

ATTACHMENT I

QUALITY ASSURANCE PROGRAM MANUAL
MILLSTONE NUCLEAR POWER STATION
UNIT 3

NORTHEAST UTILITIES SERVICE COMPANY

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STONE & WEBSTER ENGINEERING CORPORATION

STONE & WEBSTER ENGINEERING CORPORATION



245 SUMMER STREET, BOSTON, MASSACHUSETTS

ADDRESS ALL CORRESPONDENCE TO P.O. BOX 2325, BOSTON, MASS. 02107

W. U. TELEX 94-0001
94-0977

BOSTON
NEW YORK
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DESIGN
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April 6, 1981

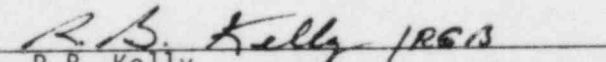
TO WHOM IT MAY CONCERN:

The policies, requirements and tasks described in this Quality Assurance Program Manual, Millstone Nuclear Power Station - Unit 3 have been developed to fulfill a recognized need for assurance that requisite quality is achieved in design, procurement and construction.

Stone & Webster Engineering Corporation procedures which implement this program are described in various manuals which are referenced herein.

The development and overall responsibility for this Quality Assurance Program lies with the Vice President of Quality Assurance; who shall report conditions adverse to quality and/or in conflict with these program requirements to the President and affected Department Heads as appropriate.

The Manager, Quality Assurance is responsible for the administration and management of the Quality Assurance Program as applied to procurement and construction activities. The Chief Engineer, Engineering Assurance Division of the Engineering Department is responsible for the administration and management of the Quality Assurance Program as applied to engineering and design activities. Revisions, additions to, and audits of this program are the responsibility of the Manager, Quality Assurance and the Chief Engineer, Engineering Assurance Division, for their respective assigned areas. Any revisions or additions shall be approved by affected Departments prior to the incorporation of such changes into the Program.


R.B. Kelly
Vice President and Manager
Quality Assurance

MILLSTONE 3 PROGRAM MANUAL

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INTRODUCTION

It is the policy and objective of the Stone & Webster Engineering Corporation (SWEC) to engineer and construct a quality power station, on a timely basis, in accordance with contractual and regulatory requirements. To this end, the company has established this Millstone Unit-3 Nuclear Quality Assurance Program which delineates the requirements and tasks assigned to the various elements of the Stone & Webster organization to achieve our stated objectives. ▷ D

This program is organized into 18 basic sections which correspond to the management principles delineated in Appendix B to 10CFR50 and is responsive both to Appendix B and the regulatory guide positions taken in Appendix VII of this Program.

This program is based on Stone & Webster's Standard Nuclear Quality Assurance Program SWSQAP 1-74A, Revision N/A, approved by the NRC and adopted by the Millstone Project. Where appropriate, sections of later revisions to SWSQAP 1-74A have been adopted and published in the corresponding sections to this Manual. Actions to implement the assigned tasks are found in departmental procedures delineated in Appendix I. ▷ D



**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: ORGANIZATION	NUMBER: SECTION 1
	REVISION: F
	EFFECTIVE DATE: 7/12/84

APPROVALS

Richard Kelly

VICE PRESIDENT, QUALITY ASSURANCE

W. M. Eifert

CHIEF ENGINEER, ENGINEERING ASSURANCE

W. L. Gifford

SUPERINTENDENT OF CONSTRUCTION SERVICES

Loose

PROJECT MANAGER

SECTION 1

ORGANIZATION

1.0 REQUIREMENTS

- 1.1 A SWEC organization shall be established to develop and implement the quality assurance program.
- 1.2 The authority and duties of individuals and groups performing the required quality assurance functions shall be documented.
- 1.3 Individuals or groups who check, audit, inspect, or otherwise verify a quality activity shall not be the same individuals or groups responsible for performing the specific activity.

2.0 TASKS*

The responsibilities for the administration and management of the SWEC quality assurance program have been set forth in the introduction to this manual. The SWEC quality assurance organization and its relationship to the project organization is shown in Figure 1. The Quality Assurance Department organization is shown in Figure 2. The qualifications and experience level requirements for quality assurance personnel are contained in Appendix II. The Engineering Assurance Division, Engineering Department organization is shown in Figure 3. Figure 4 shows interrelationships within the company organization.

- 2.1 Engineering Assurance Division (EA), Engineering Department shall:
 - 2.1.1 Assure the implementation and operation of management systems for the control of technical work.
 - 2.1.2 Assure that completed designs and specifications conform to SWEC procedures.
 - 2.1.3 Perform source control for engineering service suppliers.

*See Appendix I for reference to implementing documents.

- 2.2 Quality Systems Division (QSD), Quality Assurance Department shall:
 - 2.2.1 Develop, establish, and improve standardized quality systems.
 - 2.2.2 Analyze data and prepare reports for SWEC management on quality related activities.
- 2.3 Procurement Quality Assurance Division (PQAD), Quality Assurance Department shall:
 - 2.3.1 Perform inspections, verifications, and other tasks at Seller facilities to ensure that the quality of materials, components, and equipment meets the requirements of drawings, specifications, and other procurement documents.
 - 2.3.2 Establish and maintain district offices in major manufacturing centers in the United States to carry out the required tasks at Seller facilities.
- 2.4 Field Quality Control Division (EQCD), Quality Assurance Department shall:
 - 2.4.1 Assure, through inspection activities and document review, that the requirements of drawings, specifications, instructions, and procedures are fulfilled during fabrication, erection, and installation at the site.
 - 2.4.2 Establish and maintain a field quality control organization at the site for the implementation of the quality control systems.
- 2.5 Nondestructive Test Division (NDTD), Quality Assurance Department shall establish and maintain systems which control the qualification of personnel and equipment, test methods, and documentation of required nondestructive test activities.
- 2.6 The Project Quality Assurance Program Administrator shall:
 - 2.6.1 Assist the Project in implementing all phases of the quality assurance program.
 - 2.6.2 Perform liaison between the Quality Assurance Department, Project, Westinghouse (NSSS Supplier), and other Sellers regarding quality assurance activities.

- 2.6.3 Furnish information to the Project on matters pertaining to quality assurance.
 - 2.6.4 Coordinate the project quality assurance program with the NUSCo quality assurance program.
 - 2.6.5 Provide quality assurance inputs for safety analysis reports, using material provided by QSD.
 - 2.6.6 Assure that quality assurance reviews of specifications have been conducted.
 - 2.6.7 Assist NUSCo in modifying their quality assurance program, as requested.
 - 2.6.8 Prepare monthly quality assurance activity reports, for submission to NUSCo, based on inputs from EA, QSD, FQCD, PQAD, and NDTD.
 - 2.6.9 Attend regulatory agency audits as the quality assurance representative, if requested. Assist the Project in providing effective and timely corrective action replies for deficiencies found in these audits.
 - 2.6.10 Coordinate all applicable quality control procedures and Project procedures.
 - 2.6.11 Assist in assuring that the quality assurance program fulfills the Safety Analysis Report commitment.
- 2.7 The Quality Assurance Cost and Auditing Division (QACAD), Quality Assurance Department shall provide Department cost control, program evaluation, special management studies and audits, information, and support services within this program. The following summarizes the specific activities of QACAD.
- 2.7.1 DEPARTMENT COST CONTROL - The Cost Control Section maintains the internal QA Department cost control system, providing inputs for the QA program estimates to Stone & Webster management as required.
 - 2.7.2 EVALUATION AND SPECIAL STUDIES - The Evaluation and Special Studies Sections have investigative responsibilities, management and/or quality related, to determine the adequacy, effectiveness of, and adherence to quality related procedures and systems; these

include PSAR/FSAR evaluations, project quality program evaluations, ASME Section III program audits, and Quality Assurance Departmental performance, as well as the appraisal of a quality system or function, to determine adequacy and effectiveness of implementation.

2.7.3 INFORMATION - The information section maintains the QA Department central files containing all incoming and outgoing general and project correspondence. In addition, it maintains the QA Department library providing reference material such as PSAR/FSARs, technical literature, and Project manuals.

2.7.4 SUPPORT SERVICES - The support services section provides clerical and steno support to the overall QA Department.

3.0 DISCUSSION

3.1 Reference Paragraphs 1.2 and 1.3

The authority and organizational freedom of personnel and organizations which perform quality assurance functions to identify problems; initiate, recommend, or provide solutions; and verify implementation of solutions is delineated in the charter of each organization performing these functions. Failure to satisfactorily resolve a quality problem on the lowest appropriate management level will result in an escalation to the next higher level. This could ultimately result in the problem being brought to the attention of the President by the Vice President of Quality Assurance for resolution. These documents can be found in the manuals shown in Appendix I. The assurance that the above fulfills Criteria I of Appendix B to 10CFR50 is gained through the audit program delineated in Section 18.

3.2 Reference Paragraph 2.4.2

The Superintendent of Field Quality Control has total authority for the management and implementation of the Quality Assurance Program at the construction site.

4.0 CLIENT CONSIDERATIONS

4.1 Organization charts, Figures 1, 2, 3, and 4 have been updated to reflect organizational changes.

4.2 Paragraph 2.2 shall also require QSD to provide training in quality assurance requirements and to review

documents, such as specifications, to provide quality assurance inputs.

- 4.3 Paragraph 2.7 shall also require audits of site contractors working to their SWEC approved QA Programs and other SWEC organizations (i.e., Construction, Records Management, Purchasing, and Engineering Assurance) performing quality related activities.

4.4 Reference Paragraph 2.7.4

Delete this paragraph. This function is no longer delegated to QACAD.

4.5 Reference Paragraph 3.2

This includes responsibility for quality verification inspection of work let to subcontractors who are working to their SWEC approved quality assurance programs.



**COMPANY ORGANIZATION FOR QUALITY ASSURANCE
STONE & WEBSTER ENGINEERING CORPORATION**

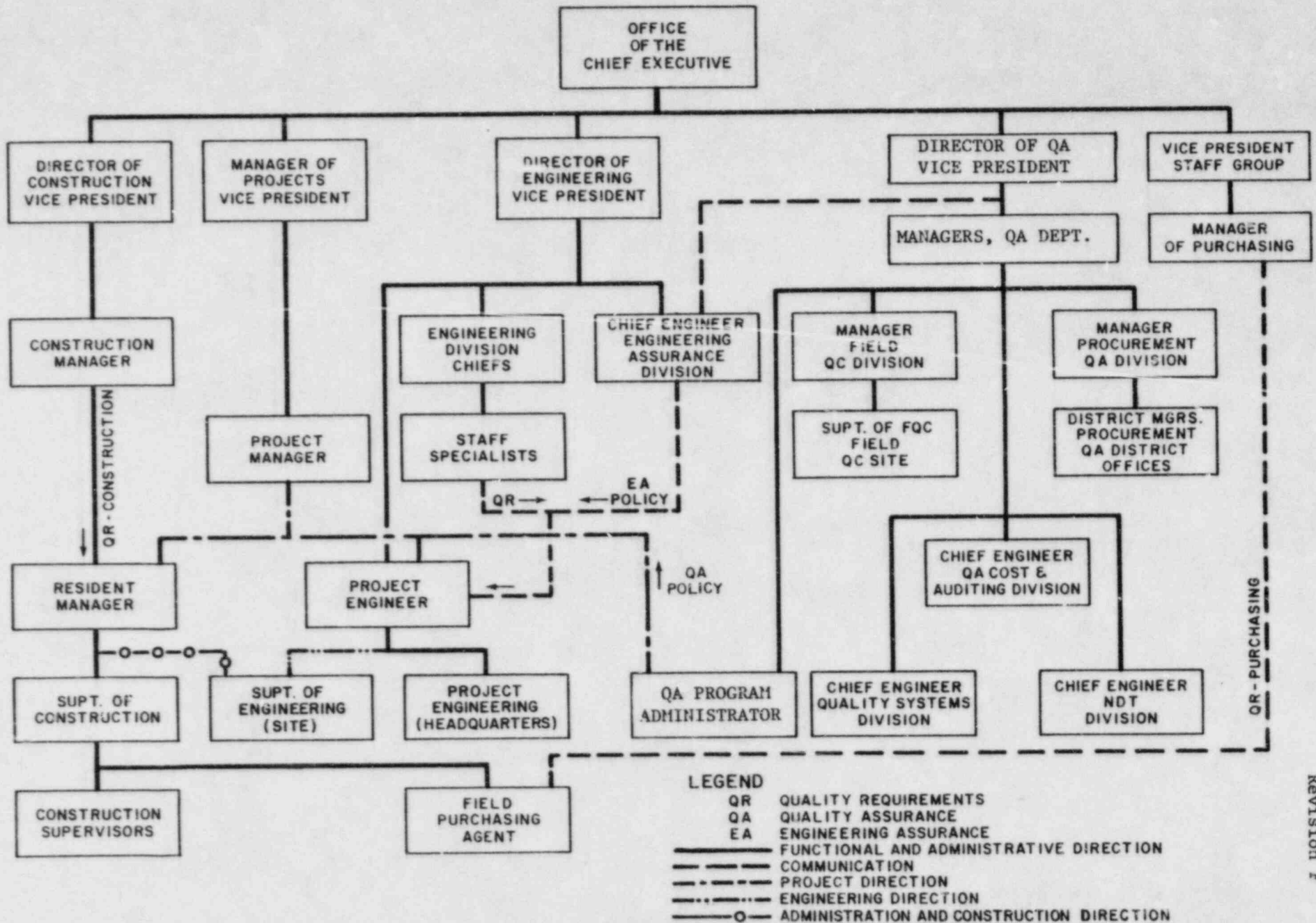


Figure 1
1-5
Revision F

QUALITY ASSURANCE DEPARTMENT ORGANIZATION
STONE & WEBSTER ENGINEERING CORPORATION

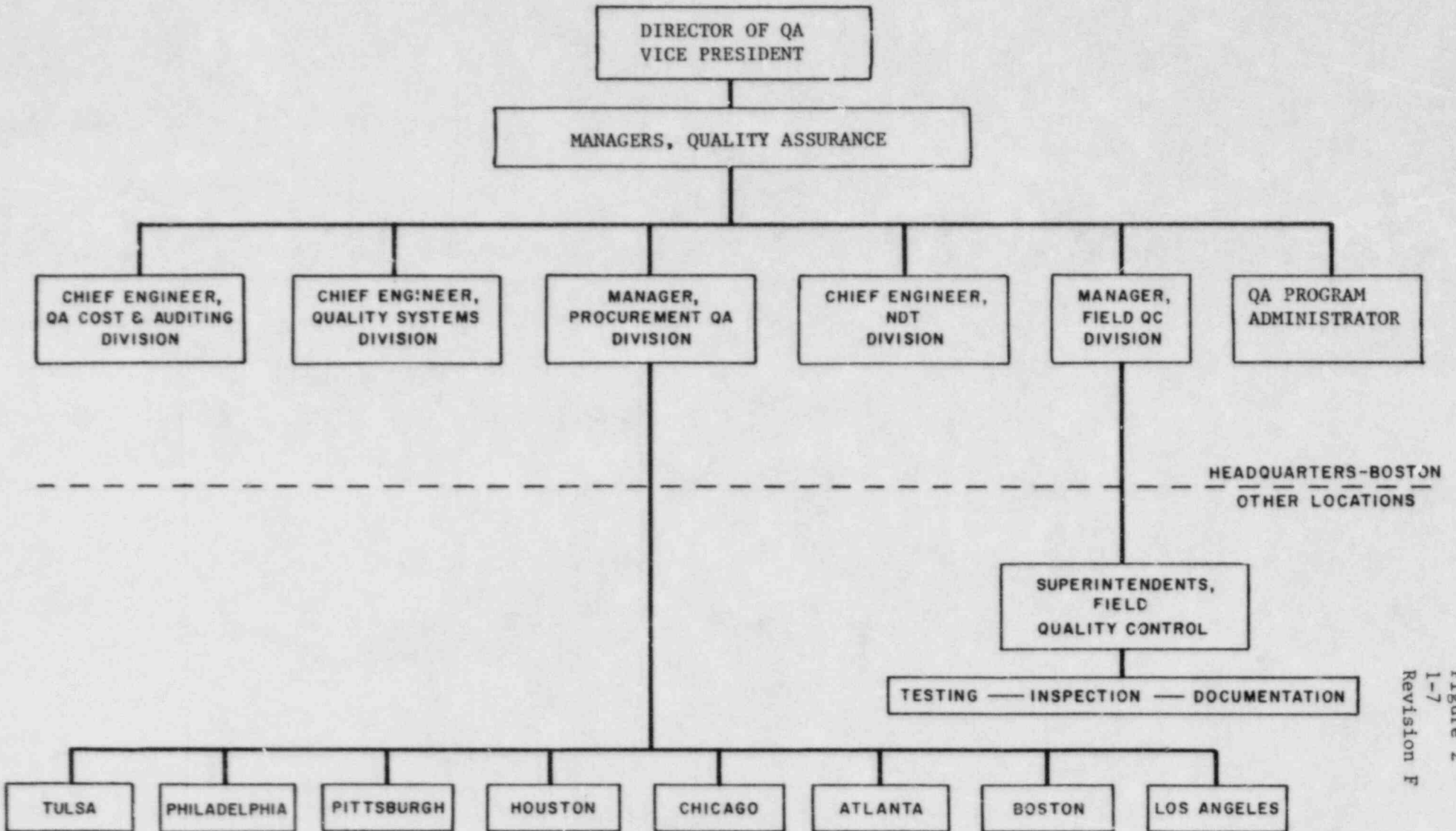


Figure 2
 1-7
 Revision F

ENGINEERING ASSURANCE DIVISION ORGANIZATION
STONE & WEBSTER ENGINEERING CORPORATION

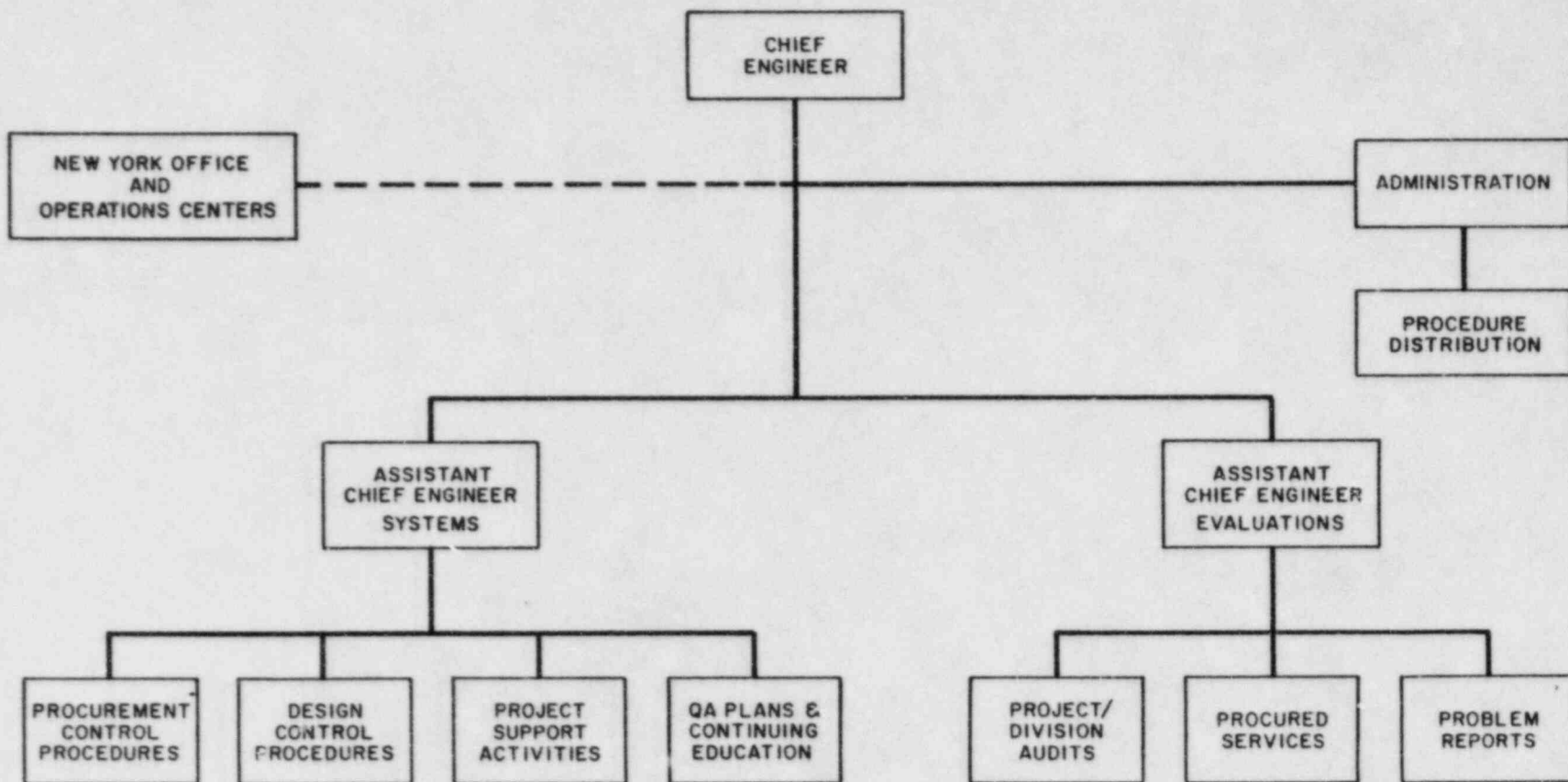
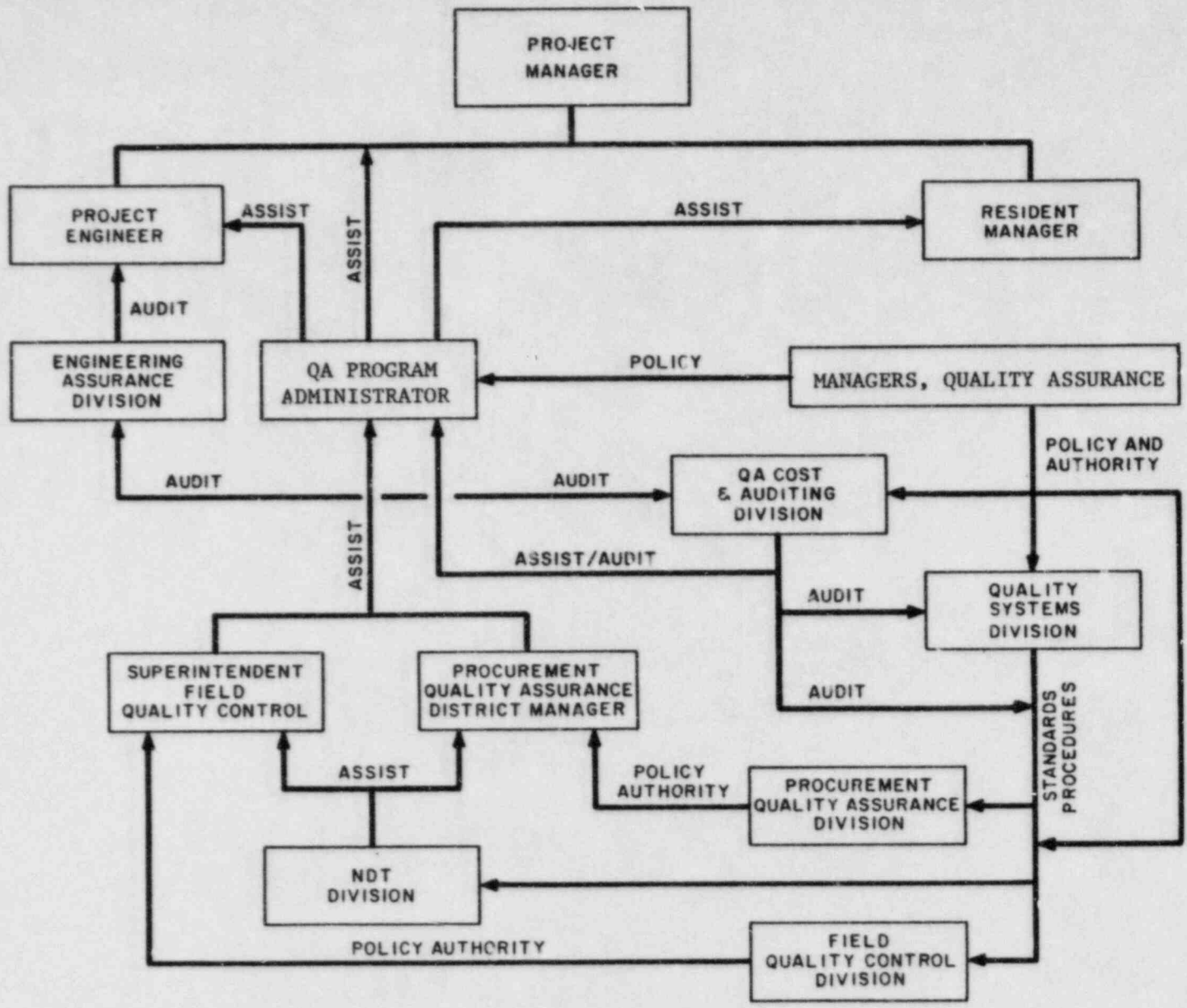


FIGURE 3
1-8
REVISION F

QUALITY ASSURANCE INTERRELATIONSHIPS
STONE & WEBSTER ENGINEERING CORPORATION



QUALITY ASSURANCE
CLIENT CONTACT
DIRECTOR, QA
MANAGERS, QA
QA PROGRAM ADMINISTRATOR
PROJECT MANAGER
PROJECT ENGINEER
SUPERINTENDENT FIELD QC

Figure 4
1-9
Revision F



STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT

QUALITY
ASSURANCE
PROGRAM

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: QUALITY ASSURANCE PROGRAM	NUMBER: SECTION 2
	REVISION: D
	EFFECTIVE DATE: 7/12/84

APPROVALS

Richard B. Kelly

 VICE PRESIDENT, QUALITY ASSURANCE

W. M. Egan

 CHIEF ENGINEER, ENGINEERING ASSURANCE

W. L. Gifford

 SUPERINTENDENT OF CONSTRUCTION SERVICES

Conner

 PROJECT MANAGER

SECTION 2

QUALITY ASSURANCE PROGRAM

1.0 REQUIREMENTS

- 1.1 This program applies to SWEC design, procurement, construction, and testing responsibilities for the Millstone Nuclear Power Station - Unit 3 as defined in the Preliminary Safety Analysis Report.
- 1.2 The design, procurement, construction, and testing of Category I structures, components and systems shall be controlled through implementation of the criteria of Appendix B, 10CFR50. Category I structures, components, and systems are designated in the Millstone 3 PSAR and are further defined in applicable drawings and specifications. Applicable criteria of Appendix B, 10CFR50 shall be imposed on sellers.
 - 1.2.1 Activities affecting quality shall be documented, as appropriate, in drawings, specifications, instructions, and procedures.
 - 1.2.2 Activities affecting quality shall be conducted under controlled conditions. These shall include appropriate equipment, such as tools and test equipment, suitable environmental conditions and assurance that all specified conditions have been met. Specified conditions include such items as qualification of personnel and processes and verification that required inspection or test operations have been satisfactorily completed.
- 1.3 The design, procurement, construction, and testing of Category II and Category III structures, components, and systems shall meet applicable codes and standards and good design and construction practices (see Appendix III, Glossary for definitions applied to various Categories).
- 1.4 All construction work at the site, which falls within the scope of Section III, ASME Boiler and Pressure Vessel Code shall be controlled by SWEC in compliance with the SWEC Certificate(s) of Authorization issued by ASME.
- 1.5 SWEC shall, as directed by NUSCo, audit and witness tests of selected Westinghouse NSSS equipment.

- 1.6 Sellers employed at the site shall be required to comply with applicable parts of this program and use applicable SWEC manuals and procedures or their own SWEC approved manuals and procedures.
- 1.7 Indoctrination and education programs shall be established, as appropriate, for SWEC personnel performing activities affecting quality.
- 1.8 An annual report of this program's status shall be provided to NUSCo.

2.0 TASKS*

- 2.1 Project Engineering shall ensure that design and engineering activities affecting quality are documented, as appropriate, in drawings, specifications, instructions, and procedures. These documents shall, as appropriate:
 - 2.1.1 Designate the Category of structures, components, and systems.
 - 2.1.2 Extend applicable criteria of Appendix B, 10CFR50, to sellers.
 - 2.1.3 Indicate applicable codes and standards.
 - 2.1.4 Include requirements for controlled conditions.
- 2.2 Engineering Assurance shall:
 - 2.2.1 Develop management systems and methods to implement the quality assurance program for engineering and design activities, and document these procedures in the Engineering Assurance Manual.
 - 2.2.2 Indoctrinate and provide continuing education for personnel performing activities affecting the quality of engineering and design.
 - 2.2.3 Coordinate the formulation of SWEC's position with respect to code requirements and the preparation of requests for codes, special rulings or interpretations of codes and standards, all upon request.

*See Appendix I for reference to implementing documents.

2.3 Quality Systems Division shall:

- 2.3.1 Publish and control the issue of all manuals, excluding the Engineering Assurance Manual, needed to implement the quality assurance program.
- 2.3.2 Establish and maintain a program for the indoctrination and continuing education of Quality Assurance Department personnel, and maintain program records.
- 2.3.3 Maintain qualification/certification records of personnel qualified by QSD.

2.4 Procurement Quality Assurance Division shall:

- 2.4.1 Periodically review procedures affecting procurement quality control and provide input to QSD for necessary updating.
- 2.4.2 Audit and witness tests of selected equipment procured by Westinghouse, as requested by NUSCo.
- 2.4.3 Employ and maintain a staff of qualified inspection personnel.
- 2.4.4 Maintain qualification/certification records of personnel qualified by PQAD.

2.5 Field Quality Control Division shall:

- 2.5.1 Periodically review procedures affecting field quality control and provide inputs to QSD for necessary updating.
- 2.5.2 Employ and maintain a staff of qualified inspection personnel.
- 2.5.3 Maintain qualification/certification records of personnel qualified by FQCD.

2.6 Nondestructive Test Division shall:

- 2.6.1 Periodically review procedures affecting nondestructive testing and provide input to QSD for necessary updating.
- 2.6.2 Establish and maintain a training program for the qualification and certification of SWEC personnel involved in nondestructive testing and evaluation.

- 2.6.3 Maintain and control a file of all records documenting competency of SWEC personnel performing nondestructive testing and evaluation.
- 2.6.4 Perform surveillance of nondestructive test operations, including periodic review of examinations, and provide technical assistance, as required.
- 2.7 QA Cost and Auditing Division shall:
- 2.7.1 Periodically review procedures affecting QACAD activities and provide input to QSD for necessary updating.
- 2.7.2 Employ and maintain a staff of qualified audit personnel.
- 2.7.3 Maintain qualification/certification records of personnel qualified by QACAD.
- 2.8 Licensing Division shall coordinate the program of establishing a Stone & Webster position guideline on each NRC Regulatory Guide, publish and maintain the listing of these Guides, and inform Stone & Webster personnel of newly issued and proposed Regulatory Guides.
- 2.9 The Project Quality Assurance Program Administrator shall coordinate the preparation of an annual report to NUSCo on the SWEC Quality Assurance Program, for the Manager, Quality Assurance Department, based on inputs from SWEC quality assurance organizations.

3.0 DISCUSSION

Reference Paragraph 1.2

This program document communicates the corporate QA policy and commitments to department heads who develop the implementing procedures. These are in manuals with a controlled distribution to all affected departments as determined by department management. Scheduled training is conducted within the department on applicable quality policies, manuals, and procedures. A scheduled audit program assures that they are implemented.

4.0 CLIENT CONSIDERATIONS

- 4.1 NUSCo Quality Assurance Specification "Requirements for an Engineering-Constructor's Quality Assurance Program," dated August 27, 1975, shall be adhered to.

4.2 Reference Paragraph 1.4

Add: "All construction work under the jurisdiction of Section XI ASME Boiler and Pressure Vessel Code, when delegated to SWEC, shall be controlled by SWEC in compliance with the SWEC ASME approved QA Manual."

4.3 Reference Paragraph 1.7

Change "and education" to "training and qualification."

4.4 Reference Paragraph 2.0

Add new Paragraph 2.10, as follows:

"The Construction Department shall develop management systems and methods to implement the quality assurance program for construction activities and document these procedures in the Construction Methods Procedure Manual."

4.5 Delete Paragraph 2.3.1 and add:

Develop management systems and methods needed to implement the quality assurance program within the Quality Assurance Department.





**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: ENGINEERING AND DESIGN CONTROL	NUMBER: SECTION 3
	REVISION: B
	EFFECTIVE DATE: FEBRUARY 28, 1975

APPROVALS

E. J. Owens

MANAGER, QUALITY ASSURANCE

R. A. Beckwith

CHIEF ENGINEER, ENGINEERING ASSURANCE

W. J. Hill

PROJECT MANAGER

SECTION 3

ENGINEERING AND DESIGN CONTROL

1.0 REQUIREMENTS

- 1.1 An engineering and design control system shall be established to scope and document the method of accomplishing the essential engineering and design tasks.
- 1.2 The system shall control the development of the design, from the initial authorization to the obtaining of the operating license. The system shall ensure that the applicable design requirements such as design bases, regulatory requirements, codes, standards and quality requirements are correctly translated into drawings, specifications, instructions and procedures. The design documentation shall specify the quality characteristics and quality standards, including acceptance criteria. The system shall include a review and approval cycle.
- 1.3 Design controls shall be imposed on the following:
stress-, thermal-, hydraulic- and accident-analysis; compatibility of materials; accessibility for in-service inspection; repairs; and acceptance criteria for inspections and tests.
- 1.4 Alternate or simplified solution methods may be used for design verification when accompanied by justification of the methods used.
- 1.5 Design control measures shall include review and use of accepted industrial standards and practices, prototype evaluation and approval, design reviews and selection and review of the suitability of materials, parts, equipment or processes that are essential to the functions of structures, systems or components.
- 1.6 Engineering drawings shall be reviewed by an individual, other than the originator, for adequacy of design.

△ B

- 1.7 Manual and computerized calculations shall be reviewed by an individual other than the preparer. The reviewer shall be responsible for a complete check of the preparer's approach and the accuracy and technical adequacy of the calculations.
- 1.8 If prototype testing is required to confirm the adequacy of the design, the requirements and acceptance criteria for such testing shall be included in the specification. Testing shall be performed under the most adverse design conditions.
- 1.9 Changes to approved procedures, instructions, calculations, drawings and specifications shall be permitted only after a review and approval by the same individual or group responsible for the original work.
- 1.10 Instructions shall govern the review, approval, release, distribution and revision of documents all for the participating design organizations.
- 1.11 S&W is responsible for interface control with Westinghouse. This control includes a review of Westinghouse descriptions, drawings, specifications, manuals and other correspondence.

2.0 TASKS*

- 2.1 EA shall prepare procedures, as necessary, to establish a control system for engineering and design.

3.0 DISCUSSION

3.1 Reference Paragraph 1.1

Stone & Webster's System of Engineering and Design Control is graphically depicted in Appendix IV.

3.2 reference Paragraph 1.2

Stone & Webster assures that design characteristics can be controlled, inspected and/or tested and that test criteria are identified through a Quality Assurance review and sign off of procurement and erection specifications prior to issue; and a QA review of all changes to such specifications and the disposition of all nonconformances to such specifications. Quality requirements/parameters

* See Appendix I for reference to implementing documents.

are established in the specification, the primary engineering document. Drawings convey quality requirements by reference to the appropriate specification.

3.3 Reference Paragraph 1.5

Standard "off the shelf" commercial or previously approved items essential to safety related functions are reviewed for suitability prior to selection by the cognizant engineering equipment specialist. The procurement document is further reviewed and approved by Quality Assurance personnel to assure that essential quality control features have been included.

3.4 Reference Paragraph 1.6

Feedback information on nonconformances is transmitted from shop and field activities to headquarters. This data, plus audit data on engineering/design activities, is analyzed and evaluated by quality assurance personnel, after which corrective action is recommended to assist in preventing recurring nonconformances.

3.5 Reference Paragraph 1.10

Design documents and changes thereto are maintained and filed by project in accordance with the requirements of ANSI Standard N45.2.9. Design documents are considered to be specifications, drawings, procedures and instructions.

4.0 CLIENT CONSIDERATIONS

Selected design documents, such as drawings and specifications, shall be submitted to NUSCo for their review, comment and affirmation of acceptability to assure Category I systems, structures, and components conform to design requirements, that the licensing commitments are incorporated and that design/regulatory/code/standard/quality assurance requirements are specified.



**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: PROCUREMENT DOCUMENT CONTROL	NUMBER: SECTION 4
	REVISION: D
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APPROVALS

Richard B. Kelly

 VICE PRESIDENT, QUALITY ASSURANCE

W. M. Eifert

 CHIEF ENGINEER, ENGINEERING ASSURANCE

W. J. Luffich

 SUPERINTENDENT OF CONSTRUCTION SERVICES

Rowan

 PROJECT MANAGER

SECTION 4

PROCUREMENT DOCUMENT CONTROL

1.0 REQUIREMENTS

- 1.1 Procurement documentation shall include the requirements necessary for establishing the quality of the procured material, equipment, and services.
- 1.2 Design criteria, including applicable codes, standards, and regulatory requirements shall be translated into procurement specifications and the associated design drawings. Items not procured with a specification, i.e., a purchase order, shall contain all necessary quality provisions.
- 1.3 Procurement documents shall be subject to appropriate reviews as indicated in Appendix V.
- 1.4 Sellers who perform Category I work shall be required to have quality assurance programs consistent with applicable provisions of Appendix B, 10CFR50. These provisions shall be imposed on their suppliers, as appropriate.

2.0 TASKS*

- 2.1 QSD shall review and concur in all procurement documents (specifications and requisitions when no specification exists) for Category I items originated by Project Engineering prior to their issuance. Concurrence shall indicate that the specifications include sufficient information pertaining to codes, standards, methods of testing, inspection, and documentation so that quality assurance activities can be performed.
- 2.2 Procurement Quality Assurance Division shall:
 - 2.2.1 Review procurement specifications for procurement quality assurance requirements when requested by QSD.
 - 2.2.2 Review and approve quality assurance manuals for shop fabrication of Category I items submitted by sellers in accordance with procurement specifications.

* See Appendix I for reference to implementing documents.

2.3 Field Quality Control Division shall:

2.3.1 Review procurement specifications or field quality control requirements when requested by QSD.

2.3.2 Review and approve purchase requisitions issued at the site.

2.3.3 Review and approve subcontractors' quality assurance manuals and changes submitted thereto for field erection work.

2.4 Nondestructive Test Division shall review procurement specifications for subcontractor nondestructive test requirements when requested by QSD.

2.5 Engineering Assurance Division shall:

2.5.1 Review and approve QA requirements of Engineering Service Scopes of Work (ESSOW) and Purchase Requisitions when procuring engineering services.

2.5.2 Review and approve quality assurance programs of suppliers of engineering services and supply this information to PQAD.

3.0 DISCUSSION

3.1 Reference Paragraph 1.1

Changes and/or revisions to procurement documents (i.e., procurement specifications) are accomplished by either an addendum to the specification, or a disposition of a nonconformance or Engineering and Design Coordination Report. All three methods have the same review and approval requirement as the original documents which includes a Quality Assurance Department sign off. The implementation and operation of these methods are subject to audit.

3.2 Reference Paragraph 2.0

3.2.1 Procurement specifications identify the documentation to be prepared, controlled, retained, and submitted, when required, to SWEC for review and/or approval. The review, approval, and sign off of the procurement document by the Quality

Assurance Department and the auditing activity delineated in Section 18 provide the required assurance.

- 3.2.2 Quality requirements for spare or replacement parts are normally delineated in the original equipment procurement specification which is reviewed and signed off by the Quality Assurance Department for "QA" requirements and acceptance criteria. Field procurement documents are reviewed and signed off by the Quality Assurance Department.

4.0 CLIENT CONSIDERATIONS

- 4.1 When deviations from the requirements of the NUSCO purchase order/contract are identified by SWEC, they shall be submitted in writing to NUSCO for their review and approval.

4.2 Reference Paragraph 2.0

Add the following two paragraphs:

2.6 The Construction Department shall prepare and process Purchase Requisitions for field procurement of items, incorporating or referencing the quality assurance requirements established for the item in applicable specifications.

2.7 The Purchasing Department shall issue Purchase Orders/Contracts to the approved Seller for Category I, II, and III items.

4.3 Reference Paragraph 3.2.2

Change to read as follows:

"The quality requirements for "engineered" and "nonengineered" spare or replacement parts are delineated in procurement specifications or purchase requisitions, as appropriate. Both of these documents are reviewed for approval by the Quality Assurance Department for "QA" requirements and acceptance criteria. Field procurement documents are reviewed and approved by Field Quality Control".



**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: INSTRUCTIONS, PROCEDURES, AND DRAWINGS	NUMBER: SECTION 5
	REVISION: D
	EFFECTIVE DATE: 7/12/84

APPROVALS

Richard Kelly

VICE PRESIDENT, QUALITY ASSURANCE

W. M. Eifert

CHIEF ENGINEER, ENGINEERING ASSURANCE

W. H. Gifford

SUPERINTENDENT OF CONSTRUCTION SERVICES

Conner

PROJECT MANAGER

SECTION 5

INSTRUCTIONS, PROCEDURES, AND DRAWINGS

1.0 REQUIREMENTS

- 1.1 Quality activities shall be based on engineering specifications, drawings, procedures, and instructions, as appropriate. These documents shall indicate any necessary special process controls, the applicable codes and standards and qualitative and quantitative acceptance criteria. Further, they shall establish which documents prepared by Sellers must be submitted to SWEC for review before use.
- 1.2 Quality activities shall be conducted in accordance with quality assurance procedures which shall identify individuals or groups responsible for performing specific tasks and indicate quality record requirements. The procedures shall include sufficient definition to ensure that activities affecting quality have been satisfactorily performed in accordance with the specified requirements.

2.0 TASKS*

2.1 Project Engineering shall:

- 2.1.1 Indicate necessary quality activities (including special controls) in drawings, specifications, and procedures, as appropriate. Criteria for the acceptance of specific tasks shall be included in the related document.
- 2.1.2 Establish which documents prepared by Sellers must be submitted to SWEC for review before use.
- 2.1.3 Conduct reviews of drawings prepared by Design to provide an independent review and sign-off.

- 2.2 QSD shall prepare and publish procedures governing the performance of quality activities, excluding engineering and design (see Paragraph 2, Section 3).

* See Appendix I for reference to implementing procedures.

3.0 DISCUSSION

Reference Paragraph 2.2

The normal sequence of events in the preparation, review, approval, publication, and revision of procedures is as follows:

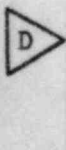
- 3.1 A preparer develops the procedure.
- 3.2 A lead engineer or supervisor reviews the preparer's material.
- 3.3 A draft is then circulated within the discipline or department for internal review.
- 3.4 Internal review comments are incorporated or resolved by the preparer and a preliminary procedure is prepared for external (outside discipline or department) review.
- 3.5 A preliminary procedure is then circulated for comment by signature authority personnel.
- 3.6 Comments are received, incorporated, or resolved by the preparer.
- 3.7 A final or original issue of the procedure is then circulated for signature.
- 3.8 Revisions are processed in a similar manner except that the draft stage may be eliminated if the procedure is not significantly altered.

4.0 CLIENT CONSIDERATIONS

- 4.1 Instructions and procedures describing the quality related activities performed by SWEC at the construction site shall be submitted to NUSCo. for review, comment, and affirmation of acceptability prior to the start of the associated activity at the construction site.

- 4.2 Reference Paragraph 2.2

Divisions within the Quality Assurance Department shall prepare Quality Control Instructions, as needed, which shall not degrade or conflict with any higher level procedure.



4.3 Reference Paragraph 2.0

Add the following paragraphs:

- 2.3 The Engineering Assurance Division shall prepare appropriate Engineering Department procedures which govern the performance of engineering and design activities affecting quality.
- 2.4 The Construction Department shall prepare appropriate Construction Department procedures which govern the performance of Construction Department activities affecting quality.
- 2.5 The Project Management Department shall prepare appropriate Project Management Department procedures which ensure that proper instructions are prepared and published to provide overall direction to project personnel.
- 2.6 The Project Manager shall prepare appropriate project procedures, issued in a project manual, which integrate and supplement Corporate and Client requirements as necessary to provide project specific direction to project personnel.





**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: DOCUMENT CONTROL	NUMBER: SECTION 6
	REVISION: D
	EFFECTIVE DATE: 7/12/84

APPROVALS

Richard B. Kelly

VICE PRESIDENT, QUALITY ASSURANCE

W. J. Eifert

CHIEF ENGINEER, ENGINEERING ASSURANCE

W. J. Siffert

SUPERINTENDENT OF CONSTRUCTION SERVICES

C. Brown

PROJECT MANAGER

SECTION 6

DOCUMENT CONTROL

1.0 REQUIREMENTS

- 1.1 The review, approval, and distribution of documents, including changes thereto, which prescribe activities affecting quality shall be controlled. These documents include drawings, specifications, instructions, procedures and test procedures.
- 1.2 The procedures for the preparation of documents shall include reviews to ensure adequacy before release as well as requirements for the approval of each document by authorized personnel through signatures or initials.
- 1.3 A method of change control shall be established that includes approval by the same individuals or groups having responsibility for the initial document issue. The method shall include a revision identification system so that the effective revisions can be readily determined.
- 1.4 Document control shall be accomplished in a manner which ensures timely inclusion of changes into the parent document.
- 1.5 The distribution of documents shall be controlled to ensure that only authorized documents are in use at the locations where the prescribed activities are being performed. Provisions shall be included for the retrieval, control, or destruction of out-dated documents.

2.0 TASKS*

- 2.1 EA shall prepare and issue procedures for establishing a control system for engineering assurance and engineering and design documents which prescribe activities affecting quality.
- 2.2 QSD shall prepare and issue procedures which provide control over documents which are used by Quality Assurance Department personnel and which prescribe quality assurance activities.

3.0 DISCUSSION

* See Appendix I for reference to implementing documents.

Reference Paragraph 1.1

Applicable procedures in Section 5 of the Quality Standards Manual, Engineering Assurance Manual, and the Quality Assurance Directives Manual establish the requirements to maintain master indexes of instructions, procedures, drawings, and procurement documents and to publish updated indexes in a scheduled manner. For example, the quality standard entitled "Quality Standards Procedural System" states as follows:

"4.4.1D - Applicability - The applicability of a specific QS to a Project shall be established in the Table of Contents and Project Applicability Matrix, Attachment 3.2. Actual usage in part or whole will depend upon other project documents which establish the scope of work to be done by Stone & Webster. This matrix shall be reviewed on a monthly basis and updated periodically depending on activity, with an annual update as a minimum..."

4.0 CLIENT CONSIDERATIONS

4.1 Reference Paragraph 2.0

Add the following paragraph:

2.3 The Construction Department shall prepare and issue procedures establishing a document control system for documents which are received and distributed for use at the site and which prescribe activities affecting quality.

4.2 Reference Paragraph 3.0

Delete "4.4.1D...minimum..." and add the following:

"7.6.1A Applicability - The applicability of generic QSs to a major nuclear project shall be established during the procedure review cycle and documented in the Table of Contents and Project Applicability Matrix. Actual usage in part or whole will depend upon other project documents which establish the scope of work to be done by Stone & Webster. This matrix shall be reviewed and updated periodically depending on activity, with an annual update as a minimum. Major nuclear projects shall individually issue a Table of Contents for their Project QS manual which addresses every master generic and project model QS. The Table of Contents shall state adoption, projectization, or if not used, shall so

state. Further, if not used and a substitute project procedure is used (not a QS), it shall be noted in this Table of Contents to ensure procedural coverage of all program commitments."





**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: CONTROL OF PURCHASED MATERIAL, EQUIPMENT, AND SERVICES	NUMBER: SECTION 7
	REVISION: D
	EFFECTIVE DATE: 7/12/84

APPROVALS

Richard Kelly

VICE PRESIDENT, QUALITY ASSURANCE

W. M. Gifford

CHIEF ENGINEER, ENGINEERING ASSURANCE

W. L. Gifford

SUPERINTENDENT OF CONSTRUCTION SERVICES

Conan

PROJECT MANAGER

SECTION 7

CONTROL OF PURCHASED MATERIAL, EQUIPMENT, AND SERVICES

1.0 REQUIREMENTS

- 1.1 Controls shall be established to ensure that purchased material, equipment, and services, whether purchased directly or through Sellers, conform to procurement documents. These controls shall include source evaluation and recommendations, periodic source assessment and inspection, and site receiving inspection, as applicable.
- 1.2 A proprietary Quality Rating List shall be prepared and maintained which shall indicate the capability of a Seller's quality assurance program. The assessment of his capability may be based on past performance and/or a review of the quality assurance manual, as applicable.
- 1.3 Bid specifications shall be submitted to NUSCo with a list of recommended Sellers based on an evaluation of the capability of the Sellers to meet the specification quality requirements. Bids may be solicited from Sellers whose quality programs have not been evaluated and approved; however, before placing a purchase order for Category I work, the Seller's program shall be evaluated and approved. If a plant survey is necessary, NUSCo shall be notified so that they may participate.
- 1.4 Field purchase orders for Category I items shall be placed only with approved Category I Sellers. In establishing that a Seller for Category I items is approved, the following guidance may be used in addition to the Quality Rating List:
 - 1.4.1 If the Seller is a distributor and does not handle the item, and if the source of the item is an approved SWEC supplier, then the Seller (distributor) need not be on the approved list, provided that the Seller furnishes copies of documentation to indicate that the items were obtained from the approved SWEC source supplier. Example: Company A is an approved SWEC supplier for Category I electrodes. Company B is a distributor that sells Company A electrodes. Further, Company B does not handle these electrodes (i.e., they are shipped directly from Company A). Company B need not be on the Quality Rating List, provided that Company B furnishes objective evidence to show that the electrodes

supplied came from Company A and that applicable documentation is furnished by Company A.

- 1.4.2 If the acceptability of an item is based on inspections and tests performed after the item has been delivered to the site and before its use, then the Seller need not be on the approved list.
- 1.4.3 Sellers who furnish items which are referenced in a specification by manufacturer and specific model or other identification are considered as approved for the specified items. By referencing a specific manufacturer's product, approval of the product is established during the review of the specification. Example: Type X admixture is supplied by Company A and is specified as an acceptable product in a specification. Company A is an approved Seller for Type X admixture. However, if Company A were to offer Type Y admixture as "an approved equal", then Type Y would have to be evaluated and approved by Project Engineering before it could be used and before Company A could be accepted as an approved Seller for Type Y admixture.
- 1.5 NUSCo may designate "notification points" for specific operations performed at Seller's facilities. NUSCo shall be advised by SWEC when "notification point" operations are scheduled.
- 1.6 Westinghouse is responsible for source inspection and documentation of all Westinghouse procured items.
- 1.7 Receipt inspection includes verification that all required documentation has been received and that the items conform to the procurement documents. Inspections for conformance shall make use of objective quality evidence received with the items, as well as selected physical inspection.
 - 1.7.1 Receipt inspection activities shall be documented.
 - 1.7.2 Acceptable Category I items received at the site shall be identified.
 - 1.7.3 Items received at the site without the required documentation or items for which receipt inspection cannot be performed within a reasonable time shall be placed in a hold status and segregated, when practicable. Items which do not conform to the specified requirements shall

be tagged, reported as nonconforming, and segregated when practicable.

- 1.7.4 Unsatisfactory items or items in a hold status may be released on a risk basis. Items shall not be released for any operation when rework, replacement, or certification of acceptability of the item is impossible after the operation is performed. Copies of risk release documentation shall be provided to NUSCo.

2.0 TASKS*

2.1 Procurement Quality Assurance Division shall:

- 2.1.1 Establish criteria for source evaluation and conduct source evaluations.
- 2.1.2 Maintain a Quality Rating List.
- 2.1.3 Assess active Sellers, generally on a 12-month basis. While PQAD is responsible for Seller evaluation, PQAD may request the assistance of other Quality Assurance Department divisions to conduct the evaluation.

- 2.2 Bid specifications shall be submitted to NUSCo with a list of recommended suppliers by Project Engineering. In preparing this list, an evaluation by PQAD on the capability of each Seller to meet the specification quality requirements shall be used.

- 2.3 If bids are solicited from Sellers whose quality assurance programs have not been evaluated and approved for Category I work, the Seller's quality assurance program shall be evaluated and approved by PQAD before the purchase order is placed. If a plant survey is necessary, PQAD shall notify NUSCo so that they may participate, if desired.

2.4 For Field Purchases, FQCD shall:

- 2.4.1 Review and approve purchase requisitions and assure they contain the necessary quality assurance requirements, including inspection forms, when applicable. This review and approval applies to revisions to field purchase requisitions.

* See Appendix I for reference to implementing documents.

- 2.4.2 Review all field purchase orders for Category I items and verify that an approved Seller has been engaged.
- 2.5 PQAD shall visit Seller facilities to verify, witness, and perform the various tasks required by procurement documents.
 - 2.5.1 NUSCo shall inform PQAD of their designated "notification points". When the visit includes Client designated "notification points", PQAD shall advise them for their participation.
 - 2.5.2 NUSCo's Manager of Quality Assurance may request additional Seller visits. These will be conducted by PQAD on a basis mutually agreed to by NUSCo and SWEC.
 - 2.5.3 PQAD shall document visits to Seller facilities. Copies of visit reports shall be provided to NUSCo.
 - 2.5.4 When source inspection by PQAD is required by the procurement document or requested by the Project Engineer or site Resident Manager, PQAD shall identify all acceptable source inspected items with a SHIPPING RELEASE TAG.
- 2.6 FQCD shall perform site receipt inspection for Category I and specified Category II items.
 - 2.6.1 FQCD shall document receipt inspection activities.
 - 2.6.2 SHIPPING RELEASE TAGS affixed by PQAD shall be used by FQCD as objective quality evidence of previous SWEC inspection during receipt inspection. Operations performed by PQAD during source inspection need not be repeated.
 - 2.6.3 Westinghouse source inspection tags applied to their procured items shall be used by FQCD as objective quality evidence during receipt inspection. Also, FQCD shall check the documentation received with the items against the Procurement Quality Checklist supplied by Westinghouse (i.e., check that listed documents are accounted for). Any items received without a source inspection tag and the correct documentation shall be placed in a hold status

and the problem shall be referred to the Client for resolution.

- 2.6.4 FQCD shall indicate, by appropriate means, items or groups of items found acceptable.
- 2.6.5 FQCD shall tag and segregate, when practicable, items which do not conform to the specified requirements and report them as nonconformances.
- 2.6.6 Nonconforming items and items in a hold status may be released by FQCD on a risk basis when a formal written request is submitted to FQCD by Construction (field) and concurred in by Project Engineering and FQCD (field). FQCD shall provide copies of risk release documentation to NUSCo.

2.7 Engineering Assurance Division shall:

- 2.7.1 Establish criteria for source evaluation and conduct source evaluations of engineering services suppliers.
- 2.7.2 Supply information on evaluations of engineering services suppliers to PQAD for maintenance of the Quality Rating List.

3.0 DISCUSSION

3.1 Reference Paragraph 1.4

- 3.1.1 The Engineering Department (i.e., Project Engineering) is responsible for the preparation of a recommended bidders list, the evaluation of the bidder's proposal, and the final determination of the specific bidder to be recommended to NUSCo. The Procurement Quality Assurance Division of the Quality Assurance Department is responsible to evaluate recommended bidders quality assurance programs and their ability to perform to the program. Engineering Department participation in the Quality Assurance bidder evaluation is to the extent deemed necessary by the Project Engineer. During the conduct of the work, the engineer is responsible for the review and approval of supplier provided technical documentation as specified in the procurement specification.
- 3.1.2 An exception to the policy of buying Category I items only from Sellers on the approved Quality

Rating List may be made under the following conditions. This exception provides for controls which complies with the requirements of Criteria 7 to Appendix B to 10CFR50. If the Engineering Department, in the development of a Category I specification or purchase requisition, makes the determination that the acceptability of an item can be adequately judged by inspections and tests performed by SWEC in the Seller's shop or after delivery, the Seller need not be prequalified by survey or audit. Quality Assurance, by their review of purchase documents as delineated in Section 4, assures that appropriate inspections and tests are specified.

3.2 Reference Paragraph 2.5

Parameters to be inspected, tests to be witnessed, and documents to be reviewed by Procurement Quality Assurance Division shop inspectors are delineated in the Test, Inspection, and Documentation section of procurement specifications, which have been reviewed and approved by the Quality Assurance Department. The detailed techniques for the performance and documentation of these inspections are delineated in applicable Quality Assurance Department procedures.

4.0 CLIENT CONSIDERATIONS

4.1 Reference Paragraph 1.4

Change "Field purchase orders" to "All purchase orders".

4.2 Reference Paragraph 1.7.4

Nonconforming material may not be installed at the site without prior approval by NUSCo.

4.3 Reference Paragraph 2.4

Add new Paragraph 2.4.1, as follows, and renumber subsequent paragraphs accordingly:

"Review Recommended Bidders Lists generated for field procurement."

4.4 Reference Paragraph 2.5.4

A SWEC QA Department Product Quality Certification form shall also be generated for each shipment. Prior to issuing this document, the inspector shall verify the

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Seller's records for completeness. The inspector shall forward the records to the QA document reviewers.

4.5 Reference Paragraph 3.1.1

The Purchasing Department shall assist in the preparation of recommended bidders lists and process procurement documents and changes thereto in accordance with applicable procedures.





**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: IDENTIFICATION AND CONTROL OF MATERIALS, PARTS, AND COMPONENTS	NUMBER: SECTION 8
	REVISION: D
	EFFECTIVE DATE: 7/12/84

APPROVALS

Richard B Kelly
VICE PRESIDENT, QUALITY ASSURANCE

W M Eijnt
CHIEF ENGINEER, ENGINEERING ASSURANCE

W D Ly Tuffick
SUPERINTENDENT OF CONSTRUCTION SERVICES

Conner
PROJECT MANAGER

SECTION 8

IDENTIFICATION AND CONTROL OF MATERIALS, PARTS, AND COMPONENTS

1.0 REQUIREMENTS

- 1.1 Identification and control measures shall be established as necessary to prevent the uncontrolled use of nonconforming materials, parts, and components, including partially fabricated assemblies.
- 1.2 Identification and control of material, parts, and components which are to meet the requirements of ASME Section III shall be accomplished during field fabrication and erection in accordance with the Company Quality Assurance and Control Manual - ASME Section III.
- 1.3 Category I materials, parts, and components shall be identified by heat number, serial number, part number, or other appropriate means. The identification may be on the item (physical markings are preferred) or on records directly and readily traceable to the item.
 - 1.3.1 The type of identification shall be established by specifications, drawings, instructions, or procedures.
 - 1.3.2 Traceability to records which will verify conformance of the materials, parts, and components to specified requirements (e.g., chemical and physical properties, tests, inspections, etc) shall be provided from initial receipt of materials to installation and use, or up to user testing, if applicable. For consumable materials (e.g., Cadweld powder), traceability requirements shall be met by documentation which indicates that only acceptable materials have been used, unless requirements of codes and standards dictate otherwise.
- 1.4 Category II and Category III materials, parts, and components shall be identified by type and status or as required by the specifications.

2.0 TASKS*

- 2.1 Project Engineering shall establish requirements for the identification of materials, parts, and components in applicable drawings, specifications, instructions, and procedures.
- 2.2 PQAD shall perform tasks at Seller facilities relative to the identification and control of materials, parts, and components in accordance with the procurement documents.
- 2.3 Field Quality Control Division shall:
 - 2.3.1 Verify, during receiving inspection, that materials, parts, and components are properly identified and when applicable, traceable to supporting documentation.
 - 2.3.2 Ensure that the required identification and traceability of materials, parts, and components is maintained from receipt through completion of construction.

3.0 DISCUSSION

None

4.0 CLIENT CONSIDERATIONS

Reference Paragraph 2.0

Add the following paragraph:

- 2.4 The Senior FQC Representative shall assign unique identification symbols as required in the specification. Identification symbols will be applied, by Construction, to items at receipt and transferred when items are cut or physically altered.

* See Appendix I for reference to implementing documents.



**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: CONTROL OF SPECIAL PROCESSES	NUMBER: SECTION 9
	REVISION: D
	EFFECTIVE DATE: 7/12/84

APPROVALS

Richard Buckley

VICE PRESIDENT, QUALITY ASSURANCE

W. M. Eijnt

CHIEF ENGINEER, ENGINEERING ASSURANCE

W. L. Liffick

SUPERINTENDENT OF CONSTRUCTION SERVICES

Conner

PROJECT MANAGER

SECTION 9

CONTROL OF SPECIAL PROCESSES

1.0 REQUIREMENTS

- 1.1 Special processes shall be controlled to ensure that approved special process procedures are used by qualified personnel in accordance with specified codes, standards, and any additional SWEC requirements. The requirements for special process control, including personnel qualifications, shall be imposed by specifications, procedures, instructions, or other applicable documents.
- 1.2 Special processes are unique manufacturing, inspection, or test processes where written procedures are deemed necessary to accomplish a task affecting quality. Welding, welding repair, cadwelding, stud welding, heat treating, coatings, nuclear system cleaning, leak testing, and nondestructive testing are examples of special processes.

2.0 TASKS*

2.1 Engineering Department shall:

- 2.1.1 Review and approve all special process procedures excluding nondestructive test procedures, submitted by Sellers in accordance with specification requirements.
- 2.1.2 Provide and maintain all special process procedures for use by SWEC, except Quality Assurance Department NDT procedures and selected special process procedures assigned to the Construction Department.
- 2.1.3 Review and approve all special process procedures prepared by the Engineering and Construction Departments.
- 2.1.4 Review and comment on NDT procedures prepared by the Quality Assurance Department.
- 2.1.5 Provide qualification testing of SWEC special process procedures excluding NDT procedures.
- 2.1.6 Provide procedures for qualification testing and certification of personnel who perform special process work according to special process

*See Appendix I for reference to implementing procedures.

procedures prepared by the Engineering Department.

- 2.2 QSD shall review and concur in SWEC generated special process procedures including nondestructive test procedures.
- 2.3 Nondestructive Test Division shall:
- 2.3.1 Provide qualification testing and certification of SWEC personnel who perform nondestructive testing (see also Paragraph 2.6.2, Section 2).
 - 2.3.2 Review and evaluate nondestructive testing procedures submitted by Sellers in accordance with specification requirements and prepare and maintain nondestructive testing procedures used by SWEC in accordance with specification and code requirements.
- 2.4 When required by the procurement documents, PQAD shall verify that qualified personnel have performed special process work at Seller's facilities using approved procedures.
- 2.5 Field Quality Control Division shall:
- 2.5.1 Assure that qualification testing, which is required of personnel who perform special process work at the site, is in accordance with specifications, procedures, instructions, or other applicable documents.
 - 2.5.2 Maintain qualification records.
 - 2.5.3 Assure that personnel performing special process work are retested or have their qualification revoked if their work is not in accordance with established quality standards that define qualification requirements.
 - 2.5.4 Verify that only qualified personnel using approved procedures perform special process work at the site.
- 2.6 For special process work which is not covered by codes and standards or when it is desired that an item's quality requirements exceed those in codes or standards, the necessary qualification of procedures, personnel, and equipment shall be defined by Project

Engineering in specifications, procedures, or other appropriate documents.

2.7 The Construction Department shall:

2.7.1 Provide an adequate location and sufficient welding equipment and supplies to perform welder qualification tests.

2.7.2 Prepare selected special process procedures.

2.7.3 Review and approve Engineering Department prepared special process procedures.

3.0 DISCUSSION

3.1 Reference Paragraph 1.1

Audits are conducted to assure implementation of and conformance to approved procedures/specifications and that special processes are accomplished with written process sheets, procedures, checklists, travelers, or the equivalent, with recorded evidence of verification. The audit activity is described in Section 18 of the program while the implementation procedures are found in appropriate manuals indicated in Appendix I.

4.0 CLIENT CONSIDERATIONS

Section 9 to SWSQAI 1-74A, Revision C, is adopted for the Millstone Unit 3 Project and published in this section, except:

4.1 Reference Paragraph 2.1.2

Delete text and add: "Provide and maintain all special process procedures for use by SWEC, except Quality Assurance Directives and selected special process procedures assigned to the Construction Department."

4.2 Reference Paragraph 2.5.2

Construction shall generate the qualification records for the stud welding process and control/maintain these documents in accordance with applicable Construction Department procedures.



**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: INSPECTION	NUMBER: SECTION 10
	REVISION: D
	EFFECTIVE DATE: 7/12/84

APPROVALS

Richard Kelly
VICE PRESIDENT, QUALITY ASSURANCE

W. E. Eifert
CHIEF ENGINEER, ENGINEERING ASSURANCE

W. H. Tiffich
SUPERINTENDENT OF CONSTRUCTION SERVICES

Conner
PROJECT MANAGER

SECTION 10

INSPECTION

1.0 REQUIREMENTS

- 1.1 Drawings, specifications, instructions, and procedures shall include the necessary inspection requirements, with acceptance criteria, to provide assurance that material, equipment, and work conform to quality requirements. Acceptance and inspection activities shall not be performed by personnel who have performed the work to be inspected.
 - 1.1.1 Inspections shall be performed at Seller facilities in accordance with the requirements of the procurement documents.
 - 1.1.2 Inspections shall be performed at the site on material, equipment and work to ensure conformance to applicable specifications, instructions, codes, standards, and procedures.
- 1.2 Inspection requirements shall be translated into procedures and inspection reports to provide documentation of the inspection work required to ensure the specified quality. While direct in-process and final inspections are preferred, indirect control by monitoring of the process, equipment and personnel may be used when direct inspection is impossible or not feasible. Direct and indirect controls shall be used when control is inadequate without both methods.
- 1.3 Sampling methods may be used for inspecting a group of homogeneous items which are received from one source, excluding Category I items unless the method for specific Category I items is approved by the Client. When a sampling method is used to verify the acceptability of items, the sampling plan shall be based on a recognized standard sampling plan. The methods of applying the standard sampling plan shall be documented to prevent misinterpretation of the plan or the sample results.
- 1.4 When notification or hold points have been established, the process control procedure or checklist shall include provisions to ensure that work does not progress beyond these points until released by the designated authority. Notification or hold points may be established by

specifications, procedures, Construction (field), Quality Assurance Department, or Authorized Nuclear Inspectors.

- 1.5 Individuals or groups who have been designated to evaluate inspection data by specifications, procedures, or instructions shall indicate the conformance or nonconformance on the data sheet or other appropriate documents.
- 1.6 The Quality Assurance Department shall have the authority to stop work in those situations where continued work could cause damage, preclude further inspection, or preclude effective corrective action.

2.0 TASKS*

- 2.1 Project Engineering shall include the necessary inspection requirements, with acceptance criteria, in drawings, specifications, instructions, and procedures.
- 2.2 PQAD shall perform inspection tasks at Seller facilities in accordance with the procurement documents (see Paragraph 2.5 Section 7).
- 2.3 FQCD shall perform the following field quality control inspections as required.

NOTE

See Paragraph 2.6 Section 7, for FQCD receipt inspection tasks.

- 2.3.1 FQCD shall perform inspection/testing of soils, concrete, reinforcing steel, structural steel and special coatings in accordance with applicable specifications, instructions and procedures.
- 2.3.2 FQCD shall perform specified inspections and tests of all Category I equipment. Unless there are specific requirements in applicable specifications, instructions, or procedures, Category II equipment shall be inspected on a sampling basis to a degree consistent with the relationship of the equipment to plant operational performance and Category III equipment shall be inspected on a surveillance basis.

* See Appendix I for reference to implementing documents.

- 2.3.3 FQCD shall perform inspection of welding in accordance with applicable specifications, instructions, or procedures. As a minimum, all Category I and Category II welding shall be visually inspected and Category III welding shall be visually inspected on a surveillance basis.
 - 2.3.4 FQCD shall perform required liquid penetrant, magnetic particle, ultrasonic, and radiographic testing and examinations.
 - 2.3.5 FQCD shall make all necessary arrangements with, and assist, the Authorized Nuclear Inspector so that SWEC may obtain code certification of fabricated and erected piping systems which are specified to meet the requirements of ASME Section III.
 - 2.3.6 FQCD shall document inspection/testing tasks performed, including monitoring, witnessing, auditing, etc.
- 2.4 NDTD shall provide inspection services in specialty areas of nondestructive testing when adequate equipment and capability are not available in PQAD and FQCD.

3.0 DISCUSSION

3.1 Reference Paragraphs 1.1.1 and 1.1.2

The Quality Assurance Department, as part of the planning activity in both its Field Quality Control and Quality Systems Division, performs an ongoing review of construction schedules versus our inspection procedure/instruction library in order that the procedural needs are identified and the procedures completed well in advance of required dates. Inspections, as well as the work, are performed to specifications/drawings; therefore, a lack of specification or drawing would preclude either work or inspections being performed.

3.2 Reference Paragraph 1.2

Assurance that inspection procedures, instructions and/or check lists contain the following is obtained as indicated next to each item:

- 3.2.1 Quality Characteristics to be Inspected - These are delineated in the appropriate specification

which is reviewed and signed by Quality Assurance personnel.

- 3.2.2 Individuals or Groups Responsible for Performing the Inspection - Delineated in the appropriate Quality Standard.
- 3.2.3 Acceptance and Rejection Criteria - Same as one (1) above.
- 3.2.4 Description of the Method of Inspections - Delineated in the appropriate Quality Assurance Department procedure; i.e., Quality Assurance Directive, Quality Control Instruction, etc.
- 3.2.5 Evidence of Completions and Certification of Inspection Operations - An inspection report prepared in accordance with Quality Standard 14.2 "Inspection Report System" or other documentation as may be specified in the particular specification.
- 3.2.6 Record of the Results of the Inspection Operation - same as five (5) above.
- 3.2.7 Verification that all Inspection Operations are Complete and Acceptable - By a comparison of the inspection reports/documentation prepared to the attribute list of inspections to be performed developed during the inspection planning stage by Quality Assurance.

Final assurance of the satisfactory implementation of Items 3.2.1 through 3.2.7 is gained through an independent audit of the above activities performed by the Quality Assurance Cost and Auditing Division.

3.3 Reference Paragraph 2.1

Modifications, repairs, and replacements are performed in accordance with approved engineering specifications, which are reviewed by Quality Assurance personnel. Such work is inspected in accordance with the specified requirements, which if changed from the original, would require a change to the specification and a subsequent Quality Assurance review.

4.0 CLIENT CONSIDERATIONS

4.1 Reference Paragraph 2.3.2

Inspections of Category I, II, and III material and equipment by FQCD shall be performed as directed by NUSCo.

4.2 The commitment to Paragraph 2.3.3 is intended to be conformed to as follows:

4.2.1 Applicable to all welding performed on or to Category I systems, structures, and components. These welds shall be subjected to 100 percent visual inspection as a minimum.

4.2.2 Applicable to all welding performed on or to Category II fluid carrying systems. These welds shall be subjected to 100 percent visual inspection as a minimum.

A. The above is intended to require that any welding involving a fluid boundary such as a butt or socket weld is to be subject to 100 percent visual inspection as a minimum.

B. Additionally, the word "to" requires that any attachment weld to a fluid system also requires 100 percent visual inspection as a minimum.

C. All other welds, on a hanger for example, except those interfacing with the fluid boundary (pipe wall) come under Paragraph 4.2.3.

4.2.3 Applicable to all welding performed on or to Category II (other than fluid carrying) and Category III systems, structures, and components. These welds shall be subjected to surveillance inspection.

4.3 Reference Paragraph 2.3

Add the following paragraph:

"2.3.7 FQCD shall perform Seller quality verification inspections and provide documentation appropriate to the individual Seller and consistent with the work or service provided."



4.4 Reference Paragraph 2.0

Add the following paragraph:

2.5 Construction shall notify FQC and/or ANI when work approaches FQC and ANI hold points.

4.5 Reference Paragraph 3.2.1

After "specification", add "or purchase requisition."

D



**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: TEST CONTROL	NUMBER: SECTION 11
	REVISION: D
	EFFECTIVE DATE: 7/12/84

APPROVALS

Richard Kelly

VICE PRESIDENT, QUALITY ASSURANCE

W. M. Eitzen

CHIEF ENGINEER, ENGINEERING ASSURANCE

W. L. Gifford

SUPERINTENDENT OF CONSTRUCTION SERVICES

Lozano

PROJECT MANAGER

SECTION 11
TEST CONTROL

1.0 REQUIREMENTS

- 1.1 A test program shall be established and documented by test program directives and test procedures to demonstrate that structures, systems, and components will perform satisfactorily in service.
- 1.2 Testing shall be accomplished by qualified personnel in accordance with written controlled test procedures.
- 1.3 Modifications, repairs, and replacement equipment shall be tested in accordance with the original testing requirements and acceptance criteria or approved changes.
- 1.4 Test procedures shall be prepared and controlled in accordance with requirements established in a test program directive, and they shall:
 - 1.4.1 Include or reference the requirements and acceptance criteria for testing established by the design documents applicable to the structure, system, or component.
 - 1.4.2 Specify calibrated equipment and instrumentation required to perform the test.
 - 1.4.3 Identify the prerequisites that must be met prior to the start of testing.
 - 1.4.4 Specify required environmental conditions if applicable.
 - 1.4.5 Provide instructions for performance of the test and recording of required test data and results.
 - 1.4.6 Identify, when applicable, mandatory hold points for witnessing of tests by the utility, authorized inspector, and SWEC Quality Assurance Department.
- 1.5 Tests results shall be evaluated by qualified personnel to assure that test requirements have been satisfied.



2.0 TASKS*

2.1 The Advisory Operations Division of the Engineering Department shall:

2.1.1 Develop and control Standard Test Program Directives (STPD's) which form the Standard Nuclear Test Program Manual. The STPD's establish SWEC's standard administrative systems for implementing the test program. STPD's are approved by the Vice Presidents of the Engineering and Quality Assurance Departments and by the Vice Presidents of other affected Departments. Project Test Program Directives (PTPD's) are developed from STPD's.

2.1.2 Develop and implement a program for indoctrination and qualification of test personnel.

2.1.3 Direct performance of tests required by the SWEC test program and evaluate test results.

2.2 Project Engineering shall:

2.2.1 Establish the requirements and acceptance criteria for testing of structures, systems, and components in approved design documents.

2.2.2 Prepare and control PTPD's based upon the STPD's. PTPD's form the Project Test Program Manual.

2.2.3 Prepare, review, approve, and control test procedures for testing structures, systems, and components. At least one approver of test procedures, an individual other than the preparer, shall be a certified Level III test person certified in accordance with the Standard Nuclear Test Program Manual.

2.2.4 Identify QA Department Hold Points in Test Procedures.

2.2.5 Provide assistance for evaluation of test results.

2.3 Engineering Assurance shall review STPD's and PTPD's to assure conformance to the quality assurance program.

*See Appendix I for reference to implementing documents.

2.4 Quality Assurance Department shall:

2.4.1 Review and approve STPD's and PTPD's to assure compliance to quality assurance program requirements.

2.4.2 Review all test procedures to ensure that QA Department activities are specified, as appropriate, and approve those test procedures which require QA Department activities during testing.

2.4.3 Perform hold point activities in accordance with test procedures.

2.5 Construction Department shall review and approve STPD's and PTPD's affecting Construction to assure proper interface with Construction Department activities.

3.0 DISCUSSION

3.1 Reference Paragraph 1.4.3

Test prerequisites, as used herein, and those items specified in the individual test procedure that must be accomplished prior to the start of a specific test. SWEC considers Regulatory Guide 1.116, Rev. O-R, dated May 1977, to cover the major prerequisites to be addressed.

4.0 CLIENT CONSIDERATIONS

4.1 Section 11, to SWSQAP 1-74A, Revision C, has been adopted for use by the Millstone Unit 3 Project and published in this section.

4.2 Preoperational testing is the responsibility of NUSCo. The test program established in this section applies to those testing activities required by specification/code prior to the turnover of systems to the Client. The test program shall also encompass a system for the method of turnover which assures system completeness (i.e., specification fulfillment), compilation of a complete QA documentation package, and formal release to the Client.

4.3 Reference Paragraph 2.2.4

After "QA Department", add ", NUSCo, and ANI".

4.4 Reference Paragraph 2.4

Add the following paragraphs:

2.4.4 FQC shall perform or witness tests at the site which are required by the specifications and release systems after erection completion.

2.4.5 PQAD shall perform tasks at Seller facilities as required by procurement documents.

4.5 Reference Paragraph 3.1

Delete the second sentence and substitute with the following:

"The Project considers Regulatory Guide 1.116, as committed to in Appendix VII, to cover the major prerequisites to be addressed."

D



STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT

QUALITY
ASSURANCE
PROGRAM

MILLSTONE NUCLEAR POWER STATION-UNIT 3

TITLE: CONTROL OF MEASURING AND TEST EQUIPMENT	NUMBER: SECTION 12
	REVISION: C
	EFFECTIVE DATE: APRIL 20, 1979

APPROVALS

Richard B. Kelly

MANAGER, QUALITY ASSURANCE

Corvair

CHIEF ENGINEER, ENGINEERING ASSURANCE

W. Webster

PROJECT MANAGER

SECTION 12

CONTROL OF MEASURING AND TEST EQUIPMENT

1.0 REQUIREMENTS

- 1.1 When tools, gages, instruments, and measuring and testing equipment are used for measurements, inspections, and tests performed to document compliance with specified requirements, the calibration and use of such equipment shall be controlled.
- 1.2 The control program shall include the following:
 - 1.2.1 Positive identification of the equipment and its calibration status.
 - 1.2.2 A frequency of calibration schedule for types of equipment based on recognized industry standards, manufacturers' recommendations, or usage factors.
 - 1.2.3 Written procedures describing the calibration control system. Standards traceable to national standards shall be used, when appropriate.
 - 1.2.4 A records system which will indicate the calibration dates and the identification of personnel performing the calibration.
 - 1.2.5 A recall system to prevent use of equipment beyond the calibration due date.
 - 1.2.6 A system for corrective action when uncalibrated or damaged measuring and test equipment has been used. Inspection records shall include traceability identification of the specific equipment used.

2.0 TASKS*

- 2.1 EA shall establish procedures for the control and calibration of measuring and test equipment use in Engineering Department activities affecting quality.
- 2.2 PQAD shall perform tasks at seller facilities relative to the control of measuring and test equipment in accordance with requirements of the procurement documents. ◁ C
- 2.3 Construction (field) shall control measuring and test equipment used by Construction forces at the site and forward equipment due for calibration to FQCD.
- 2.4 QSD shall establish calibration control systems for measuring and test equipment used at the site.
- 2.5 At the site, FQCD shall:
 - 2.5.1 Calibrate, or have calibrated by approved calibration laboratories, measuring and test equipment.
 - 2.5.2 Verify that properly calibrated equipment is used.
 - 2.5.3 Ensure that measuring and test equipment is indentified.
 - 2.5.4 Maintain calibration records.

3.0 DISCUSSION

Reference Paragraph 1.2.6

"Corrective action" as used herein requires that an investigation be conducted and documented to determine the validity of previous inspections performed when uncalibrated, damaged or out of calibration measuring and test equipment has been used.

4.0 CLIENT CONSIDERATIONS

There are no additional client considerations.

*See Appendix I for reference to implementing documents.



**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION-UNIT 3

TITLE: HANDLING, STORAGE, AND SHIPPING	NUMBER: SECTION 13
	REVISION: C
	EFFECTIVE DATE: APRIL 20, 1979

APPROVALS

Richard Kelly

MANAGER, QUALITY ASSURANCE

Conan

CHIEF ENGINEER, ENGINEERING ASSURANCE

W. Webster

PROJECT MANAGER




SECTION 13

HANDLING, STORAGE, AND SHIPPING

1.0 REQUIREMENTS

- 1.1 The handling, storage, shipping, cleaning, and preservation of material and equipment shall be controlled, to prevent damage or deterioration. The specified work shall be accomplished by qualified individuals in accordance with the preplanned work and inspection instruction.
- 1.2 Procurement documents shall include the following:
- 1.2.1 Requirements for sellers to establish any special procedures which may be necessary to prevent damage or deterioration of the supplied items. ◁ C
- 1.2.2 Requirements for the preparation of items for shipment, as necessary, to ensure cleanliness, identification, and proper handling.
- 1.2.3 Requirements for installation, operation, and maintenance instructions, when specified, to be available at the site on a timely basis.
- 1.3 A preventive maintenance program shall be established at the site. This program shall include a schedule of maintenance operations to be performed and documentation of maintenance operations performed. The maintenance program shall be based on the manufacturers' recommendations or Project Engineering instructions.
- 1.4 The preventive maintenance program shall be applied to materials and equipment in storage and work areas, and after installation up to the time of release for preoperational testing.

2.0 TASKS*

- 2.1 Project Engineering shall prepare procurement documents, provide criteria for the storage level of items at the site, and resolve any problems relative to the assignment of storage levels.
- 2.2 PQAD shall perform required verification at seller facilities relative to the handling, cleaning, and preparation of items for shipment as required by the procurement documents. 
- 2.3 PQAD shall audit the maintenance program of items in long term storage at seller facilities on an individual case basis as required by specific requests from NUSCo. 

- 2.4 Construction (field) shall establish and implement a storage and preventive maintenance program of items stored at the site and at specified nearby locations, and maintain appropriate maintenance records. Construction (field) shall assign levels of storage for items based on criteria provided by Project Engineering.
- 2.5 FQCD shall ensure that the quality of items is maintained throughout storage so that no degradation or deterioration is evident. Field Quality Control Division shall:
- 2.5.1 Concur in the level of storage of items assigned by Construction (field).
- 2.5.2 Verify implementation of the maintenance program by Construction (field).
- 2.5.3 Verify that only acceptable items are released for installation (risk released items are considered acceptable within the conditions of the risk case).
- 2.5.4 Document FQCD storage inspections/verifications.

3.0 DISCUSSION

None.

* See Appendix I for reference to implementing documents.

4.0 CLIENT CONSIDERATIONS

There are no additional client considerations.



**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION-UNIT 3

TITLE: INSPECTION, TEST, AND OPERATING STATUS	NUMBER: SECTION 14
	REVISION: C
	EFFECTIVE DATE: APRIL 20, 1979

APPROVALS

Richard D. Kelly

MANAGER, QUALITY ASSURANCE

[Signature]

CHIEF ENGINEER, ENGINEERING ASSURANCE

[Signature]

PROJECT MANAGER




SECTION 14

INSPECTION, TEST, AND OPERATING STATUS

1.0 REQUIREMENTS

- 1.1 The status of inspections and test operations shall be identified during manufacturing, construction, installation, and test. The status shall be indicated by tags, markings, shop travelers, stamps, route cards, inspection records, or checklists, or other suitable means, provided that the method used ensures that only accepted items are used, installed or operated. The removal of such tags, shop traveler, route cards, checklists, etc., shall only be performed by authorized personnel. Removal by unauthorized personnel shall be prohibited.
- 1.2 Nonconforming items shall be uniquely identified and controlled.

2.0 TASKS*

- 2.1 In addition to the tasks listed in Section 7, PQAD shall: 
- 2.1.1 Perform tasks relative to the assurance of inspection, test and operational status of items at seller facilities in accordance with procurement documents. 
- 2.1.2 Verify during inspections, audits, and surveys of Category I sellers that the seller is properly using a system for the identification of inspection and test operations, as appropriate, or as required by the procurement documents. 
- 2.2 In addition to the tasks listed in Section 7, FQCD shall:
- 2.2.1 Identify the status of inspections and tests performed during construction, installation, and test operations at the site.

* See Appendix I for reference to implementing documents.

- 2.2.2 Ensure that only accepted items are used, installed, or operated.
- 2.2.3 Maintain current documentation regarding the status of inspections and tests.

3.0 DISCUSSION

Reference Paragraph 1.1

The bypassing or waiver of a required inspection, test or critical operation shall be cause for rejection, unless Quality Assurance has reviewed and signed off on the document that authorized the bypass or waiver, i.e., an addenda to a specification and/or an E&DCK.

4.0 CLIENT CONSIDERATIONS

There are no additional client considerations.



**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: NONCONFORMING MATERIALS, PARTS, OR COMPONENTS	NUMBER: SECTION 15
	REVISION: D
	EFFECTIVE DATE: 7/12/84

APPROVALS

Richard Kelly

VICE PRESIDENT, QUALITY ASSURANCE

W. M. Eifert

CHIEF ENGINEER, ENGINEERING ASSURANCE

W. H. Gifford

SUPERINTENDENT OF CONSTRUCTION SERVICES

Corran

PROJECT MANAGER

SECTION 15

NONCONFORMING MATERIALS, PARTS, OR COMPONENTS

1.0 REQUIREMENTS

- 1.1 Nonconforming items shall be controlled to prevent their inadvertent use or installation. The controls shall include measures for identification, documentation, segregation (as appropriate), disposition, and notification to affected organizations.
- 1.2 While physical segregation and marking are preferred, other means of identification (e.g., marking, tagging, etc.) are acceptable when physical segregation is impracticable.
- 1.3 Dispositions authorizing a change in requirements shall be made by the same (or equally authorized) organization or group responsible for establishing the original requirements.
- 1.4 A system shall be established for reporting significant nonconformances as defined in Paragraph 50.55(e) of 10CFR50, and in 10CFR21.

2.0 TASKS*

- 2.1 EA shall establish a system for complying with Paragraph 50.55(e) of 10CFR50 regarding the reporting of significant deficiencies in design and construction. The system shall include notification to NUSCo.
- 2.2 Project Engineering shall develop and approve dispositions for Nonconformance & Disposition (N&D) Reports which originate from nonconformances noted in seller shops and submitted by PQAD, and those which originate from nonconformances observed at the site and submitted by FQCD.
- 2.3 PQAD shall prepare, issue, distribute, and control N&D Reports which originate from nonconformances noted in seller facilities and which cannot be corrected within the scope of the applicable drawings and specifications. Copies of all N&D Reports including those dispositioned as "accept-as-is" or "repair" shall be provided to NUSCo.

* See Appendix I for reference to implementing documents.

2.4 Field Quality Control Division shall:

2.4.1 Prepare, issue, distribute, and control N&D Reports which originate from nonconformances noted at the site which cannot be corrected within the scope of the applicable drawings and specifications.

2.4.2 Review all dispositions and close out all N&D Reports when actions have been completed.

2.4.3 Provide copies of N&D Reports to NUSCo, if required.

2.5 Construction (field) shall request Engineering dispositions for nonconformances which cannot be resolved within the scope of the applicable drawings and specifications. They shall review dispositions made by Project Engineering to determine that the disposition can be implemented.

3.0 DISCUSSION

3.1 Reference Paragraph 1.1

Nonconformances are analyzed by Quality Assurance on a monthly basis for each project. Copies of the quality index trend charts for each activity are made part of the monthly project report and forwarded to appropriate client and SWEC management (Vice President Quality Assurance, Project Manager, Director of Engineering, Quality Assurance Manager, Project Engineer, Construction Manager). Further, a semi-annual summary review is made of all nonconformances to ascertain significant trends or conditions and a summary report, with recommended courses of action, is forwarded to the President of the company and other appropriate top level management.

3.2 Reference Paragraph 1.2

Nonconforming material is rejected, identified, and segregated, if practicable, until the nonconforming condition is corrected either by rework to return it to the specified condition or by a change in the specified requirement by the Engineering Department. Both the rework and/or the change in the specified requirement is subject to Quality Assurance review or sign off as specified herein. Assurance of compliance is gained through the audit program delineated in Section 18.

D

3.3 Reference Paragraph 2.2

Reinspection of rework and repair activities is conducted in accordance with the requirements of the engineering specification/procedure. The work is evaluated to the accept/reject criteria delineated in the engineering specification/procedure and is documented in inspection reports.

3.4 Reference Paragraphs 2.3 and 2.4

Each N&D Report identifies and describes the nonconformance, the disposition of the nonconformance, the appropriate inspection requirement either directly or by reference, and includes signature approval of the disposition.

4.0 CLIENT CONSIDERATIONS

4.1 Nonconforming material may not be installed at the construction site without prior approval by NUSCo.

4.2 For Category I nonconformances dispositioned "Repair" or "Accept As Is," prior approval by NUSCo is required.

4.3 Nonconformances, as used in this section, include unsatisfactory and nonconforming conditions as defined in Appendix III.

4.4 Reference Paragraph 2.5

N&Ds initiated by Construction (field) shall be submitted to FQC for processing in accordance with applicable procedures.

4.5 Reference Paragraph 3.1

Trend charts do not have to be part of the monthly project report but may be issued as a separate document.

4.6 Reference Paragraph 3.3

Add to end of paragraph, " and/or "Nonconformance and Disposition Reports."





**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: CORRECTIVE ACTION	NUMBER: SECTION 16
	REVISION: D
	EFFECTIVE DATE: 7/12/84

APPROVALS

Richard Kelly

VICE PRESIDENT, QUALITY ASSURANCE

W. J. [unclear]

CHIEF ENGINEER, ENGINEERING ASSURANCE

W. L. [unclear]

SUPERINTENDENT OF CONSTRUCTION SERVICES

[unclear]

PROJECT MANAGER

SECTION 16

CORRECTIVE ACTION

1.0 REQUIREMENTS

- 1.1 Major and recurring conditions adverse to quality, such as failures, malfunctions, deficiencies, defective material and equipment, and nonconformances shall be identified, the main causes determined, and corrective action taken to preclude repetition. These conditions include failures of the quality system.
- 1.2 The conditions, their cause, and the corrective action taken shall be documented and reported to responsible management. The area of concern shall be audited in a timely manner to assure that the corrective action has been accomplished.
- 1.3 Measures shall be taken to keep appropriate SWEC personnel informed of potential problems by a feedback system of reports on significant and recurring problems encountered in other SWEC projects and in government and industry as determined from published literature.

2.0 TASKS*

- 2.1 The Quality Assurance Department and EA shall fulfill the requirements of this Section, in general, by implementing the tasks of Sections 15 and 18 of this manual.
- 2.2 EA shall analyze EA audit data to determine significant conditions and trends. Reports of findings shall be prepared for management.
- 2.3 EA shall review published government and industry literature for problems related to quality assurance so that applicable potential problems are brought to the attention of appropriate personnel.
- 2.4 EA shall establish a feedback system for the reporting of significant and recurring problems for preventive action.
- 2.5 QSD shall analyze inspection and audit data based on inputs from FQCD and PQAD, evaluate the cause of major and recurring nonconformances and submit reports to management with recommended corrective action.

*See Appendix I for reference to implementing documents.

3.0 DISCUSSION

3.1 Reference Paragraph 1.3

Corrective action is verified by the performance of corrective action audits to assure that the agreed upon corrective action has been implemented. These audits, in conjunction with the completed infraction notices/corrective action correspondence, are considered to close out the corrective action documentation.

4.0 CLIENT CONSIDERATIONS

4.1 SWEC shall report significant deficiencies adverse to quality to NUSCo promptly as well as the cause and corrective action relating to these significant deficiencies. This requirement is addressed in Paragraph 2.1, Section 15.

4.2 Reference Paragraph 2.0

Add the following paragraph:

2.6 QACAD shall analyze QACAD audit data to identify adverse quality trends with reports to management recommending corrective action.

4.3 Reference Paragraph 2.3

4.3.1 After "related to quality assurance," add "engineering, design, and construction."

4.3.2 Change "published" to "selected."

4.4 Reference Paragraph 3.1

Delete text and replace with the following:

"Corrective action taken to correct deficient conditions discovered by inspection, test, or audits shall be verified by the performance of reinspections, retests, reaudits, or review of corrective action documentation to assure that the agreed upon corrective action has been implemented and to close out the deficiency."



**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR PCWER STATION - UNIT 3

TITLE: QUALITY ASSURANCE RECORDS	NUMBER: SECTION 17
	REVISION: 0
	EFFECTIVE DATE: 7/12/84

APPROVALS

Richard Skelly

VICE PRESIDENT, QUALITY ASSURANCE

W. E. Eifert

CHIEF ENGINEER, ENGINEERING ASSURANCE

W. L. Huff

SUPERINTENDENT OF CONSTRUCTION SERVICES




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PROJECT MANAGER


SECTION 17

QUALITY ASSURANCE RECORDS

1.0 REQUIREMENTS

- 1.1 Measures shall be established for the collection and maintenance of quality assurance records which furnish objective evidence of the quality of items or the completion of those activities affecting quality. 
- 1.2 Measures shall be established for the maintenance of those quality assurance records furnished to Stone & Webster by Westinghouse.
- 1.3 Applicable specifications and procurement documents shall specify the types of quality assurance records to be generated and their disposition.
- 1.4 Inspection and test records shall be reviewed to ensure that, as a minimum, they identify the inspector or data recorder, the type of operations, the results, the acceptability, and the action taken if deficiencies were noted. These records shall be signed by the reviewer.
- 1.5 Permanent plant records shall be stored in an area satisfactory to NUSCo in the temporary construction facility and issued on a controlled basis to prevent loss. Records designated by NUSCo as permanent plant records shall be transferred to the permanent plant file area as directed by NUSCo. 
- 1.6 Permanent plant records shall be microfilmed, as appropriate. 
- 1.7 Records shall be identifiable and retrievable.

2.0 TASKS*

- 2.1 Project Management Department shall establish a records management system. The Project Manager shall implement a records management system for the control of project quality assurance records and shall ensure the inclusion of such records in the permanent plant file. 

*See Appendix I for reference to implementing documents.

2.2 Construction (field) shall:

- 2.2.1 Establish and maintain a records facility as defined by Project Management for the control of documents to ensure the inclusion of quality assurance records into the permanent plant file.
- 2.2.2 Transfer permanent plant records to NUSCo.

2.3 Project Engineering shall:

- 2.3.1 Implement the Project Engineering portion of the records management system established by Project Management for control of documents to assure the transfer of quality assurance records into the permanent plant file for design and engineering.
- 2.3.2 Verify the completeness of the engineering and design documents.

2.4 The Quality Assurance Department shall implement the Quality Assurance portion of the project records management system established by Project Management in addition to the following generic tasks:

2.4.1 Procurement Quality Assurance Division shall:

- A. Ensure that specified quality assurance records are available before items are released for shipment from Seller facilities, as required by procurement documents.
- B. Verify the completeness of specified Seller quality assurance records for other than field purchased items.
- C. Release quality assurance records required by procurement documents to FQC (at the site).

2.4.2 Field Quality Control Division shall:

- A. Implement the FQCD site portion of the project records management system established by Project Management to ensure that FQCD quality related documents, when they are completed, are included in the permanent plant file.

- B. Verify the completeness of specified Seller QA records for field purchased items.
- C. Assemble site generated inspection records into appropriate record packages and verify completeness prior to transmittal to the permanent plant file.

2.4.3 Quality Systems Division shall develop working file systems for Quality Assurance Department Records.

3.0 DISCUSSION

None

4.0 CLIENT CONSIDERATIONS

4.1 The policies and requirements published as Section 17 of SWSQAP 1-74A, Revision C, is adopted for the Millstone 3 Project and published in this section.

4.2 Reference Paragraph 2.4.3

After "Quality Systems Division," add: "Nondestructive Test Division, and Quality Assurance Cost and Auditing Division."





**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: AUDITS	NUMBER: SECTION 18
	REVISION: F
	EFFECTIVE DATE: 7/12/84

APPROVALS

Richard Skelly

VICE PRESIDENT, QUALITY ASSURANCE

W. E. Eifert

CHIEF ENGINEER, ENGINEERING ASSURANCE

W. G. Gifford

SUPERINTENDENT OF CONSTRUCTION SERVICES

C. Gosau

PROJECT MANAGER

SECTION 18

AUDITS

1.0 REQUIREMENTS

- 1.1 Audit programs shall be established to ensure that quality activities are in compliance with the requirements of this manual and related procedures, and to determine the effectiveness of the quality assurance program.
- 1.2 The audit programs shall provide a planned and scheduled system of audits on both Stone & Webster internal operations and sellers. The programs shall include provisions for reporting nonconforming conditions to the responsible level of management for any necessary corrective action. Deficient areas shall be promptly audited to assure accomplishment of the corrective action.
- 1.3 Audits shall be performed in accordance with written procedures or checklists by appropriately trained personnel having no direct responsibility in the activity being audited.
- 1.4 Records shall be maintained of all audits performed.
- 1.5 Audit schedules shall be provided to NUSCo.
- 1.6 Audit reports, of their project, shall be made available to NUSCo for review, upon request, at the Stone & Webster office having custody of the audit report files.
- 1.7 Upon request, Stone & Webster may act as NUSCo's agent and perform special audits in activities in which Stone & Webster has no direct responsibility.

2.0 TASKS*

- 2.1 The Vice President, Quality Assurance shall periodically assess the implementation of the quality assurance program for compliance with the Preliminary Safety Analysis Report, and Appendix B to 10CFR50. Copies of the audit findings and recommendations shall be submitted to the President of Stone & Webster, the Manager of Projects, and the Project Manager.

* See Appendix I for reference to implementing documents.

2.2 Engineering Assurance shall:

- 2.2.1 Establish audit schedules and provide copies to the Project Quality Assurance Program Administrator for forwarding to NUSCo.
- 2.2.2 Conduct audits of engineering and design activities including activities that determine site features that affect plant safety.
- 2.2.3 Maintain records of audits performed.
- 2.2.4 Conduct post-award audits of suppliers for procured engineering services.
- 2.2.5 Conduct audits of the QA Cost and Auditing Division of the Quality Assurance Department.

2.3 Procurement Quality Assurance Division shall:

- 2.3.1 Establish audit schedules and provide copies to NUSCo.
- 2.3.2 Conduct audits of sellers, after award of purchase orders for Category I items, to determine whether the sellers are complying with their approved quality assurance programs.
- 2.3.3 Maintain records of audits performed.

2.4 QA Cost and Auditing Division shall:

- 2.4.1 Establish audit schedules and provide copies to NUSCo.
- 2.4.2 Conduct audits of Stone & Webster indoctrination and training programs to qualify individuals performing inspection, examination, and testing activities.
- 2.4.3 Conduct audits of all Quality Assurance Department programs, including Engineering Assurance Division activities.
- 2.4.4 Maintain records of audits performed.
- 2.4.5 Report to the QA Department Manager on adherence to quality related procedures and systems.

2.5 QA Department personnel shall support audits on request.

3.0 DISCUSSION

3.1 Reference Paragraph 1.2

3.1.1 Project audits are generally conducted on a quarterly basis and cover the scope of work being performed by the project at the time of the audit. The audit schedule starts at the time SWEC is awarded the work and runs until the project is completed. Additional audits, relating to specific areas of interest, are conducted as determined by appropriate management.

3.1.2 Engineering audit data is analyzed by the Engineering Assurance Division and reported to Engineering Management with copies to the Quality Assurance Department. QA Department audit data is analyzed by the Reports Section of the Quality System Division and/or the QA Cost and Auditing Division and reported to the Manager and Vice President of Quality Assurance.

3.2 Reference Paragraph 2.1

This item requires that the Vice President, Quality Assurance, periodically assess the total Quality Assurance program for compliance and effectiveness.

During this review, the audit program is evaluated against the characteristics delineated below:

- work areas
- activities
- processes
- items (hardware)
- documents and records
- quality related practices, procedures, and instructions
- effectiveness of QA Program implementation
- conformance with policy objectives

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These characteristics are made part of the evaluation plan. This evaluation has in the past been conducted either by an independent review group made up of personnel within the Company or has been contracted to an independent third party consultant.

4.0 CLIENT CONSIDERATIONS

4.1 All quality related activities performed by SWEC or their contractors, suppliers, or engineering service organizations within the scope of the NUSCo purchase order/contract shall be subject to NUSCo or their authorized representative audit/inspection/surveillance at all reasonable times. At the conclusion of the audit, a post-audit conference shall be held.

4.2 Reference Paragraph 2.4

Add new Paragraphs 2.4.4 and 2.4.5, as follows, and renumber subsequent paragraphs accordingly:

- 2.4.4 Conduct audits to verify that site contractors comply with the requirements of their SWEC approved QA Program.
- 2.4.5 Conduct audits of the Purchasing Department, Construction Department, and Records Management Division.

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**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: CONTROL OF THE MILLSTONE UNIT 3 QUALITY ASSURANCE PROGRAM MANUAL	NUMBER: SECTION 19
	REVISION: D
	EFFECTIVE DATE: 7/12/84

APPROVALS

Richard Kelly

VICE PRESIDENT, QUALITY ASSURANCE

W. M. Egan

CHIEF ENGINEER, ENGINEERING ASSURANCE

W. L. Gifford

SUPERINTENDENT OF CONSTRUCTION SERVICES

Conner

PROJECT MANAGER

SECTION 19

CONTROL OF THE MILLSTONE UNIT 3
QUALITY ASSURANCE PROGRAM MANUAL

1.0 REQUIREMENTS

- 1.1 This Program Manual, including portions thereof, is prepared and controlled by the Quality Systems Division and will be issued only to those individuals named by either the Vice President or Manager of the Quality Assurance Department.
- 1.2 Program Manual holders are responsible for maintaining their assigned documents.
- 1.3 The Vice President of Quality Assurance shall be responsible for, as a minimum, an annual (12-month) interval review of this program and direct upgrading as appropriate.
- 1.4 This Program Manual, modeled after Stone & Webster's Standard Nuclear Quality Assurance Program (SWSQAP 1-74A, Revision N/A dated December 31, 1974) shall be reviewed and approved as described in Appendix VI of this manual. With the exception of the Introduction, Client considerations and this Section, the basic 18 sections including the Policy letter and the Appendixes to this Manual shall be consistent with the above revision of SWSQAP 1-74A which was accepted by the licensee. This Manual shall be the governing QA document for the Project. D
- 1.5 Any degradation of the above SWSQAP 1-74A in the conversion to this Project QA Program Manual or by subsequent revision of this Project QA Program Manual shall be detailed in writing by the QA Manager and brought to the attention of the licensee for SAR change and/or approval by NRC before adoption.
- 1.6 Licensee additions to this Project QA Program Manual shall be entered in part 4.0, "Client Considerations," within each section or as a separate section within each appendix and shall not be considered as a program revision provided they do not result in a degradation of SWSQAP 1-74A.

- 1.7 Revisions to SWSQAP 1-74A, Revision N/A, subsequent to initial issue of the Project QA Program Manual, shall be brought to the Licensee's attention for consideration of adopting the changes in the Project QA Program. Such changes accepted by the Licensee can be made on a section basis by inclusion in the Client Considerations part of the Section/Appendix. Adoption of subsequently revised sections of SWSQAP 1-74A, approved by the NRC, shall be by publication of the complete section with a Client Consideration part documenting the adoption. Where it is inappropriate to adopt a whole SWSQAP section but necessary to maintain consistency with this document, text changes to the Project QA Program Manual shall be accomplished by addressing the change in the Client Consideration section. Changes evaluated as degradations to any part of the program shall be detailed in writing by the QA Manager and submitted to the Licensee for SAR Change and approval by the NRC before adoption.

2.0 TASKS

2.1 The QSD shall:

- 2.1.1 Assign unique identification numbers for each document issued.
- 2.1.2 Maintain a distribution list of all document holders and their locations.
- 2.1.3 Maintain history files for the originals, revisions, and cancellations issued against each section of the program document.
- 2.1.4 Maintain history files of any degradation in the conversion from the Standard Program to the Project QA Program Manual.
- 2.1.5 Distribute documents and record or file receipt acknowledgments.
- 2.1.6 Issue an updated Table of Contents with each new section or revision issued.

2.2 All Program Manual Holders shall:

- 2.2.1 Upon receipt of their assigned program document, acknowledge receipt and completeness by signing, dating, and returning the attached letter of transmittal.

- 2.2.2 Notify QSD of any discrepancies and changes of address.
- 2.2.3 Maintain the Manual by replacing superseded material immediately with updated material upon receipt.
- 2.2.4 Destroy all superseded material immediately except for site history file copies.
- 2.2.5 Return the Program Manual to QSD when it is no longer needed, requested by the Quality Assurance Department, or upon termination.

3.0 DISCUSSION

None





**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: CROSS REFERENCE MATRIX OF IMPLEMENTING DOCUMENTS	NUMBER: APPENDIX I
	REVISION: E
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APPROVALS

Richard B. Kelly

 VICE PRESIDENT, QUALITY ASSURANCE

W. J. Eifert

 CHIEF ENGINEER, ENGINEERING ASSURANCE

W. K. Gifford

 SUPERINTENDENT OF CONSTRUCTION SERVICES

Ernest

 PROJECT MANAGER

CROSS REFERENCE MATRIX OF IMPLEMENTING DOCUMENTS

NOTE X - MANUAL SECTION NUMBER CORRELATION

10CFR50 APPENDIX B QUALITY ASSURANCE CRITERIA	SECTION I ORGANIZATION	SECTION II - QUALITY ASSURANCE PROGRAM	SECTION III DESIGN CONTROL	SECTION IV - PROCUREMENT DOCUMENT CONTROL	SECTION V - INSTRUCTIONS, PROCEDURES & DRAWINGS	SECTION VI - CONTROL OF DOCUMENT CONTROL	SECTION VII - CONTROL OF PURCHASED MATERIAL, EQUIPMENT & SERVICES	SECTION VIII - IDENTIFICATION & CONTROL OF MATERIALS, PARTS & COMPONENTS	SECTION IX - CONTROL OF SPECIAL PROCESSES	SECTION X INSPECTION	SECTION XI TEST CONTROL	SECTION XII - CONTROL OF MEASURING & TEST EQUIPMENT	SECTION XIII - HANDLING, STORAGE & SHIPPING	SECTION XIV - INSPECTION, TEST & OPERATING STATUS	SECTION XV NONCONFORMING MATERIALS, PARTS OR COMPONENTS	SECTION XVI CORRECTIVE ACTION	SECTION XVII - QUALITY ASSURANCE RECORDS	SECTION XVIII AUDITS
SWEC STANDARD NUCLEAR QUALITY ASSURANCE PROGRAM (or Project OAPM)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
QUALITY STANDARDS MANUALS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
QUALITY ASSURANCE DIRECTIVES MANUAL	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
QUALITY CONTROL INSTRUCTIONS	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SWEC QA MANUAL	N/A	2,3,4,5	3,4,5	3,4	3,4,5,9	3,4,5,6, 9	3,4,5,7	8	3,6,9	4	4	4,12	4	N/A	3,15,16	15,16,18	17	7,18
CONSTRUCTION METHODS PROCEDURES MANUAL	N/A	N/A	N/A	1	1 ENTIRE MANUAL	11	1	1,3,4,5, 6,7,8,9, 10	2,3,4,5, 6,7,8,9, 10	N/A	N/A	1	10	N/A	1	1	11	1
CALIBRATION MANUAL	N/A	N/A	N/A	1	1 ENTIRE MANUAL	1	1	N/A	N/A	N/A	N/A	SEE QS-12.1 ENTIRE MANUAL	N/A	N/A	N/A	N/A	1	N/A
PROJECT MANUAL	103	NOTE ①	NOTE ②	NOTE 3,32,72, 77	NOTE ③	NOTE ④	7,77,99	10,74	85	99	N/A	N/A	N/A	N/A	68	31,114	NOTE ⑤	95,99
STD NUCLEAR TEST PROGRAM DIRECTIVES (or Project TPD'S)	2	2,3,6	N/A	N/A	1	1,3,5	N/A	5	N/A	5	ENTIRE MANUAL	8	7	5	5	5	3	N/A
ASME, SECTION III, DIVISION 1 MANUAL	1,3	1,2,3,4, 19,21,23	5,6	7	5,6	ENTIRE MANUAL	8,7	8,9,11	10,12,14	13	22	16	8	8,13,15 17,22	13,15	15	20,24	18
ASME, SECTION III, DIVISION 2 MANUAL	1,3	1,2,3,4 19,23	5,6	7	10,13	9	8,7	8,11,12	21,14,12	13	13,22	16	8	8,13,15 17,22	13,15	15	20,24	18

NOTES PROJECT MANUAL TAB Nos.

- ① 12, 40, 69, 77, 99, 107, 119
- ② 17, 19, 20, 32, 39, 40, 45, 59, 72, 77, 83, 88, 91, 99, 100, 104, 105, 109, 112, 116
- ③ 1, 5, 42, 71, 82, 110, 111
- ④ 13, 19, 38, 64, 79, 83, 94, 102
- ⑤ 2, 4, 81, 81, 84, 87, 88

Client Considerations

1. The cross-reference matrix of implementing documents published as Appendix I to SWSQAP 1-74A, Revision C, is adopted for the Millstone 3 project with the exception of:
 - a. The referenced Standard Nuclear Test Program Directives (or Project TPDs) which are replaced with the Project Test Program Manual.
 - b. The ASME Section III Division 2 Manual has been canceled.
 - c. Since the Project Manual is not in an 18 Section format, the referenced sections of the Project Manual are actually NEAM procedure numbers.





**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: QUALIFICATION AND EXPERIENCE REQUIREMENTS, STONE & WEBSTER QUALITY ASSURANCE PERSONNEL	NUMBER: APPENDIX II
	REVISION: E
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APPROVALS

Richard Kelly

VICE PRESIDENT, QUALITY ASSURANCE

W. M. Eifert

CHIEF ENGINEER, ENGINEERING ASSURANCE

W. H. Gillich

SUPERINTENDENT OF CONSTRUCTION SERVICES

Conner

PROJECT MANAGER

APPENDIX II

QUALIFICATION AND EXPERIENCE REQUIREMENTS*
SWEC QUALITY ASSURANCE PERSONNEL

<u>TITLE</u>	<u>EDUCATION</u>	<u>BACKGROUND EXPERIENCE</u>
V.P., Quality Assurance	BS/BA	Minimum of 10 years in responsible assignments in heavy construction management, engineering, or quality assurance. At least two years of this time should be in the nuclear field with emphasis on project/division management.
Manager, Quality Assurance	BS/BA	Minimum of 10 years in responsible assignments in engineering, quality assurance and control, or power station construction or operation.
Assistant Manager, Quality Assurance	BS/BA	Minimum of seven years in responsible assignments in engineering, quality assurance and control, or power station construction or operation.
Chief Engineer, Engineering Assurance	BS/BA	Minimum of five years in responsible assignments in engineering, quality assurance and control, inspection, or auditing.
Chief Engineer, Quality Systems	BS/BA	Minimum of five years in responsible assignments in quality assurance and control or construction of a power station.
Manager, Procurement Quality Assurance	BS/BA	Minimum of five years in responsible assignments in quality assurance and control or shop inspection.

<u>TITLE</u>	<u>EDUCATION</u>	<u>BACKGROUND EXPERIENCE</u>
Manager, Field Quality Control	BS/BA	Minimum of five years in responsible assignments in quality assurance and control or construction of a power station.
Chief Engineer, Nondestructive Test	BS/BA	Minimum of five years in responsible assignments in nondestructive testing of materials or metallurgy.
Chief Engineer, QA Cost and Auditing	BS/BA	Minimum of five years in responsible assignments in quality assurance and control or construction of a power station.
Project Quality Assurance Manager/Quality Assurance Program Administrator	BS/BA	Minimum of five years in quality assurance and related fields including manufacturing, construction, and/or installation activities. At least two years of this experience should be associated with the nuclear field in either field or headquarters project or quality assurance assignments.
Supt. of FQC/Assistant Manager or Assistant Chief Engineer of QA Divisions	BS/BA	Minimum of five years experience in quality assurance and related fields, including testing and/or inspection of manufacturing, construction, and/or installation activities. At least two years shall be in a supervisory capacity in the nuclear field.

OR



<u>TITLE</u>	<u>EDUCATION</u>	<u>BACKGROUND EXPERIENCE</u>
	High School General Education Development Equivalent (GED)	Minimum of ten years of experience in general quality assurance or equivalent engineering, manufacturing, construc- tion, and/or installa- tion activities. Five years of total experience is required in quality assurance, including testing and/or inspection of equivalent manufacturing, construc- tion, and/or installa- tion activities. At least two years should be associated with the nuclear field.
Assistant Supt. of FQC	BS/BA	Minimum of five years of experience in quality assurance, including testing and/or inspec- tion of equivalent manufacturing, construc- tion, and/or installa- tion activities. At least two years of this experience should be associated with the nuclear field.
		OR
	High School/ GED	Minimum of ten years of experience in general quality assurance or equivalent engineering, manufacturing, construc- tion, and/or installa- tion activities. Five years of this experience is required in quality assurance, including testing and/or inspection of equivalent manufacturing, construc- tion, and/or installa-

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<u>TITLE</u>	<u>EDUCATION</u>	<u>BACKGROUND EXPERIENCE</u>
Section Head/Supervisor/Sr. QA Engineer	BS/BA	tion activities. At least two years of this experience should be associated with the nuclear field.
QA Engineer	BS/BA	Minimum of five years experience in quality assurance and related fields. The individual shall preferably hold a P.E. registration or ASQC certification as a Quality Engineer.
	OR	
	Associates Degree	Minimum of eight years experience and hold a P.E. registration or ASQC certification as a Quality Engineer.
Test, Inspection, and Examination Personnel	**	**

*Equivalent qualification may be substituted based on other education accomplishments, experience in related fields, and technical achievements such as holding license as a Professional Engineer or Certification as a Quality or Reliability Engineer by the American Society for Quality Control. For additional information relative to qualification of inspection, examination, and testing personnel, see SWEC's response to Regulatory Guide 1.58 in Appendix VII. Assignment of SWEC personnel to any position described in this Appendix is a management prerogative within the indicated guidelines.

**These positions and their qualifications are described in SWEC's response to RG 1.58 (N45.2.6-1978) in Appendix VII of this document.

Client Considerations

The qualification and experience requirements for SWEC Quality Assurance personnel published as Appendix II to SWSQAP 1-74A, Revision D, is adopted for the Millstone III Project with the following exceptions:

1. Reference Page II-4

Delete the last paragraph and add:

As indicated in Appendix VII, the project is committed to RG 1.58, Revision 1 (ANSI N45.2.6-1978) without alternatives or exceptions. As such, the education and background experience requirements for these positions are as described in Paragraph 3.5 of the ANSI standard.

2. General Education Development (GED) is not applicable to the Project.





**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

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APPROVALS

Richard B. Kelly

VICE PRESIDENT, QUALITY ASSURANCE

W. M. Eifert

CHIEF ENGINEER, ENGINEERING ASSURANCE

W. H. Gifford

SUPERINTENDENT OF CONSTRUCTION SERVICES



Conan

PROJECT MANAGER

APPENDIX III - GLOSSARY

INTRODUCTION

The primary reference or source of each definition included in this glossary is identified next to the term using the following "Base Source Acronym Key Code":

- ANSI -American National Standards Institute N45.2.10-1973; Quality Assurance Terms & Definitions.
- ASME -The American Society of Mechanical Engineers, Boiler and Pressure Vessel Code, Section III, Division 1 and Division 2, 1980, including all applicable addenda. 
- ASQC -American Society for Quality Control; A3-1971 (ANSI Z1.7-1971) General Terms Used in Quality Control.
- EOQC -European Organization for Quality Control; Glossary of Terms Used in Quality Control, Third Edition - Rotterdam - 1972.
- NRC -United States Nuclear Regulatory Commission.
- RDT -Reactor Development and Technology
- SWEC -Stone & Webster Engineering Corporation. The definitions are based on current and past acceptance usage at Stone & Webster. 
- 10CFR50 -Appendix B to Part 50, Title 10, Code of Federal Regulations, "Quality Assurance Requirements for Nuclear Power Plants" as published June 27, 1970 in the Federal Register, as amended.

GLOSSARY

Accept-As-Is (SWEC)

A disposition requiring Engineering Department justification and approval which is applied to nonconforming material that does not meet all specified requirements but will continue to meet its intended use and continue to meet applicable Code and functional requirements including safety.

Acceptance Criteria (SWEC)

A limit placed on the variation permitted in the characteristics of an item expressed in definite quantitative terms or qualitative terms by use of comparative samples.

Accuracy (EOQC)

The degree of conformity of a measurement with a standard or true value.

Action Party (SWEC)

The individual who is assigned responsibility by virtue of his position or capability which makes him able to take corrective or preventive action to rectify the deficiencies identified by inspection, examination, tests, or audits.



Advisory Operations Division (SWEC)

A Division of the Engineering Department which is responsible for test and start-up activities for power plants, including preparation of test procedures and qualification of test personnel.

Approval (ANSI)

The act of endorsing or adding positive authorization or both to an action or document.

Approved Procedures (SWEC)

A written document signed by authorized personnel, which prescribes actions required to implement a program, specification, method, or technique.

Appurtenance (ASME)

A Code appurtenance is an item similar to a Code part which is attached to a completed and stamped component.



As Built Drawings (SWEC)

A drawing altered or suitably appended with related Engineering & Design Coordination Reports and Nonconformance and Disposition Reports to reflect actual installed conditions.



ASME Section III (SWEC)

American Society of Mechanical Engineers, Boiler and Pressure Vessel Code, Section III, Nuclear Power Plant Components, Division 1, Metal Components, or Division 2, Concrete Reactor Vessels and Containments, as applicable.

Assembly (ANSI)

A combination of subassemblies or components, or both, assembled to form a unit.

Attribute (EOQC)

A quality characteristic which may be qualitatively evaluated in terms of a yes or no decision.

Audit (SWEC)

A documented activity performed in accordance with written procedures or checklists to verify by examination or evaluation of objective evidence that applicable elements of the quality program have been developed, documented, and implemented in accordance with specified requirements.



Audit, Corrective Action (SWEC)

A follow-up audit to verify that corrective action on discrepancies disclosed by prior audits have been taken and implemented.



Audit, External (SWEC)

Audit of those portions of an organization's quality assurance program not retained under its direct control and not within its organizational structure.



Audit, Internal (SWEC)

Audit of those portions of an organization's quality assurance program retained under its direct control and within its organizational structure.

Audit Observation (SWEC)

A description of a program deficiency in sufficient detail to assure that corrective action can be effectively carried out by the audited organization.



Audit Plan (SWEC)

A list of attributes for a particular audit developed from applicable procedures, instructions, codes, or regulations.



Audit Report (SWEC)

An in-depth report which states the purpose of the audit, the auditors and personnel contacted, the observations listing details of deficiencies in systems or procedures requiring corrective action, names of action parties responsible for corrective or preventive action, date by which action replies are expected, and may contain recommendations for corrective or preventive action.



Audit, Seller/Contractor (SWEC)

An audit of a Seller or contractor providing material or services to Stone & Webster.



Authorized Inspection Agency (ASME)

The agency designated as such by the appropriate legal authority of a state or municipality of the United States or Province of Canada. For Stone & Webster Engineering Corporation, this agency is The Hartford Steam Boiler Inspection and Insurance Company, Hartford, Connecticut, 06102.

Authorized Nuclear Inspector (ASME)

Inspectors who perform required inspections under the ASME Section III Code, and who shall have been qualified by written examination under the rules of any State of the United States or Province of Canada which has adopted the ASME Code. The Inspector is an employee of an Authorized Inspection Agency and shall not be an employee of the Certificate of Authorization holder.

Calibration (SWEC)

Comparison of a measuring or test device with a standard of sufficient accuracy to determine whether the device is within specified limits of accuracy over a required range of values and, if not, repairing and/or adjusting the device to conform to requirements.

Certificate of Authorization (ASME)

An ASME document evidencing permission to perform a scope of work at a specific location.

Certificate of Compliance (ANSI)

A written statement, signed by a qualified party, attesting that the items or services are in accordance with specified requirements and accompanied by additional information to substantiate the statement. This may also be known as a Certificate of Product Quality.

Certificate of Conformance (ANSI)

A written statement, signed by a qualified party, certifying that the items or services comply with specific requirements.

Certification (ANSI)

The action of determining, verifying, and attesting in writing to the qualification of personnel, material, and documentation.

Characteristic (ANSI)

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

Checks (ANSI)

The tests, measurements, verifications, or controls made on an activity by means of investigations, comparisons, or examinations to determine satisfactory condition, accuracy, safety, or performance.



Code (SWEC)

A set of specific requirements, published under the cognizance of a recognized Technical Society or Trade Association, invoked to the degree stated in applicable Engineering Documents. The word is capitalized when describing ASME Section III.

Company (SWEC)

Refers to Stone & Webster Engineering Corporation.

Component (ASME)

Code items such as vessels, piping systems, pumps, valves and storage tanks, core support structures, concrete reactor vessels, and concrete containments. Each component bears the required Code N-symbol and is furnished with appropriate Code Data Reports.

Component Support (ASME)

Those metal supports which are designed to transmit loads between the Nuclear Power Plant ASME component and the building structure.

Construction Drawings (SWEC)

A SWEC approved drawing used for the fabrication, installation, or erection of power plant systems, components, and structures.

Construction Phase (NRC)

Those activities associated with fabrication and manufacturing in addition to site-related construction activities. From a Quality Assurance viewpoint, the construction phase commences with Limited Work Authorization (LWA), if granted, and continues on from first erection of safety-related structures, systems, and components to fuel loading.

Construction-Site (SWEC)

Designates responsibility for actions required of the Stone & Webster Engineering Corporation construction forces at the jobsite under the direction of the Senior Construction Site Representative.

Contract (SWEC)

A form of agreement used to procure services or labor and may include the procurement of material and/or equipment.

Contractor (SWEC)

The business entity which enters into a Contract and becomes the primary obligor for the supply of labor and materials (or equipment) associated therewith and is deemed to be a principal Contractor.

Controlled Copy (SWEC)

A copy of a procedure or a manual that is systematically updated and whose custodian is listed in the appropriate distribution list.

Controlled Documentation (SWEC)

A document whose distribution, updating, and use is to be regulated.

Corrective Action (SWEC)

Determination of the cause of adverse conditions and implementation of the action necessary to correct the conditions and prevent recurrence.

Defective Item (SWEC)

An item which has one or more characteristics that does not comply with specified requirements; also, termed to be unsatisfactory or nonconforming material.

Design (used as a verb) (SWEC)

Technical and management processes, which lead to and include the issuance of documents such as drawings, specifications, and other documents, specifying technical requirements of structures, systems, and components.

Disposition (SWEC)

The decision determining how to resolve a nonconformance.

Division Technical Procedure (SWEC)

In the SWEC Engineering Department, a document issued by a Division Chief which describes administrative activities and/or technical work at the division level performed by one, several, or all SWEC offices.

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Division Technical Standard (SWEC)

In the SWEC Engineering Department, a document which may be used to supplement an engineering document or drawing, and provides information which does not have to be developed on the engineering document it supplements.



Documentation (ANSI)

Any written or graphic information describing, defining, specifying, reporting, or certifying activities, requirements, procedures, or results.

Engineering Assurance Division (SWEC)

A Division of the Engineering Department which is responsible for establishing a system of management control within the Engineering Department, including preparation of procedures, personnel training, and auditing to assure compliance.



Engineering Service (SWEC)

Work performed by others in connection with the design and licensing of power plants.

Engineering Service Scope of Work (ESSOW) (SWEC)

A procurement document used to describe, in detail, an engineering service to be performed by an engineering service supplier.

Engineering Service Supplier (SWEC)

The engineering consultant, contractor, scientist, mathematician, or other individual, group, or company that performs the engineering service under a contract or purchase order.



Erection (SWEC)

The process of constructing systems and structures in the field using manufactured or fabricated materials, components, assemblies, and subsystems. Synonymous with "Installation" as used by ASME Code.

Examination (ANSI)

An element of inspection consisting of investigation of materials, components, suppliers, or services to determine conformance to those specified requirements which can be determined by such investigation. Examination is usually

nondestructive and includes simple physical manipulation, gauging, and measurements.

Fabrication (SWEC)

The process of utilizing facilities, material elements, and labor to produce items such as components, assemblies, subassemblies, and materials for further fabrication or erection in the field.

Failure (RDT)

The inability of an item to perform within specified limits.

Field Quality Control Division (SWEC)

A Division of the Quality Assurance Department responsible for, or the assurance of, the implementation of the SWEC Quality Assurance Program at the sites.

Hold Point (ASQC)

A point in a function or process at which inspection shall be performed, and beyond which work may not proceed without inspection action.

Inspection (ANSI)

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

Inspection Notification Point (ASQC)


A point in a function or process sequence where notification of the inspector is required for his option of performing inspection. Work may proceed beyond this point following notification.

Inspector (SWEC)

A qualified inspector, employed by Stone & Webster Engineering Corporation, whose duties include the verification of quality related activities or installations or both.

Licensee (SWEC)


The owner, person, group, company, or corporation who has or will have title to the Power Plant under construction or constructed

by Stone & Webster under contract as Architect/Engineer, Constructor, and/or Consultant. 

Licensing Division (SWEC)

A Division of the Engineering Department which is responsible for coordinating all licensing activity for power plants, including establishment of licensing policy, and guidance and assistance of all licensing and safety matters.


Management Plans for Project Quality (SWEC)

A document prepared for a specific project, normally of limited scope, which describes the scope of work, organizational assignments, and applicable procedures. These plans, also described as Quality Plans, when used on a commercial nuclear facility subject to NRC regulation, will be based upon and reference an NRC approved quality program document such as SWEC's SWSQAP 1-74A, a Licensee's quality program, or a specially prepared quality program plan/document. 

Manufacturer (SWEC)

One who constructs a component, part, or appurtenance to meet prescribed design requirements.

Material (ASME)

Material manufactured to a Code specification, or any other material specification permitted by ASME Section III. 


Materials Certification (SWEC)

Certification by the materials manufacturer or others by test and inspection that all specified requirements have been complied with (also see Certificate of Compliance).

Measuring and Test Equipment (M&TE) (SWEC)

Tools, gauges, instruments, and other measuring and testing devices used for acceptance inspection and/or testing.


Modification (SWEC)

A planned and documented change in plant design or operation. 

Monitor (SWEC)

To watch, keep track of, observe, regulate, or control any activity.

Nonconformance (SWEC)

Any item, condition, or material which deviates from drawings, specifications, or engineering requirements and cannot be corrected within the scope of such requirements or otherwise requires an Engineering disposition. 

Nonconformance and Disposition (N&D) (SWEC)

A report requesting an Engineering Department disposition of a nonconforming condition.

Nondestructive Test Division (NDTD) (SWEC)

A Division of the Quality Assurance Department responsible for defining and implementing a system which provides technical and administrative direction for all company activities concerned with using nondestructive testing to verify compliance to engineering requirements.


NSSS (SWEC)

Nuclear Steam Supply System

Objective Evidence (ANSI)

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


One Hundred Percent (100%) Inspection (SWEC)

In 100 percent inspection, all applicable attributes are applied to the entire lot, batch, or available portion/segment of product or service. It is synonymous with screening or sorting inspection. 

Owner (ANSI)

The person, group, company, or corporation who will have or has title to the facility or installation under construction.

Part (ASME)

A Code item that has work performed on it requiring the presence of or verification by an Authorized Nuclear Inspector and which is furnished to a component manufacturer by other manufacturers or by the same manufacturer under a separate Certificate of Authorization. A part is attached to or becomes a part of a 

component or component support before completion and stamping of the component or component support.

Percentage Inspection (SWEC)

The evaluation of all applicable attributes to a pre-established portion or percentage of the items, or the evaluation of a pre-selected portion of the attributes to all items. The selection of items will be random, unless selection on some other basis is specifically prescribed by specification or procedures.



Permanent Plant File (SWEC)

A file established for or by the Licensee for the receipt and storage of QA records received from all SWEC offices that are required to be retained for the Licensee or which the Licensee wishes to retain.

Piping System (SWEC)

An assembly of material, parts, and components with specific boundaries which provide a flow path for a fluid.



Plant (ANSI)

The equipment, piping, structures, buildings, and property that comprise an installation or facility.

Post Audit Conference (SWEC)

Communications held between the auditing and audited organizations to review the audit observations and clarify any misunderstandings.



Pre-Audit Conference (SWEC)

Communications held between the auditing and audited organizations prior to the conduct of the audit to outline the scope of the Audit and personnel to be contacted, and establish the lines of communication during the audit.

Precision (EOQC)

The degree of resolution and repeatability of measurements made under prescribed like conditions.

Pressure Boundary (SWEC)

Any surface which is subjected to differential pressure exerted by a fluid (liquid or gas).



Preventive Action (SWEC)

Action taken and documented to preclude recurrence of deficiencies or nonconformances.

Procedure (ANSI)

A document that specifies or describes how an activity is to be performed. It may include methods to be employed, equipment or materials to be used, and sequence of operations.

Procedure Qualification (SWEC)

Testing a process as outlined in a procedure to assure that the prescribed results will be accomplished.

Procurement Documents (SWEC)

Contractual documents that identify and define the requirements which items or services must meet in order to be considered acceptable by the purchaser. Procurement documents include contracts, letters of award, and purchase orders which authorize the Seller or Contractor to perform services or supply equipment, material, or facilities on behalf of the purchaser.

Procurement Quality Assurance Division (PQAD) (SWEC)

A Division of the Quality Assurance Department responsible for Seller control activities for procured items as required by the specification.

Product Quality Certification (SWEC)

A document which certifies the product(s) has been inspected in accordance with SWEC Procurement Quality Assurance (PQA) requirements and that specifies supporting documentation has been reviewed and conforms to applicable procurement requirements. This completed document will serve as evidence for acceptance of the product(s) for shipment.

Program (SWEC)

A plan or procedure instituted to provide materials or services in accordance with specified procurement, design, and regulatory requirements.



Project (SWEC)

A planned series of design, engineering, and construction activities necessary to provide, utilize, and maintain a facility or portion thereof.

Project Engineering (SWEC)

The group consisting of the Project Engineer, Assistant Project Engineer(s), Lead Engineers, and support engineers responsible for engineering and design activities on the Project. Technical guidance is drawn from the various Engineering Department Divisions represented on the Project.

Project Management Department (SWEC)

The Project Management Department has the authority for the overall planning, organizing, staffing, directing, and controlling those activities required to achieve project objectives within approved schedules, budgets, and product specifications.

Project Procedures (SWEC)

Administrative and technical instructions for personnel assigned to a specific project.

Project Quality Assurance Manager (SWEC)

An individual who reports to the Manager, Quality Assurance, and has the responsibility for directing quality assurance project activities between Quality Assurance, Engineering, Construction, and Licensee personnel.

Project Quality Assurance Program Administrator (SWEC)

An individual who reports to the Assistant Manager, Quality Assurance Department and has direct responsibilities for coordinating quality related activities between Quality Assurance, Engineering, Construction, and Licensee personnel.

Project Quality Assurance Representative (SWEC)

The QA Department individual assigned to the project who has the responsibility of coordinating all quality assurance matters with the Licensee. May be Superintendent of FQC, Project Quality Assurance Program Administrator, Project Quality Assurance Manager, or others.

Purchaser (SWEC)

One who assumes the obligation of payment pursuant to a Purchase Order or Contract and accepts title to equipment and/or material.

Purchase Order (SWEC)

A form of agreement used to procure material, equipment, and ancillary services or for the procurement of professional and technical services.

QA Category I (SWEC)

Plant systems, or portions of systems, structures, and equipment whose failure or malfunction could cause a release of radioactivity that would endanger public safety. This category also includes equipment which is vital to a safe shutdown of the plant and the removal of decay and sensible heat, or equipment which is necessary to mitigate consequences to the public of a postulated accident. This category includes Code items, regardless of Code class, fabricated or installed under Section III of the ASME Code.

QA Category II (SWEC)

Plant systems, portions of systems, structures, and equipment essential for the reliable generation of electric power but which are not essential for a safe shutdown. Failure of this equipment could result in loss of power generation but would not endanger public safety. Equipment and systems which contain radioactive materials but whose failure could not release quantities sufficient to prejudice public safety are included in this category.

NOTE: The term "essential for the reliable generation of electric power" should be interpreted to mean structures, systems, and components whose failure would result in the halt of electric power generation in approximately eight hours or less.

QA Category III (SWEC)

Plant systems, portions of the systems, structures, and equipment which are not essential for the reliable generation of electric power and which do not contain radioactive material or whose failure could not result in the release of radioactive material.

NOTE: The term "not essential for the reliable generation of electric power" should be interpreted to mean structures, systems, and components whose failure would not result in

the halt of electric power generation in approximately eight hours or less.

Qualification (Personnel) (SWEC)

The characteristic or abilities gained through training, experience, or both that enable an individual to perform a required function. This capability, when required, shall be indicated by comparison to an established or defined standard of performance.

Qualified Party (ANSI)

A person or organization competent and recognized as knowledgeable to perform certain functions.

Qualified Procedure (ANSI)

A procedure which incorporates all applicable codes and standards, manufacturer's parameters, and engineering specifications and has been proven adequate for its intended purpose.

Quality (ASQC)

The totality of features and characteristics of a product or service that bear on its ability to satisfy a given need.

Quality Assurance (10CFR50)

All those planned and systematic actions necessary to provide adequate confidence that a structure, system, or component will perform satisfactorily in service. Quality Assurance includes Quality Control.

QA Cost and Auditing Division (QACAD) (SWEC)

A Division of the Quality Assurance Department responsible for implementing a quality audit program, developing QA cost estimates, and maintenance of the QA Department correspondence files and technical library.

Quality Assurance Department (SWEC)

Within the Stone & Webster Engineering Corporation, the department responsible for effective implementation of quality assurance functions.

Quality Assurance Directive (QAD) (SWEC)

A procedure applicable only to the Quality Assurance Department describing actions necessary to implement its quality related activities.

Quality Assurance Records (ANSI)

Those records which furnish documentary evidence of the quality of items and of activities affecting quality.

Quality Assurance Site File (SWEC)

A file maintained by FQC containing all working documents required to implement the QC Program and to properly document the performance of QC activities.

Quality Control (10CFR50)

Those quality assurance actions related to the physical characteristics of a material, structure, component, or a system which provide a means to control the quality of the material, structure, component, or system to predetermined requirements.

Quality Control Instructions (QCI) (SWEC)

A procedure, applicable only to the Quality Assurance Department, which provides specific guidance for local implementation of higher level procedures.

Quality Department Management (QDM) (SWEC)

All QA Department Chief Engineers and Managers responsible for a specific Division. This includes the QA Department Assistant Managers.

Quality Standard (QS) (SWEC)

A corporate standard procedure which defines the responsibilities and interfacing activities of the departments involved in a specific quality related activity.

Quality Systems Division (QSD) (SWEC)

A Division of the Quality Assurance Department responsible for the establishment and control of standardized quality systems.

Quality Verification Inspection (SWEC)

Quality verification inspection is a Quality Control action by which the work performed, inspected, and accepted by others such as contractors, is subject to verification as defined herein on a sampling, surveillance, or hold point basis, as appropriate.

Random (SWEC)

The selection, on an unbiased basis, giving each item in a collection of units of similar items an equal chance of being selected.

Receiving (ANSI)

Taking delivery of an item at a designated location.

Records Management Guidelines (SWEC)

Documents which define the Corporate Records Management Program for SWEC and provide requirements for the identification, collection, retention, storage, protection, retrieval, and destruction of recorded business and technical information.

Regulatory (SWEC)

Any of the several controlling organizations - Federal, state, or local which impose specific requirements on the design or construction of a nuclear power plant.

Regulatory Guide (NRC)

Regulatory Guides are issued to describe and make available to the public, methods acceptable to the NRC Staff of implementing specific parts of the Nuclear Regulatory Commission's Regulations, to delineate techniques used by Staff in evaluating specific problems or postulated accidents, or to provide guidance to Licensees. Regulatory Guides are not substitutes for regulations and compliance with them is not required. Methods and solutions different from those set out in the Guides will be acceptable if they provide a basis for the findings requisite to the issuance or continuance of a permit or license by the Commission. Compliance to Regulatory Guides is mandatory when a commitment to comply is made by SWEC in this program or other authoritative document.

Reject (SWEC)

An item, system, structure, material, or service found to be unsatisfactory or nonconforming.

Reliability (General Definition) (ASQC)

Ability of an item to perform a required function under stated conditions for a stated period of time.

Repair (SWEC)

The process of restoring a nonconforming characteristic to an approved acceptable condition, even though that item still does not conform to the original requirement. (A class of nonconformance disposition.)

Rework (SWEC)

The process by which an unsatisfactory or nonconforming item is made to conform to the original requirements by corrective means.

Sampling Inspection (SWEC)

Sampling inspection involves the complete evaluation of all applicable attributes for a randomly selected sample, which is less than 100 percent of the items. The sample size is determined by using an accepted sampling plan or other approved plan based on valid statistical techniques. The term "random" is not synonymous with "sampling", but only relates to the method of choosing the items for the samples.

Scrap (SWEC)

A disposition imposed on a nonconforming item when it is established that the discrepancy renders the item unfit for its intended use and it is uneconomical to correct.

Seller (SWEC)

The business entity providing materials, equipment, or services pursuant to a contractual agreement. When a Seller furnishes construction labor, he may be referred to as a Contractor.


Source Inspection (SWEC)

An inspection activity performed at the manufacturing location on material or components.

Special Process (SWEC)

An operation performed under controlled conditions in accordance with specified requirements utilizing qualified procedures, equipment, and personnel. Special processes may include, but are not limited to, welding, brazing, soldering, cleaning, heat treating, and NDT.

Specification (SWEC)

An Engineering document specifying technical and quality assurance requirements for materials, items, or services. 

Standard (Calibration) (SWEC)

Calibrated measuring or test equipment whose calibration is traceable to the National Bureau of Standards, where such standards exist, physical constants, or recognized industrial standards and used for the calibration of Measuring and Test Equipment.


Standard (Reference Document) (SWEC)

A recognized reference document which establishes a set of rules, goals, or objectives published by a recognized Technical Society or Trade Association such as ANSI, ASTM, ASME, ASQC, and IEEE.

Storage (SWEC)

The act of placing or leaving items in a suitable location for preservation or later use or disposal.

Subassembly (SWEC)

Part of an assembly consisting of materials or components and which is to be fabricated in a shop or the field. 

Subcontractor (SWEC)

The business entity deriving its authority to perform work under the Contract from the Contractor after approval by the Purchaser. It includes Contractors who furnish materials worked to a special design according to the plans and specifications, but does not include Contractors who merely furnish materials not so worked.

Subsystem (ANSI)

A group of assemblies or components or both combined to perform a single function.

Supports (SWEC)

Includes all hangers, restraints, guides, and anchors used to support or restrain a component or piping system.

Surveillance (SWEC)

The planned systematic evaluation of records, methods, procedures, activities, and products to assure conformance of materials, processes, or services to specified Engineering requirements and to applicable Quality Assurance Program requirements.

Survey (SWEC)

A review of the capability of a bidder or potential bidder, contractor, or subcontractor which is conducted at his facility to establish his qualification and appraise his Quality Control Program.

System (ANSI)

A group of subsystems, united by some interaction or interdependence, performing many duties but functioning as a single unit.

Technical Requirement (SWEC)

Those parameters and requisites specified for an item (material, equipment, system, and structure) so that the item will meet design requirements; serve its intended purpose; and be operable, maintainable, and reliable.

Test (ANSI)

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.

Unsat (SWEC)

A deficiency in characteristic, documentation, or procedure which renders the quality of an item unacceptable or indeterminate. Examples of unsats include: physical defects, test failures, incorrect or inadequate documentation, or deviation from prescribed processing, inspection, or test procedures.

Vendor (SWEC)

See "Seller".

Verification (SWEC)

An act of confirming, substantiating, and assuring that an activity or condition has been implemented in conformance with the specified requirements. Verifying evidence may be in the form of documentation or confirmed by witnessing or performing a function.

Verify (SWEC)

The act of proving that a function or requirement has been met by examining objective evidence. This evidence can be in the form of documentation or confirmed by witnessing or performing a function.

Witness (SWEC)

The act of observing and giving an account of inspections and/or tests performed by others.

Client Considerations

The Glossary published as Appendix III to SWSQAP 1-74A, Revision D, is adopted for the Millstone 3 project and published in this Appendix with the following considerations:

1. Category II has been subdivided into an A and B subcategory for this project.
 - A. Subcategory A (Category IIA) will be applied to a selected list of Category II equipment and will require that Sellers have Quality Assurance programs which meet the requirements of ANSI Z1.8. Assignment to Category IIA is based on cost of equipment and/or its importance to power generation.
 - B. Subcategory B (Category IIB) includes all Category II equipment not assigned to Category IIA by agreement between NUSCo and Stone & Webster. No Quality Assurance program requirements are required by specification. However, the Seller's quality system will be evaluated against MIL-I-45208A.
2. The term "Project Quality Assurance Manager" and corresponding definition is not applicable to the Project.
3. The term "Deviation (ANSI)" is defined as a nonconformance or departure of a characteristic from specified requirements considered to be synonymous with defective or unsatisfactory material.

◁ E

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4. Delete the definition for the term "Audit (SWEC)" on Page 3 and substitute:

"A documented activity performed in accordance with written procedures or checklists to verify by examination or evaluation of objective evidence that applicable elements of the quality program are developed, documented, and implemented in accordance with specified requirements."





**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: ENGINEERING DESIGN REVIEW	NUMBER: APPENDIX IV
	REVISION: B
	EFFECTIVE DATE: April 6, 1981

APPROVALS

Richard Kelly

MANAGER, QUALITY ASSURANCE

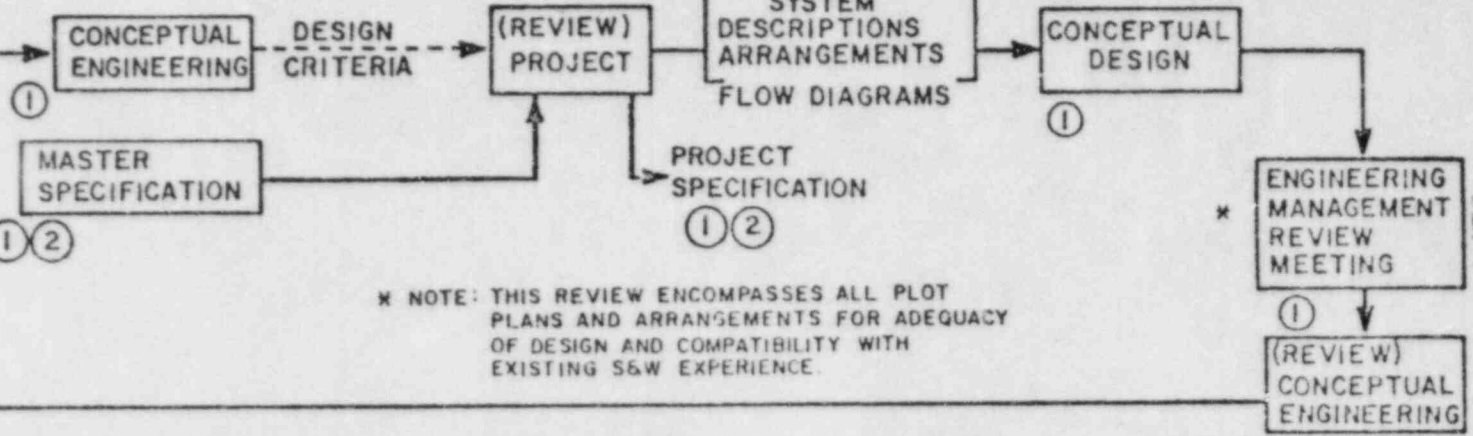
He [unclear]

CHIEF ENGINEER, ENGINEERING ASSURANCE

[Signature]

PROJECT MANAGER

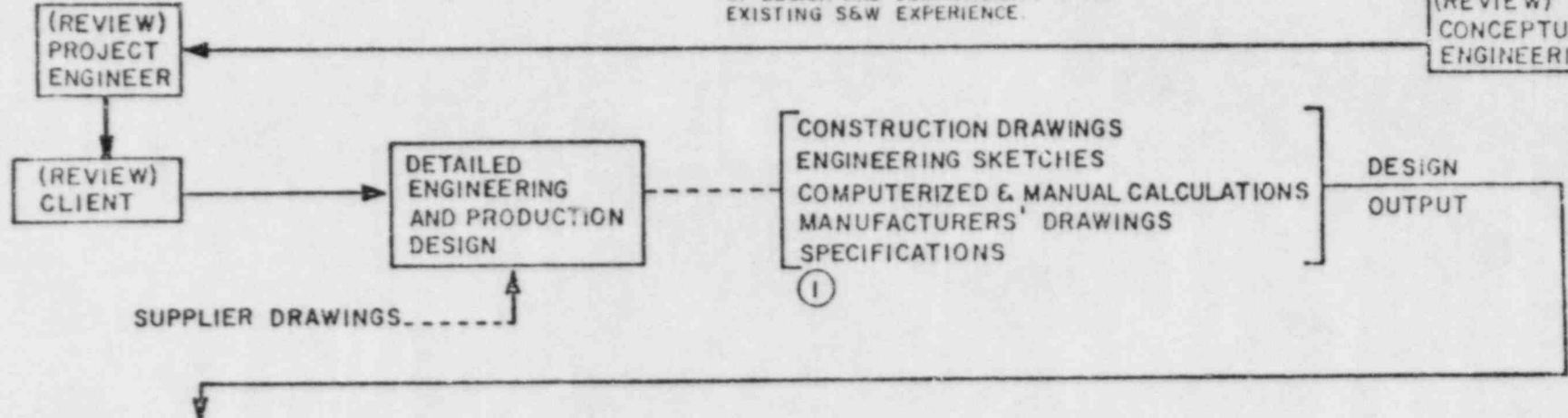
PROFESSIONAL SOCIETIES (ASME, ANS, ETC)
 REGULATORY REQUIREMENTS (NRC, EPA, ETC.)
 OPERATING EXPERIENCE FEEDBACK
 CONSTRUCTION EXPERIENCE FEEDBACK
 INTERNAL EXPERIENCE (PROJECTS)
 INTERNAL EXPERIENCE (DESIGN)
 INTERNAL EXPERIENCE (SPECIALISTS)



PLOT PLANS
 EQUIPMENT LAYOUTS
 ARRANGEMENTS

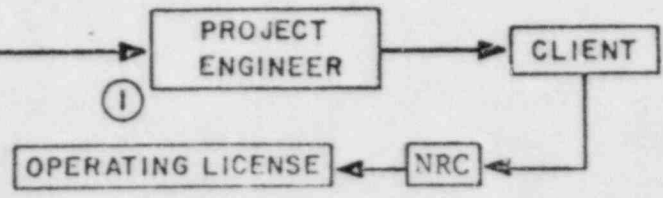
* NOTE: THIS REVIEW ENCOMPASSES ALL PLOT PLANS AND ARRANGEMENTS FOR ADEQUACY OF DESIGN AND COMPATIBILITY WITH EXISTING S&W EXPERIENCE.

ENGINEERING AND DESIGN REVIEW



- ② ENGINEERING CHANGES
- ① NONCONFORMITY &
- ② DISPOSITION REPORTS

LEGEND: ASSURANCE ACTIVITIES
 ① - ENGINEERING ASSURANCE AUDITS
 ② - Q A. REVIEW & SIGN-OFF
 ③ - Q A. AUDIT



ENGINEERING AND DESIGN REVIEW

Client Considerations

The reference to the AEC in the Engineering and Design Review chart was changed to NRC and the corrected chart published in this appendix.

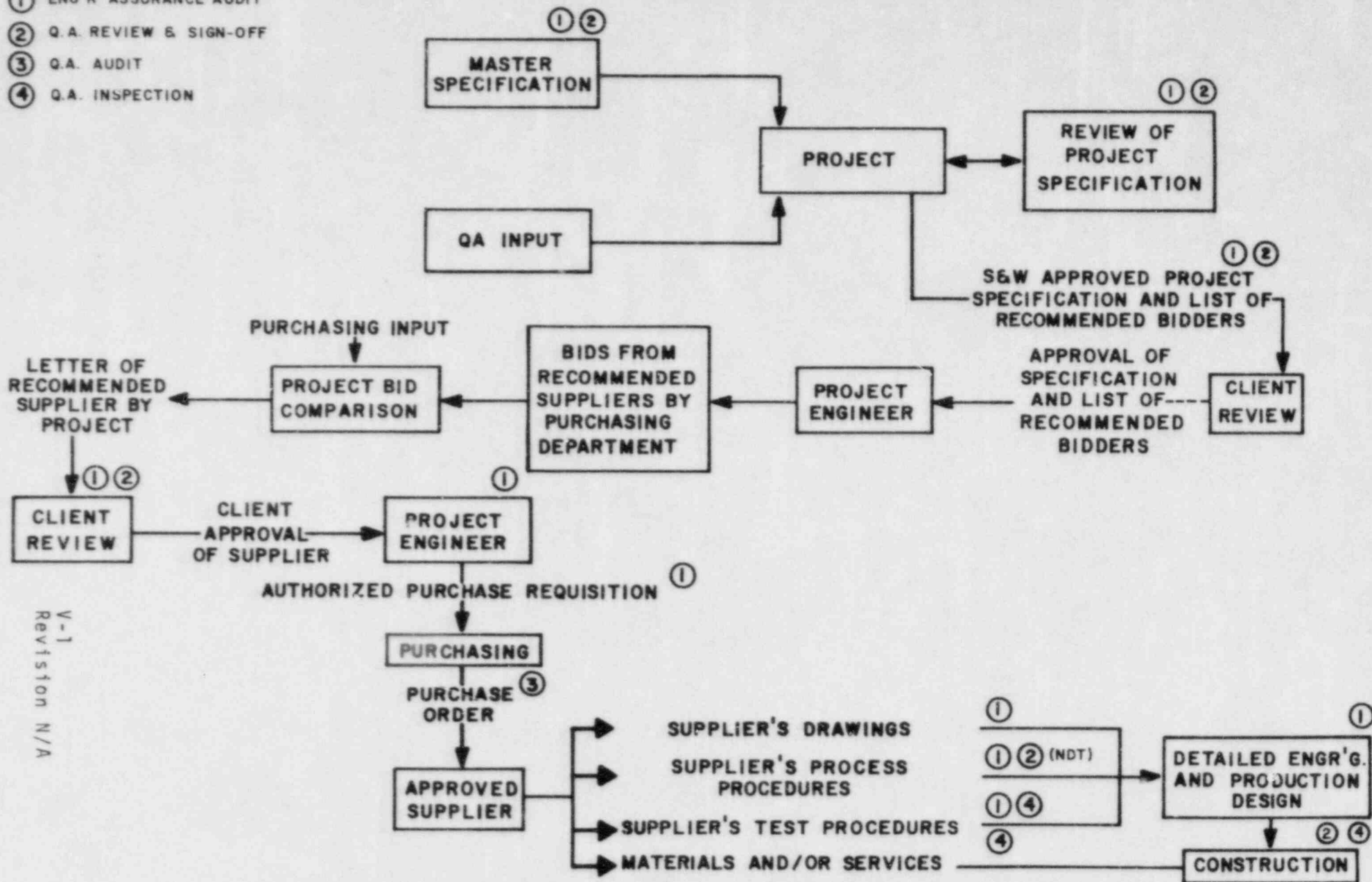


SPECIFICATION AND BIDDERS REVIEW

APPENDIX V

LEGEND

- ① ENG'R ASSURANCE AUDIT
- ② Q.A. REVIEW & SIGN-OFF
- ③ Q.A. AUDIT
- ④ Q.A. INSPECTION



V-1
Revision N/A



STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT

QUALITY
ASSURANCE
PROGRAM

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: APPROVALS AND CONCURRENCES FOR QUALITY ASSURANCE SYSTEM DOCUMENTATION	NUMBER: APPENDIX VI
	REVISION: C
	EFFECTIVE DATE: 7/12/84

APPROVALS

Richard Kelly

 VICE PRESIDENT, QUALITY ASSURANCE

W. M. Eifert

 CHIEF ENGINEER, ENGINEERING ASSURANCE

W. H. Lippich

 SUPERINTENDENT OF CONSTRUCTION SERVICES

Conner

 PROJECT MANAGER

APPENDIX VI

APPROVALS AND CONCURRENCES FOR
QUALITY ASSURANCE SYSTEM DOCUMENTATION

DOCUMENTATION

<u>Program Documents</u>	<u>Approval</u>	<u>Concurrences</u>
1. <u>Standard SWEC Nuclear Quality Assurance Program</u>	President (Sections approved by Vice Presidents of affected Departments).	---
2. <u>Project QA Program</u>	Manager, QA Department; Chief Engineer, Engrg. Assurance; Project Manager; Superintendent of Construction Services; and Project QA Representative (when designated as a Project QA Manager).	---
3. <u>Management Plans for Project Quality</u>	Manager, QA Department; Chief Engineer, Engrg. Assurance; and Superintendent of Construction Services (if Department activities are included); and the Project Manager or equivalent and the Project Engineer (if assigned).	Licensee QA Representative (if required)
4. <u>Standard Nuclear Test Program Directives</u>	VPs of Quality Assurance and Engineering Departments and VPs of Construction and Project Management, when affected.	---

C

<u>Program Documents</u>	<u>Approval</u>	<u>Concurrences</u>
5. <u>Project Test Program Directives</u>	Senior Construction Site Representative, if affected, QA Representative, Senior Engineering Test Representative. The above personnel shall be specifically identified in the appropriate Project Test Program Directive.	---



6. Company Quality Assurance and Control Manual - ASME Section III

Policy	President	---
Procedure originals, Appendices, and revisions	Manager, QA Department	Affected Department Heads
Changes	Manager, QA Department	



NOTE

Also requires acceptance by the Authorized Nuclear Inspection Agency.

<u>Procedural Documents</u>	<u>Approval</u>	<u>Concurrence</u>
1. <u>Quality Standards</u>		
Generic and Project model		
Charter (QS-5.1)	Chairman of the Board, Office of the Chief Executive	---
Originals, revisions, and changes	VPs of Affected Departments	
Cancellations	Vice President, QA Department	---
Projectized original, revisions, and changes	Vice President, Quality Assurance and other affected Department Heads; and as appropriate by the Project QA Representative (when designated as a Project QA Manager), the FQC Senior QA Site Representative, Senior Construction Site Representative, Superintendent of Construction Services - Boston, Project Engineer, and others as designated in applicable Project procedures	---
2. <u>Quality Assurance Directives</u>		
Generic and project model		
Originals, revisions, and changes	Manager, QA Department	Div. Mgr./ Ch. Eng. of affected QA Division



<u>Procedural Documents</u>	<u>Approval</u>	<u>Concurrence</u>
All NDT QADs	Chief Engineer, NDTD, in addition to the QA Manager; and Level III NDT Engineer	Chief Engineer, QSD
Cancellations	Manager, QA Department	Div. Mgr./Ch. Eng. of affected QA Division
Projectized original, revisions, and changes	Manager, QA Department; and Project QA Manager or FQC Superintendent as applicable	---
All NDT QADs	Chief Engineer, NDT Division and Level III, NDT Engineer	---
3. <u>Quality Control Instructions</u>	FQC-Supt. of FQC & Manager, FQCD OR PQA - District Manager & Manager, PQA OR Headquarters and Operations Centers - Quality Department Management	---
4. <u>Calibration</u>		
Meteorology Standards	Manager, QA Department	Div. Mgr./Ch. Eng. of affected QA Division
Calibration Procedure	Div. Mgr./Ch. Eng. of preparing Div.	Div. Mgr./Ch. Eng. of affected QA Division



<u>Procedural Documents</u>	<u>Approval</u>	<u>Concurrence</u>
5. <u>Engineering Assurance Procedures*</u>		
Originals and revisions	Vice President, Eng. Dept.	---
Change	Vice President, Eng. Dept. or Chief Engineer, EA	---
Cancellations	Chief Engineer, EA	
6. <u>Project Manual</u>	Project Manager	---
7. <u>Construction Management Manual*</u>	Vice President, Construction Department	---
8. <u>Standard Construction Methods Procedures (CMPs) or Project Construction Methods Procedures**</u>	Vice President, Construction Department	---
9. <u>Records Management Guidelines*</u>	Affected Department and Division Heads	---
10. <u>Purchasing Department Procedures*</u>	Affected Department Heads	---

*Reviewed by the QA Department with comments resolved prior to issue.

**Reviewed by the QA and Engineering Departments with comments resolved prior to issue.

Client Considerations

Approvals and concurrences for Quality Assurance System Documentation published as Appendix VI to SWSQAP 1-74A, Revision D, is adopted for the Millstone 3 project and published in this appendix except in paragraph 2. Project QA Program delete "Manager, QA Department" and substitute "Vice President, Quality Assurance."



**STONE & WEBSTER ENGINEERING CORPORATION
QUALITY ASSURANCE DEPARTMENT**

**QUALITY
ASSURANCE
PROGRAM**

MILLSTONE NUCLEAR POWER STATION - UNIT 3

TITLE: RESPONSE TO REGULATORY GUIDANCE	NUMBER: APPENDIX VII
	REVISION: B
	EFFECTIVE DATE: 7/12/84

APPROVALS

Richard Kelly
VICE PRESIDENT, QUALITY ASSURANCE

W. Eifert
CHIEF ENGINEER, ENGINEERING ASSURANCE

W. Liffick
SUPERINTENDENT OF CONSTRUCTION SERVICES

Comau
PROJECT MANAGER

APPENDIX VII

RESPONSE TO REGULATORY GUIDANCE

Details of Stone & Webster responses to U.S.A.E.C. Regulatory Guides listed in the Gray Book (Wash 1283, Rev. 1), Green Book (Wash 1309, May 10, 1974), and Quality Assurance provisions of Regulatory Guide 1.70.6 are as listed below. These responses are commitments to maintain compliance with these listed guides, except as noted in positions stated in this Appendix.

I. Regulatory Guides

- A. Regulatory Guide No. 1.28, Rev. 0, dated June 7, 1972 (ANSI N45.2-1971), "Quality Assurance Program Requirements" - complies.
- B. Regulatory Guide No. 1.30, Rev. 0, dated August 11, 1972 (ANSI N45.2.4-1972), "Quality Assurance Requirements for the Installation, Inspection, and Testing of Instrumentation and Electric Equipment" - complies.
- C. Stone & Webster's QA program requirements comply with the quality assurance provisions of the following guides (RG 1.37, 1.38, 1.39, and 1.54). SWEC's response to the technical (engineering, design, and construction) provisions to the following guides (RG 1.37, 1.38, 1.39, and 1.54) is given in NUSCO's FSAR.
- Regulatory Guide No. 1.37, Rev. 0, dated March 16, 1973 (ANSI 45.2.1-1973), "Quality Assurance Requirements for Cleaning of Fluid Systems and Associated Components of Water-Cooled Nuclear Power Plants."
 - Regulatory Guide No. 1.38, Rev. 2, dated May 1977 (ANSI N45.2.2-1972), "Quality Assurance Requirements for Packaging, Shipping, Receiving, Storage, and Handling of Items for Water-Cooled Nuclear Power Plants."
 - Regulatory Guide No. 1.39, Rev. 0, dated March 16, 1973 (ANSI N45.2.3-1973), "Housekeeping Requirements for Water-Cooled Nuclear Power Plants."
 - Regulatory Guide No. 1.54, Rev. 0, dated June 1973 (ANSI N101.4-1972), "Quality Assurance Requirements for Protective Coatings Applied to Water-Cooled Nuclear Power Plants." (See Section IIB, "Additional Guidance.")

- D. Regulatory Guide No. 1.58, Rev. 1, dated September 1980 (ANSI N45.2.6-1978), "Qualification of Nuclear Power Plant Inspection, Examination, and Testing Personnel" - complies.
- E. Regulatory Guide No. 1.64, Rev. 0, dated October 1973 (ANSI N45.2.11-1973), "Quality Assurance Requirements for the Design of Nuclear Power Plants" - complies.
- F. Regulatory Guide No. 1.70, Rev. 3, dated November 1978, "Standard Format and Content of Safety Analysis Reports for Nuclear Power Plants" - complies.
- G. Regulatory Guide No. 1.74, Rev. 0, dated February 1974 (ANSI N45.2.10-1973), "Quality Assurance Terms and Definitions."

Appendix III, "Glossary," has been submitted as an acceptable alternative.

- H. Regulatory Guide No. 1.88, Rev. 0, dated August 1974 (ANSI N45.2.9-1974), "Collection, Storage, and Maintenance of Nuclear Power Plant Quality Assurance Records" - complies.
- I. Regulatory Guide No. 1.94, Rev. 1, dated April 1976 (ANSI N45.2.5-1974), "Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants" - complies, except that the correlation testing shall be performed in accordance with the applicable requirements of Section 6.11 of ANSI N45.2.5-1978.
- J. Regulatory Guide No. 1.116, Rev. O-R, dated May 1977 (ANSI N45.2.8-1975), "Quality Assurance Requirements for Installation, Inspection, and Testing of Mechanical Equipment and Systems" - complies.
- K. Regulatory Guide No. 1.123, Rev. 1, dated July 1977 (ANSI N45.2.13-1976), "Quality Assurance Requirements for Control of Procurement of Items and Services for Nuclear Power Plants" - commit to comply with Guide, subject to the following alternative:

Certain standard catalog or non-engineered items may be procured without seller qualification. This alternative method is the method described in Section 7, paragraphs 1.4.1, 1.4.2, 1.4.3, and 3.1.2 of this program.

- L. Regulatory Guide No. 1.144, Rev. 1, dated September 1980 (ANSI N45.2.12-1977), "Auditing of Quality Assurance Programs for Nuclear Power Plants" - commit to comply with Guide, subject to the following clarification:

The pre-audit and post-audit conferences required by Sections 4.3.1 and 4.3.3 of ANSI N45.2.12-1977 may be fulfilled by a variety of documented communications such as telephone conversations.

- M. Regulatory Guide No. 1.146, Rev. 0, dated August 1980 (ANSI/ASME N45.2.23-1978), "Qualification of Quality Assurance Program Audit Personnel for Nuclear Power Plants" - comply.

II. Additional Guidance

- A. SWEC commits to comply with the Quality Assurance Provisions of Branch Technical Position ASB 9.5-1, "Fire Protection Guidelines for Nuclear Power Plants," as indicated in Appendix A, Section C to the Fire Protection Evaluation Report (FPER). SWEC's response to the Technical Provisions of the BTP are provided in the Millstone Unit No. III FPER whereby appropriate quality measures contained in this program document are applied.
- B. Reference Paragraph IC (RG 1.54), compliance will not be invoked for equipment of a miscellaneous nature and all insulated surfaces, due to the impracticability of imposing Regulatory Guide requirements to the standard shop processes used in painting valve bodies, handwheels, electrical cabinetry and control panels, loudspeakers, emergency light cases, and other miscellaneous equipment. The Regulatory Guide will not be invoked for these items since the total surface area for such items is relatively small when compared to the total surface area for which the requirements will be imposed.

ATTACHMENT II

TEXT CHANGES
TO THE
STONE & WEBSTER ENGINEERING CORPORATION
MILLSTONE UNIT 3
QUALITY ASSURANCE PROGRAM MANUAL

TABLE OF CONTENTS
REVISION G
7/12/84

INTRODUCTION

Revised wording to clarify that appropriate sections of later revisions of SWSQAP 1-74A , previously approved by the NRC have been adopted.

SECTION I
ORGANIZATION

<u>Paragraph</u>	<u>Description of Change</u>
2.2	Revised paragraph via the addition of Client Consideration (paragraph 4.2) to more fully describe Quality Systems Division's chartered responsibilities in the areas of training and QA review of SWEC technical documents.
2.7	Revised paragraph via the addition of Client Consideration (paragraph 4.3) to more fully describe the scope of QACA Division's responsibility for internal and external audits.
2.7.4	Deleted this paragraph via the addition of Client Consideration (paragraph 4.4). Support Services is no longer a QACA responsibility.
3.2	Revised paragraph via the addition of Client Consideration (paragraph 4.5) to clarify FQC's responsibility for the verification of site subcontractors.
4.2	Added Client Consideration see description of change for paragraph 2.2.
4.3	Added Client Consideration see description of change for paragraph 2.7.
4.4	Added Client Consideration see description of change for paragraph 2.7.4.
4.5	Added Client Consideration see description of change for paragraph 3.2.
Figure 1	Updated organization chart to reflect current project engineering structure and titles of Senior QA Department Management.
Figure 2	Updated QA organizational chart to reflect current titles of Senior Management.
Figure 3	Updated EA organization chart fo reflect current breakdown of sections under Assistant Chief Engineers responsibility.
Figure 4	Updated chart to reflect current QA organization and titles.

SECTION II
QUALITY ASSURANCE PROGRAM

<u>Paragraph</u>	<u>Description of Change</u>
1.4	Revised paragraph via the addition of Client Consideration (paragraph 4.2) to clarify all Construction work under jurisdiction of Section XI to the ASME Boiler and Pressure Vessel Code, when delegated to SWEC shall be in accordance with the SWEC ASME QA Manual.
1.7	Revised paragraph via the addition of Client Consideration (paragraph 4.3) to change "And Education" to "Training and Qualification Programs".
2.0	Added paragraph 2.10 via the addition of Client Consideration (paragraph 4.4) requiring the Construction Department to develop the "Construction Methods Procedure Manual" in order to establish management systems and methods to implement the QA Program for Construction activities.
2.3.1	Change paragraph via the addition of Client Consideration (paragraph 4.5) to add the requirement to develop management systems and methods to implement the QA Program within the QA Department.
4.2	Added Client Consideration see description of change for paragraph 1.4.
4.3	Added Client Consideration see description of change for paragraph 1.7.
4.4	Added Client Consideration see description of change for paragraph 2.0.
4.5	Added Client Consideration see description of change for paragraph 2.3.1.

SECTION III
DESIGN CONTROL

No Changes

SECTION IV
PROCUREMENT DOCUMENT CONTROL

<u>Paragraph</u>	<u>Description of Change</u>
2.0	Added paragraph 2.6 via Client Consideration (paragraph 4.2) requiring the Construction Department to prepare and process purchase requisitions for field procurement of items with QA requirements established by the applicable specification.
	Added paragraph 2.7 via Client Consideration (paragraph 4.2) to clarify that the Purchasing Department issues purchase orders/contracts to approved sellers for category I, II, and III "engineered" items.
3.2.2	Revised paragraph via the addition of Client Consideration (paragraph 4.3) to clarify quality requirements for "engineered" and "non-engineered" spare and replacement parts.
4.2	Added Client Consideration see description of change for paragraph 2.0.
4.3	Added Client Consideration see description of change for paragraph 3.2.2.

SECTION V
INSTRUCTIONS, PROCEDURES AND DRAWINGS

<u>Paragraph</u>	<u>Description of Changes</u>
2.2	Revised paragraph via the addition of Client Consideration (paragraph 4.2) to clarify that, as needed, the responsible division within QA shall prepare Quality Control Instructions.
2.0	Added paragraphs 2.3, 2.4, 2.5, and 2.6 via Client Consideration (paragraph 4.3) to clarify responsibility for corporate and project procedures and manuals.
4.2	Added Client Consideration see description of change for paragraph 2.2.
4.3	Added Client Consideration see description fo change for paragraph 2.0.

SECTION VI
DOCUMENT CONTROL

<u>Paragraph</u>	<u>Description of Change</u>
2.0	Added paragraph 2.3 via Client Consideration (paragraph 4.1) to clarify that the Construction Document Control System is implemented to control documents received at the site which prescribe activities affecting quality.
3.0	Delete "4.4.1D...minimum..." to add 7.6.1A...commitments" via Client Consideration (paragraph 4.2) to clarify applicability of procedures to the project.
4.1	Added Client Consideration see description fo change for paragraph 2.0.
4.2	Added Client Consideration see description of change for paragraph 3.0.

SECTION VII
CONTROL OF PURCHASED MATERIAL, EQUIPMENT, & SERVICES

<u>Paragraph</u>	<u>Description of Change</u>
1.4	Revised paragraph via the addition of Client Consideration (paragraph 4.1) to include all purchase orders.
2.4	Added paragraph 2.4.1 via Client Consideration (paragraph 4.3) to clarify requirements regarding field review and approval of site generated recommended bidders lists.
2.5.4	Revised paragraph via the addition of Client Consideration (paragraph 4.4) to clarify the inspector's duties for documentation needed for shipment.
3.1.1	Revised paragraph via the addition of Client Consideration (paragraph 4.5) to clarify the Purchasing Department involvement in the processing of procurement documents.
4.1	Added Client Consideration see description of change for paragraph 1.4.
4.3	Added Client Consideration see description of change for paragraph 2.4.
4.4	Added Client Consideration see description of change for paragraph 2.5.4.
4.5	Added Client Consideration see description of change for paragraph 3.1.1.

SECTION VIII
IDENTIFICATION AND CONTROL OF MATERIALS, PARTS AND COMPONENTS

Paragraph

Description of Change

2.0

Added paragraph 2.4 via Client Consideration (paragraph 4.0) to clarify Construction responsibilities for traceability markings as required in the specification.

4.0

Added Client Consideration see description of change for paragraph 2.0.

SECTION IX
CONTROL OF SPECIAL PROCESSES

Adopted Revision C to SWSQAP 1-74A to more clearly define departmental activities with regard to special process control. Specific changes to this section are as indicated below.

<u>Paragraph</u>	<u>Description of Change</u>
2.1	Modified paragraph 2.1.2 and added paragraphs 2.1.3 through 2.1.6 to more clearly describe Engineering Department responsibility in the generation/review/approval and control of special process procedures prepared by Engineering Department and other SWEC Departments. Modified paragraph 2.1.2 further by the addition of Client Consideration (paragraph 4.1) to more clearly define Engineering's responsibility as it pertains to Quality Assurance Directives.
2.2	Deleted text... "which are to be used at the site".
2.5	Modified paragraph 2.5.1, 2.5.3 to more accurately reflect FQC's responsibilities regarding the qualification of FQC personnel and the assurance that personnel performing special processes for other Departments/Organizations are qualified.
2.5.2	Revised paragraph via the addition of Client Consideration (paragraph 4.2) to clarify Departmental responsibilities for the control and maintenance of qualification records for the studwelding process.
2.5.4	Format change - this paragraph was formerly paragraph 2.6.
2.6	Format change - this paragraph was formerly paragraph 2.7.
2.7	Added this paragraph to identify the Construction Department's responsibility for special processes.
4.1	Added Client Consideration see description of change to paragraph 2.1.
4.2	Added Client Consideration see description of change to paragraph 2.5.2.

SECTION X
INSPECTION

Paragraph

Description of Change

2.3

Added paragraph 2.3.7 via Client Consideration (paragraph 4.3) to clarify the documentation requirements for verification inspections.

2.0

Added paragraph 2.5 via Client Consideration (paragraph 4.4) to clarify the responsibility of notification for inspection hold points.

3.2.1

Revised paragraph via the addition of Client Consideration (paragraph 4.5) to include the term "purchase requisitions".

4.3

Added Client Consideration see description of change for paragraph 2.3.

4.4

Added Client Consideration see description of change for paragraph 2.0.

4.5

Added Client Consideration see description of change for paragraph 3.2.1.

SECTION XI
TEST CONTROL

Adopted Revision C to SWSQAP 1-74A to more clearly describe Departmental activities pertaining to test control. Specific changes to this section are as indicated below:

<u>Paragraph</u>	<u>Description of Change</u>
1.1	Revised text for clarity.
1.2	Revised first sentence for clarity and deleted balance of paragraph... this part of text not necessary.
1.3	Added paragraph to address existing policy to test modification, repair, and replacement equipment.
1.4 and 1.4.1 thru 1.4.6	Format change - these paragraphs were formerly paragraphs 1.3 and 1.3.1 thru 1.3.5. Additionally, revised the text in these paragraphs for clarity regarding test program directives and the minimum information these procedures must contain.
1.5	Revised text for clarity.
2.1 and 2.1.1 thru 2.1.3	Format change - added text to describe Advisory Operation Division's scope of responsibility under the test control program.
2.2 and 2.2.1 thru 2.2.5	Format change - added text to describe Project Engineering's scope of responsibility under the test control program.
2.3	Format change - added text to describe Engineering Assurance's scope of responsibility under the test control program.
2.4 and 2.4.1 thru 2.4.3	Format change - added these paragraphs to more clearly describe the QA Department's responsibilities under the test control program.
2.5	Added paragraph to describe Construction's responsibility under the test control program.
3.1	Adoption of Revision C to SWSQAP 1-74A changed position on ANSI N45.2.8 to corporate commitment for corresponding Regulatory Guide 1.116. This paragraph is revised further via Client Consideration (paragraph 4.5) to reflect project SAR commitment to the Regulatory Guide as indicated in Appendix VII to the Manual.

SECTION XI
TEST CONTROL

Paragraph

Description of Change

4.1

Added paragraph to note adoption of Revision C to SWSQAP 1-74A.

4.2

Revised previous text under Client Consideration, Section 4.0 to more clearly define the scope of SWEC and NUSCO/NNECO responsibilities during preoperational testing.

4.3

Added paragraph 4.3 to modify text of paragraph 2.2.4 to require NUSCO and authorize nuclear inspector hold points be identified in test procedures.

4.4

Added Client Consideration to maintain specific description of FQC and PQA responsibilities during specification required testing (formerly paragraphs 2.1 and 2.3). These paragraphs were deleted in adopting text of Revision C to SWSQAP 1-74A and their intent more broadly stated in paragraph 2.4.

4.5

Added Client Consideration see change description for paragraph 3.1.

SECTION XII
CONTROL OF MEASURING AND TEST EQUIPEMNT

No Changes

SECTION XIII
HANDLING STORAGE & SHIPPING

No Changes

SECTION XIV
INSPECTION TEST & OPERATING
STATUS

No Changes

SECTION XV
NONCONFORMANCE MATERIALS, PARTS OR COMPONENTS

<u>Paragraph</u>	<u>Description of Change</u>
2.5	Revised paragraph via the addition of Client Consideration (paragraph 4.4) to clarify the processing of N&D's initiated by Construction.
3.1	Revised paragraph to keep in accordance with title changes at SWEC.
3.3	Revised paragraph via the addition of Client Consideration (paragraph 4.6) to clarify the use of N&Ds for reinspection of rework.
4.3	Clarification of the term non-conformance.
4.4	Added Client Consideration see description of change for paragraph 2.5.
4.6	Added Client Consideration see description of change for paragraph 3.3.

SECTION XVI
CORRECTIVE ACTION

<u>Paragraph</u>	<u>Description of Change</u>
2.0	Added paragraph 2.6 via Client Consideration (paragraph 4.2) to address the analysis of QA internal audit data being performed by the QA Cost & Auditing Division.
2.3	Revised paragraph via the addition of Client Consideration (paragraph 4.3) to expand the term "Quality Assurance" to specifically include "Engineering, Design and Construction".
3.1	Change paragraph via Client Consideration (paragraph 4.4) to clarify verification responsibilities for corrective action.
4.2	Added Client Consideration see description of change for paragraph 2.0.
4.3	Added Client Consideration see description of change for paragraph 2.3.
4.4	Added Client Consideration see description of change for paragraph 3.1.

SECTION XVII
QUALITY ASSURANCE RECORDS

Adopted Revision C to SWSQAP 1-74A to more clearly describe Departmental activities with regard to the control of QA records. Specific changes to this section are as indicated below:

<u>Paragraph</u>	<u>Description of Change</u>
1.1	Deleted the word "collation" and changed "quality records" to Quality Assurance records".
1.5	Revised text to clarify that NUSCO has the responsibility to designate those records considered to be permanent plant records.
1.6	Deleted the requirements to "cardmount" microfilm with identification to component and system. This requirement is redundant to paragraph 1.7 which requires records to be identifiable and retrievable.
2.1	Added paragraph to clearly define Project Management Departments scope of responsibility in the development and implementation of the projects Record Management Program.
2.2	Revised paragraph 2.2.1 to more clearly define the scope of Construction's responsibility under the Records Management Program.
2.3	Revised paragraphs 2.3.1 and 2.3.2 to more clearly describe Project Engineering's scope of responsibility under the project Records Management Program.
2.4	Format change - added paragraph to describe the QA Department's scope of responsibility under the project Records Management Program since the scope of each QA Division's responsibility had already been previously delineated.
2.4.1A, B&C	Format change - These paragraphs were formerly paragraphs 2.3.1, 2.3.2 and 2.3.3. Additionally revised the text of 2.3.3(2.4.1B) to more clearly describe PQA responsibilities pertaining Seller QA records for other than field purchased items.

SECTION XVII
QUALITY ASSURANCE RECORDS

<u>Paragraph</u>	<u>Description of Change</u>
2.4.2A, B&C	Format change - these paragraphs were formerly paragraphs 2.4.1, 2.4.2, 2.4.3, and 2.4.4. Revised text in these paragraphs to more clearly describe FQC's scope of responsibility under the project Records Management Program.
2.4.3	Format change - This paragraph was formerly paragraph 2.5. Additionally, revised text to more accurately define QSD's responsibilities in the development of a working file system for QA Department Records.
3.0	Delete redundant text, requirement is already delineated in Appendix VII.
4.1	Added Client Consideration to note adoption of Revision C to SWSQAP 1-74A.
4.2	Added Client Consideration to include the Nondestructive Test Division and the QA Cost & Auditing Division under paragraph 2.4.3.

SECTION XVIII
AUDITS

Paragraph

Description of Change

2.4	Add paragraphs 2.4.4 and 2.4.5 via Client Consideration (paragraph 4.2) to more clearly define the auditing responsibilities of QACA.
4.2	Added Client Consideration see description of change for paragraph 2.4.

SECTION XIX
CONTROL OF THE MILLSTONE III
QA PROGRAM MANUAL

Paragraph

Description of Change

1.7

Added text to existing paragraph in order to clarify how changes to the project QA Program Manual (initiated for consistency with later editions to SWSQAP sections) are identified and controlled when it is inappropriate to adopt an entire section of a later edition to SWSQAP.

APPENDIX I
CROSS REFERENCE MATRIX OF
IMPLEMENTING DOCUMENTS

Added Client Consideration (paragraph 1.C) to reference NEAM Procedure numbers in the Project Manual row.

APPENDIX II
QUALIFICATION AND EXPERIENCE REQUIREMENTS
SWEC QA PERSONNEL

Added Client Consideration to adopt Revision D to SWSQAP 1-74A in order to more clearly define qualification and experience requirements for SWEC Quality Assurance personnel.

The test, inspection and examination personnel section was revised via Client Consideration to be consistent with Regulatory Guide 1.58, Rev. 1 (ANSI N45.2.6 - 1978). General Education Development (GED) is not applicable to the project via Client Consideration.

APPENDIX III
GLOSSARY

Added Client Consideration to adopt Revision D to SWSQAP 1-74A for consistency.
Several changes made throughout Appendix which are highlighted by revision indicator
in the margins.

APPENDIX IV
ENGINEERING DESIGN REVIEW

No Changes

APPENDIX V
SPECIFICATION AND BIDDERS REVIEW

No Changes

APPENDIX VI
APPROVALS AND CONCURRENCES
FOR QA SYSTEM DOCUMENTATION

Added Client Consideration to adopt Revision D to SWSQAP 1074A in order to more clearly define approvals and concurrences for Quality Assurance System Documentation. Specific changes are listed below:

PROGRAM DOCUMENTS

Item 2
Project QA Program

DESCRIPTION OF CHANGE

Added "Superintendent of Construction services and the Project QA Representative".

Item 3

Added new paragraph concerning approval of Management Plans for Project Quality.

Item 5
Project Test Program Directives

Title changes.

Item 6
Co. QA and Control Manual
ASME III

Added "Appendices" deleted "VP's of Affected Departments" and added "Affected Department Heads" in Concurrence Column. Separated "changes" to a separate line item.

PROCEDURAL DOCUMENTS

Item 1
QS's

DESCRIPTION OF CHANGE

Charter (QS-5.1) changed title. Added "Generic and Project Model" under Quality Standards column. Added "cancellations" and "Projectized original, revisions, and changes".

Item 2
QAD's

Same changes as QS with respect to Generic and Project model procedures.

Item 7 &
Item 9

Added Construction Management Manual and Records Management Guidelines.

Item 10

Added Purchasing Department procedures.

APPENDIX VII
RESPONSE TO REGULATORY GUIDANCE

Reformatted Appendix for clarity by incorporating previously approved Client Consideration into the text of Section 1.0 and 2.0; arranging reference to Regulatory Guides by ascending numerical order; and providing the same amount of information (i.e. Revision no. and date of issue) for each guide.