVIATION REQUESTS FROM BECo PURCHASE ORDER/CONTRACT REQUIREMENTS

4.5.1 When a Deviation Request is submitted by a supplier to BECo Purchasing, the cognizant BECo Purchasing Agent shall forward the Deviation Request to the Nuclear Organization for initial action. The Deviation Request, after it is approved/disapproved by the cognizant BECo Manager and reviewed by QA, is returned to the BECo Purchasing Department which notifies the supplier. The BECo Purchasing Department issues a change to the Purchase Order/Contract based on approved procurement documents revised to reflect the approved Deviation Request.

Requirements for a Certificate of Conformance

When a Certificate of Conformance is required by the procurement documents to be submitted by the Supplier, it shall:

1. Identify the purchased item or services by BECo's purchase order number.

2. Identify the specific procurement requirements met by the item or service, either by verbatim quotation of the requirements, or by specific reference to the document(s), and location(s) with the document(s), where the requirements are specified. The requirements identified must include any changes, waivers, or deviations, approved by BECo, which apply to the item or service.

3. Identify any procurement requirements that have not been met, and refer to the document(s) which record BECo's approval of the disposition of such nonconformances.

4. Be attested to by the person responsible for assuring the quality of the item or service, as described in the supplier's BECo - approved Quality Assurance Manual.

The supplier's Quality Assurance Manual, as approved by BECo's QA Department, shall describe the system to control Certificates of Conformance, including a procedure for completing the certificates which meets the above requirements, and a procedure for review and approval of certificates.

INSTRUCTIONS, PROCEDURES, AND DRAWINGS

5.1 PURPOSE

This section establishes the requirements to assure that activities affecting the quality of safety-related systems, structures, and components are delineated, controlled, and implemented through use of written instructions, procedures, or drawings.

5.2 BECO QUALITY ASSURANCE PROGRAM-RELATED PROCEDURES

5.2.1 The requirements of this quality assurance program shall be implemente by Nuclear Operations Procedures (NOP's), issued by the VP-Nuclear Operations, and Department Procedures, issued by each Department Manager. Procedures required to implement the BEQAM II are called quality assurance program related.

5.2.2 Each quality-related activity shall be governed by an appropriate combination of procedures, instructions, and drawings. Requirements pertaining to drawings, including sketches, diagrams, schematics, and similar terms, are in Section 3. Detailed instructions may be provide in various ways controlled by quality assurance program related NOP's or Department Procedures. This appropriate combination of procedures, instructions, and drawings shall be identified in the work authorizing documents and, in all cases, the management controls specified in approved NOP's and Department Procedures shall be implemented.

5.2.3 Procedures, instructions, and drawings shall include appropriate quantitative and qualitative acceptance criteria, appropriate methods for documenting or recording data obtained during the performance of the activity, appropriate requirements for equipment and instrumentation to be used, and suitable control for environmental conditions.

5.2.4 Every new NOP and Department Procedure, unless exempted by Paragraph 5.2.5, shall be submitted to the Quality Assurance Manager to determir if the procedure is quality assurance program related. If so, the Quality Assurance Department shall review the procedure and all subsequent revisions to assure the requirements of the Boston Edison Quality Assurance Manual are met. After review, the Quality Assurance Manager shall approve. If the procedure is determined to be not quality assurance program related, review by QAD and approval by the Quality Assurance Manager is not required, and the procedure will be so marked by QAD. However, any major revisions (additions) to such a procedure will require the revised procedure to be submitted to the Quality Assurance Manager for review to determine if the revision makes the procedure quality assurance program related.

5.2.5 For PNPS Procedures, all of the procedures in Section 1 of the PNPS Procedures Manual and selected Section 3 procedures shall be reviewed by the Quality Assurance Department and approved by the Quality Assurance Manager. The applicable procedures in Section 3 are listed in Exhibit II-5-1. Although all of the PNPS Procedures in Sections 2-8 are quality assurance program related, only the selected procedure which describe the overall implementation of the quality assurance program at PNPS will be reviewed by the QAD and approved by the Quality Assurance Manager.

5.2.6 Changes to procedures are reviewed, approved, controlled, and distributed in the same manner as the original issue.

5.2.7 All maintenance and modification activities affecting Station structures, systems and components are controlled by the Maintenance Request system. All Maintenance Requests are reviewed by the Quality Assurance Department to assure that appropriate requirements are specified for quality related activities and to incorporate appropriate quality control hold points.

5.3 SUPPLIER PROCEDURES

5.3.1 When the procurement documents require the supplier to submit procedures for BECo approval, the department which originated the procurement documents shall ensure the appropriate reviews and approvals are obtained. Reviews and approvals are required from those departments which would review and approve similar BECo procedures. In particular, procedures for quality assurance and quality control activities shall be reviewed by the QAD.

VOLUME III

QUALITY ASSURANCE PROGRAM RELATED STATION MAINTENANCE AND CALIBRATION PROCEDURES

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DOCUMENT CONTROL

6.1 PURPOSE

This section establishes the requirements for review, approval, control, and distribution of documents and changes thereto.

6.2 GENERAL REQUIREMENTS AND RESPONSIBILITIES

6.2.1 Boston Edison Company requires that document control measures be established to control issue and revision of documents which prescribe activities affecting quality. These measures assure that documents, including changes, are reviewed for adequacy and approved for release by authorized personnel and that documents are distributed to and used in the performance of the prescribed activity.

6.2.2 Department Managers are responsible to establish procedures for the identification of documents prepared within their Department which prescribe activities affecting quality such as instructions, procedures, design specifications and drawings. Such documents are classified as "controlled documents" and each Department is responsible to provide a list of "controlled documents" which they identify to the BECo Document Control Center. Department procedures require that controlled documents, including changes, prepared within the Department are reviewed for adequacy and approved for use within the Department or for release outside the Department by authorized personnel.

6.2.3 Controlled documents approved for release outside the Department are transmitted to the BECo Document Control Center for distribution to other departments within BECo and to external organizations when appropriate, in accordance with written procedures which assure that controlled documents including changes, are distributed for use to the Department where the prescribed activity is performed. The BECo Document Control Center is required to maintain a master list of "controlled documents" and records of location to which they are distributed. Acknowledgement forms will accompany the transmittal of controlled documents. Superseded copies of controlled documents are destroyed or stamped "void" by the recipient of the controlled document.

6.2.4 Department Managers are also responsible to establish procedures to identify all controlled documents required for the performance of activities affecting quality, to assure appropriate controlled documents are used to prescribe quality requirements, and to assure that the latest applicable document for the prescribed activity is used in the performance of the work done by the Department.

6.3 TECHNICAL SPECIFICATION CHANGES

6.3.1 Changes to the Technical Specifications are originated via a memo transmitted to the Nuclear Management Services Department (NMSD).

6.3.2 NMSD reviews the proposed Technical Specification change in light of other licensing considerations that may be going on in parallel with this proposed change, prepares a draft transmittal to the NRC (Licensing Branch), and assures that a safety evaluation is performed.

6.3.3 NMSD forwards the proposed Technical Specification change to ORC for review. The ORC recommends to the Station Manager approval/disapproval of the Technical Specification Change and renders a determination in writing whether an unreviewed safety question is involved. The Station Manager approves or disapproves the proposed Technical Specification change and forwards it to NMSD.

6.3.4 NMSD then forwards the proposed Technical Specification change to NSRAC for review.

6.3.5 NMSD then prepares the proposed Technical Specification change for submittal to the NRC.

6.3.6 NRC approved Technical Specification changes are distributed to holders of controlled copies of the Technical Specifications. Holders are responsible to update their copies upon receipt of the approved changes. The Nuclear Training Department reviews changes to formulate any new training required.

6.4 OPERATING LICENSING CHANGES

6.4.1 Changes to the Operating License are processed in the same manner as Technical Specification changes, above.

6.5 FINAL SAFETY ANALYSIS REPORT CHANGES

6.5.1 Changes to the Final Safety Analysis Report (FSAR) are controlled in accordance with the requirements of 10 CFR 50.59 and 50.71e.

CONTROL OF PURCHASED MATERIAL, EQUIPMENT, AND SERVICE

7.1 PURPOSE

This section establishes the requirements for control of purchased material and equipment (hereafter called items) and services to assure conformance to specified technical and quality assurance requirements. Measures to obtain objective evidence of quality furnished by suppliers include supplier evaluation and selection, audits and inspections at the source, and inspections and tests upon receipt.

7.2 GENERAL REQUIREMENTS

7.2.1 The quality of purchased items and services is assured by an appropriate combination of supplier and BECo activities which is decided during preparation and review of procurement documents as specified by the requirements of Section 4. When quality assurance activities by the supplier are specified, including provision of documentation, the BECo QAD evaluates the supplier's quality assurance program and its implementation to ensure the pertinent provisions of 10 CFR 50, Appendix B will be met by the supplier. Quality assurance activities by BECo include, as a minimum, acceptance of the item or service upon receipt or completion; methods include final inspection at the source, receipt inspection, review of supplier-provided documentation, and tests. Other quality assurance activities by BECo may include audits, surveillance inspections, in-process inspections, witnessing supplier activities, and review of supplier documents, such as engineering doucments and procedures, before use.

7.2.2 The QAD maintains an Approved Suppliers List (QA-ASL) which identifies suppliers for whom QAD has evaluated and approved as satisfactory quality assurance programs and implementation. This list permits the use of certain suppliers on an ongoing basis. The QAD reviews supplier documentation of his quality assurance program and performs,or obtains evidence of, a survey which assures its implementation. At least annually, QAD performs an evaluation of a supplier's quality performance, and at least triennially, re-surveys or audits the supplier to continue the approved status. Supplier surveys may be by BECo or by others under contract to BECo for this service, or obtained via the Coordinating Agency for Supplier Evaluation (CASE). In addition, ASME Certificates are used as evidence of supplier quality assurance program implementation, for the items and services covered by the certificates.

7.2.3 Certain items used in fire protection systems, which are UL or FM approved, are purchased without the supplier evaluation described above. In general, receipt inspection and test upon receipt are performed to accept these items.

7.2.4 Certain items, called "commercial items" may be purchased with assurance of quality by receipt inspection and selective testing. These "commercial items" are specified in a Nuclear Operations Procedure which is approved by QAD. Requirements for such items include pre-established receipt inspection supplemented by test requirements, when applicable. Suppliers of such items are not required to implement any quality assurance program requirements.

7.2.5 Certain services performed by suppliers at PNPS or in other BECo facilities may be performed according to BECo's QA Program. Suppliers of such services are governed by BECo procedures and BECo quality assurance requirements.

7.2.6 Nonconformance to procurement requirements or BECo approved supplier documents, which is identified by the supplier or by BECo source/surveillance inspection, and which consists of one or more of the following, must be submitted with technical justification to BECo for approval of recommended disposition as provided for in Section 15:

(1) Technical or material requirements are violated.

(2) Supplier documents approved by BECo are violated.

(3) Nonconformance cannot be corrected by continuation of the original manufacturing process or by rework.

(4) The item does not conform to the original requirements even though it can be restored to a condition in which its capability to function is unimpaired.

7.3 SUPPLIER EVALUATION AND SELECTION

7.3.1 Supplier evaluation and selection is an integrated action which involves Nuclear Organization Departments, Purchasing, and QAD. This cooperative effort ensures that items and services are purchased from qualified suppliers, i.e., suppliers capable to provide items and services which meet technical, quality, and commercial requirements.

7.3.2 The department which originates the procurement and identifies the technical requirements is responsible to determine the capability of the selected supplier to meet the technical requirements.

7.3.3 The QAD is responsible to determine the capability of the selected supplier to meet the quality assurance requirements imposed, if any.

7.4 SUPPLIER AUDITS

When warranted by the complexity or duration of the supplier's activities, the QAD performs audits of the supplier's quality assurance program implementation and effectiveness, according to Section 18.

7.5 SOURCE INSPECTION

7.5.1 Source inspection includes surveillance inspection, in-process inspection (hold points), witnessing supplier's activities (often requiring notification points), and final inspection (hold point). QAD determines what source inspection is necessary, based on the nature, complexity, and importance of supplier activities, and performs it to ensure procurement document requirements are met and purchased items and services are acceptable.

7.5.2 Specific hold points and notification points are included in procurement document requirements.

7.5.3 Surveillance inspections are performed by QAD if conformance with the requirements of the procurement documents for a particular item cannot be determined when the item is received or when known problems exist during the procurement phase. The purpose of such surveillance is to provide a selective review of the implementation of the supplier's quality assurance program or of the conformance of his product to requirements of the procurement documents. Quality Assurance determines the degree of supplier surveillance inspection to be performed.

7.5.4 Source inspections may not be necessary when the quality of the item can be verified by review of supplier documents, or inspection or test upon receipt. Results of source inspections are documented and maintained by BECo.

7.6 RECEIPT AND INSPECTION AND TESTS

7.6.1 Upon receipt at PNPS, purchased items are separated from already processed items until performance of receipt inspection.

7.6.2 The QAD performs receipt inspections according to the requirements of the BECo Purchase Order/Contract and pre-established inspection instructions. Documentary evidence that items conform to procurement requirements shall be available at the PNPS site before installation and/or use of such items to assure that:

(1) The item is properly identified and that its identification corresponds with the documentation received.

(2) Stated packaging and shipping requirements have been maintained.

(3) All procurement requirements have been met.

(4) Documentation records are acceptable in accordance with predetermined inspection instructions.

7.6.3 After identification per Section 8, accepted items are located in a controlled storage area.

7.6.4 When document deficiencies or nonconforming items are identified, items are held in a segregated area, and identified and handled according to Section 15.

7.6.5 A written record of the results of receipt inspection and the disposition of received items is maintained as part of the permanent plant records. All items issued bear a conformance tag and have documentation to support their acceptability. If traceability is lost or the documentation review is unsatisfactory, an item becomes subject to the controls established for nonconforming items.

7.6.6 Acceptance of items may require testing by BECo or by another qualified supplier. Tests are controlled according to Section 11.

IDENTIFICATION AND CONTROL OF MATERIALS, PARTS AND COMPONENTS

8.1 PURPOSE

This section establishes the requirements to identify and control materials, parts and components, including partially fabricated subassemblies, to assure they can be traced to associated documentation.

8.2 PROCUREMENT

8.2.1 The originator of procurement documents includes appropriate BECo identification of the materials, parts and components being procured.

8.2.2 BECo issued procurement documents for safety related items require the Supplier or Contractor to have a material identification and control system which provides for traceability of the materials, parts and components being procured to objective quality evidence by use of heat number, part number, or serial number, or by other appropriate methods.

8.3 RECEIPT INSPECTION

8.3.1 Receipt inspections are performed at PNPS to verify that materials, parts and components are properly identified.

8.3.2 Subsequent to acceptance of the materials, parts and components at receipt inspection, the MRIR number assigned by QAD may be placed on the accepted materials, parts and components to identify and control the item(s). The marking should be permanent but shall not interfere with the function of the item. If the materials, parts and components cannot be marked because of size, shape, material or quantity, a QA Material Conformance Tag is affixed to the accepted materials; parts; and components with the appropriate MRIR number indicated to provide the proper identification.

8.3.3 MRIR numbers are assigned in such a manner that they provide traceability to objective quality evidence and a log of assigned numbers is maintained by QAD.

8.3.4 Nonconforming materials, parts and components are identified according to Section 15.

8.4 CONTROL OF MATERIALS, PARTS AND COMPONENTS

8.4.1 Procedures are established for the control of quality during fabrication and/or installation which will ensure that material, components, items and workmanship conform to the stated specifications. These controls ensure materials, parts, and components can be related to fabrication and installation history.

8.4.2 Material for pressure retaining parts and component supports shall carry identification markings which will remain distinguishable until the component is assembled or installed. If the original identification markings are cut off or the material divided, the marks shall either be transferred to the parts cut or a coded marking shall be used to ensure identification of each piece of material during subsequent fabrication or installation. For studs, bolts, and nuts it is permissible to identify the Certified Material Test Reports or codes for material used in each component in lieu of identifying each piece of material. Welding and brazing material shall be identified and controlled so that it can be traced to each component of a pressure retaining system.

8.4.3 Traceability shall be provided for parts and equipment that require a separate or special operation to qualify the item for use in nuclear plants to the appropriate documentation furnished by the supplier. For other material, parts and components identification control shall be assured by surveillance inspections and inspection hold or witness points as appropriate.

8.4.4 In the event that the identification of an item becomes lost or illegible, the materials, parts, and components are considered nonconforming and are identified according to Section 15.

CONTROL OF SPECIAL PROCESSES

9.1 PURPOSE

This section establishes the requirements for control of special processes by the use of qualified personnel, procedures, and equipment.

9.2 GENERAL

9.2.1 Special process controls require:

1) Compliance with codes, standards, specifications, criteria and other special requirements of applicable design and procurement documents.

2) Special processes be performed by qualified personnel according to qualified procedures that comply with applicable regulatory requirements.

3) Identification of parameters to be considered; applicable methods of documentation; and the codes, standards, specifications, or criteria which govern the qualification.

4) Identification of the necessary qualification of personnel, procedures, or equipment when special processes are not covered by existing codes or standards or when quality requirements for an item exceed the requirements of established codes or standards.

9.3 PURCHASED MATERIAL, EQUIPMENT AND PARTS

9.3.1 When material, equipment or parts which use special processes are purchased, the originator of the BECo procurement document specifies the special process and personnel and equipment qualification requirements by invoking applicable codes, standards and specifications or by identifying detailed specific requirements on or with the procurement document.

9.3.2 QAD identifies inspection hold points. Special process documentation requirements may be placed on the procurement document.

9.3.3 The quality verification documentation required by the Purchase Order is reviewed at receipt inspection of material, equipment and parts by QAD as part of the requirements for satisfactory acceptance of the material, equipment and parts and maintained in the Station or QAD File as appropriate.

9.4 SPECIAL PROCESSES PERFORMED AT THE PNPS

9.4.1 Special processes used during operation, maintenance, modification and refueling at PNPS are performed by qualified Station, contractor and engineering service organization personnel according to detailed written procedures which are reviewed and approved by the responsible Department before the performance of the associated work.

9.4.2 QAD assures that Station, contractor and engineering service organization special process procedures used during operation, maintenance, modification and refueling of the operational nuclear power plant are reviewed and approved and that personnel and equipment involved in special processes are qualified before the start of the associated work.

9.4.3 The cognizant Department is responsible for the qualification of Station procedures, equipment, and personnel and for assuring these qualifications are periodically maintained.

9.4.4 Special processes are performed according to the requirements specified on a Maintenance Request which identify appropriate applicable procedures and appropriate equipment.

9.4.5 The data and documentation associated with the performance of special processes are reviewed by the QAD Department for completeness.

9.4.6 Special process procedures, qualifying data, personnel and equipment qualification records, and the data and documentation associated with the performance of special processes are maintained in the Station or QAD File as appropriate.

9.5 SPECIAL PROCESS PURCHASED SERVICES PERFORMED OFF-SITE

9.5.1 When special process services are purchased from service organizations who perform the associated work off-site, the originator of the procurement documents specifies any special process procedures, personnel, and equipment qualification requirements by invoking the applicable codes, standards and specifications or by identifying detailed specific requirements on or with the procurement documents.

9.5.2 QAD identifies inspection hold points, and special process documentation requirements may be placed on the procurement document.

9.5.3 The data and documentation associated with special processes are reviewed by QAD and maintained in accordance with the requirements of Section 17.

INSPECTION

10.1 PURPOSE

This section establishes requirements for inspection activities related to operation, maintenance, modification, replacement, additions, alterations and refueling of systems, structures and components to assure compliance with associated instructions, procedures and drawings.

10.2 SURVEILLANCE INSPECTIONS

10.2.1 Surveillance inspections are documented and reviewed by QAD personnel.

10.2.2 Deficiencies identified as a result of surveillance inspections are documented and entered into a Follow Program.

10.2.3 Nonconformances identified as a result of surveillance inspections are documented and entered into a Follow Program.

10.2.4 Surveillance Inspection Reports and related documentation are maintained in the Quality Assurance Department File.

10.3 INSTALLATION INSPECTIONS

10.3.1 Installation inspections are required at PNPS to assure that work associated with maintenance, modification, and refueling of safety related systems, structures and components is properly performed.

10.3.2 Installations inspections are performed at PNPS by QAD personnel, other qualified individuals designated by QAD, or contractors having a BECo accepted QA Program. Individuals assigned to perform installation inspections shall not be directly involved in the performance of the work being inspected and shall have the qualifications necessary to perform the inspection.

10.3.3 Installation inspection results should indicate, as appropriate, the inspection procedure used, the applicable accept/reject criteria, any qualitative and quantitative data obtained during the inspection, the inspection status, identification of the inspector, date the inspection was performed and any other information pertinent to the inspection.

10.3.4 Installation Inspection Reports and associated documentation including copies of the Maintenance Requests are maintained in the Quality Assurance Department File.

10.4 INSERVICE INSPECTIONS

Inservice inspections are performed under the cognizance of QAD in accordance with Section XI, ASME Boiler and Pressure Vessel Code, and the PNPS Technical Specifications.

10.5 INSPECTION CONTROLS

Controls exercised during inspection assure that:

10.5.1 When direct inspection is either impossible or not feasible, indirect control shall be provided by monitoring processing, operational tests, methods, equipment and personnel.

10.5.2 Procedures for maintenance, modification, and/or alterations are reviewed by QAD personnel to determine the need for independent installation inspections and incorporation of "hold points".

10.5.3 Inspection procedures or instructions are available with necessary drawings and specifications before inspection activities are performed. Inspection controls require that objective acceptance criteria, prerequisites for performing inspections, limiting conditions, and special equipment requirements be prescribed as appropriate to the inspection activity.

10.5.4 Test and measuring equipment is calibrated within required limits, according to Section 12.

10.5.5 Test and inspection results are recorded, evaluated and retained in accordance with the requirements of Section 17.

TEST CONTROL

11.1 PURPOSE

This section establishes the requirements for testing systems, structures and components to assure that they will perform satisfactorily during operation of PNPS.

11.2 GENERAL REQUIREMENTS

The Boston Edison Company has overall responsibility for test activities performed on safety related structures, systems, and components during operation, surveillance, maintenance, and modification activities.

Tests are performed to verify that plant behavior conforms to design criteria, to assure that failure and substandard performance are identified and controlled, and to demonstrate satisfactory performance after plant modification and maintenance activities.

Documentation of test activities are maintained by BECo in accordance with requirements of Section 17. Deficiencies identified during tests are controlled in accordance with requirements of Section 15. Tests performed are classified as Proof Tests, Post Work Tests, and Surveillance Tests and controlled as described below.

11.3 PROOF TESTS

11.3.1 The originator of procurement documents specifies appropriate requirements for proof tests associated with the purchase of material, equipment and parts.

11.3.2 QAD assures that selected proof tests are witnessed at supplier facilities, or are selectively witnessed at PNPS when these proof tests are not performed at supplier facilities. Proof tests are witnessed by qualified personnel using approved procedures or checklists.

11.3.3 Proof Test Data Reports, submitted by suppliers, are reviewed by QAD during receipt inspection of material, equipment, and parts at PNPS and are considered a requirement for satisfactory acceptance of the material, equipment, and parts at receipt inspection.

11.3.4 Deficiencies identified during proof testing are controlled according to Section 18.

11.4 POST WORK TESTS

11.4.1 Post Work Tests are performed at PNPS after satisfactory completion of installation inspections associated with maintenance, modification and refueling of systems, structures, and components.

11.4.2 Post-Work Tests are performed by qualified personnel in accordance with written, approved test procedures. These procedures identify all test prerequisites and environmental conditions which must be satisfied before performance of the Post Work Test. The Watch Engineer, or his designee, reviews and approves the post-work test data results and signs off and approves the test data sheets.

11.4.3 Deficiencies identified during the performance of Post Work Tests are controlled according to Section 18.

11.5 PERIODIC SURVEILLANCE TESTS

11.5.1 Periodic surveillance tests are tests required by the Technical Specifications or other commitments which are performed to demonstrate that systems, structures and components perform satisfactorily during operation of the nuclear power plant.

11.5.2 All periodic surveillance tests are identified on a Master Surveillance Test List which is controlled by NOD. This Master Surveillance Test List identifies the type of test activity, frequency interval and cognizant NOD Manager responsible for performing the periodic surveillance tests. Special handling tools and equipment are included in the scope of periodic surveillance tests to assure that they are adequately maintained.

11.5.3 Periodic surveillance tests are conducted by qualified personnel according to written, approved test procedures. Personnel assure that equipment and instrumentation utilized in performing the periodic surveillance tests is calibrated within the specified interval. These procedures identify all test prerequisites and environmental conditions which must be satisfied before the performance of the periodic surveillance tests.

11.5.4 The NOD Manager is responsible to assure that surveillance tests are performed when required, test results are evaluated, and test requirements are satisfied.

11.5.5 Deficiencies identified during the performance of periodic surveillance tests are controlled according to Section 18.

CONTROL OF MEASURING AND TEST EQUIPMENT

12.1 PURPOSE

This section establishes requirements for the control of measuring and testing devices used for the measurement, inspection, and testing of material, equipment, and parts and instrumentation and control systems to assure that they are calibrated, adjusted and maintained at specified intervals to assure accuracy within required limits.

12.2 CALIBRATION PROGRAM

12.2.1 Measuring and Test Equipment List

12.2.1.1 All tools, gauges, instruments and other measuring and testing devices which are used for inspecting, testing, monitoring and calibrating material, equipment, and parts and instrumentation and control systems are itemized.

12.2.1.2 The list contains the names of each measuring and test equipment, its identification number, the maximum calibration interval, the group responsible for maintaining the measuring and test equipment, and reference to the associated calibration procedures.

12.2.1.3 The cognizant Group Leader designated on the list is responsible to develop a Group List which identifies the measuring and test equipment controlled by the Group which requires calibration, the calibration interval, appropriate calibration procedure number, scheduled calibration date and actual calibration date.

12.2.2 Identification of Measuring and Test Equipment

12.2.2.1 Each piece of measuring and test equipment itemized on the List is marked with its identification number by the Group responsible for its maintenance.

12.2.2.2 For new measuring and test equipment, the cognizant Group Leader assigns an appropriate serial number and identifies the measuring and test equipment accordingly.

12.2.3 Calibration of Measuring and Test Equipment by Station Personnel

12.2.3.1 The cognizant NOD Group Leader is responsible for assuring measuring and test equipment is calibrated on or before the designated calibration due date.

12.2.3.2 The cognizant NOD Group Leader is responsible for calibrating the measuring and test equipment using written procedures, affixing the calibration date and the next calibration due date on the measuring and test equipment, and for maintaing records of calibration data.

12.2.3.3 Calibration intervals are established on the basis that sufficient redundant or equivalent test equipment is maintained to adequately resolve suspected or verified inaccuracies resulting from the degree of usage, stability characteristics, and other conditions affecting use of the measuring and test equipment.

12.2.3.4 Working standards used for calibrating equipment are traceable to the National Bureau of Standards and are supported by certifications, test reports and data as required.

12.2.3.5 When measuring and test equipment is found to be out of calibration, an investigation is conducted and documented to determine the validity of previous measurements or tests performed with the measuring and test equipment and to determine the acceptability of those items previously measured or tested. Marginal accuracy test equipment is acceptable for use if calibration data is approved by the appropriate Group Supervisor.

12.2.4 Calibration of Measuring and Test Equipment by EP&R

12.2.4.1 For measuring and test equipment which is requested to be calibrated by EP&R, the originator of the request shall provide the appropriate accuracy tolerances and the test data requirements to EP&R.

12.2.4.2 Upon return of the measuring and test equipment, NOD assures the calibration data submitted by EP&R is as originally specified.

12.2.5 Calibration of Measuring and Test Equipment by an Engineering Service Organization

12.2.5.1 For measuring and test equipment which is required to be calibrated by an engineering service organization, the originator of the procurement document references the appropriate accuracy tolerances, and the appropriate calibration test data requirements in the procurement documents, or supplies manufacturer's calibration specifications for the specific device.

12.2.5.2 Upon return of the measuring and test equipment, NOD assures that the calibration data submitted by the engineering service organization is reviewed and affixes the calibration data and next calibration due date on the measuring and test equipment.

12.2.6 Calibration Records/Data

12.2.6.2 Calibration records and data for all measuring and test equipment listed are maintained in the Nuclear Records Management System.

12.2.7 Control

Measuring and test equipment is controlled to prevent the use of uncalibrated or defective equipment, the spread of radioactive contamination, the introduction of impurities into high-purity systems and damage to or loss of equipment. Identification tags are placed on measuring and test equipment to indicate such special conditions as radioactive cleanliness or special limitations.

HANDLING, STORAGE AND SHIPPING

13.1 PURPOSE

This section establishes requirements for handling, storage, shipping, cleaning and preservation of material and equipment to preclude damage, loss or deterioration.

13.2 PROCUREMENT OF MATERIAL AND EQUIPMENT

13.2.1 The originator of a procurement action specifies on the initiating document requirements for handling, storage, shipping, cleaning and preservation of material and equipment in accordance with applicable codes, standards, specifications, supplier technical manuals, or Station Special Orders/Procedures. Special consideration is given to critical, sensitive, perishable, or high-value articles, including the need for special handling tools and equipment.

13.2.2 Instructions shall be provided for marking and labeling for packaging, shipment and storage of items. Marking shall be adequate to identify, maintain and preserve the shipment, including need for special environmental or other controls.

13.3 RECEIPT OF MATERIAL AND EQUIPMENT

13.3.1 Upon receipt of material and equipment, Operational Quality Control personnel review the procurement documentation and identify any additional handling, storage, shipping, cleaning, and preservation requirements to be complied with at the site warehouse.

13.4.2 Handling, storage, shipping, cleaning, and preservation requirements accomplished by a supplier are verified by source inspection or at receipt inspection at PNPS and include visual inspection of crates, boxes and containers for damage. When deficiencies are noted at receipt inspection (such as shipping damage), they are noted on the Material Receipt Inspection Report, and a BECo Nonconformance Report is issued and controlled according to Section 15.

13.4 HANDLING, STORAGE, SHIPPING, CLEANING AND PRESERVATION AT PNPS

13.4.1 The Stores Department Superintendent designates an individual who performs handling, storing, cleaning, and preserving operations required for material and equipment at the PNPS warehouse.

13.4.2 Cleaning and preservation are performed as required to maintain an item in its original and useable condition after withdrawal from the warehouse. Such activities are normally required after installation of material and equipment and are performed by designated Station personnel.

INSPECTION, TEST AND OPERATING STATUS

14.1 PURPOSE

This section establishes requirements for identification of the inspection, test and operating status of materials, parts, and components from receipt inspection through installation and subsequent operation to preclude bypassing of requirements and inadvertent operation.

14.2 REQUIREMENTS

14.2.1 NOD is responsible for establishing procedural controls to assure that the status of nonconforming, inoperative, of malfunctioning structures, systems, or components is identified to prevent inadvertent use.

14.2.2 NOD is responsible for establishing procedural controls for bypassing operations, such as temporary removal of electrical leads or temporary installation of jumpers.

14.2.3 Controls must be established for application and removal of status indicators such as tags, markings, labels, and stamps to assure that the inspection, test, and operating status of structures, systems, and components is clearly indicated.

14.2.4 During operation, maintenance, testing, or modifications, Station personnel are responsible for aligning, isolating, and appropriately tagging equipment and systems to prevent inadvertent operation so that activities can be safely performed.

14.2.5 NOD assures that the appropriate inspection and testing status of systems, structures and components is properly identified during maintenance, modification, and refueling of VNPS to preclude the bypassing of specified requirements.

NONCONFORMING MATERIAL, PARTS, OR COMPONENTS

15.1 PURPOSE

This section establishes the requirements and methods used within the Boston Edison Company for the documentation and control of nonconforming materials, parts, and components to prevent their inadvertent installation or use.

This section also establishes the requirements and methods to identify and segregate nonconforming items, provide for their disposition, and notify affected organizations.

15.2 REQUIREMENTS

15.2.1 All materials, parts, or components which do not conform to specified requirements shall be documented as described herein.

15.2.1a. All nonconforming materials, parts, or components identified at receipt inspection or installation inspection shall be documented on a Nonconformance Report (NCR) except as noted in b. below.

15.2.1b. A Document Deficiency Notice (DDN) shall be used when documentation is found to be incomplete, incorrect, or inadequate during receipt inspection, thereby making it indeterminate that the item conforms to specified requirements. If an item with an open DDN is withdrawn for use, an NCR shall be initiated.

15.2.1c. Nonconforming items documented on an NCR or items for which a DDN has been initiated shall be clearly identified with a Nonconformance Tag.

15.2.1d. Nonconforming materials, parts, or components identified during operation, maintenance, or surveillance testing are documented and reported via the Failure and Malfunction Report.

15.2.2 When required by Purchase Order or contract, contractors, suppliers, and engineering service organizations working under their own BECo approved QA Program shall submit nonconformances dispositioned "accept as is" or "repair" to BECo for approval. The cognizant NED discipline group shall review the supplier's disposition and its justification; this review and approval may be documented directly on the supplier's report. NED shall assign a BECo control number to each such report. As an alternative, NED may request QAD to issue a BECo NCR to cover the report. NED shall notify the supplier of BECO's approval.

15.2.3 Nonconforming materials, parts, or components shall be physically segregated from conforming items and controlled to prevent inadvertent installation or use. Installed nonconforming items shall be identified and the status of the system shall be controlled to prevent inadvertent use. Any system, component, or structure may not be declared operable

in accordance with the definition of the Technical Specification until the Nonconformance Report is dispositioned, implemented, and approved and the Nonconformance Tag is removed.

15.2.3a. Tagged nonconforming items shall be placed in a segregated and controlled storage area designated for this purpose.

15.2.3b. When physical segregation is not practical, for example, with large items which are stored in place, suitable means, such as roping off the area, shall be used to clearly indicate the nonconforming status.

15.2.3c. Nonconforming material, parts, and equipment, which, because of their makeup and intended use, cannot readily be returned to a conforming state (such as chemicals, weld rod, concrete, etc.) shall not be released for installation. If the nonconformance which caused the item to be classified as unacceptable or indeterminate can be corrected after installation, the item may be released for installation. Technical justification for the installation shall be prepared and made part of the documentation, including the limits on examination, testing, or inspection activities that can be performed on the structure, system, or component with the nonconforming item installed.

The Maintenance Request process provides the necessary controls, including review by the Quality Assurance Department, to prevent inadvertent installation and inadvertent use of the structure, system, or component prior to dispositioning of the nonconformance.

15.2.3d. Nonconformance Tags shall only be removed by Quality Assurance personnel after satisfactory resolution of the NCR or DDN.

15.2.3e. The Quality Assurance Department shall keep records of all unresolved nonconformances and monitor Station activities to assure that:

1. Tags have not been removed or altered on items still classified as nonconforming.
2. Unauthorized personnel have not modified the segregation or use requirements on tags.
3. Activities have not been conducted that violate requirements specified on tags or in this procedure.

15.2.4 All nonconforming items shall be reviewed for acceptance (use-as-is), rejection (scrap, salvage, or return-to-vendor), repair, or rework in accordance with the appropriate department procedures. Repaired and reworked items shall be re-inspected for acceptability using the original or equivalent criteria. All rework or repair shall be performed using approved procedures. All dispositions of nonconforming items shall be properly documented.

15.2.4a. The Nuclear Engineering and Nuclear Operations Departments, as appropriate, are responsible for the evaluation and disposition of identified nonconformances. The Nuclear

Engineering Department must approve "accept" or "repair" dispositions; and the Quality Assurance Department must approve "accept" or "repair" dispositions which affect the quality assurance requirements associated with the nonconforming item.

15.2.4b. The Quality Assurance Department is responsible for assuring dispositions are implemented, inspecting for acceptability of rework and repair actions, maintaining a file of closed NCR's, and for periodic auditing of the Nonconformance Report System to assure compliance.

CORRECTIVE ACTION

16.1 PURPOSE

This section establishes the requirements to be met by the Boston Edison Company to identify, document, and correct items or conditions adverse to quality and to ensure these items or conditions are evaluated to determine causes and appropriate action is taken to prevent recurrence. Conditions adverse to quality include failures, malfunctions, deficiencies, defective material and equipment, abnormal occurrences, and nonconformances.

In addition, the corrective action program ensures that the Pilgrim Nuclear Power Station operates in a safe and reliable manner, minimizes down-time, and optimizes the use of available resources by providing for a team effort in resolving problems. The preventive action portion of the program provides a cost- effective way of reducing the frequency and severity of problems.

16.2 REQUIREMENTS

16.2.1 All Nuclear Organization personnel shall perform their normal activities in a manner which will avoid or minimize quality-related problems by adhering to approved procedures, instructions, and work methods.

16.2.2 Each Vice President, Manager, or Director responsible for the effective implementation of the BECo corrective action program within their Department.

16.2.2a. Each Department shall continually assess its operations to assure that mechanisms are in place to identify deviations from specified requirements or conditions adverse to quality which might result in potential problems.

16.2.2b. Each Manager, Assistant or Deputy Manager, Group Leader, or Supervisor will ensure that all affected personnel within the Department/ Group are fully aware of the corrective action program and of the Department implementing procedures. When necessary, personnel shall be trained (or retrained) in proper procedures and work methods.

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16.2.3 It is the responsibility of all Nuclear Organization personnel to make sure that any incipient, suspected, or actual conditions adverse to quality, such as failures, malfunctions, deficiencies, defective material and equipment, and nonconformances is promptly identified and properly documented.

16.2.3a. All identified items or conditions adverse to quality will be documented and reported in accordance with the appropriate procedures.

16.2.3b. All Technical Specification or FSAR deviations shall be promptly evaluated and reported to the NRC, as appropriate, in accordance with Department procedures.

16.2.3c. The Nuclear Safety Review and Audit Committee (NSRAC) shall review reported conditions adverse to quality as required by the PNPS Technical Specification.

16.2.4 All identified conditions adverse to quality shall be corrected and reported to appropriate levels of management.

16.2.4a. Each Manager is responsible for taking prompt and effective corrective action to satisfactorily resolve any items or conditions adverse to quality discovered within or assigned for action to the Department.

16.2.4b. Items or conditions noted during normal in-process review prior to final approval of a document or activit are considered part of that process and not subject to the reporting requirements contained herein.

16.2.4c. Corrective action(s) in response to reported problems will be provided in writing. Provisions for review and approval will be incorporated.

16.2.4d. Logs shall be maintained by each Department to sufficiently identify conditions and the corrective action(s) taken.

16.2.4e. Appropriate reports of status will be submitted to the cognizant Managers and Vice

Presidents on a regular and timely basis. In any case, this interval will not exceed six months.

16.2.5 All resolved items or conditions will be further evaluated to identify cause(s) and determine appropriate preventive action(s).

16.2.5a. For those items or conditions adverse to quality deemed significant during the evaluation process, immediate action will be taken to determine the cause(s) and appropriate preventive action(s).

16.2.5b. The term "significant" applies to a condition adverse to quality which warrants further evaluation for cause(s) and requires management attention/action because it represents:

- a breakdown in any portion of the Quality Assurance Program conducted in accordance with the requirements of Appendix B to 10CFR50;
- a deficiency in design such that the design does not conform to the criteria and bases stated in the final safety analysis report;
- damage to a structure, system, or component which will require extensive evaluation, extensive redesign, or extensive repair to meet the criteria and bases stated in the final safety analysis report, or to otherwise establish the adequacy of the structure, system, or component to perform its intended safety function;
- a deviation from performance specifications or design drawings which will require extensive evaluation, extensive redesign, or extensive repair to establish the adequacy of structure, system, or component to meet the criteria and bases stated in the final safety analysis report or to otherwise establish the adequacy of the structure, system, or component to perform its intended safety function;

- the failure or malfunction of, or use of nonconforming material in a structure, system, or component which will require extensive evaluation, extensive redesign, or extensive repair to establish the adequacy of a structure, system, or component to meet the criteria and bases stated in the safety analysis report or to otherwise establish the adequacy of the structure, system, or component to perform its intended safety function.

- the repetitive recurrence of a deficiency not covered by the items above.

16.2.5c. The recommendations for preventive action will be forwarded via a Corrective Action Request/ Plan (CAR/P), Exhibit II-16-1, to the responsible Department Manager.

16.2.5d. For those items or conditions not deemed significant during the evaluation, periodic trend analysis will be performed to identify adverse trends or recurring problems. Problems identified will be evaluated for cause(s) and recommended preventive action(s) transmitted via a CAR/P.

16.2.5e. Corporate policy requires that a significant condition adverse to quality is promptly reported to the appropriate higher levels of BECo management with a description of the condition, the cause of the condition, and the corrective action taken or planned to prevent recurrence.

BOSTON Edison COMPANY

CORRECTIVE ACTION REQUEST/PLAN

NUMBER

TO:

SUBJECT:

REFERENCE(S): (ATTACH IF NECESSARY)

CORRECTIVE ACTION REQUESTED: (USE ADDITIONAL PAGES IF NECESSARY)

RESPONSE REQUESTED BY (DATE:

PREPARED BY:

DATE

REVIEWED BY:

DATE

APPROVED BY:

DATE

CORRECTIVE ACTION PROVIDED/RECOMMENDED: (USE ADDITIONAL PAGES IF NECESSARY)

SCHEDULED C/A COMPLETION DATE:

REFERENCE(S): (ATTACH IF NECESSARY)

ASSIGNED TO:

PREPARED BY:

DATE

REVIEWED BY:

DATE

APPROVED BY:

DATE

C/A VERIFIED BY:

DATE

C/A COMPLETION DATE:

FURTHER C/A NEEDED:

REFERENCE CAR/P NUMBERS:

CLOSED BY:

DATE

REVIEWED BY:

DATE

APPROVED BY:

DATE

QUALITY ASSURANCE RECORDS

17.1 PURPOSE

This section establishes requirements for collection, storage, maintenance, retentio and retrievability of Quality Assurance Records associated with the operation of PNP

17.2 GENERAL REQUIREMENTS

The Boston Edison Company program for control of quality assurance records provides methods to assure proper receipt and acceptance, classification and identification, protection from loss or damage, replacement when obsolete and retrievability.

Records are maintained to provide documentary evidence of the quality of quality related items and activities. Requirements and responsibilities for completion of work are consistent with applicable codes, standards, and procurement documents.

Types of quality assurance records are identified utilizing the guidance of Regulatory Guide 1.88; however, it is recognized that the nomenclature of actual records may vary. The record type most nearly describing the record in question will be followed in determining the retention period.

17.3 RECORD ADMINISTRATION

17.3.1 Generation of Quality Assurance Records - Applicable design specifications, procurement documents, test procedures, operations procedures, any other documents specify the quality assurance records to be generated by, supplied to, or held for BECo. All such quality assurance records are reviewed to assure that they are legible, completely filled out and adequately identifiable to the item involved.

17.3.2 Identification - Quality assurance records provide sufficient information to permit identification of the record with the item or activity to which it applies.

17.3.3 Index - The quality assurance records are listed in an index. The index contains, as a minimum, record retention times, where the records are stored, and the location of the records within the storage area.

17.3.4 Classification - Quality assurance records are classified as "Life-time" or "Nonpermanent" according to ANSI N45.2.9-1974.

17.3.4.1 Lifetime quality assurance records are to be maintained for the life of the particular item while it is installed in the plant or stored for future use. Lifetime records are those which meet one or more of the following criteria:

(a) Those which would be of significant value in demonstrating capability for safe operation.

(b) Those which would be of significant value in maintaining, reworking, repairing, replacing, or modifying the item.

(c) Those which would be of significant value in determining the cause of an accident or malfunction of an item.

(d) Those which provide required baseline data for inservice inspection.

17.3.4.2 Nonpermanent records are required to show evidence that an activity was performed according to the applicable requirements but need not be retained for the life of the item. Nonpermanent records are those which meet none of the above criteria:

17.3.5 Supplemental Information to Quality Assurance Records - Quality assurance records are corrected or supplemented according to procedures which provide for appropriate review or approval by the originating organization. The correction or supplement includes the date and identification of the person authorized to issue such corrections or supplements.

17.3.6 Retention of Records

17.3.6.1 Quality assurance records retention complies with ANSI N45.2.9 recommended minimum retention period requirements.

17.3.6.2 For records generated before commercial operation, the retention period began on the date of commercial operation, December, 1972. For records generated on items installed after commercial operation, the retention period begins on the date upon which satisfactory operation of the item, as part of a system, has been demonstrated. For periodic maintenance, inspection, and test records, such as calibration records, generated after the date of commercial operation, the retention time begins on the date of their generation. When a record is generated as a result of an operations activity, the classification of those records will be the same as those types of records generated during the initial construction period.

17.3.6.3 When there is no minimum recommended retention period records may be dispositioned on the day following the date the retention period begins. One-year retention is intended to require maintenance of the record for the customary period of warranty. Two-year retention is intended to require maintenance of the record through the first overhaul or next refueling. Six-year retention is intended to achieve compliance with regulatory requirements.

17.4 RECEIPT OF RECORDS

17.4.1 Timeliness - To assure their availability, quality assurance records are turned over to the NOSD Records Management Group and processed into the Nuclear Records Management System in a timely manner.

17.4.2 Receipt Control - Each department responsible for the receipt of quality assurance records shall designate a person responsible for receiving the records. This responsibility includes organizing and implementing a system of receipt control for quality assurance records.

17.5 STORAGE, PRESERVATION AND SAFEKEEPING

17.5.1 Location of Facilities - Quality assurance records are stored in predetermined locations in a manner which meets the requirements of applicable Standards, Codes and Regulatory Agencies.

17.5.2 Storage - Storage procedures are prepared and custodians are designated. The procedures include the following:

17.5.2.1 A description of the storage area.

17.5.2.2 The filing system used.

17.5.2.3 A method to verify the records received match the transmittal document, and the records are in good condition.

17.5.2.4 A method to verify the records types agree with the pre-established record checklist.

17.5.2.5 The rules governing access to and control of files.

17.5.2.6 A method to maintain control of and accountability for records removed from storage.

17.5.2.7 A method to file supplemental information and dispose of superseded records.

17.5.3 Preservation - To preclude deterioration of the records, the following requirements apply:

17.5.3.1 Condensation - Storage is in an area where damage from condensation will not occur.

17.5.3.2 Loose Records - Records are not stored loose. They are firmly attached in binders or placed in folders or envelopes for storage on shelving in containers or in steel file cabinets.

17.5.3.3 Special Processed Records - Special processed records (such as radiographs, photographs, negatives and microfilm) are packaged and stored as recommended by the manufacturers of these materials.

17.5.4 Safekeeping - A system is established to preclude the entry of unauthorized personnel into designated storage areas.

17.5.5 Facility

17.5.5.1 Permanent and temporary record storage facilities are constructed or located to protect contents from possible destruction by fire, flooding, tornadoes, insects, and rodents and from possible deterioration by variations in temperature and humidity conditions.

17.5.5.2 Records are appropriately classified for fire protection purposes as National Fire Protection Association Class I and, as such, are afforded the equivalent protection of a NFPA Class A, two-hour minimum rated facility with provisions for the proper storage of microfilm and radiographs.

17.6 RETRIEVAL

17.6.1 Accessibility

17.6.1.1 Storage systems provide for the retrieval of information without undue delay.

17.6.1.2 Access to the record copy files is via the Records Management Group.

17.6.1.3 Quality assurance records maintained by a supplier at his facility or other location are accessible to BECo. lifetime records for the life of the items involved, nonpermanent records for the designated retention periods.

AUDITS

18.1 PURPOSE

This section establishes requriements for an auditing program to verify the implementation and to assess the effectiveness of the Boston Edison Quality Assurance Program.

18.2 PERFORMANCE OF AUDITS

18.2.1 QAD performs internal audits of all quality-related activities associated with operation of PNPS. The frequency intervals are based on the requirements of regulations, Regulatory Guides, and ANSI Standards identified in Paragraphs 2.3.2 and 2.3.4 of Section 2; audits are also done when significant changes or problems arise, and upon management request. A specific scope for each audit is prepared by the QAD before performance of the audit.

18.2.2 When suppliers perform work related to operation, maintenance, modification and refueling of PNPS, QAD may perform audits at PNPS and at the supplier's facilities to verify implementation of their quality assurance programs as determined necessary by QAD.

18.2.3 Audits required by Section 6.0 of PNPS Technical Specifications will be performed under the cognizance of the Nuclear Safety Review and Audit Committee by Quality Assurance Department personnel.

18.2.4 QAD performs audits/surveillance inspections, as necessary, to verify that corrective action resulting from identified deficiencies have been properly implemented and are effective.

18.2.5 Audits are performed by qualified personnel using checklists or marked up written procedures to effectively evaluate conformance to specified requirements. Auditors shall not have direct responsibility in the areas being audited.

18.3 REPORTING OF AUDIT FINDINGS

18.3.1 After reviewing audit findings with the cognizant manager of each organizational unit which has been audited, an audit report is prepared by QAD.

18.3.2 As a minimum, audit reports shall include:

1. Description of the audit scope.
2. Identification of the auditors.
3. Persons contacted.
4. Summary of audit results including an evaluation statement of the effectiveness of the QA Program elements which were audited.

5. Details of audit findings.

6. Recommendations for correcting deficiencies or improving The QA Program, as appropriate.

18.3.3 Audit deficiencies are recorded on a Deficiency Report and are entered into the Deficiency Follow Program to be dispositioned.

18.4 DISPOSITIONING OF AUDIT DEFICIENCIES

18.4.1 Audit deficiencies recorded on Deficiency Reports shall be reviewed by QAD to determine whether a significant (see paragrpah 16.2.5b) condition adverse to quality exists.

18.4.2 A deficiency deemed to be significant is designated "immediate" and corrective action must be initiated promptly by the responsible Manager and appropriate levels of higher management notified. A response shall be submitted to the QA Manager within one week and a copy of the Deficiency Report and the response shall be forwarded to the appropriate Vice President.

18.4.3 All other Deficiency Reports require that a written response be forwarded to the QA Manager within thirty (30) days.

18.4.4 For each Deficiency Report, the official start of the time clock for the initiation, implementation, and completion of the required corrective action shall be the date of the QA Manager's signature.

18.4.5 In the event that corrective action cannot be completed by the initial response due date, a schedule date for corrective action completion shall be indicated and shall not exceed 90 days from the issue date of the Deficiency Report without first providing the appropriate Vice President with a request for extension along with written justification and securing his approval.

18.4.6 Should Quality Assurance not concur with actual/proposed corrective action, and be unable to obtain satisfactory resolution directly with the responsible Manager, a formal request for a second response shall be forwarded to the appropriate Vice President. The Quality Assurance Manager may, if deemed appropriate, implement the requirements of Paragraph 2.5.6 of this Manual.

18.4.7 Upon completion of planned corrective action, the recipient of the Deficiency Report shall provide timely written notice to the QA Manager, stating the actual corrective action(s) taken and the completion date(s) thereof.

18.4.8 Quality Assurance should verify corrective action within 30 calendar days of the receipt of the notification of completion. Verification shall also assure effectiveness of corrective action.

18.4.9 For those Deficiency Reports that are issued to suppliers who are performing on-site safety-related activities in accordance with their approved QA Programs, the process defined in Section 18.4 shall apply. Interface shall be directly with the supplier's site manager with a copy of the Deficiency Report forwarded to the applicable BECo Manager for information only.

18.4.10 Corrective actions for deficiencies identified during inspections/audits of suppliers at their facilities are documented and resolved on a Deficiency Report, and the process defined in Section 18.4 is used, were practicable. Interface shall be directly with the supplier's QA manager.

18.4.11 The status of dispositioning audit deficiencies recorded on Deficiency Reports shall be reported periodically to Department Managers and to higher levels of management.

18.5 RECORDS/REPORTS OF AUDITS

18.5.1 QA audit records, reports and associated documentation pertinent to the audits are maintained in the QAD file and the Nuclear Records Management System.