*NDS Document Transmittal #164406

10/22/99

To: **Nuclear Regulatory Commission**
Document Control Desk
Washington, D.C. 20555

Addressee Unique# 140
ROUTINE distribution

The following documents have been revised. You are currently on distribution for these documents. Verify that all documents are included in this distribution set.

DOCUMENT	REV	COPIES	
MP-02-OST-BAP01, CH4	21	1	Controlled Copy# 34

2004 01 1

Sign and return this form as soon as received to: Diane ONeill x2451, NDS, B475/3, Millstone Nuclear Power Station, Rope Ferry Rd., Waterford, CT. 06385 or FAX (860) 440-2057.

Signature _____ Date: _____

Northeast Utilities System

Memo

NO-99-0175

October 22, 1999

TO: Northeast Utilities Quality Assurance Program Topical Report Controlled Copyholders

FROM: D. S. Bruce DS Bruce

SUBJECT: NUQAP Topical Report Revision 21, Change 4 (Document No. MP-02-OST-BAP01)

Enclosed is NUQAP Revision 21, Change 4. This change separated the Unit 1 Quality Assurance Program from the current NUQAP, to enable the unit to move forward with decommissioning.

Please replace the entire contents of the existing Policy Statement; Abstract; Introduction; Quality Assurance Program Sections 1.0, 2.0, 3.0; and Appendix A, Appendix D, Appendix E, Appendix F and Appendix G with the enclosed sections.

Change 4 changes are in ***bold and italics*** with a revision bar in the right margin. The footer of the affected section will include a reference to Change 4. Please note that Appendixes D and E correct only typographical errors, thus contain no change bars.

Please insert the summary of changes document in the front of your manual. Please note the effective date of the change is **October 25, 1999**.

If you have any questions, contact D. Bruce at X3185.

Attachments:

1. Summary of changes incorporated as part of Revision 21, Change 4.

Enclosure:

Change 4 to the Northeast Utilities Quality Assurance Program Topical Report Revision 21.

Summary of Changes to NUQAP Rev. 21 Incorporated as Change 04

Section	Summary Description of Changes	Reference
Abstract	Clarifies that the NUQAP now applies to Millstone Units 2 and 3 and associated support services, and that quality assurance provisions for Unit 1 are governed in a separate program.	**Request 99-22**
Policy Statement	Clarifies that the NUQAP now applies to Millstone Units 2 and 3 and associated support services, and that quality assurance provisions for Unit 1 are governed in a separate program.	**Request 99-22**
Introduction	Clarifies that the NUQAP now applies to Millstone Units 2 and 3 and associated support services, and that quality assurance provisions for Unit 1 are governed in a separate program.	**Request 99-22**
Section 1.0	Clarifies that the NUQAP now applies to Millstone Units 2 and 3 and associated support services, and that quality assurance provisions for Unit 1 organization is provided in the Unit 1 Northeast Quality Assurance Program. References to Unit 1 are removed, including references to Director-Unit 1 Operations, Unit 1 Certified Fuel Handler, Unit 1 Decommissioning, Unit 1 Nuclear Safety and Regulatory Affairs and Unit 1 General Manager. .	**Request 99-22**
Section 2.0	Clarifies that the NUQAP now applies to Millstone Units 2 and 3 and associated support services, and that quality assurance provisions for Unit 1 are governed in a separate program.	**Request 99-22**
Section 3.0	Deleted reference to Unit 1 and gives responsibility back to Engineering Services.	**Request 99-22**
Appendix A	Eliminated the modification made in Change Request 99-15, which was made to allow Unit 1 decommissioning processes to proceed unencumbered.	**Request 99-22**
Appendix D	Typographical changes only.	**Request 99-22**
Appendix E	Typographical changes only	**Request 99-22**
Appendix F	References to Unit 1 are removed, including references to Unit 1 PORC.	**Request 99-22**

ABSTRACT
NORTHEAST UTILITIES QUALITY ASSURANCE PROGRAM (NUQAP) TOPICAL REPORT - MILLSTONE POWER STATION

Northeast Utilities (NU) has developed, and is implementing, a comprehensive Quality Assurance Program for the Millstone Power Station to assure conformance with established regulatory requirements set forth by the Nuclear Regulatory Commission (NRC) and accepted Industry standards. The participants in this Quality Assurance Program assure that the design, fabrication, procurement, construction, testing, operation, refueling, maintenance, repair and modification of ***Millstone Units 2 and 3*** are performed in a safe and effective manner.

This Quality Assurance Program (NUQAP) Topical Report complies with the requirements set forth in Appendix B of 10 CFR 50, along with applicable sections of the Safety Analysis Report (SAR) for each license application, and is responsive to the United States NRC Regulatory Guide 1.70, which describes the information required to be presented in the Quality Assurance section of the SAR's for nuclear power plants.

This NUQAP applies to Millstone Units 2 and 3, and to associated support services. This NUQAP is also established, maintained, and executed with regard to radioactive material transport packages as allowed by 10 CFR 71.101(f). Quality Assurance provisions for Fire Protection activities are detailed in the Northeast Utilities Fire Protection Program. ***Quality Assurance provisions for Millstone Unit 1 are governed by a separate program.***

This NUQAP applies in its entirety to all activities affecting the safety-related functions of structures, systems, and components ***in Millstone Units 2 and 3***. Safety-Related structures, systems, and components are functionally identified in Appendix A of this NUQAP and are designated Category I by Northeast Utilities. Applicability of Appendix A to each FSAR is addressed by existing nuclear unit specific design bases and licensing commitments, and also as specifically identified in each FSAR addressing Section 3.2.1 of Regulatory Guide 1.70. This NUQAP is also applicable in its entirety to materials, equipment, parts, consumables, and services designated as Category I. This NUQAP is applicable to other quality programs including Anticipated Transient Without Scram (ATWS) Quality Assurance, which is applicable to MP-2 only (MP-3 commits to Generic Letter 85-06) and *to* Electrical Equipment Qualification (EEQ), as defined by NU commitments. Portions of this NUQAP are also applicable to Fire Protection Quality Assurance (FPQA), Station Blackout Quality Assurance (SBOQA) and Radwaste Quality Assurance (RWQA), which are delineated in applicable program manuals and procedures. Quality Assurance provisions for primary chemistry laboratory activities are detailed in the Northeast Utilities Nuclear Chemistry Laboratory Quality Assurance Manual.

This NUQAP is committed to utilize the guidance obtained from the regulatory documents and their endorsed standards identified in Appendix C of this NUQAP Topical Report.

POLICY STATEMENT
NORTHEAST UTILITIES QUALITY ASSURANCE PROGRAM (NUQAP)
TOPICAL REPORT - MILLSTONE POWER STATION

This Northeast Utilities Quality Assurance Program (NUQAP) Topical Report has been developed to achieve quality assurance in all activities affecting the safe operation of ***Millstone Units 2 and 3.*** The policies, requirements and tasks contained in this program description have been developed to achieve quality assurance during activities that apply to the design, fabrication, procurement, construction, testing, operation, refueling, maintenance, repair, and modification of Millstone Units 2 and 3.

Northeast Utilities procedures which implement this program are described in various manuals.

This NUQAP applies in its entirety to all activities affecting the safety-related functions of structures, systems, and components ***of Millstone Units 2 and 3***. Safety-Related structures, systems and components are functionally identified in Appendix A of this NUQAP and are designated Category I by Northeast Utilities. Applicability of Appendix A to each FSAR is addressed by existing nuclear unit specific design bases and licensing commitments, and also as specifically identified in each FSAR addressing Section 3.2.1 of Regulatory Guide 1.70. This NUQAP is also applicable in its entirety to materials, equipment, parts, consumables, and services designated as Category I. This NUQAP is also applicable to other quality programs including Anticipated Transient Without Scram (ATWS) Quality Assurance, which is applicable to ***MP-2*** only (MP-3 commits to Generic Letter 85-06), and ***to*** Electrical Equipment Qualification (EEQ), as defined by NU commitments. Portions of this NUQAP are also applicable to Fire Protection Quality Assurance (FPQA), Station Blackout Quality Assurance (SBOQA) and Radwaste Quality Assurance (RWQA) which are delineated in applicable program manuals and procedures. Quality Assurance provisions for primary chemistry laboratory activities are detailed in the Northeast Utilities Nuclear Chemistry Laboratory Quality Assurance Manual. ***Quality Assurance provisions for Millstone Unit 1 are governed by a separate program.***

The development and overall responsibility for this program lies with the President and CEO-NNECO, as delegated by the Chairman, President Chief Executive Officer of Northeast Utilities. Corporate authority is delegated to the Director - Nuclear Oversight for the preparation and administration of this NUQAP Topical Report. Individual Vice Presidents are responsible for the implementation of their portion of this program. Audits of this program are the responsibility of the Director - Nuclear Oversight.

Any revisions or additions shall be approved by affected departments prior to the incorporation of such changes into the program. Final approval of revisions or additions to this Policy Statement rests with the President and CEO-NNECO.

President and CEO-NNECO

INTRODUCTION
NORTHEAST UTILITIES QUALITY ASSURANCE PROGRAM (NUQAP)
TOPICAL REPORT - MILLSTONE POWER STATION

This Northeast Utilities Quality Assurance Program (NUQAP) Topical Report contains the quality assurance requirements which are relevant to the safety of Millstone Station ***Units 2 and 3***. This NUQAP Topical Report consists of three parts:

1. Introduction, which defines the purpose of the Topical Program and summarizes its scope and applicability;

2. The NUQAP, which is applicable in its entirety to all activities affecting the safety-related functions of structures, systems, and components ***in Millstone Units 2 and 3***. Safety-Related structures, systems, and components are functionally identified in Appendix A of this NUQAP and are designated Category I by Northeast Utilities. Applicability of Appendix A to each FSAR is addressed by existing nuclear unit specific design bases and licensing commitments, and also as specifically identified in each FSAR addressing Section 3.2.1 of Regulatory Guide 1.70. This NUQAP is also applicable in its entirety to materials, equipment, parts, consumables, and services designated as Category I. This NUQAP is applicable to other quality programs including Anticipated Transient Without Scram (ATWS) Quality Assurance, which is applicable to MP-2 only (MP-3 commits to Generic Letter 85-06), and to Electrical Equipment Qualification (EEQ), as defined by NU commitments. Portions of this NUQAP are also applicable to Fire Protection Quality Assurance (FPQA), Station Blackout Quality Assurance (SBOQA) and Radwaste Quality Assurance (RWQA) which are delineated in applicable program manuals and procedures.

3. Appendices, which provide supporting statements and tabulations.

This NUQAP Topical Report has been prepared to document that a quality assurance program has been established and implemented to assure that adequate quality requirements are being complied with to safeguard NU employees, contracted personnel and the public during the life of the operating Millstone Station nuclear power plants. ***Quality Assurance provisions for Millstone Unit 1 are governed by a separate program.*** In addition, there are other programs to safeguard NU employees, contracted personnel, and the public.

The controls which implement the actions identified in this NUQAP are procedures and instructions which delineate actions and steps necessary to accomplish quality requirements. Procedures and instructions are written by groups, divisions, departments, branches, or sections which have the responsibility for implementing actions as assigned by this NUQAP. Quality procedures and revisions thereto are reviewed by and concurred with by Nuclear Oversight in accordance with QAP 2.0, "Quality Assurance Program" and QAP 5.0, "Procedures, Instructions, and Drawings".

This NUQAP is responsive to applicable codes, Nuclear Regulatory Commission regulatory requirements, accepted industrial standards and revisions thereto. Provisions are established to update this NUQAP Topical Report in accordance with revisions to codes, standards and regulatory requirements, and to inform cognizant personnel to implement appropriate action to assure the highest standard of quality is achieved for structures, systems, components, and services for the Millstone Station nuclear power plants.

Director - Nuclear Oversight

1.0 ORGANIZATION

1.1 INTRODUCTION

This section describes the organizations involved in the operation and technical support of ***Units 2 and 3 at*** Millstone Nuclear Power Station (MNPS). In addition, this section describes the responsibilities governed by the Northeast Utilities (NU) Quality Assurance Program (NUQAP). Qualifications for key personnel are found in the unit Technical Specifications and Appendix B, "Qualification and Experience Requirements."

NOTE

In the remainder of QAP 1.0, ***the text describes*** station - wide functions that. ***support Millstone Units 2 and 3.*** Units 2 and 3 organizations may supply services to, or use services from, the Unit 1 organization, with appropriate controls. Unit 1 is defueled and in a decommissioning mode.

Additional information on organizations supporting Unit 1, and on the quality assurance program for Millstone Unit 1, is provided in the Millstone Unit 1 Northeast Quality Assurance (NUQAP) Topical Report.

1.2 ORGANIZATION

The Chairman, President and Chief Executive Officer (CEO) of NU has ultimate responsibility and overall authority for the NU nuclear program, and is the Chairman of Northeast Nuclear Energy Company (NNECO), the licensed operator of Millstone Units 1, 2 and 3. The Chairman of NNECO has delegated the necessary responsibility and authority for all nuclear operations to the President and CEO-NNECO. In addition, Northeast Utilities Service Company (NUSCO) provides certain support services to NNECO. The President and CEO-NNECO is also the President-Generation Group of NUSCO.

1.3 KEY MANAGEMENT RESPONSIBILITIES AND AUTHORITY

1.3.1 Senior Vice President and CNO-Millstone (SVP & CNO)

The SVP & CNO has been delegated by the President and CEO-NNECO the necessary responsibility and authority for the management and direction of all activities related to the operation of MNPS. The SVP & CNO has overall responsibility for engineering, construction, operation,

maintenance, modification and quality assurance including this NUQAP, at MNPS. The following report directly to the SVP & CNO:

- Vice President (VP)-Nuclear Operations
- VP-Engineering Services
- VP-Site Services
- VP-Human Services
- VP-Nuclear Oversight and Regulatory Affairs (NORA)

1.3.2 VP-Nuclear Operations

VP-Nuclear Operations is responsible for establishing common policies and standards pertaining to the operating units, the safe operation and maintenance of the units, and implementation of this NUQAP. The VP-Nuclear Operations is responsible for maintaining compliance with requirements of the Operating License and Technical Specifications as well as applicable federal, state and local laws, regulations and codes. The following report directly to the VP-Nuclear Operations:

- Station Director
- Work Management
- Maintenance

1.3.3 VP-Engineering Services

VP-Engineering Services is responsible for providing engineering services and implementation of this NUQAP. The following report directly to the VP-Engineering Services:

- Design Engineering
- Nuclear Engineering
- Plant Engineering

1.3.4 VP-Site Services

VP-Site Services is responsible for site services in support of the station, and implementation of this NUQAP. The following report directly to the VP-Site Services:

- Site Services
- Nuclear Materials and Document Management
- Unit 1 General Manager

1.3.5 VP-Human Services

The VP-Human Services is responsible for emergency planning and nuclear training, and implementation of this NUQAP. The following report directly to the VP-Human Services:

- Nuclear Training Services
- Emergency Planning

The VP-Human Services is also responsible for the employee concerns program and human services, and for these two responsibilities, the VP-Human Services reports to the President and CEO-NNECO.

1.3.6 VP-Nuclear Oversight and Regulatory Affairs (NORA)

VP-NORA is responsible for the effective performance of Nuclear Oversight and Regulatory Affairs functions. The VP-NORA acts as advisor to the SVP & CNO and President and CEO-NNECO on items related to nuclear quality and safety at the station. Overall responsibility for the NUQAP has been delegated to the VP-NORA by the SVP & CNO. These responsibilities include:

- Direction of the quality assurance program
- Development and implementation of policies, plans, requirements, procedures, and audits
- Verification to assure compliance with 10CFR50 Appendix B and other regulatory requirements
- Verification of the implementation of the NUQAP Topical Report requirements

The following report directly to the VP-NORA:

- Director-Nuclear Oversight

1.3.7 Director-Nuclear Oversight

The VP-NORA has delegated to the Director-Nuclear Oversight the necessary authority and responsibility for the following:

- Preparation and issuance of the NUQAP Topical Report
- Verification of the implementation of NUQAP requirements and of compliance with 10CFR50 Appendix B and other regulatory requirements
- Identification of quality problems
- Recommendations or solutions to quality problems and verification of the implementation of the solutions
- Independent Safety Engineering and Operating Experience programs

Verification is performed through a planned program of audits, surveillances and inspections by Nuclear Oversight. The Director-Nuclear Oversight provides objective evidence to management of the performance of quality activities independent of the individual or group directly responsible for performing the specific activity.

The Director-Nuclear Oversight has the authority and organizational freedom to verify activities affecting quality. This is performed independent of undue influences and responsibilities for schedules and costs.

In order to implement these responsibilities, the Director-Nuclear Oversight is provided "Stop Work" authority whereby he/she can suspend unsatisfactory work and control further processing or installation of non-conforming materials. The authority to stop work is assigned to Nuclear Oversight personnel and delineated in an approved procedure.

1.3.8 Station Director

The Station Director is responsible for operations, nuclear safety, chemistry, and radiation protection activities. The Station Director is responsible for the safe and efficient operation of the units. During accident situations, if currently holding an active SRO license on the unit, the Station Director may relieve the Shift Manager of the responsibility of directing the licensed Control Room operators. The following report to the Station Director:

- Assistant Station Director-Safety
- Unit Operations
- Radiation Protection and Waste Services

1.3.9 Work Management

The Work Management group is responsible for on-line maintenance, cost and scheduling, and outage activities. Responsibilities include the scheduling of surveillances required by Technical Specifications.

1.3.10 Maintenance

The Maintenance group is responsible for installation, maintenance, alterations, adjustment and calibration, replacement and repair of plant electrical and mechanical equipment, and instruments and controls. Responsibilities include establishing standards and frequency of calibration for instrumentation and ensuring instrumentation and related testing equipment are properly used, inspected and maintained.

1.3.11 Design Engineering

The Design Engineering group is responsible for design engineering functions, supporting activities, and engineering programs. The Unit 1 organization will share responsibility for certain systems shared between Unit 1 and Units 2 or 3.

1.3.12 Nuclear Engineering

The Nuclear Engineering group is responsible for engineering activities in configuration management, safety analysis, and nuclear fuel. These activities include probabilistic risk assessment, radiological and radwaste engineering, design and configuration control and engineering assurance.

1.3.13 Plant Engineering

The Plant Engineering group is responsible for engineering technical support and systems engineering, including reactor and material engineering.

1.3.14 Site Services

The Site Services group is responsible for services in support of the station, including security and fire protection.

1.3.15 Nuclear Materials and Document Management

The Nuclear Materials and Document Management group is responsible for nuclear records management and procurement. Responsibilities include approval and oversight of vendors that provide quality-related material and services including source and receipt inspection.

1.3.16 Nuclear Training Services

The Nuclear Training Services group is responsible for operator and technical training. The operator training group reports directly to the Director-Nuclear Training Services to provide sufficient organizational freedom and independence from operating pressures as required by the unit Technical Specifications.

1.3.17 Emergency Planning

The Emergency Planning group is responsible for development and maintenance of the on-site radiological emergency plan and the development and coordination of required off-site radiological emergency response plans.

1.3.18 Assistant Station Director-Safety

The Assistant Station Director-Safety is responsible for the corrective actions program, procedures, and the shift technical advisors.

1.3.19 Unit Operations

The Unit Operations groups report to the Station Director. Each group includes the following key supervisory positions:

- Manager-Operations
- Assistant Manager-Operations
- Shift Manager(s)
- Unit Supervisor(s)

1.3.19.1 Manager-Operations and Assistant Manager-Operations

The Manager-Operations provides general supervision for the operation of the respective unit, and coordinates unit operations with maintenance, work management, and other groups. As stipulated in Technical Specifications or in Appendix B, the Manager-Operations or the Assistant Manager - Operations holds an appropriate license on the Unit (SRO on Units 2 and 3). The Manager-Operations assures the safe and efficient operation of the assigned unit in accordance with applicable licenses, operating instructions and procedures, emergency procedures and safety rules and regulations. During accident situations, if currently holding an active SRO license on the unit, the Manager-Operations may relieve the Shift Manager of the responsibility of directing the licensed Control Room operators. The Manager-Operations delegates the necessary authority and responsibility for various duties to the Assistant Manager-Operations.

1.3.19.2 Shift Manager

The Shift Managers report to the Assistant Manager-Operations and are responsible for the Control Room command function. The Shift Manager holds an appropriate license on the unit (SRO on Units 2 and 3). The Shift Manager directs and supervises the operation of the unit. Administrative functions that detract from or are subordinate to the management responsibility for assuring the safe operation of the plant are delegated to other operational personnel not on duty in the Control Room.

During accident situations, unless properly relieved, the Shift Manager remains in the Control Room and directs the activities of the licensed operators. The Shift Manager has direct authority to shut down the respective unit if, in the Shift Manager's opinion, serious abnormal conditions exist. A Unit 3 Shift Manager fulfills the facility staff requirements of the Shift Supervisor for the Unit 3 Technical Specifications.

1.3.19.3 Unit Supervisor

The Unit Supervisor holds an appropriate license on the unit (SRO on Units 2 and 3) and supervises the operators in the Control Room. The Unit Supervisor directs activities of the licensed Control Room operators, and may operate the controls of equipment and piping systems from the Control Room or alternate station control location.

1.3.19.4 Control Operators

Control Operators hold a Reactor Operator or Senior Reactor Operator license on the unit. The Control Operators are responsible to perform the following duties:

- Start up, operate, and shut down nuclear plant equipment including, but not limited to, reactor, reactor auxiliaries, turbine generator unit and its auxiliaries as necessary to satisfy system requirements or station conditions
- Test, as scheduled, control room instruments and controls
- Maintain required logs and calculations, observe these logs for indications of faulty operation, and notify the on-duty Unit Supervisor or the Shift Manager of abnormal plant conditions

1.3.19.5 Plant Equipment Operators

Plant Equipment Operators are responsible to perform the following duties:

- Start up, operate, inspect, adjust, and shut down all auxiliary and other various plant equipment
- Perform or assist with scheduled operational tests
- Make minor repairs

1.3.20 Radiation Protection and Waste Services

Radiation Protection and Waste Services group carries out health physics functions and reports to the Station Director to provide sufficient organizational freedom and independence from operating pressures as required by the unit Technical Specifications. The Manager-Radiation Protection and Waste Services fulfills the "Health Physics Manager" position qualifications required by the unit Technical Specifications. Radiation protection services include the following:

- scheduling and conducting radiation surveys including contamination sample collection

- determining contamination levels and assigning work restrictions through radiation work permits
- maintaining records and reports on radioactive contamination levels
- administering the personnel monitoring program and maintaining required records in accordance with federal and state codes

Radiation Protection and Waste Services is also responsible for radioactive waste services.

1.4 QUALITY-RELATED RESPONSIBILITIES COMMON TO ALL DEPARTMENT HEADS

The head of each department performing quality activities is responsible for:

- Administering those activities within their organization which are required by this NUQAP;
- Ensuring implementation of the Quality Assurance Program;
- Establishing and clearly defining the duties and responsibilities of personnel within their organization who perform quality activities;
- Planning, selecting, and training personnel to meet the requirements of the NUQAP Topical Report; and
- Performing and coordinating quality activities within their department and interfacing with the Nuclear Oversight department.

Each individual performing or verifying activities affecting quality is responsible to conduct those activities in accordance with the requirements of this NUQAP and implementing procedures. These individuals shall have direct access to such levels of management as may be necessary to perform this function.

The responsibility, authority, and organizational relationship for performing quality activities within each organization is established and delineated in the NUSCO/NNECO organizational charts, policy statements, and written job or functional descriptions.

Vendors may be delegated the execution of quality assurance functions; however, NU shall retain responsibility for this Quality Assurance Program.

1.5 ANNUAL MANAGEMENT QUALITY ASSURANCE REVIEW

The SVP & CNO is responsible for the assessment of the scope, status, implementation, and effectiveness of the NUQAP. To meet this responsibility, a team of qualified individuals is appointed by the SVP & CNO to perform an annual Management Quality Assurance Review. The team is made up of

individuals knowledgeable in quality assurance, quality activities, auditing, management responsibilities, and the NUQAP Topical Report. This review is:

- A systematic evaluation;
- pre-planned toward the objective of determining the adequacy of the NUQAP and its compliance with Appendix B to 10 CFR 50 and other regulatory requirements; and
- capable of identifying, communicating, and tracking any required corrective action.

1.6 SPECIFIC NUQAP RESPONSIBILITIES

The SVP & CNO resolves all disputes related to the implementation of the NUQAP for which resolution is not achieved at lower levels within the organization.

1.7 SUCCESSION OF RESPONSIBILITY FOR OVERALL PLANT OPERATION

The succession to responsibility for overall plant instructions or special orders, in the event of absences, incapacitation of personnel or other emergencies, is as follows:

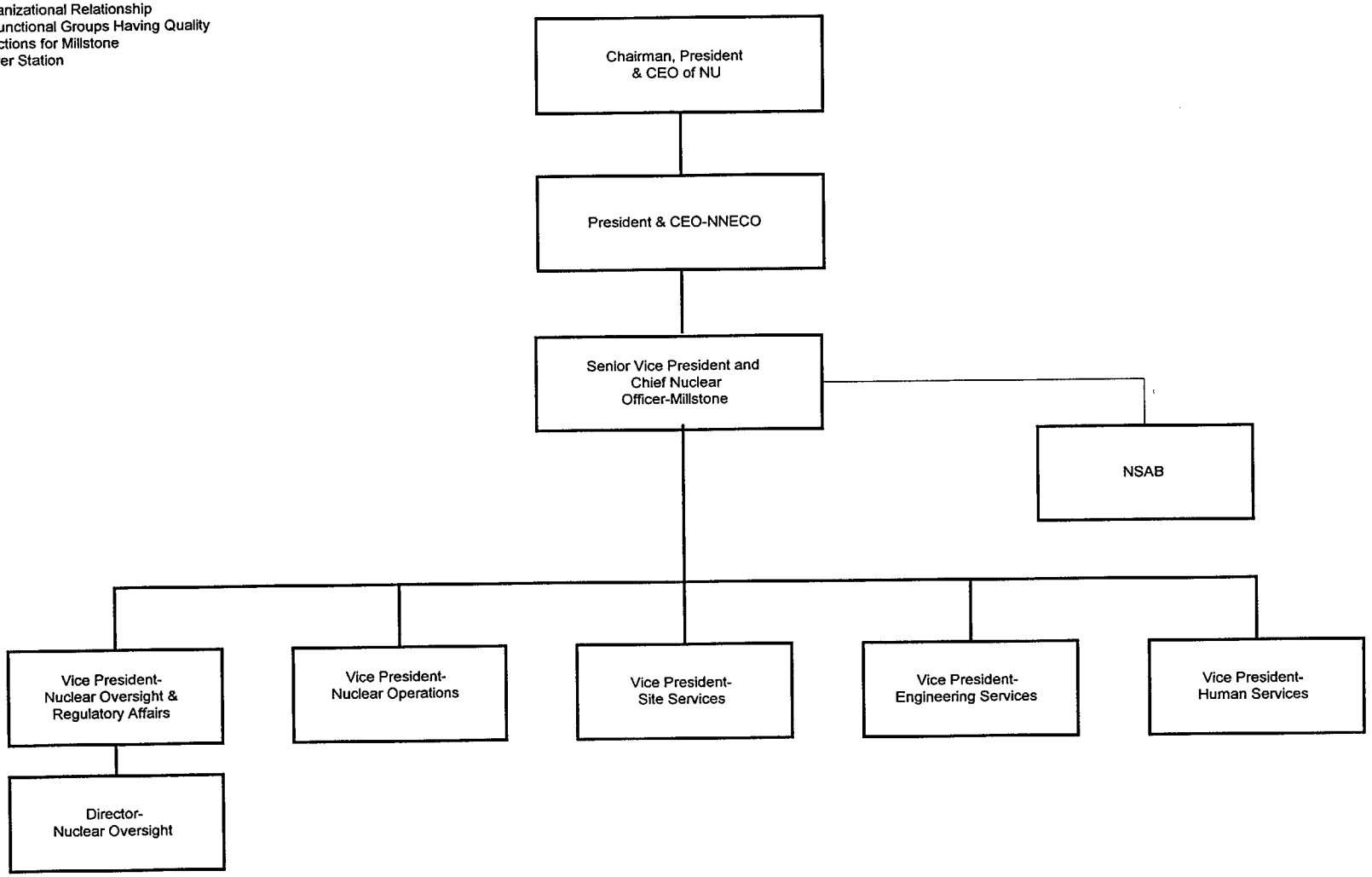
- Vice President-Nuclear Operations
- Station Director
- Licensed Manager-Nuclear Operations or Licensed Assistant Manager-Operations designated by Vice President-Nuclear Operations
- Shift Manager (SRO)
- Licensed Unit Supervisor (SRO)

1.8 ORGANIZATION CHARTS

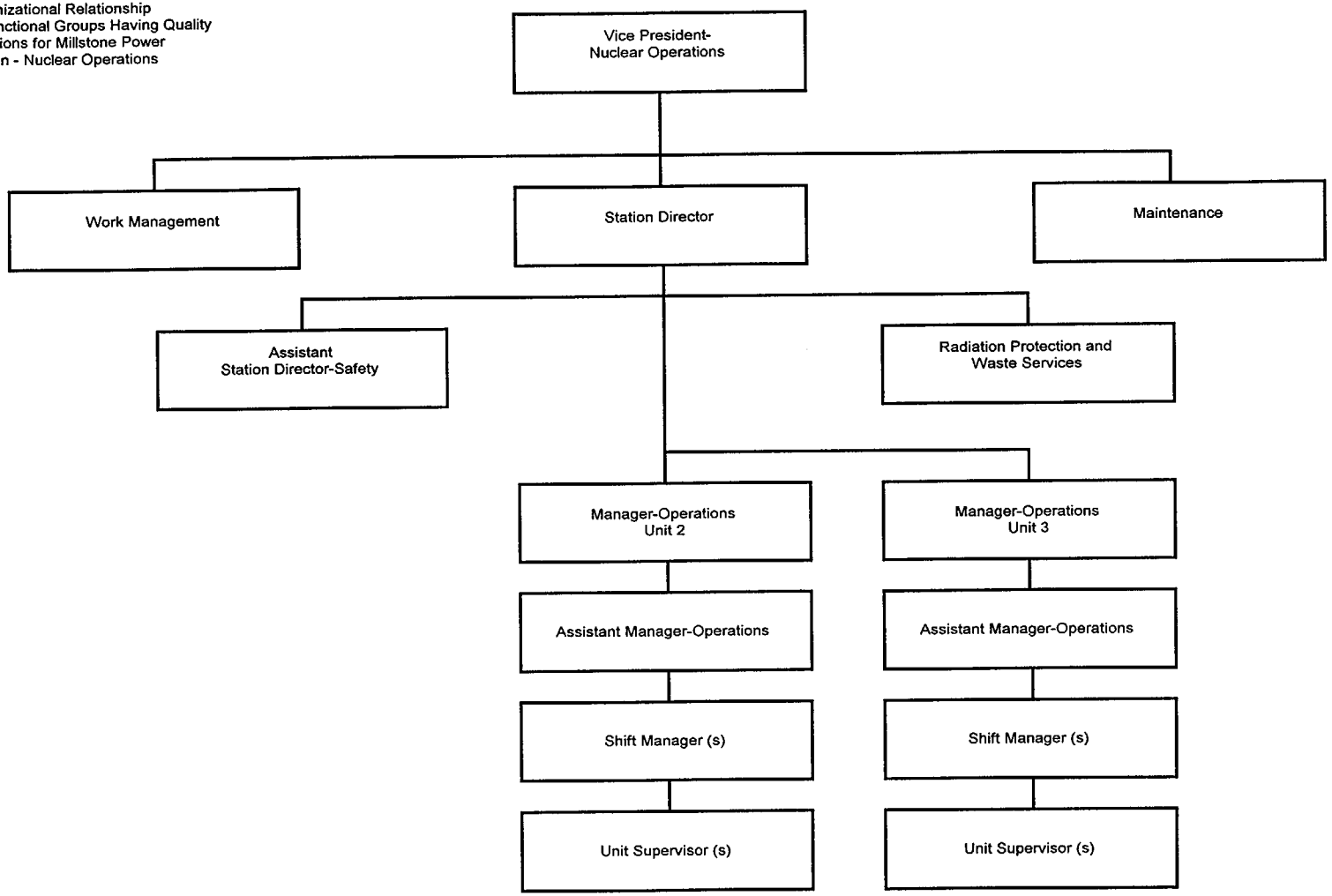
NOTE

The following organization charts are incorporated by reference in the Millstone Station Emergency Plan. Changes to these organization charts require an effectiveness review in accordance with 10 CFR 50.54 (q).

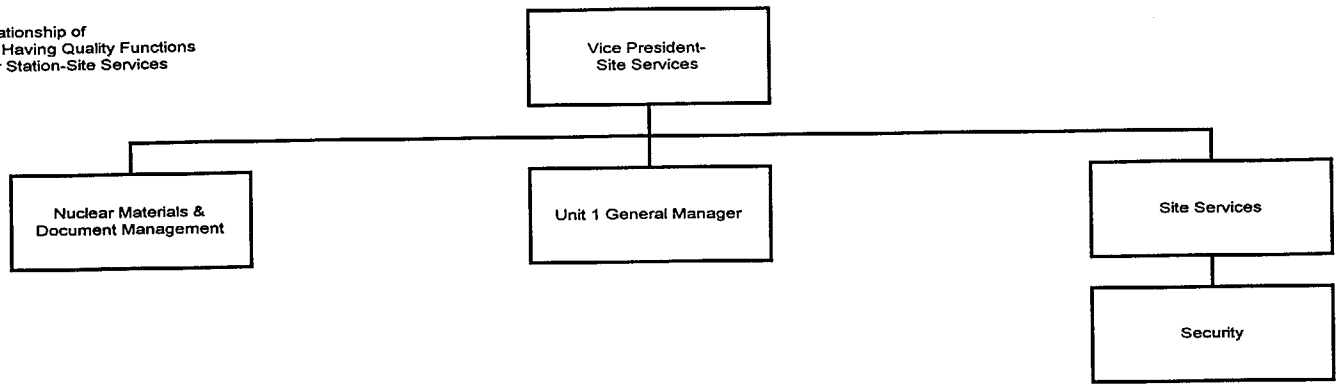
Organizational Relationship
of Functional Groups Having Quality
Functions for Millstone
Power Station



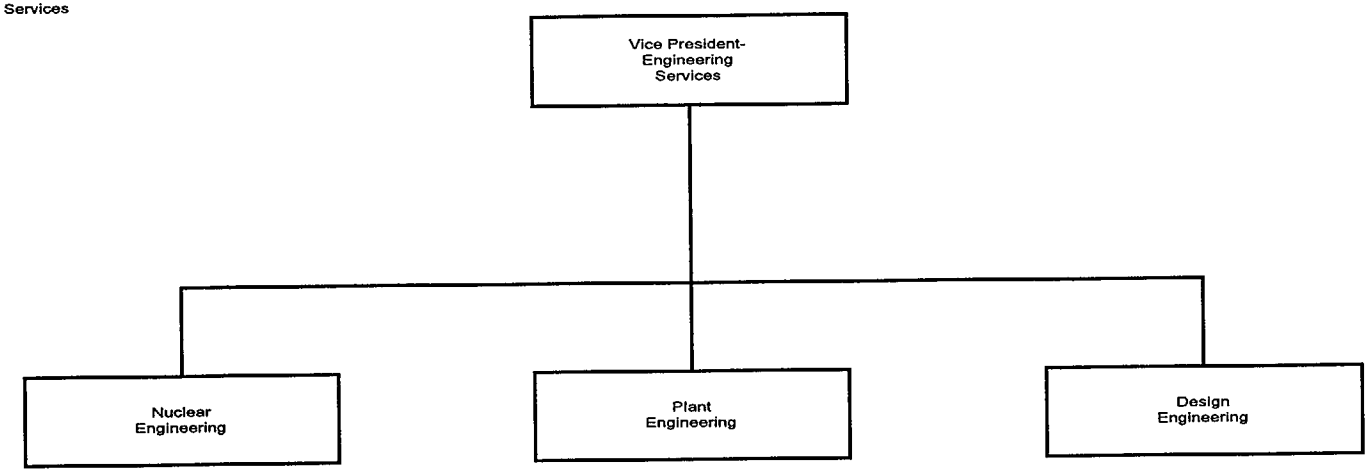
Organizational Relationship
of Functional Groups Having Quality
Functions for Millstone Power
Station - Nuclear Operations



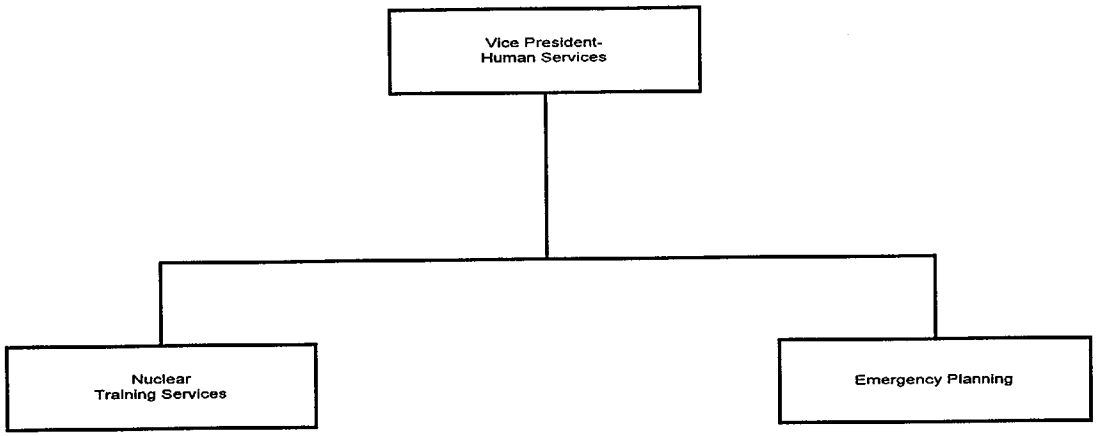
Organizational Relationship of
Functional Groups Having Quality Functions
for Millstone Power Station-Site Services



Organizational Relationship of Functional Groups Having Quality Functions for Millstone Power Station - Engineering Services



Organizational Relationship of Functional Groups
Having Quality Functions for Millstone Power Station -
Human Services



2.0 QUALITY ASSURANCE PROGRAM

2.1 GENERAL REQUIREMENTS

Northeast Utilities (NU) has established a Quality Assurance Program (NUQAP) for the Millstone Power Station which complies with the criteria of 10CFR50, Appendix B, and follows the regulatory documents and their endorsed ANSI/IEEE standards identified in Appendix C with exceptions as identified in Appendix E. The quality assurance requirements set forth in the attached Policy Statement, supplemented by quality assurance procedures, provide the primary basis of this program and the NU policy with regard to quality assurance for all the Millstone Station nuclear power plants. This NUQAP Topical Report is established to accomplish the required level of quality in activities carried out throughout the life of the Station's ***operating*** nuclear power plants.

This NUQAP applies in its entirety to all activities affecting the safety-related functions of structures, systems and components ***of Millstone Units 2 and 3***. Safety-Related structures, systems and components are functionally identified in Appendix A of this NUQAP and are designated Category I by Northeast Utilities. Applicability of Appendix A to each FSAR is addressed by existing Nuclear Unit specific Design Bases and Licensing commitments, and also as specifically identified in each FSAR addressing Section 3.2.1 of Regulatory Guide 1.70. This NUQAP is also applicable in its entirety to materials, equipment, parts, consumables and services designated Category I.

This NUQAP applies to other quality programs including Anticipated Transient Without Scram (ATWS) Quality Assurance, which is applicable to MP-2 only (MP-3 commits to Generic Letter 85-06), and to Electrical Equipment Qualification (EEQ), as defined by NU commitments. Portions of this NUQAP are also applicable to Fire Protection Quality Assurance (FPQA), Station Blackout Quality Assurance (SBOQA) and Radwaste Quality Assurance (RWQA) which are delineated in applicable procedures. ***Quality Assurance provisions for Millstone Unit 1 are governed by a separate program.***

The Materials, Equipment, and Parts List (MEPL) Program provides instructions to identify structures, systems, components, materials, equipment, parts, consumables, quality software and activities that need to be identified as safety-related or augmented quality.

The requirements of this NUQAP are implemented by Northeast Utilities Service Company (NUSCO), the Northeast Nuclear Energy Company (NNECO) which operates Millstone Power Station, and their vendors performing activities affecting quality structures, systems, and components of the Station's nuclear power plants.

Procedures define the required indoctrination and training of personnel performing activities affecting quality, as necessary, to assure that suitable proficiency is achieved and maintained.

Training sessions are documented. The content of the training sessions is described, attendees and attendance date indicated, and the results (e.g., examination results) of the training sessions recorded, as applicable.

Periodic program review of the status and adequacy of this NUQAP is accomplished by Nuclear Oversight audits, surveillances and inspections, by Nuclear Safety Assessment Board (NSAB) reviews, and by the independent review team which performs the annual Management Quality Assurance Review described herein and in QAP 1.0, "Organization", Section 1.5. Organizations outside NU are required to review the status and adequacy of that part of this NUQAP for which they have been delegated responsibility.

2.2 IMPLEMENTATION

2.2.1 GOALS AND OBJECTIVES

The goals of this NUQAP are to maintain quality levels in an effective and efficient manner and to assure a high degree of functional integrity and reliability of Station nuclear power plant quality structures, systems, and components. To meet these goals, the following objectives of this NUQAP have been defined:

a. Define, through procedures, the quality activities that apply to design, fabrication, procurement, construction, testing, operation, refueling, repair, maintenance and modification of the Station nuclear power plants;

b. Establish, assign, and document the responsibilities for the conduct of those activities affecting quality structures, systems, and components;

c. Establish confidence that (a) quality activities for the Station nuclear power plants are performed consistent with NU policies and (b) quality activities are performed by qualified personnel, and are verified through a system of audits, surveillances, and inspections of those organizations with quality responsibilities;

d. Apprise the Senior Vice President and Chief Nuclear Officer - Millstone (SVP & CNO) of unresolved problems and trends which could have a significant effect on nuclear power plant safety.

2.2.2 PROGRAM DOCUMENTATION

This NUQAP defines the NU nuclear policies, goals, and objectives, and is used as guidance for the development of the various division, department, branch, or section procedures. Revisions to this NUQAP shall be made as needed to reflect current requirements and descriptions of activities prior to implementation. These revisions shall be made in accordance with a NNECO Procedure.

Revisions to this NUQAP, which reduce commitments previously accepted by the NRC, are submitted to the NRC for review and approval prior to implementation.

Revisions which do not reduce previously accepted commitments are periodically submitted to the NRC as required by 10 CFR 50.54 (a)(3) and 10 CFR 50.55 (f)(3).

Quality procedures are developed by the departments performing quality activities. These procedures are reviewed for concurrence by the departments which are responsible for implementing portions of these procedures and are approved by the initiating department. The Nuclear Oversight Department reviews other department quality procedures for compliance with this NUQAP and concurs with such procedures as described in QAP 5.0, "Procedures, Instructions and Drawings". Changes to procedures are subjected to the same degree of control as that utilized in the preparation of the original document.

Each Vice President and Director is responsible for implementation of this NUQAP within their organization which includes individual departmental procedure requirements applicable only to their respective activities. In addition, they are responsible for the preparation, approval, and distribution of those instructions, operating procedures, testing procedures, or other instructions where further guidance is necessary.

2.2.3 STRUCTURES, SYSTEMS AND COMPONENTS

This NUQAP applies to all activities affecting the safety-related functions of the structures, systems and components as addressed in the Safety Analysis Reports (SARs). Safety-Related structures, systems, and components are functionally identified in Appendix A and also as specifically identified in each FSAR addressing Section 3.2.1 of NRC Regulatory Guide 1.70.

For structures, systems and components covered by the ASME Code, NUSCO/NNECO procedures describe the measures taken to assure that the quality assurance requirements contained in the code are supplemented by the specific guidance of the applicable regulatory guides and endorsed ANSI standards listed in Appendix C.

For structures, systems and components, regulatory commitments and NUSCO/NNECO procedures describe the measures taken to assure that the quality assurance requirements are met.

The degree of control over activities affecting quality structures, systems, and components is consistent with their importance to safety. Such controls include use of appropriate equipment, establishment of suitable environmental conditions, and assurance that all prerequisites for a given activity have been satisfied. This NUQAP provides controls over special processes and skills necessary to attain the required quality, and the need for verification of quality by inspection and test.

The Nuclear Oversight Department and applicable NUSCO/NNECO technical organizations jointly determine and identify the extent quality assurance controls are applied to quality structures, systems, and components. The quality assurance controls are in conformance with this NUQAP, which complies with the 18 criteria set forth in Appendix B to 10 CFR 50.

2.2.4 PARTICIPATING ORGANIZATIONS

The organization for Millstone Power Station activities affecting the quality of structures, systems, and components is identified in QAP 1.0, "Organization", which also briefly describes assigned responsibilities.

The Nuclear Oversight Department is responsible for: a) the development, coordination, and administrative control of this NUQAP including coordination of Nuclear Oversight Department procedure review and approval; b) assuring issuance of this NUQAP Topical Report as a controlled document (as described in QAP 6.0, "'Document Control", and; c) the review and concurrence with quality procedures and revisions written by other departments. Procedure reviews shall be performed in accordance with QAP 5.0, "Procedures, Instructions, and Drawings".

Northeast Utilities (NU) requires that its approved vendors performing quality activities invoke upon their subvendors, via purchase orders/contracts, requirements for a quality assurance program to meet the applicable criteria of Appendix B to 10 CFR 50, including the applicable elements of the regulatory guides and their endorsed

ANSI/IEEE standards identified in Appendix C. However, NU retains overall responsibility for the Millstone Power Station Quality Assurance Program. The specific quality activities performed by these organizations are specified in the procurement documents. Nuclear Materials and Document Management is responsible for the review and approval of these vendors' quality assurance programs prior to initiation of contracted activities.

The object of the review is to verify that these vendors have an adequate quality assurance program to meet applicable requirements of 10 CFR 50, Appendix B.

In addition to the initial review, Nuclear Materials and Document Management is responsible for the subsequent performance, as appropriate, of audits, surveillances, and inspections of approved vendor's quality assurance programs to assure continued implementation of quality requirements. Nuclear Materials and Document Management assures that the quality assurance programs of vendors that perform quality activities are periodically reviewed to assure that the vendors are implementing adequate programs. Evaluation, review, and monitoring of vendor quality programs is conducted in accordance with section QAP 7.0, "Control of Purchased Material, Equipment and Services".

Vendors may be delegated the execution of quality assurance functions by Contract. These Contracts are reviewed and approved in accordance with this NUQAP. These vendors may be contracted to perform quality activities under their approved quality assurance program or directly under the requirements of this NUQAP.

2.2.5 INDOCTRINATION AND TRAINING

A program is established and maintained for quality assurance indoctrination and training which provides confidence that the required level of personnel competence and skill is achieved and maintained in the performance of quality activities. Quality procedures delineate the requirements for an indoctrination program to assure that personnel responsible for performing quality activities are instructed in the purpose, scope, and implementation of quality procedures and that compliance to these documents is mandatory. Each NUSCO/NNECO Department is responsible for assuring assigned personnel who perform quality activities have been appropriately indoctrinated and trained.

Nuclear training programs shall be developed and implemented to provide training for all individuals attached to or associated with the Station nuclear power plants. Additional guidance is established in NUSCO/NNECO procedures.

Procedures describe the nuclear training program requirements which assure that:

a. Documentation of formal training and qualification programs includes the objective, content of the program, attendees, date of attendance; and results (e.g., examination results), as applicable.

b. Proficiency of personnel performing and verifying activities affecting quality is established and maintained. Personnel proficiency is established and maintained by training, examination/testing, and/or certification based upon the requirements of the activity. Acceptance criteria are developed to determine if individuals are properly trained and qualified;

c. Certificates or other documentation of qualification clearly delineate the specific functions personnel are qualified to perform and the criteria used to qualify personnel in each function.

This program also requires the head of each department to be responsible for a training plan which assures that personnel performing quality activities are trained in the principles and techniques of the activity being performed.

2.2.6 MANAGEMENT PARTICIPATION

Millstone Power Station Vice Presidents and Directors are responsible for implementing this NUQAP within their organization. The Director - Nuclear Oversight will assist in development, coordination, and review of the program.

The SVP & CNO assures that a management review of this NUQAP is conducted on an annual basis by an independent team to assess the scope, status, implementation, and effectiveness, and to assure compliance with NRC licensing commitments.

Actions considered by the Management Quality Assurance Review may include, but are not limited to:

a. Review of selected procedures and documents;

b. Verification of the implementation of selected procedural requirements;

c. Review of past audit results and other inspection/review results such as those from previous Management Quality Assurance Reviews, the NRC or other departments.

The Management Quality Assurance Review's findings of deficiencies and recommendations for program improvement are forwarded to the SVP & CNO who shall assure appropriate corrective action is taken.

3.0 DESIGN CONTROL

3.1 GENERAL REQUIREMENTS

This NUQAP provides measures to assure that the applicable design requirements, such as design bases, regulatory requirements, codes, technical standards and quality standards, are identified in design documents which are reviewed, approved and controlled in accordance with procedures. Such measures include review for suitability of application of materials, equipment, parts and processes that are essential to the functions of quality structures, systems, and components. Changes to, and deviations from specified requirements are identified, documented and controlled.

Engineering Services is responsible for controlling design work, administering design control activities (including design interface) and design modifications for quality structures, systems, and components.

The responsibility for administration of the design control program for the Millstone Station nuclear power plants rests with ***Engineering Services***. The division of responsibilities and jurisdictional boundaries for design control program implementation are set forth in NUSCO/NNECO procedures. Although other organizations may be delegated the task of establishing and executing the design control program or any part thereof, ***Engineering Services*** shall retain overall responsibility for the program. The applicable requirements of this NUQAP shall be imposed on other organizations delegated the task of establishing or executing the design control program in accordance with QAP 4.0, "Procurement Document Control" and QAP 7.0, "Control of Purchased Material, Equipment and Services".

The interface controls, both internal and external, for organizations performing design work for quality structures, systems, and components are identified and implemented in accordance with procedures. This identification includes those organizations providing criteria, designs, specifications and technical direction.

Measures are applied to verify the adequacy of design. The extent of design verification is specified and documented by the responsible organization. The individuals performing design verification should not (1) have immediate supervisory responsibility for the individual performing the design, (2) have specified a singular design approach, (3) have ruled out certain design considerations, or (4) have established the design inputs for the particular design aspect being verified. The independent design verification should not dilute or replace the responsibility of the supervisors for the quality of work performed under their supervision. Where changes to previously verified designs have been made, design verifications are required for the change, including evaluation of the effects of those changes on the overall design. Design verification may be accomplished by testing. Tests to demonstrate adequacy under adverse design conditions shall comply with the requirements of QAP 11.0, "Test Control." Design errors and deficiencies which adversely affect quality structures, systems, and components in the design process are documented and

appropriate corrective action is taken. These design errors and deficiencies are documented in accordance with design change procedures or as defined in QAP 15.0, "Nonconforming Material, Parts, Components, or Services" and/or QAP 16.0, " Corrective Action".

3.2 IMPLEMENTATION

Engineering Services is responsible for the design, design review, engineering approval of design changes, design evaluation and design control for the units. Although some portion of the design process may be delegated to other organizations, ***Engineering Services has*** the responsibility for overall design and final engineering decisions and design control of quality structures, systems, and components.

Nuclear Oversight performs audits, surveillances, and inspections, as appropriate, to verify that NUSCO/NNECO departments are effectively complying with this NUQAP and procedural requirements for design control. Additionally, audits, surveillances and inspections are performed, as appropriate, to verify that vendors are effectively complying with their quality assurance program requirements for design control.

3.2.1 DESIGN PROCESS

Design control measures are applied to design analyses, such as, reactor physics, stress, thermal, hydraulic, nuclear radiation, accident and seismic analyses; compatibility of materials; accessibility for in-service inspection, maintenance, and repair; and delineation of acceptance criteria for inspections and test. Measures established to control design documents are described in QAP 6.0, "Document Control".

Program procedures and instructions define the method of implementing design control measures. These measures require that applicable design requirements, such as, design bases, regulatory requirements, codes and standards, are translated into specifications, drawings, procedures or instructions. Procedures and instructions further require that appropriate quality standards are specified and included in design documents. Materials, equipment, parts and processes, including standard "off the shelf" commercial or previously approved items essential to quality functions are selected and reviewed for suitability of application. The basis for selection may include industry standards, material and prototype hardware testing programs, and design review.

Procedures assure that a documented check is performed to verify the accuracy and completeness of design drawings and specifications before release for procurement, fabrication or construction. Design drawings receive a documented check to verify dimensional accuracy.

Design drawings and specifications issued for design changes are reviewed for completeness and accuracy before release to operations, in accordance with design control procedures.

Procedures describe the provisions to assure that design drawings and specifications are prepared, reviewed and approved in accordance with NUSCO/NNECO requirements and that the documents contain the necessary quality assurance requirements, such as inspections and test requirements, acceptance requirements, and the extent of documenting inspection and test results.

3.2.2 DESIGN CHANGE CONTROL

Procedures and instructions governing design change control during modifications to the Station nuclear plants, the control of discrepant or deficient design conditions, and the reporting of unsatisfactory performance provide for the identification of the need for design changes and a documented method to control these changes. Design and specification changes are subject to design control measures commensurate with those applied during the original design as amended by applicable design or licensing basis changes.

An independent review and approval of design changes is performed by the organization that conducted the original design reviews, unless such review is performed by NNECO or another qualified organization delegated by NNECO to perform this function.

Proposed design change modifications are submitted to the appropriate ***Engineering Services*** management for processing and review. This review includes the appropriate on-site review committee(s) as required by applicable procedures. If the change involves a quality structure, system or component, the change shall be reviewed by qualified engineering personnel for technical adequacy. Reviews of the safety evaluations associated with proposed design changes are performed by the Nuclear Safety Assessment Board (NSAB). The sequence of the NSAB review depends upon the determination of whether an unreviewed safety question is involved (i.e., in accordance with ANSI N18.7, if a proposed change in the facility involves an unreviewed safety question then the NSAB review is conducted prior to submittal of the proposed change to the NRC for review and the issuance of a license amendment for its implementation).

The combination of these independent reviews by the on-site review committee(s) and NSAB is performed to assure that:

a. the adequacy of the proposed change is substantiated;

b. unreviewed safety questions are properly identified and handled per 10 CFR 50.59;

c. nuclear safety requirements have been addressed.

Errors and deficiencies in design, including the design process, that could adversely affect quality structures, systems, and components are documented and corrective action is taken in accordance with QAP 15.0, "Nonconforming Materials, Parts, Components, or Services" and/or QAP 16.0, "Corrective Action".

Notification of design changes are transmitted to responsible plant personnel prior to implementation and as part of the design change package close out. Procedures describe this notification which assures that personnel are made aware of design change modifications which may affect the performance of their duties.

3.2.3 DESIGN INTERFACE CONTROL

Procedures and instructions identify design interface controls and the resolution of design interface questions during modifications to the station nuclear power plants.

3.2.4 INDEPENDENT DESIGN VERIFICATION

Original designs and design modifications are reviewed for adequacy and the sign-off performed by a person other than the originator of the design. The originator's supervisor may perform this independent review only if the supervisor: (1) did not specify a singular design approach, (2) did not establish the design inputs or rule out certain design considerations, (3) is the only individual in the organization competent to perform the review. Where the supervisor performs the design review, the next level of management shall fulfill the supervisor's responsibilities. Design verification is documented in accordance with procedures or instructions. Simplified calculations or computer programs may be utilized as alternate means of design verification. When design verification is performed by testing, the tests are performed using procedures, which specify the authority and responsibility of design verification personnel. Responsibility for design adequacy and evaluation is retained by ***Engineering Services***.

Design verification (if other than by qualification testing) is normally completed prior to release for procurement, fabrication, and construction, or release to another organization for use in other design activities. For those cases where design verification cannot be completed prior to release for procurement, fabrication, and construction, procedures assure that design verification is completed prior to the point when the installation is declared operational.

Procedures describe the requirements which assure the following when testing is considered as an alternate method of design verification:

a. Specifications or procedures provide criteria that specify when verification should be by test.

b. Prototype, component or feature testing is performed as early as possible prior to installation of plant equipment, or prior to the point when the installation is declared operational.

c. Verification by test performed under conditions that simulate the most adverse conditions as determined by analysis.

Particular emphasis is placed on assuring that designs are in conformance with applicable codes, and on selecting the proper design verification or checking method. Procedures and instructions provide the requirements and necessary controls for design verification. These controls include a review to assure that design characteristics can be controlled, verification that there is adequate accessibility for inspection or test, and that inspection and test acceptance criteria are incorporated. Documentation of reviews is provided.

Procedures include requirements which identify the responsibility of design verifiers, the areas and features to be verified, and the extent of the documentation.

Procedures assure that procedural control is established for design documents that reflect the commitments of the nuclear unit FSAR. These procedural controls vary for design documents which receive formal design verification by several disciplines or organizations, and those which can be reviewed by a single individual. The specific design documents and specialized reviews are determined and used as required by the design changes and modifications.

Procedures are established to assure that verified computer programs are certified for a specific use.

NNECO is responsible for assuring that the design documents generated by vendors for the Station nuclear power plants are technically correct, approved, and maintained.

APPENDIX A

NORTHEAST UTILITIES QUALITY ASSURANCE PROGRAM (NUQAP) TOPICAL REPORT - MILLSTONE POWER STATION

CATEGORY I STRUCTURES, SYSTEMS AND COMPONENTS

The Materials, Equipment, and Parts List (MEPL) Program provides instructions to identify structures, systems, components, parts, materials, consumables, and quality software that need to be safety-related and designated as Category I.

The following structures, systems, and components of a Millstone Station nuclear power plant, including their foundations and supports, are designated as Category I. The pertinent quality assurance requirements of Appendix B to 10 CFR 50 are applied to all activities affecting the safety-related function of the structures, systems, and components as listed below and to other items and services specifically identified by NU in each FSAR addressing Section 3.2.1 of NRC Regulatory Guide 1.70.

(a) The reactor coolant pressure boundary.

(b) The reactor core and reactor vessel internals.

(c) Systems or portions of systems that are required for (1) emergency core cooling; (2) post-accident containment heat removal or; (3) post-accident containment atmosphere cleanup (e.g., hydrogen removal system).

(d) Systems or portions of systems that are required for (1) reactor shutdown; (2) residual heat removal or; (3) cooling the spent fuel storage pool.

(e) Those portions of the steam and feedwater systems of pressurized water reactors extending from and including the secondary side of steam generators up to and including the outermost containment isolation valves, and connected piping of 2-1/2 inches or larger nominal pipe size up to and including the first valve (including a safety or relief valve) that is either normally closed or capable of automatic closure during all modes of normal reactor operation.

(f) Cooling water, component cooling and auxiliary feedwater systems or portions of these systems including the intake structures, that are required for: (1) emergency core cooling; (2) post-accident containment heat removal; (3) post-accident containment atmosphere cleanup; (4) residual heat removal from the reactor or; (5) cooling the spent fuel storage pool.

(g) Cooling water and seal water systems or portions of these systems that are required for functioning of safety-related reactor coolant system components such as PWR reactor coolant pump seals.

(h) Systems or portions of systems that are required to supply fuel for emergency equipment.

(i) All electrical and mechanical devices and circuitry between the process and the actuated devices involved in generating or responding to signals that provide protective functions of safeguard systems.

(j) Systems or portions of systems that are required for (1) monitoring of systems safety-related and; (2) actuation of systems safety-related.

"Required for monitoring," i.e. Those parameters that provide information that is essential to permit the control room operator to take specific manually controlled actions for the direct accomplishment of the specified safety function.

(k) The spent fuel storage pool structure, including the fuel racks.

(l) The reactivity control system (e.g., control rods, control rod drives, and boron injection system).

(m) The control room, including its associated equipment and all equipment needed to maintain the control room with safe habitability limits for personnel and safe environmental limits for vital equipment.

(n) Primary and secondary reactor containment.

(o) Systems other than radioactive waste management systems not covered by items (a) through (o) above which contain or may contain radioactive materials and whose postulated failure would result in conservatively calculated potential offsite doses (using meteorology as prescribed by Regulatory Guides 1.3 and 1.4) which are more than 0.5 rem to the whole body or its equivalent to any part of the body.

(p) The Class IE electric systems, including the auxiliary systems for the onsite electric power supplies, that provide the emergency electric power needed for functioning of plant features included in items (a) through (p) above.

(q) Those portions of structures, systems, or components whose continued function is not required but whose failure could reduce the functioning of any plant feature included in items (a) through (q) above to an unacceptable safety level or could result in incapacitating injury to occupants of the control room should be designed and constructed so that the SSE would not cause such failures.

(r) Items and services associated with Radioactive Material Transport Packages as described in 10CFR71.

CONSUMABLES

The following specific consumables when utilized in safety-related systems shall be included in those portions of this NUQAP, as applicable.

1. Emergency generator diesel fuels
2. Hydraulic snubber fluids
3. Reagents
4. Resins
5. Boric Acid
6. Lubricants
7. Gas Turbine Fuel

APPENDIX D

NORTHEAST UTILITIES QUALITY ASSURANCE PROGRAM (NUQAP)
TOPICAL REPORT - MILLSTONE POWER STATION

GLOSSARY OF QUALITY ASSURANCE TERMS

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

Approved Vendors - Vendors approved to provide material, equipment, parts or services under their quality assurance program.

As-Built Documents - Documents which accurately describe the condition actually achieved in a system, structure, or component. These documents include: material certification and test data; reports of inspections, examinations, and test results; drawing, specifications, procedures, and instructions; and records of nonconformance and their resolution.

Audit - A formal, documented activity performed in accordance with written procedures or checklists to verify by evaluation of objective evidence that a quality assurance program has been developed, documented, and implemented in accordance with applicable requirements.

Augmented Quality - Nonsafety-related items for which a design basis or regulatory commitment has been made. The augmented quality items are included within the scope of Quality Assurance Program. These items fall under nuclear indicators such as FPQA (Fire Protection Quality Assurance), RWQA (Radwaste Quality Assurance), ATWS (Anticipated Transient Without Scram) and SBOQA (Station Blackout Quality Assurance).

Calibration - The process by which measuring and test equipment are checked against standards of known higher accuracy and adjusted as necessary to assure their compliance with designated specifications.

Category I - Designation given to safety-related structures, systems, and components (SSC) of a Northeast Utilities nuclear power plant and material, equipment, parts, consumables, and services applicable to the safety-related functions of these SSCs.

Category 1 Structures, Systems and Components - Defined in each unit FSAR and functionally described in Appendix A.

Cleaning - Those actions performed to maintain an item in accordance with cleanliness requirements.

Commercial Grade Item (CGI) - A commercial grade item per 10CFR21 is a structure, system, or component, or part thereof that affects its safety function that was not designed and manufactured as a basic component. Commercial grade items do not include items where the design and manufacturing process require in-process inspections and verifications to assure that defects or failures to comply are identified and corrected (i.e., one or more critical characteristics of the item cannot be verified).

Commercial Grade Survey - Activities conducted by the purchaser to ascertain and verify that a supplier or manufacturer of commercial grade items, controls the technical and quality characteristics determined to be critical for satisfactory performance of specifically designated commercial grade items, as a method to accept those items for safety-related use.

Condition Adverse to Quality - Failures, malfunctions, deficiencies, deviations, defective materials and equipment, abnormal occurrences and nonconformances.

Contractor - Any organization under contract for furnishing items or services.

Corrective Action - Action taken to correct an identified condition adverse to quality.

Deficiencies - Departures from specified requirements.

Department - The use of the word "Department" throughout this NUQAP can refer to any portion of the NUSCO/NNECO organization (i.e., Group, Division, Department, Branch, Section, or Unit, as applicable).

Design - The technical and management process which leads to and includes the issuance of design output documents such as drawings, specifications, and other documents defining technical requirements of structures, systems, and components.

Design Changes - Changes in drawings and specifications that define the design of structures, systems, and components of nuclear power plants.

Design Documents - The drawing, calculation, specification, or other document(s) that define the technical requirements of structures, systems, or components.

Engineering Service Organization - Organizations that provide services such as analysis, computer software, testing, and inspection.

Group - The use of the word "group" in Section 1.0 of this NUQAP refers to a portion of the NUSCO/NNECO organization (i.e., Department, Unit, Branch, as applicable).

Handling - An act of physically moving an item by hand or by mechanical machinery, but not including transport modes.

Identification - A means by which material, equipment and parts can be traced to their associated documentation through the use of heat numbers, lot numbers, part numbers, serial numbers, or other appropriate means.

Item - Any level of unit assembly, including structures, systems, subsystems, subassembly, component, part, or material.

Inspection - A phase of quality control which, by means of examination, observation, or measurement, determines the conformance of material, supplies, components, parts, appurtenances, systems, processes, structures, or services to predetermined quality requirements.

Inspection Status - Identification of material, equipment, and parts that have completed inspection, either acceptable or unacceptable.

Licensing Basis - The set of requirements that includes the applicable NRC regulations, plant - specific NRC requirements, plant - specific design basis and regulatory commitments that are docketed and in effect.

Life Records - Those quality documents that are maintained for the lifetime of an in-service nuclear power plant (the duration of the operating license) or for the life of the particular component or part. Life records are those which would be of significant value in meeting one or more of the following criteria:

(1) demonstrating capability for safe operation.

(2) maintaining, reworking, repairing, replacing or modifying the item.

(3) determining the cause of an accident or malfunction of an item.

(4) providing required base line data for in-service inspection.

Material Request - A formal electronic request for the purchase of material, equipment, parts and/or services.

Measuring and Test Equipment - Those instruments, gages, tools, fixtures, reference and transfer standards, nondestructive test equipment, and measuring devices used during inspection and testing to determine that the measuring and test parameters comply with appropriate requirements in specifications and drawings.

Nonconformance - A deficiency in characteristic documentation or procedure which renders the quality of an item unacceptable or indeterminate.

Non-Life Records - Those quality documents that are maintained for a specific period of time other than the lifetime of the in-service nuclear power plant or the particular component or part.

Northeast Utilities (NU) - A public utility holding company which owns Northeast Utilities Service Company (NUSCO) and the Northeast Nuclear Energy Company (NNECO).

Northeast Nuclear Energy Company (NNECO) - The Northeast Utilities Power Operating Company responsible for the operation of the Millstone Station nuclear power plants.

Northeast Utilities Service Company (NUSCO) - A wholly owned subsidiary of Northeast Utilities that provides support engineering, purchasing, and quality assurance services for the Millstone Station nuclear power plants.

Northeast Utilities Quality Assurance Program (NUQAP) - Millstone Power Station - Consists of this NUQAP Topical Report, Nuclear Oversight Department procedures and other NUSCO/NNECO Group/Division/Department/Branch/Section/Unit quality procedures.

Nuclear Document Services - The organization responsible for establishing the Corporate Nuclear Plant Records Program which is implemented at each Nuclear Document Services Facility.

Nuclear Grade - The procurement classification applied to all materials and services intended for items listed as Category I (CAT I) in the MEPL. These may require validating documentation such as Certificate of Material Test Report, Certificate of Conformance, Certificate of Compliance, personnel qualifications, etc., as specified by codes or standards, and have been designed/qualified for a nuclear application. Nuclear Grade items are manufactured/qualified under a 10CFR50, Appendix B program with the vendor responsible for 10CFR21. The vendor should be an "Approved Vendor".

Nuclear Document Services Facilities (NDSF) - A facility which has been established for the purpose of handling nuclear power plant records in accordance with the Nuclear Records Program.

Objective Evidence - Any statement of fact, information, or record, either quantitative or qualitative, pertaining to the quality of an item or service based on observation, measurements, or tests which can be verified.

Preservation - Those actions performed to maintain an item in its original and usable condition.

Procedures and Instructions - Documents that specify how an activity is to be performed. They may include methods to be employed; material, equipment, or parts to be used; and a sequence of operations.

Procurement Documents - Purchase requisitions/material requests, purchase orders, contracts, drawings, specifications or instructions used to define requirements for purchase.

Product Acceptance Test - Activities conducted as part of the receiving or source inspection process to verify acceptability of one or more critical characteristics of the item being inspected.

Purchased Material, Equipment, and Parts (MEP) - Items procured for installation in the Millstone Station nuclear power plants quality structures, systems, and components, and items procured as spare MEP for potential installation in those structures, systems, and components.

Purchased Services - Services provided by vendor when requested under a QA Material Request and performed under a quality assurance program other than this NUQAP. (Synonymous with "Services" and "Quality Services" in this NUQAP)

Quality Activities - All activities affecting the safety functions of structures, systems, and components; these activities include designing, purchasing, fabricating, handling, shipping, storing, cleaning, erecting, installing, inspecting, testing, operating, maintaining, repairing, refueling, and modifying. Quality activities also include those activities associated with Augmented Quality (including Radwaste Packaging and Shipping) and other regulated programs to which this NUQAP is applicable.

Quality Assurance Records - Any record pertaining to the quality of material, equipment, parts, processes, or operations relating to structures, systems, and components which are founded on observations, measurements, or tests which can be fully checked or verified. Such statements may be recorded on a written or preprinted document or tag. The statements are authorized with a signature or stamp identifiable to the person making the statement of fact.

Quality Structures, Systems and Components - Structures, systems, and components (SSC) including Safety-Related SSCs, Augmented Quality items, and items under other regulated programs to which this NUQAP is applicable.

Quality Procedures - Those Nuclear Oversight Department and other department procedures which implement the requirements of this NUQAP.

Repair - A disposition applied to nonconforming material, equipment, and parts that are unsuitable for their intended purpose which are modified by the use of additional operations and/or processes so that they are suitable for their intended purpose but may not meet all specified requirements.

Reportable Item - An event or condition that could affect nuclear plant safety and must be reported to the NRC in accordance with regulatory requirements such as, 10CFR50.72, 10CFR50.73, or 10CFR50.9(b).

Responsible Engineer - A NNECO employee assigned the responsibility to coordinate the engineering activities addressed in NUQAP. The responsible engineer may be designated as the project engineer.

Retest - A test conducted prior to operation following installation inspections of work associated with maintenance and refueling to verify that structures, systems, and components will function satisfactorily when in operation. A retest may also be performed when original test results are invalidated.

Return to Vendor - A disposition applied to nonconforming material, equipment, and parts that are unsuitable for their intended purpose but which are feasible to repair or rework at a vendor's facility.

Rework - A disposition applied to nonconforming material, equipment, and parts that are unsuitable for their intended purpose due to incomplete operations or variations from original engineering requirements but which are modified through the use of additional operations or processes to meet all specified requirements.

Safety-Related Structures, Systems and Components - Those structures, systems and components that are relied on to remain functional during and following design basis (postulated) events to assure:

1) The integrity of the reactor coolant pressure boundary;
2) The capability to shut down the reactor and maintain it in a safe shutdown condition; and
3) The capability to prevent or mitigate the consequences of accidents which could result in potential offsite exposures comparable to the applicable guideline exposures set forth in 10CFR50.34(a)(1) or 10CFR100.11 as applicable.

Significant Condition Adverse to Quality - A condition adverse to quality involving actual or potential consequences that have a serious impact on public or personnel health and safety or plant operations, and requiring a root cause evaluation to determine corrective action to prevent recurrence.

Special Processes - Processes for which the desired level of quality can only be assured through the use of additional process controls, and where control through direct inspection alone is inadequate, impossible, or disadvantageous. These processes are performed under controlled conditions in accordance with special requirements utilizing qualified procedures, equipment, and personnel. Special processes may include, but are not limited to welding, brazing, soldering, cleaning, heat treating, and nondestructive testing.

Station Blackout - The complete loss of alternating current electric power to the essential and non-essential switchgear buses in a nuclear power plant as defined in 10CFR50.2. It involves the loss of offsite power concurrent with turbine trip and failure of the onsite emergency ac power system, but not the loss of available ac power to buses fed by Station batteries through inverters or the loss of power from alternate ac sources.

Storage - The act of holding an item at the site in an area other than its permanent location in a plant.

Surveillance - A documented record of the observation of work operations performed at the Millstone Power Station or vendor's site to assure compliance with applicable codes, standards, specifications, procedures, drawings, and procurement documents. Surveillance may be performed with a prepared checklist.

Test and Operating Status - Identification of material, equipment, and parts that are ready for test or operation, or an existing stage of a test operation.

Testing - The determination or verification of the capability of an item to meet specified requirements by subjecting the item to a set of physical, chemical, environmental, or operating conditions.

Vendors - Organizations that provide material, equipment, parts, computer software, or services. This includes contractors, engineering service organizations, and consultants. (Synonymous with "Supplier" in this NUQAP)

Work Procedures and Work Documents - Procedures, instructions, and documents used to control and document maintenance and modification work performed on Millstone Station nuclear plant structures, systems, and components.

APPENDIX E

NORTHEAST UTILITIES QUALITY ASSURANCE PROGRAM (NUQAP) TOPICAL REPORT - MILLSTONE POWER STATION

PROGRAM EXCEPTIONS

1. ANSI N45.2.9, states in part, "structure, doors, frames, and hardware should be Class A fire-related with a recommended four-hour minimum rating." The three record storage vaults at NNECO have a two-hour rating.

   NNECO's vaults are used for storage of documentation that is unsuitable for filming or awaiting filming.

   A records organization exists along with written procedures addressing the control of quality assurance records.

2. ANSI N18.7-1976, paragraph 4.3.2.3 "Quorum" states in part: "A quorum for formal meetings of the (Independent Review) Committee held under the provisions of 4.3.2.2 shall consist of not less than a majority of the principals, or duly appointed alternates..."

   A quorum of the Nuclear Safety Assessment Board shall consist of the Chairman or Vice Chairman and at least enough members to constitute a majority of the assigned members. No more than a minority of the quorum shall have line responsibility for operation of one of Northeast Utilities' nuclear units. No more than two alternates shall be appointed voting status at any meeting in fulfillment of the quorum requirements.

3. ANSI N45.2.9-1974, paragraph 1.4, definition of "Quality Assurance Records" states in part: "For the purposes of this standard, a document is considered a quality assurance record when the document has been completed."

   Northeast Utilities has developed the following alternative definition to provide guidance during the interim period from the time a document is completed until it is transmitted to the Nuclear Document Services Facility:

   "A record is considered a working document until it is transmitted to the Nuclear Document Services Facility (NDSF) at which time it is designated as a Quality Assurance Record. The following maximum time limits are established for the transmittal of working documents to the NDSF:

   Operations Documents - Documentation generated during plant operations may be maintained, as needed, by operating plant departments, for up to one year.

   New Construction or Betterment Documents - Documents which evolve during new construction or betterment projects shall be transmitted to NDSF within 90 days of completion of a new construction project or turnover of a betterment project or plant operations.

Procurement Documents - Inspection/Surveillance/Audit Reports generated during vendor oversight activities which are used to maintain vendor status for current and future procurements may be maintained, as needed, by Nuclear Materials and Document Management for up to three years.

All Other Working Documents - All other working documents shall be transmitted to NDSF within 6 months of their receipt or completion."

The requirements of ANSI N45.2.9-1974 do not apply to these "working documents" based on paragraph 1.1 of the ANSI standard which states:

"It (ANSI N45.2.9) is not intended to cover the preparation of the records nor to include working documents not yet designated as Quality Assurance Records."

4. Regulatory Guide 1.64 - 6/76, the Regulatory position states, in part, "It should not be construed that such verification constitutes the required independent design verification." Northeast Utilities has developed the following alternative to allow for adequate independent design verification:

This review may be performed by the originator's Supervisor, only if the Supervisor:

Did not specify a singular design approach;

Did not establish the design inputs or did not rule out certain Design considerations;

Is the only individual in the organization competent to perform the review.

Where the Supervisor performs the design review, the next level of management shall fulfill the Supervisor's responsibilities.

5. ANSI N45.2.13 - 1976, paragraph 10.3.4, states in part, "Post-Installation Test requirements and acceptance documentation (should) shall be mutually established by the purchaser and supplier." Involvement by the supplier in establishing Post-Installation Test requirements and acceptance documentation is requested only when it is deemed necessary and proper by the responsible engineering organization.

Northeast Utilities no longer has any nuclear plants under construction. As a result, most procurements are made for spare parts from suppliers who are not the original equipment manufacturer. In these cases, the supplier may have little or no understanding or knowledge of either the operation of the system the component is to be installed in, or applicable Post-Installation Test requirements and acceptance documentation. As such, Northeast Utilities assumes responsibility for establishing Post Installation Test requirements and acceptance documentation.

6. ANSI N45.2.2-1972, paragraph 1.2, states in part that, "The requirements of this standard apply to the work of any individual or organization that participates in the packaging, shipping, receiving, storage, and handling of items to be incorporated into nuclear power plants."

   Since a portion of Northeast Utilities procurement activities involve commercial suppliers which do not fully comply with the requirements of ANSI N45.2.2, the Northeast Nuclear Energy Company Nuclear Materials and Document Management organization verifies through source inspections, receipt inspection, and/or survey activities that the quality of the materials, items, components or equipment is preserved by those suppliers to the extent that packaging, shipping, storage and handling methods are employed which are commensurate with the nature of the product.

7. ANSI N18.1-1971, paragraph 4.2.2, states in part "The Operations Manager shall hold a Senior Reactor Operator's license". NU has developed an alternative to this requirement which has been accepted by the NRC via amendment 132 for the Millstone Power Station Unit No. 3 license which allows that:

   If the Operations Manager does not hold a Senior Reactor Operator license for Millstone Unit No. 3, then the Operations Manager shall have held a Senior Reactor Operator license at a pressurized water reactor, and the Assistant Operations Manager shall hold a Senior Reactor Operator license for Millstone Unit No. 3.

8. ANSI N18.1-1971, paragraph 4.2.2, states in part "The Operations Manager shall hold a Senior Reactor Operator's license". NU has developed an alternative to this requirement which has been accepted by the NRC via amendment 190 for the Millstone Power Station Unit No. 2 license which allows that:

   If the Operations Manager does not hold a Senior Reactor Operator license for Millstone Unit No. 2, then the Operations Manager shall have held a Senior Reactor Operator license at a pressurized water reactor, and an individual serving in the capacity of the Assistant Operations Manager shall hold a Senior Reactor Operator license for Millstone Unit No. 2.

9. Regulatory Guide 1.33 - 2/78, regarding audits, states in part:

   (a) "The results of actions taken to correct deficiencies...at least once per 6 months."

   (b) "...technical specifications and applicable license conditions - at least once per 12 months."

   (c) "The performance, training, and qualifications of the facility staff - at least once per 12 months."

   NU has developed an alternative which modifies these Audit frequencies to at least once per 24 months. This alternative has previously been accepted by the NRC via license amendments 79, 184, and 104 for MP1, MP2, and MP3, respectively.

10. Deleted

11. ANSI N45.2.13-1976, paragraph 10.3.5., states in part, "in certain cases involving procurement of services only, such as third party inspection; engineering and consulting services, and installation, repair, overhaul or maintenance work; the Purchaser may accept the service by any or all of the following methods:

    (a) Technical verification of the data produced
    (b) Surveillance and/or audit of the activity
    (c) Review of the objective evidence for conformance to the procurement document requirements such as certifications, stress reports, etc."

    In order to maintain the independence requirement of the NRC's August 14, 1996 Order, NNECO will not perform an acceptance review of the work produced by the vendors contracted to conduct the Independent Corrective Action Verification Program. This work will be performed in accordance with the vendor's own approved, 10 CFR 50 Appendix B Quality Assurance Program.

12. Deleted.

13. Regulatory Guide 1.70 Revision 3, November 1978 Section 17.1.2.4 states in part: "The PSAR should include a listing of QA program procedures or instructions that will be used to implement the QA program for each major activity such as design, procurement, construction, etc. The procedure list should identify which criteria of Appendix B to 10 CFR 50 are implemented by each procedure".

    NU has developed an alternative to this requirement where procedure indices are maintained which identify the procedures that implement the Quality Assurance Program for Millstone Power Station and which, by title and originating organization, indicate the Appendix B to 10 CFR 50 criterion being implemented.

APPENDIX F
NORTHEAST UTILITIES QUALITY ASSURANCE PROGRAM (NUQAP)
TOPICAL REPORT - MILLSTONE POWER STATION

ADMINISTRATIVE CONTROLS[1]

NOTE:
1. "Specification" numbers refer to the unit specific Technical Specification.
2. Unit specific titles are given in [ ] for generic titles used in Technical Specifications.

INDEPENDENT SAFETY ENGINEERING GROUP (ISEG) - Unit 3 Only

Function

The ISEG shall include, as part of its function, examination of unit operating characteristics, NRC issuances, industry advisories, Licensee Event Reports, and other sources of unit design and operating experience information, including units of similar design, which may indicate areas for improving unit safety. The ISEG shall make detailed recommendations for revised procedures, equipment modifications, maintenance activities, operations activities, or other means of improving unit safety to appropriate station/corporation management.

Composition

The ISEG shall be composed of at least four full-time personnel located on site to perform the functions described above for Millstone Unit 3. Each person shall have either:

(1) A bachelor's degree in engineering or related science and at least 2 years of professional level experience in his field, at least 1 year of which experience shall be in the nuclear field, or,

(2) At least 10 years of professional level experience in his field, at least 5 years of which experience shall be in the nuclear field.

A minimum of 50% of these personnel shall have the qualifications specified in (1) above.

Responsibilities

The ISEG shall be responsible for maintaining surveillance of unit activities to provide independent verification* that these activities are performed correctly and that human errors are reduced as much as practical.

Records

Records of activities performed by the ISEG shall be prepared and maintained, and quarterly reports of completed safety evaluations will be made to the Vice President-Nuclear Oversight. [VP-NORA].

*Not responsible for sign-off function

REVIEW AND AUDIT

Plant Operations Review Committee (PORC) - Unit 2 Only

Function

The PORC shall function to advise the designated manager [Station Director] on all matters related to nuclear safety.

Composition

The PORC shall be composed of nine to eleven members. Members shall collectively have experience and expertise in the following areas:

Plant Operations
Engineering
Reactor Engineering
Maintenance
Instrumentation and Controls
Health Physics
Chemistry
Work Planning
Quality Assurance

The minimum qualifications of PORC members shall be that all members have an academic degree in an engineering or physical science field, or hold a management position, and have a minimum of five years technical experience in their respective field of expertise. The members of PORC shall be appointed in writing by the designated manager [Station Director]. The Chairperson and alternate Chairperson of the PORC shall be drawn from the PORC members and be appointed in writing by the designated manager [Station Director].

Alternates

Alternate members shall be appointed in writing by the PORC Chairperson to serve on a temporary basis; however, no more than two alternates shall participate in PORC activities at any one time.

Meeting Frequency

The PORC shall meet at least once per calendar month and as convened by the PORC Chairperson.

Quorum

A quorum of the PORC shall consist of the Chairperson, or Vice Chairperson, and four members including alternates.

Responsibilities

The PORC shall be responsible for:

a. Review of 1) all procedures, except common site procedures, required by Specification 6.8 and changes thereto, 2) all programs, except common site programs, required by Specification 6.8 and changes thereto, 3) any other proposed procedures, programs, or changes thereto as determined by the designated manager [Station Director] to affect nuclear safety. Procedures and programs required by Specification 6.8 that are designated for review and approval by the Station Qualified Reviewer Program do not require PORC review.

b. Review of all proposed tests and experiments that affect nuclear safety.

c. Review of all proposed changes to Sections 1.0 - 5.0 of the Technical Specifications.

d. Review of all proposed changes or modifications to plant systems or equipment that affect nuclear safety.

e. Investigation of all violations of the Technical Specifications and preparation and forwarding of a report covering evaluation and recommendations to prevent recurrence to the designated officer [Senior Vice President and CNO - Millstone] and to the Chairperson of the Nuclear Safety Assessment Board.

f. Review of all REPORTABLE EVENTS.

g. Review of facility operations to detect potential safety hazards.

h. Performance of special reviews and investigations and reports thereon as requested by the Chairperson of the Nuclear Safety Assessment Board.

i. Render determinations in writing if any item considered under (a) through (d) above, as appropriate and as provided by 10CFR50.59 or 10CFR50.92, constitutes an unreviewed safety question or requires a significant hazards consideration determination.

j. Review of the fire protection program and implementing procedure.

Authority

The PORC shall:

a. Recommend to the designated manager [Station Director] written approval or disapproval of items considered under Responsibilities (a) through (d) above.

b. Provide immediate written notification to the designated officer [Senior Vice President and CNO - Millstone] and the Chairperson of the Nuclear Safety Assessment Board of disagreement between the PORC and the designated manager [Station Director]; however, the designated manager [Station Director] shall have responsibility for resolution of such disagreements pursuant to Specification 6.1.1.

Records

The PORC shall maintain written minutes of each meeting and copies shall be provided to the Senior Vice President and CNO - Millstone and Chairperson of the Nuclear Safety Assessment Board.

Plant Operations Review Committee (PORC) - Unit 3 Only

Function

The PORC shall function to advise the designated manager [Station Director] on all matters related to nuclear safety.

Composition

The PORC shall be composed of nine to eleven members. Members shall collectively have experience and expertise in the following areas:

Plant Operations
Engineering
Reactor Engineering
Maintenance
Instrumentation and Controls
Health Physics
Chemistry
Work Planning
Quality Assurance

The minimum qualifications of PORC members shall be that all members have an academic degree in an engineering or physical science field, or hold a management position, and have a minimum of five years technical experience in their respective field of expertise. The members of PORC shall be appointed in writing by the designated manager [Station Director]. The Chairperson and

alternate Chairperson of the PORC shall be drawn from the PORC members and be appointed in writing by the designated manager [Station Director].

Alternates

All alternate members shall be appointed in writing by the PORC Chairperson to serve on a temporary basis; however, no more than two alternates shall participate as voting members in PORC activities at any one time.

Meeting Frequency

The PORC shall meet at least once per calendar month and as convened by the PORC Chairperson.

Quorum

The quorum of the PORC shall consist of the Chairperson or Vice Chairperson and four members including alternates.

Responsibilities

The PORC shall be responsible for:

a. Review of: (1) all procedures, except common site procedures, required by Specification 6.8 and changes thereto, 2) all programs, except common site programs required by Specification 6.8 and changes thereto, and (3) any other proposed procedures, programs or changes thereto as determined by the designated manager [Station Director] to affect nuclear safety. Procedures and programs required by Specification 6.8 that are designated for review and approval by the Station Qualified Reviewer Program do not require PORC review.

b. Review of all proposed tests and experiments that affect nuclear safety;

c. Review of all proposed changes to Sections 1.0-5.0 of the Technical Specifications;

d. Review of all proposed changes or modifications to plant systems or equipment that affect nuclear safety;

e. Investigation of all violations of the Technical Specifications, including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence, to the designated officer [Senior Vice President and CNO - Millstone] and to the Chairperson of the Nuclear Safety Assessment Board;

f. Review of all REPORTABLE EVENTS;

g. Review of facility operations to detect potential safety hazards;

h. Performance of special reviews, investigations, or analyses and reports thereon as requested by the Chairperson of the Nuclear Safety Assessment Board.

i. Render determinations in writing if any item considered under (a) through (d) above, as appropriate and as provided by 10CFR50.59 or 10CFR50.92, constitutes an unreviewed safety question, or requires a significant hazards consideration determination.

j. Review of Unit Turbine Overspeed Protection Maintenance and Testing Program and revision thereto.

k. Review of the Fire Protection Program and implementing procedures.

Authority

The PORC shall:

a. Recommend to the designated manager [Station Director] written approval or disapproval of items considered under Responsibilities a. through d. above; and

b. Provide written notification to the designated officer [Senior Vice President and CNO - Millstone] and the Chairperson of the Nuclear Safety Assessment Board of disagreement between the PORC and the designated manager [Station Director]; however, the designated manager [Station Director] shall have responsibility for resolution of such disagreements pursuant to Specification 6.1.1.

Records

The PORC shall maintain written minutes of each meeting and copies shall be provided to the designated officer [Senior Vice President and CNO - Millstone] and the Chairperson of the Nuclear Safety Assessment Board.

Site Operations Review Committee (SORC)

Function

The SORC shall function to advise the designated officer [Senior Vice President and CNO - Millstone] on all matters related to nuclear safety of the entire Millstone Station Site.

Composition

The SORC shall be composed of the:

Chairperson:	Designated Officer [Senior Vice President and CNO Millstone]
Member:	Unit 1 Designated Manager [Director - Unit 1 Operations]
Member:	Unit 2 Designated Manager [See note below]
Member:	Unit 3 Designated Manager [See note below]
Member:	Designated Manager, Nuclear Services [Manager - Radiation Protection and Waste Services]
Member:	Designated Manager, General Services [Director - Site Services]
Member:	Designated Member of Unit 1 PORC [Designated Member of Unit 1 PORC]
Member:	Designated Member of Unit 2 PORC [Designated Member of Unit 2 PORC]

Member: Designated Member of Unit 3 PORC [Designated Member of Unit 3 PORC]

Member: Designated Member of Nuclear Oversight [Designated Member of Nuclear Oversight]

NOTE: The positions of "Unit 2 Designated Manager" and "Unit 3 Designated Manager" shall be filled by any two of the following: Station Director, Assistant Station Director - Safety, Manager- Operations (Millstone 2), Manager - Operations (Unit 3).

The senior designated Unit manager[senior individual among the Unit 1 Designated Manager, Unit 2 Designated Manager, and Unit 3 Designated Manager] in attendance shall be the Vice-Chairperson.

Alternates:

Alternate members shall be appointed in writing by the SORC Chairperson to serve on a temporary basis; however, no more than two alternates shall participate in SORC activities at one time.

Meeting Frequency

The SORC shall meet at least once per six months and as convened by the SORC Chairperson.

Quorum

A quorum of the SORC shall consist of the Chairperson or Vice Chairperson and five members including alternates.

Responsibilities

The SORC shall be responsible for:

a. Review of 1) all common site procedures required by Specification 6.8 and changes thereto, 2) all common site programs, required by Specification 6.8 and changes thereto, 3) any other proposed procedures, programs, or changes thereto as determined by the designated officer [Senior Vice President and CNO.- Millstone] to affect site nuclear safety. Common site programs and procedures required by Specification 6.8 that are designated for review and approval by the Station Qualified Reviewer Program do not require SORC review.

b. Review of all proposed changes to Section 6.0 "Administrative Controls" of the Technical Specifications.

c. Performance of special reviews and investigations and reports as requested by the Chairperson of the Nuclear Safety Assessment Board.

d. Not used.

e. Not used.

f. Review of all common site proposed tests and experiments that affect nuclear safety.

g. Review of all common site proposed changes or modifications to systems or equipment that affect nuclear safety.

h. Render determinations in writing or meeting minutes if any item considered under (a) through (g) above, as appropriate and as provided by 10CFR50.59 or 10CFR50.92, constitutes an unreviewed safety question or requires a significant hazards consideration determination.

i. Review of the common site fire protection program and implementing procedures.

Authority

The SORC shall:

a. Recommend to the designated officer [Senior Vice President and CNO - Millstone] written approval or disapproval in meeting minutes of items considered under Responsibilities (a) through (g) above.

b. Provide immediate written notification or meeting minutes to the designated senior officer [President and Chief Executive Officer (CEO)] and the Chairperson of the Nuclear Safety Assessment Board of disagreement between the SORC and the designated officer [Senior Vice President and CNO - Millstone]; however, the designated senior officer [Senior Vice President and CNO - Millstone] shall have responsibility for resolution of such disagreements pursuant to Specification 6.1.1.

Records

The SORC shall maintain written minutes of each meeting and copies shall be provided to the designated officer [Senior Vice President and CNO - Millstone] and Chairperson of the Nuclear Safety Assessment Board.

Nuclear Safety Assessment Board (NSAB)

Function

The minimum qualifications of NSAB members are as follows:

a. The Chairperson and NSAB members shall have:

   1. An academic degree in an engineering or physical science field, or hold a senior management position, and

   2. A minimum of five years technical experience in their respective field of expertise.

b. The NSAB shall have experience in and shall function to provide independent oversight review and audit of designated activities in the areas of:

   1. Nuclear power plant operations;

   2. Nuclear engineering;

   3. Chemistry and radiochemistry;

   4. Metallurgy;

5. Instrumentation and control;

6. Radiological safety;

7. Mechanical and electrical engineering; and

8. Quality assurance practices.

The NSAB serves to advise the designated senior officer [Senior Vice President and CNO - Millstone] on matters related to nuclear safety and notify the designated senior officer [Senior Vice President and CNO - Millstone] within 24 hours of a safety significant disagreement between the NSAB and the organization or function being reviewed.

Composition

The designated senior officer [Senior Vice President and CNO - Millstone] shall appoint, in writing, a minimum of seven members to the NSAB and shall designate from this membership, in writing, a Chairperson and a Vice Chairperson. The membership shall function to provide independent review and audit in the areas listed in Function (b) above.

Alternates

All alternate members shall be appointed, in writing, by the designated senior officer[Senior Vice President and CNO - Millstone]; however, no more than two alternates shall participate as members in NSAB activities at any one time.

Meeting Frequency

The NSAB shall meet at least once per calendar quarter.

Quorum

The quorum of the NSAB shall consist of a majority of NSAB members including the Chairperson or Vice Chairperson. No more than a minority of the quorum shall have line responsibility for operation of the same Northeast Utilities' nuclear unit. No more than two alternates shall be appointed as members at any meeting in fulfillment of the quorum requirements.

Review Responsibilities

The NSAB shall be responsible for the review of:

a. The safety evaluations for changes to procedures, equipment, or systems, and tests or experiments completed under the provisions of 10 CFR 50.59, to verify that such actions did not constitute an unreviewed safety question as defined in 10 CFR 50.59;

b. Proposed changes to procedures, equipment, or systems that involve an unreviewed safety question as defined in 10 CFR 50.59;

c. Proposed tests or experiments that involve an unreviewed safety question as defined in 10 CFR 50.59;

d. Proposed changes to Technical Specifications and the Operating License;

e. Violations of applicable codes, regulations, orders, license requirements, or internal procedures having nuclear safety significance;

f. All Licensee Event Reports required by 10 CFR 50.73;

g. Indications of significant unanticipated deficiencies in any aspect of design or operation of structures, systems, or components that could affect nuclear safety;

h. Significant accidental, unplanned, or uncontrolled radioactive releases, including corrective actions to prevent recurrence;

i. Significant operating abnormalities or deviations from normal and expected performance of equipment that could affect nuclear safety;

j. The performance of the corrective action program; and

k. Audits and audit plans.

Reports or records of these reviews shall be forwarded to the designated senior officer [Senior Vice President and CNO - Millstone] within 30 days following completion of the review.

Audit Program Responsibilities

The NSAB audit program shall be the responsibility of the Nuclear Oversight Department. NSAB audits shall be performed at least once per 24 months in accordance with administrative procedures [Nuclear Group Procedures] and shall encompass:

a. The conformance of unit operation to provisions contained within the Technical Specifications and applicable license conditions;

b. The training and qualifications of the unit staff;

c. The implementation of all programs required by Specification 6.8;

d. The Fire Protection Program and implementing procedures.

e. The fire protection equipment and program implementation utilizing either a qualified offsite license fire protection engineer or an outside independent fire protection consultant.

f. Actions taken to correct deficiencies occurring in equipment, structures, systems, components, or method of operation that affect nuclear safety; and

g. Other activities and documents as requested by the designated senior officer[Senior Vice President and CNO - Millstone].

Records

Written records of reviews and audits shall be maintained. As a minimum these records shall include:

a. Results of the activities conducted under the provisions of this NSAB Section;

b. Deleted

c. Deleted

Station Qualified Reviewer Program

Function

The designated manager, designated officer, or designated senior officer [Senior Vice President and CNO - Millstone] may establish a Station Qualified Reviewer Program whereby required reviews of designated procedures or classes of procedures required by PORC, Responsibilities item (a), and SORC, Responsibilities item (a) are performed by Station Qualified Reviewers and approved by designated managers [Responsible Individual(s) for the procedure(s)]. These reviews are in lieu of reviews by the PORC or SORC. However, procedures which require a 10CFR50.59 evaluation must be reviewed by the PORC or SORC.

Responsibilities

The Station Qualified Reviewer Program shall:

a. Provide for the review of designated procedures, programs, and changes thereto by a Qualified Reviewer(s) other than the individual who prepared the procedure, program, or change.

b. Provide for cross-disciplinary review of procedures, programs, and changes thereto when organizations other than the preparing organization are affected by the procedure, program, or change.

c. Ensure cross-disciplinary reviews are performed by a Qualified Reviewer(s) in affected disciplines, or by other persons designated by cognizant Managers or Directors as having specific expertise required to assess a particular procedure, program, or change. Cross-disciplinary reviewers may function as a committee.

d. Provide for a screening of designated procedures, programs and changes thereto to determine if an evaluation should be performed in accordance with the provisions of 10CFR50.59 to verify that an unreviewed safety question does not exist. This screening will be performed by personnel trained and qualified in performing 10CFR50.59 evaluations.

e. Provide for written recommendation by the Qualified Reviewer(s) to the responsible Manager for approval or disapproval of procedures and programs considered under PORC, Responsibilities item (a) and SORC, Responsibilities item (a), and that the procedure or program was screened by a qualified individual and found not to require a 10 CFR 50.59 evaluation.

If the responsible manager determines that a new program, procedure, or change thereto requires a 10 CFR 50.59 evaluation, that Manager will ensure the required evaluation is performed to determine if the new procedure, program, or change involves an unreviewed safety question. The new procedure, program, or change will then be forwarded with the 10 CFR 50.59 evaluation to PORC or SORC for review.

Personnel recommended to be Station Qualified Reviewers shall be designated in writing by the designated manager or designated officer [Senior Vice President and CNO - Millstone ***or***- Vice President - Nuclear Operations] for each procedure, program, or class of procedure or program within the scope of the Station Qualified Reviewer Program.

Temporary procedure changes shall be made in accordance with Specification 6.8.3 with the exception that changes to procedures for which reviews are assigned to Qualified Reviewers will be reviewed and approved as described in Responsibilities (a) through (e) above.

Records

The review of procedures and programs performed under the Station Qualified Reviewer Program shall be documented in accordance with administrative procedures.

Training and Qualification

The training and qualification requirements of personnel designated as a Qualified Reviewer in accordance with the Station Qualified Reviewer Program shall be in accordance with administrative procedures. Qualified reviewers shall have:

a. A Bachelors degree in engineering, related science, or technical discipline, and two years of nuclear power plant experience;

OR

b. Six years of nuclear power plant experience;

OR

c. An equivalent combination of education and experience as approved by a Department Manager.

SAFETY LIMIT VIOLATION - Units 2 and 3

The Senior Vice President and CNO - Millstone and the Chairperson of the NSAB shall be notified within 24 hours in the event a Safety Limit is violated.

The Safety Limit Violation Report shall be submitted to the Commission, the Chairperson of the NSAB, and the Senior Vice President and CNO - Millstone, within 14 days of the violations.

RECORD RETENTION - Unit 2

(1) The following records shall be retained for at least five years:

a. Records and logs of facility operation covering time interval at each power level.

b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety.

c. All REPORTABLE EVENTS.

d. Records of surveillance activities, inspections, and calibrations required by these technical specifications.

e. Records of reactor tests and experiments.

f. Records of changes made to operating procedures.

g. Records of radioactive shipments.

h. Records of sealed source leak tests and results.

i. Records of annual physical inventory of all sealed source material of record.

(2) The following records shall be retained for the duration of the facility operating license:

a. Records and drawing changes reflecting facility design modifications made to systems and equipment described in the Final Safety Analysis Report.

b. Records of new and irradiated fuel inventory, fuel transfers, and assembly burnup histories.

c. Records of facility radiation and contamination surveys.

d. Records of radiation exposure for all individuals entering radiation control areas.

e. Records of gaseous and liquid radioactive material released to the environs.

f. Records of transients or operational cycles for those facility components designed for a limited number of transients or cycles.

g. Records of training and qualification for current members of the plant staff.

h. Records of inservice inspections performed pursuant to the Technical Specifications.

i. Records of quality assurance activities required by the QA Manual.

j. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR Part 50.59.

k. Records of meetings of the PORC, the NSAB, and the SORC.

l. Records of Environmental Qualification which are covered under the provisions of Specification 6.13.

m. Records of reviews performed for changes made to the Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODCM) and the Process Control Program.

RECORD RETENTION - Unit 3 Only

(1) In addition to the applicable record retention requirements of Title 10, Code of Federal Regulations, the following records shall be retained for at least the minimum period indicated.

(2) The following records shall be retained for at least five years:

a. Records and logs of unit operation covering time interval at each power level;

b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment related to nuclear safety;

c. All REPORTABLE EVENTS;

d. Records of surveillance activities, inspections, and calibrations required by Technical Specifications;

e. Records of changes made to the procedures required by Specifications 6.8.1;

f. Records of radioactive shipments;

g. Records of sealed source and fission detector leak tests and results; and

h. Records of annual physical inventory of all sealed source material of record.

(3) The following records shall be retained for the duration of the unit Operating License:

a. Records and drawing changes reflecting unit design modifications made to systems and equipment described in the Final Safety Analysis Report;

b. Records of new and irradiated fuel inventory, fuel transfers, and assembly burnup histories;

c. Records of radiation exposure for all individuals entering radiation control areas;

d. Records of gaseous and liquid radioactive material released to the environs;

e. Records of transient or operational cycles for those unit components identified in Technical Specifications Table 5.7-1.

f. Records of reactor tests and experiments;

g. Records of training and qualification for current members of the unit staff;

h. Records of inservice inspections performed pursuant to the Technical Specifications;

i. Records of quality assurance activities required by the Quality Assurance Topical Report not listed in (2) a. through (2) h. above;

j. Records of reviews performed for changes made to procedures or equipment or reviews of tests and experiments pursuant to 10 CFR Part 50.59;

k. Records of meetings of the PORC, the NSAB, and the SORC;

l. Records of the service lives of all hydraulic and mechanical snubbers required by Technical Specifications 3.7.10 including the date at which the service life commences and associated installation and maintenance records;

m. Records of secondary water sampling and water quality; and

n. Records of analyses required by the Radiological Environmental Monitoring Program that would permit evaluation of the accuracy of the analysis at a later date. This should include procedures effective at specified times and QA records showing that these procedures were followed.

o. Records of reviews performed for changes made to the Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODCM) and the Process Control Program.

[1] Relocation of Technical Specification Administrative Controls Related to Quality Assurance in Response to AL 95-06.

APPENDIX G
TECHNICAL SPECIFICATION POSITION CROSS REFERENCE

MILLSTONE UNIT 2

T.S. SECTION	T.S. POSITION	STATION ORGANIZATION POSITION
Responsibility		
6.1.1	Designated Officer Designated Manager	Sr. Vice President and CNO - Millstone Station Director
Organization		
6.2.1b Offsite and onsite organizations	Designated Manager	Station Director
6.2.1c Offsite and onsite organizations	Designated Officer	Sr. Vice President and CNO - Millstone
Procedures		
6.8.2a	Designated Manager Designated Officer Designated Senior Officer	Station Director Vice President - Nuclear Operations Sr. Vice President and CNO - Millstone
6.8.2b	Designated Manager Designated Officer	Station Director Vice President - Nuclear Operations or Sr. Vice President and CNO - Millstone
6.8.2c	Designated Manager Designated Officer	Station Director Vice President - Nuclear Operations or Sr. Vice President and CNO - Millstone
6.8.3c	Designated Manager Designated Officer	Station Director Vice President - Nuclear Operations or Sr. Vice President and CNO - Millstone
Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODCM)		
6.15b	Designated Officer	Sr. Vice President and CNO - Millstone

Notes:
1. Generic position titles are as approved by Amendment No. 235 to the Unit 2 Technical Specifications.

MILLSTONE UNIT 3

T.S. SECTION	T.S. POSITION	STATION ORGANIZATION POSITION
Responsibility		
6.1.1	Designated Officer Designated Manager	Sr. Vice President and CNO - Millstone Station Director
Organization		
6.2.1b Offsite and onsite organizations	Designated Manager	Station Director
6.2.1c Offsite and onsite organizations	Designated Officer	Sr. Vice President and CNO - Millstone
Procedures		
6.8.2a	Designated Manager Designated Officer Designated Senior Officer	Station Director Vice President - Nuclear Operations Sr. Vice President and CNO - Millstone
6.8.2b	Designated Manager Designated Officer	Station Director Vice President - Nuclear Operations or Sr. Vice President and CNO - Millstone
6.8.2c	Designated Manager Designated Officer	Station Director Vice President - Nuclear Operations or Sr. Vice President and CNO - Millstone
6.8.3c	Designated Manager Designated Officer	Station Director Vice President - Nuclear Operations or Sr. Vice President and CNO - Millstone
Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMODCM)		
6.13b	Designated Officer	Sr. Vice President and CNO - Millstone

Notes:
1. Generic position titles are as approved by Amendment No. 171 to the Unit 3 Technical Specifications.