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**Dominion**

*Memorandum*

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NO-02-0081  
May 31, 2002

**TO:** Quality Assurance Program Topical Report - Controlled Copy Owners

**FROM:** *Dorothy Bruce*  
Dorothy Bruce, QAP Coordinator  
Nuclear Oversight, Ext. 3185

**SUBJECT:** **Quality Assurance Program (QAP) Topical Report - Millstone Power Station  
Revision 23, Change 8 (Document No. MP-02-OST-BAP01)**

Enclosed please find Quality Assurance Program (QAP) Topical Report - Millstone Power Station, Revision 23, Change 8. This change implements several change requests approved by SORC on May 23, 2002. The change affects QAP 4.0, QAP 17.0 and QAP Appendices B, E, and F. The change includes replacing the current procurement program (MIMS) with the "enterprise-wide Supply Chain Management system"; modifying Section 17.3, "Retention", to allow Quality Assurance records to be stored electronically following Nuclear Information and Records Management Association (NIRMA) guidance; clarification of QAP Appendix B and E to reference appropriate sections of ANSI/ANS 3.1-1987 regarding Operation's manager, and an editorial change to Appendix B, Note 1; and clarification of the SQR description (Pages 7 & 8, App. F).

Please note that the effective date of Revision 23, Change 8, is **June 1, 2002**. Please replace the entire contents of QAP 4.0, QAP 17.0 and QAP Appendices B, E, and F with the enclosed sections. If you have any questions, please contact D. Bruce at X3185.

Attachments: Summary of Changes for Rev. 23, Change 8

Enclosure:  
Quality Assurance Program Topical Report - Millstone Power Station, Revision 23, Change 8

DSB/dsb

**Summary of Changes to QAP Rev. 23 Incorporated as Change 08**

<u>Section</u>	<u>Summary Description of Changes</u>	<u>Reference</u>
Section 4.0	Replaced the current procurement program (MIMS) with the "enterprise-wide Supply Chain Management system"	<b>Request 02-05</b>
Section 17.0	Modifies Section 17.3, "Retention", to allow Quality Assurance records to be stored electronically following the guidance given in Nuclear Information and Records Management Association (NIRMA) technical guideline, TG-15-1998, "Management of Electronic Records."	<b>Request 02-07</b>
Appendix B	Clarified QAP Appendix B regarding the exceptions taken to ANSI 18.1-1971 for Operation's Manager license requirements to reference appropriate sections of ANSI/ANS 3.1-1987, and made an editorial change to Appendix B, Note 1, to match the appropriate title for Radiation Protection/ Health Physics management in Table B-1.	<b>Request 02-02</b>
Appendix E	Modified exceptions (#7 and 8) taken to ANSI 18.1-1971 for Operation's Manager license requirements to reference appropriate sections of ANSI/ANS 3.1-1987, as referenced in NRC SER's dated June 24, 1994, (Unit 2) and September 12, 1995, (Unit 3).	<b>Request 02-02</b>
Appendix F	Clarifies the SQR description (Pages 7 & 8, App. F) and returns the SQR Program to it's core purpose of performing the independent review.	<b>Request 02-06</b>

## 4.0 PROCUREMENT DOCUMENT CONTROL

### 4.1 GENERAL REQUIREMENTS

This QAP provides measures to control the procurement of materials, equipment, parts and services for quality structures, systems, and components for the Millstone Power Station nuclear units to assure compliance with applicable regulatory requirements, procedures, quality assurance standards, and regulations affecting procurement documents. Changes to procurement documents are subject to the same degree of control as utilized in the preparation of the original documents.

### 4.2 IMPLEMENTATION

#### 4.2.1 PROGRAM

A responsible engineer is selected for each modification to a Station nuclear power plant. The responsible engineer coordinates the preparation, review and approval of procurement documents for quality materials, equipment, parts and services, and assures the technical adequacy and inclusion of quality assurance requirements.

Requests for materials, equipment, parts and services are reviewed for technical adequacy and verification of the quality designation. The appropriate responsible engineer/nuclear unit management reviews and approves such requests in accordance with applicable procedures. Supply Chain Management (SCM) [DNC1] personnel then perform a procurement engineering evaluation to assure the inclusion and adequacy of quality assurance requirements prior to the issuance of the purchase order. Materials, equipment, and parts for which technical and quality assurance requirements have been previously established within the **enterprise-wide Supply Chain Management system** [DNC2] are purchased without additional procurement engineering evaluations.

Vendors utilized to perform quality activities for the Station nuclear power plants are responsible to implement measures for control of associated procurement documents to assure applicable requirements including quality assurance requirements are specified.

Audits, surveillances, and inspections are performed, as appropriate, to verify that these vendors are effectively complying with their quality assurance program requirements for the control of procurement documents.

Changes to procurement documents, whether initiated by the licensee or its representative, are subjected to the same degree of

control as that utilized in the preparation of the original document. The procurement of spare or replacement parts for quality structures, systems, or components is subject to the controls of this QAP and applicable procedure requirements. The spare or replacement parts are subject to controls equivalent to original or subsequent codes and standards. The use of subsequent codes and standards are controlled in accordance with QAP 3.0, "Design Control".

Procurement engineering evaluations of requests for quality materials, equipment, parts, and services requests are performed by Supply Chain Management (SCM) personnel to assure that:

- a. Adequate technical requirements are specified;
- b. The quality assurance requirements are correctly stated, auditable and controllable;
- c. There are adequate acceptance and rejection criteria.

#### 4.2.2 PROCUREMENT DOCUMENT PROVISIONS

Procurement documents are prepared, reviewed and approved in accordance with applicable procedures of the issuing organization or department and are available for verification. These procedures require that procurement documents consist of the following, as necessary:

- a. The scope of work to be performed;
- b. Technical requirements (specified or referenced) including the applicable components and materials Identification requirements, drawings, specifications, procedures, instructions, codes and regulations, and the identification of applicable test, inspection and acceptance requirements, or special process instructions;
- c. Quality assurance program requirements to be imposed on vendors which include the applicable requirements of 10 CFR 50, Appendix B, and the NRC regulatory position contained in the regulatory guides and their endorsed ANSI/IEEE standards listed in Appendix C.
- d. Right of access which provides, as appropriate, for access to vendor facilities and records for inspection or audit by the licensee or its designated representative; and provides access for events such as those requiring notification of hold points;

- e. The documentation required to be prepared, maintained, and/or submitted to the licensee or its representative for review, approval or historical record. The time of submittal of this documentation and the retention and disposition of quality assurance records which are not submitted to the licensee is prescribed, as applicable, for nuclear grade procurements.

#### 4.2.3 SELECTION OF PROCUREMENT SOURCES

The vendor is specified during the procurement process based upon the vendor approval status, qualifications and capabilities to provide the product or service, performance history, and the licensee's ability to verify the quality of the product or service being purchased. The licensee maintains an approved vendors list based upon the technical and quality capability as determined by a direct evaluation of the vendor's facilities and personnel and the implementation of the vendor's quality assurance program.

Procurement documents may be issued to vendors with unapproved quality assurance programs. These procurement documents to unapproved vendor contain detailed supplementary quality assurance requirements and/or witness/hold points to meet the licensee's requirements.

Procurement documents are reviewed by Supply Chain Management (SCM) to assure appropriate quality assurance requirements are specified. The requirements include, as necessary, audits, surveillances, or inspections at the vendor's facilities with scheduled witness/hold points during the fabrication process and/or prior to shipment of the procured items. Acceptance inspections and tests determined by the licensee shall be performed after receipt at Millstone Power Station but prior to installation in the plant or prior to the point when the installation is declared operational.

## 17.0 QUALITY ASSURANCE RECORDS

### 17.1 GENERAL REQUIREMENTS

This QAP requires the maintenance, identification, retention and retrieval of records to furnish evidence of quality activities performed for the Millstone Power Station nuclear units be implemented in accordance with procedures. These records include but are not limited to: operating logs and the results of reviews, inspections, tests, audits, monitoring of work performance and material analyses. These records also include closely related data such as qualifications of personnel; procedures and equipment. Inspection and test records contain, as a minimum but are not limited to: identification of inspector or data recorder and the acceptability and the action taken in connection with any deficiencies and reportable occurrences noted. Procedures establish requirements concerning record retention such as duration, location and assigned responsibility.

### 17.2 IMPLEMENTATION

The licensee procedures establish the responsibilities and requirements for the maintenance, identification, retention (e.g., duration, location) and retrievability of records pertaining to materials, equipment, parts, processes or operations relating to quality structures, systems, and components which when founded on observations, measurements or tests can be fully verified, and documented by cognizant personnel.

Vendors utilized to perform quality activities for the Station nuclear power plants are responsible to implement measures for identification, maintenance, retention, retrieval and turnover to the licensee of documented and approved records which contain objective evidence of quality as specified in purchase orders/contracts. Audits, surveillances, and inspections, are performed, as appropriate, to verify that these vendors are effectively complying with their program for quality assurance records.

The licensee quality assurance records are identified, controlled and maintained in appropriate files and are identifiable to specific structures, systems, and components within the Station nuclear power plants. When identification to a specific structure, system, or component is not practical, records are filed by category (e.g., specification, nonconformance reports, audits, etc.).

### 17.3 RETENTION

The licensee quality assurance records are classified as life records or non-life records as delineated by Document Administration. Non-life records are those documents that are maintained for a specific period of time other than the lifetime of a Station nuclear power plant or the particular component or part. Life records are those documents that are maintained for the lifetime of the in-service nuclear power plant or for the life of the particular component or part. In instances where more than one licensing basis document specifies a record retention requirement and they are different (e.g. QA Program commitment versus Unit Technical Specifications) the more restrictive requirement shall

apply. Life records are those which would be of significant value in meeting one or more of the following criteria:

- a. Demonstrating capability for safe operations;
- b. Maintaining, reworking, repairing, replacing or modifying the item;
- c. Determining the cause of an accident or malfunction of an item;
- d. Providing required base line data for in-service inspection.

Quality assurance records are reviewed and approved by the cognizant qualified licensee personnel and vendors, as appropriate, and are transmitted to the licensee records retention facilities. The responsibility of the licensee records retention facilities upon receipt of records is to maintain and provide controlled retrievability of records affecting the Station nuclear power plants, in such a manner as to prevent destruction of records by fire, flood, theft, and environmental conditions, such as temperature or humidity, as delineated in applicable procedures.

[DNC1]

**Quality Assurance Records are maintained in accordance with the NRC regulations, commitments to ANSI N45.2.9-1974, NRC Regulatory Guide 1.88, administrative procedures, and specific requirements for those Quality Assurance records stored on optical disks.**

**Quality Assurance records stored electronically will follow the guidance given in the Nuclear Information and Records Management Association (NIRMA) technical guideline, TG-15-1998, "Management of Electronic Records".**

**The following requirements apply to all Quality Assurance records which are stored on electronic storage media:**

- **Quality Assurance records will only be stored on appropriate electronic storage media meeting the requirements of the NIRMA guidelines. Determination of appropriate electronic media will be made by Information Technology based upon data format and level of access required.**
- **Quality Assurance records originally created in hard-copy form will be retained in hard-copy until such time as electronic versions of these Quality Assurance records are created, copied, and verified as legible on two (2) independent copies of an appropriate electronic storage media. File legibility verifications will be completed on all Quality Assurance records stored on electronic storage media by either visually verifying the file legibility or by electronically verifying exact binary file transfer.**
- **Periodic media inspections to monitor image degradation will be conducted in accordance with the media manufacturer's recommendations. These periodic inspections will be documented.**
- **Quality Assurance records stored on electronic media will be refreshed or copied onto new media and subsequently verified if the projected lifetime of that media does not exceed the retention period of the records stored on that media.**
- **Quality Assurance records originally created in electronic form may be retained in electronic form. Backup copies of associated electronic Quality Assurance**

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**records will be maintained in multiple physically independent electronic locations until such time as images of these Quality Assurance records are created, copied, and verified on two (2) copies of an appropriate electronic storage media. The two copies of electronic storage media will then be stored in separate physical locations.**

**These requirements meet the intent of Generic Letter 88-18, "Plant Record Storage on Optical Disks", dated October 20, 1988.**

## APPENDIX B

[DNC1]

### QUALITY ASSURANCE PROGRAM (QAP)[DNC2] TOPICAL REPORT - MILLSTONE POWER STATION

#### QUALIFICATION AND EXPERIENCE REQUIREMENTS

This appendix consolidates specific qualification and experience requirements for several key positions within the licensee organization. Much of this material was relocated from the Unit 3 Final Safety Analysis Report.

#### MANAGER - NUCLEAR OVERSIGHT

The Manager - Nuclear Oversight shall satisfy the following requirements:

Graduate of a four-year accredited engineering or science college or university, plus fifteen (15) or more years of industrial experience including five years in positions of leadership, such as lead engineer, project engineer, Audit team leader, etc. At least two years of this experience should be associated with nuclear Quality Assurance Activities, and at least one year of this experience is in a Quality Assurance Organization. A masters degree in engineering or business management is considered equivalent to two years of experience.

Note: The education and experience requirements should not be treated as absolute when similar training or an outstanding record provides reasonable assurance that a person can perform the required tasks.

#### ANSI N18.1-1971 Requirements

As stated in Appendix C, education and experience requirements for Millstone Station personnel are established by ANSI N18.1 as endorsed by Regulatory Guide 1.8-1977, subject to the exceptions in Appendix E. The table below identifies ANSI N18.1 requirements applicable to specific positions at Millstone Power Station.

Table B-1

Position	Applicable ANSI N18.1-1971 Requirements
Site Vice President (NU3)	Plant Manager (4.2.1)*
Supervisor - Nuclear Chemistry	Radiochemistry (4.4.3)
Supervisor - Health Physics	Radiation Protection (4.4.4) - See Note 1
Manager - Nuclear Operations Supervisor - Nuclear Shift Operations	Operations Manager (4.2.2) - See Note 2
Shift Managers, Unit Supervisors	Supervisors Requiring AEC Licenses (4.3.1) See Note 3
Control Operators	Operators Requiring AEC Licenses (4.5.1) See Note 3
Plant Equipment Operators	Operators (4.5.1)
Supervisor - Nuclear Maintenance (Electrical/I&C/GTS)	Instrumentation & Control (4.4.2)
Manager - Nuclear Maintenance Supervisor - Nuclear Maintenance	Maintenance Manager (4.2.3)
Mechanics, Electricians, Technicians (repairmen)	Repairmen (4.5.3)
Manager - Nuclear Site Engineering Manager - Nuclear Engineering Manager - Nuclear Design Engineering Manager - Nuclear Fuel Engineering Manager - Nuclear Site Services Manager - Nuclear Outage and Planning	Technical Manager (4.2.4)
Supervisor - Reactor Engineering	Reactor Engineering and Physics (4.4.1)

\* Numbers in () refer to section numbers in ANSI N18.1-1971.

Notes:

1. For the position of **Supervisor - Health Physics**<sub>[DNC4]</sub> the qualifications considered as minimum acceptable substitutes for a bachelor's degree equivalent are: a high school diploma or its equivalent and four years of applied managerial experience at a nuclear facility in the area of radiation protection.
2. If the Manager - Nuclear Operations does not hold an SRO license for Unit 3, then the Manager - Operations shall have held an SRO license at a pressurized water reactor (PWR), and the Supervisor - Nuclear Shift Operations shall hold an SRO license for Unit 3 **and meet the qualification requirements of Section 4.3.8, "Operations" of ANSI/ANS 3.1-1987, "American National Standard for Selection, Qualification and Testing of Personnel for Nuclear Power Plants" (in accordance with Section 4.2.2 reference to the Operations Middle Manager).**

If the Manager - Nuclear Operations does not hold an SRO license for Unit 2, then the Manager - Operations shall have held an SRO license at a PWR, and an individual serving in the capacity of the Supervisor - Nuclear Shift

Operations shall hold an SRO license[NUS] for Unit 2 *and meet the qualification requirements of Section 4.3.8, "Operations" of ANSI/ANS 3.1-1987, "American National Standard for Selection, Qualification and Testing of Personnel for Nuclear Power Plants" (in accordance with Section 4.2.2 reference to the Operations Middle Manager).*[DNC6]

3. As of November 1, 2001, applicants for reactor operator and senior reactor operator qualification shall meet or exceed the education and experience guidelines of Regulatory Guide 1.8, Revision 3, May 2000.

APPENDIX E [DNC1]

QUALITY ASSURANCE PROGRAM (QAP)  
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 onsite have a two-hour rating.

The licensee'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. Deleted

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."

The licensee 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 licensee records retention facilities:

"A record is considered a working document until it is transmitted to the licensee records retention facilities 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 licensee records retention facilities:

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 licensee records retention facilities 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 Document Administration for up to three years.

All Other Working Documents - All other working documents shall be transmitted to licensee records retention facilities 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." The licensee 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.

The licensee 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, the licensee 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 the licensee procurement activities involve commercial suppliers which do not fully comply with the requirements of ANSI N45.2.2, the licensee's Supply Chain 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". The licensee 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 (***Supervisor - Nuclear Shift Operations***) shall hold a Senior Reactor Operator license for Millstone Unit No. 3 ***and meet the qualification requirements of Section 4.3.8, "Operations" of ANSI/ANS 3.1-1987, "American National Standard for Selection, Qualification and Testing of Personnel for Nuclear Power Plants" (in accordance with Section 4.2.2 reference to the Operations Middle Manager).*** [DNC2]

8. ANSI N18.1-1971, paragraph 4.2.2, states in part "The Operations Manager shall hold a Senior Reactor Operator's license". The licensee has developed an alternative to this requirement which has been accepted by the NRC via amendments 178 and 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 (***Supervisor - Nuclear Shift Operations***) shall hold a Senior Reactor Operator license for Millstone Unit No. 2 ***and meet the qualification requirements of Section 4.3.8, "Operations" of ANSI/ANS 3.1-1987, "American National Standard for Selection, Qualification and Testing of Personnel for Nuclear Power Plants" (in accordance with Section 4.2.2 reference to the Operations Middle Manager).***[DNC3]

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."

The licensee 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, the licensee 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. Not applicable to Unit 1.

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". Not applicable to Unit 1.

The licensee 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.

14. ANSI N18.7-1976, Paragraph 5.2.15, "Review, Approval, and Control of Procedures," states in part: "Plant procedures shall be reviewed by an individual knowledgeable in the area affected by the procedure no less frequently than every two years to determine if changes are necessary or desirable."

The licensee implements administrative and programmatic controls that ensure procedures are maintained current in accordance with 10CFR50, Appendix B, thus meeting the intent of the biennial review.

The licensee implements administrative controls to perform biennial reviews of non-routine procedures such as Emergency Operating Procedures (EOP's), Abnormal Operating Procedures (AOP's), Off Normal Procedures (ONP's), Emergency Plan, Security and other procedures that may be dictated by an event.

Programmatic controls specify conditions when the mandatory review of plant procedures apply, and include a requirement to review applicable procedures following an accident or transient and following any modification to a system.

The licensee utilizes a pre-job briefing practice to ensure that personnel are aware of what is to be accomplished and what procedures will be used prior to beginning a job. In

addition, the Procedure Compliance Policy requires that the job be stopped and the procedure be revised or the situation resolved prior to work continuing if procedures cannot be implemented as written.

Additionally, the licensee's Quality Assurance Program requires the review of a representative sample of plant procedures as part of routine audits and surveillances to ensure that existing administrative controls for procedure verification, review and revision are effective in maintaining the quality of plant procedures. Significant procedural deficiencies are identified and corrected through the Station Corrective Action Program. The Station Self-Assessment Program also periodically reviews selected procedures and identifies deficiencies and improvements through the Corrective Action Program.

15. Pending NRC approval - to be added if/when approval is received.
16. ANSI N18.7-1976, paragraph 4.5, states in part, 'Audits of selected aspects of operational phase activities shall be performed with a frequency commensurate with their safety significance and in such a manner as to assure that an audit of all safety-related functions is completed within a period of two years.'

The licensee has established a 90 day grace period applied to the 24 month frequency for internal audits. This grace period will not be applied to audits of the Emergency Preparedness Program which satisfy the requirements of 10CFR50.54(t) or to audits of the Security Plan which satisfy the requirements of 10CFR50.54(p)(3) 73.56(g)(1) and (g)(2), and 73.55(g)(4). The audit frequency of these audits are described in their respective plans. For activities deferred in accordance with the 90 day grace period, the next performance due date for such activities will be based on their original scheduled date, i.e., in all cases the periodicity for these activities will not be allowed to exceed the original commitment plus 90 days."

17. ANSI N18.1-1971, paragraph 4.3.1, states in part, "A Supervisor (requiring an AEC license) shall have a minimum of a high school diploma or equivalent, and four years of responsible power plant experience, of which a minimum of one year shall be nuclear power plant experience. A maximum of two years of the remaining three years of power plant experience may be fulfilled by academic or related technical training on a one-for-one basis." The licensee has developed an alternative to this requirement which has been accepted by the NRC via amendment 258 for the Millstone Power Station No. 2 which allows that:

Beginning November 1, 2001, applicants for senior reactor qualification shall meet or exceed the education and experience guidelines given in Revision 3 to Regulatory Guide 1.8 (May 2000).[DNC4]

18. ANSI N18.1-1971, paragraph 4.3.1, states in part, "A Supervisor (requiring an AEC license) shall have a minimum of a high school diploma or equivalent, and four years of responsible power plant experience, of which a minimum of one year shall be nuclear power plant experience. A maximum of two years of the remaining three years of power plant experience may be fulfilled by academic or related technical training on a one-for-one basis." The licensee has developed an alternative to this requirement which has

been accepted by the NRC via amendment 199 for the Millstone Power Station No. 3 which allows that:

Beginning November 1, 2001, applicants for senior reactor qualification shall meet or exceed the education and experience guidelines given in Revision 3 to Regulatory Guide 1.8 (May 2000).

19. ANSI N18.1-1971, paragraph 4.5.1, states in part, "An operator (to be licensed by the AEC) shall have a minimum of a high school diploma or equivalent, and two years of power plant experience, of which a minimum of one year shall be nuclear power plant experience." The licensee has developed an alternative to this requirement which has been accepted by the NRC via amendment 258 for the Millstone Power Station No. 2 which allows that:

Beginning November 1, 2001, applicants for reactor qualification shall meet or exceed the education and experience guidelines given in Revision 3 to Regulatory Guide 1.8 (May 2000).

20. ANSI N18.1-1971, paragraph 4.5.1, states in part, "An operator (to be licensed by the AEC) shall have a minimum of a high school diploma or equivalent, and two years of power plant experience, of which a minimum of one year shall be nuclear power plant experience." The licensee has developed an alternative to this requirement which has been accepted by the NRC via amendment 199 for the Millstone Power Station No. 3 which allows that:

Beginning November 1, 2001, applicants for reactor qualification shall meet or exceed the education and experience guidelines given in Revision 3 to Regulatory Guide 1.8 (May 2000).

APPENDIX F <sup>[DNC1]</sup>  
QUALITY ASSURANCE PROGRAM (QAP)  
TOPICAL REPORT - MILLSTONE POWER STATION

ADMINISTRATIVE CONTROLS<sup>1</sup>

NOTE:

1. "Technical Specification" numbers refer to the unit specific Technical Specifications as identified.

INDEPENDENT SAFETY ENGINEERING GROUP (ISEG)

Function

The ISEG shall function to advise Vice President and Senior Nuclear Executive - Millstone and the Site Vice President - Millstone <sup>[DNC2]</sup> on matters related to nuclear safety. 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.

The ISEG reports to management who is not in the direct chain of command for power production. This relationship provides for access to a high-level, technically oriented, management position such that the required authority and organizational freedom to perform assessment is not influenced by cost and schedule when opposed to nuclear safety considerations. The ISEG is directly involved in meeting the requirements of NUREG-0737 for item I.B.1.2 for Millstone Units 2 and 3. The ISEG is independent of the SORC and the NSAB. <sup>[DNC3]</sup> <sup>[NU4]</sup>

Composition

The ISEG shall be composed of at least five full-time personnel located on site to perform the functions described above for Millstone Units 2 and 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.

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<sup>1</sup> Relocation of Technical Specification Administrative Controls Related to Quality Assurance in Response to AL 95-06.

## 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 evaluations will be made to the SVP/CNO - Dominion Nuclear Connecticut, Inc., the Vice President and Senior Nuclear Executive - Millstone, and the Site Vice President - Millstone.

\*Not responsible for sign-off function

## REVIEW AND AUDIT

### Site Operations Review Committee (SORC)

#### Function

The SORC shall function to advise the Site Vice President - Millstone on all matters related to nuclear safety for Millstone Power Station. The Site Vice President - Millstone shall advise the SVP/CNO - Dominion Nuclear Connecticut, Inc. and Vice President and Senior Nuclear Executive - Millstone on all matters related to nuclear safety requiring higher level of responsibility and authority.

#### Composition

The SORC shall be composed of a minimum of eleven members. Members shall collectively have experience and expertise in the following areas:

- Plant Operations
- Engineering
- Reactor Engineering
- Maintenance
- Instrumentation and Controls
- Radiation Protection
- Chemistry
- Work Planning
- Quality Assurance

Each SORC member shall meet the following minimum qualifications:

- 1) Have an academic degree in an engineering or physical science field, and have a minimum of five years technical experience in their respective field of expertise,  
or
- 2) Hold a management position, and have a minimum of five years technical experience in their respective field of expertise.

The members of SORC shall be appointed in writing by the Site Vice President - Millstone. The SORC Chairperson and two Vice Chairpersons shall be drawn from the members and shall be appointed in writing by the Site Vice President - Millstone.

#### Alternates

Alternate members shall be appointed in writing by the SORC Chairperson to serve on a temporary basis. Each alternate shall meet the minimum qualifications described above for SORC members, and shall have the same area of expertise as the member being replaced.

#### Meeting Frequency

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

#### Quorum

A quorum of the SORC shall consist of the Chairperson or Vice Chairperson and five members or designated alternates. However, no more than two alternates may vote at any one time.

For any SORC decision affecting site-wide issues, the Chairperson shall ensure appropriate representation.

#### Responsibilities

The SORC shall be responsible for:

- a. Review of 1) all procedures required by Unit 2/3 Technical Specification 6.8 or Unit 1 Technical Specification 5.5 and changes thereto, 2) all programs required by Unit 2/3 Technical Specification 6.8 or Unit 1 Technical Specification 5.6 and changes thereto, 3) any other proposed procedures, programs, or changes thereto as determined by the SVP/CNO - Dominion Nuclear Connecticut, Inc., Vice President and Senior Nuclear Executive - Millstone, or Site Vice President - Millstone to affect site nuclear safety. Programs and procedures required by Unit 2/3 Technical Specification 6.8 or Unit 1 Technical Specification 5.5 and 5.6 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 Technical Specifications.
- c. Review of all proposed tests and experiments that affect nuclear safety.
- d. Review of all proposed changes or modifications to systems or equipment that affect nuclear safety.
- e. Render determinations in writing or meeting minutes if any item considered under (a) through (d) above, as appropriate and as provided by 10CFR50.59 or 10CFR50.92, requires a license amendment or requires a significant hazards consideration determination.
- f. Performance of special reviews and investigations and reports as requested by the Chairperson of the Nuclear Safety Assessment Board.
- g. Review of the fire protection program and implementing procedures.

- h. Investigations of all violations of Technical Specifications, including the preparation and forwarding of reports covering evaluation and recommendations to prevent recurrence, to the Site Vice President - Millstone, SVP/CNO - Dominion Nuclear Connecticut, Inc., Vice President and Senior Nuclear Executive - Millstone, and to the Chairperson of the Nuclear Safety Assessment Board;
- i. Review of all Millstone Power Station REPORTABLE EVENTS;
- j. Review of facility operations to detect potential safety hazards;
- k. Review of Unit 3 Turbine Overspeed Protection Maintenance and Testing Program and revisions thereto.

#### Authority

The SORC shall:

- a. Recommend to the Site Vice President - Millstone written approval or disapproval in meeting minutes of items considered under Responsibilities (a) through (k) above. The Site Vice President - Millstone will report to the Vice President and Senior Nuclear Executive - Millstone and the SVP/CNO - Dominion Nuclear Connecticut, Inc., any issues that require higher level of authority.
- b. Provide immediate written notification or meeting minutes to the Vice President and Senior Nuclear Executive - Millstone, the SVP/CNO - Dominion Nuclear Connecticut, Inc. and the Chairperson of the Nuclear Safety Assessment Board of disagreement between the SORC and the Site Vice President - Millstone; however, the Vice President and Senior Nuclear Executive - Millstone shall have responsibility for resolution of such disagreements pursuant to Unit 2/3 Technical Specification 6.1.1 and Unit 1 Technical Specification 5.1.1.

#### Records

The SORC shall maintain written minutes of each meeting and copies shall be provided to the Site Vice President - Millstone, the Vice President and Senior Nuclear Executive - Millstone and Chairperson of the Nuclear Safety Assessment Board. Minutes regarding investigations of violations of Tech Specs and disagreements addressed by SORC shall also be provided to the SVP/CNO - Dominion Nuclear Connecticut, Inc.

#### 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 Site Vice President - Millstone on matters related to nuclear safety and notify the SVP/CNO - Dominion Nuclear Connecticut, Inc., Vice President and Senior Nuclear Executive - Millstone, and the Site Vice President - Millstone within 24 hours of a safety significant disagreement between the NSAB and the organization or function being reviewed.

#### Composition

The Site Vice President - 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 Site Vice President - 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 a Dominion Nuclear Connecticut, Inc. 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 evaluations for changes to the facility and procedures, and tests or experiments completed under the provisions of 10 CFR 50.59, to verify that such actions did not require a license amendment as defined in 10 CFR 50.59;

- b. Proposed changes to the facility or procedures that require a license amendment as defined in 10 CFR 50.59;
- c. Proposed tests or experiments that require a license amendment 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 Vice President and Senior Nuclear Executive - Millstone and the Site Vice President - Millstone within 30 days following completion of the review.

#### Audit Program Responsibilities

The NSAB audit program shall be the responsibility of Nuclear Oversight. NSAB audits shall be performed at least once per 24 months in accordance with administrative 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 Units 2/3 Technical Specification 6.8 and Unit 1 Technical Specification 5.6;
- 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 Site Vice President - Millstone, the Vice President and Senior Nuclear Executive - Millstone or SVP/CNO - Dominion Nuclear Connecticut, Inc.

## 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, Site Vice President - Millstone may establish a Station Qualified Reviewer Program whereby required reviews of designated procedures or classes of procedures required by SORC, Responsibilities item (a) are performed by Station Qualified Reviewers and approved by designated managers. [DNCS] These reviews are in lieu of reviews by the SORC. However, procedures which require a 10 CFR 50.59 evaluation *in accordance with the station 50.59 Screen and Evaluation procedure* must be reviewed by the 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. **Ensure** cross-disciplinary review of procedures, programs, and changes thereto when organizations other than the preparing organization are affected by the procedure, program, or change. **These** are performed by the affected disciplines, or by other persons designated by cognizant manager or director as having specific expertise required to assess a particular procedure, program, or change. Cross-disciplinary reviewers may function as a committee.
- c. Provide for written recommendation by the Qualified Reviewer(s) to the **designated** manager for approval or disapproval of procedures and programs considered under SORC Responsibilities item (a), and **ensure** that the procedure or program was screened by a qualified individual and found not to require a 10 CFR 50.59 evaluation.

Personnel recommended to be Station Qualified Reviewers shall be designated in writing *by their designated manager or designee. The Manager, Nuclear Procedures and Document Administration, reviews and recommends for approval. The SORC Chairman or designee shall provide final approval.* This qualification shall apply to all procedures and programs considered under SORC Responsibilities (a).

Temporary procedure changes shall be made in accordance with Unit 2/3 Technical Specification 6.8.3 and Unit 1 Technical Specification 5.5.5 with the exception that changes to procedures for which reviews are assigned to **Station** Qualified Reviewers will be reviewed and approved as described in Responsibilities (a) through (c) 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 Manager or Director.

## SAFETY LIMIT VIOLATION - Units 2 and 3

The SVP/CNO - Dominion Nuclear Connecticut, Inc., Vice President and Senior Nuclear Executive - Millstone, Site Vice President - 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, SVP/CNO - Dominion Nuclear Connecticut, Inc., the Vice President and Senior Nuclear Executive - Millstone, and the Site Vice President - Millstone within 14 days of the violations.

## RECORD RETENTION - Units 1 and 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 NSAB and the SORC.
- l. Records of Environmental Qualification (which are covered under the provisions of Technical Specification 6.13. for Unit 2)
- m. Records of reviews performed for changes made to the Radiological Effluent Monitoring and Offsite Dose Calculation Manual (REMDCM) 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 Technical Specification 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 Specification 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 NSAB and the SORC;
- l. Records of the service lives of all hydraulic and mechanical snubbers required by Technical Specification: 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 (REMODOCM) and the Process Control Program.