SWSQAP 1-74A Revision E February 21, 1986

STANDARD NUCLEAR QUALITY ASSURANCE PROGRAM

STONE & WEBSTER ENGINEERING CORPORATION



SWEC	STANDARD	NUCLEAR	QUALITY	ASSURANCE	PROGRAM
		SWSQ	AP		

MANUAL HOLDERS SHALL INSERT THE ATTACHED MATERIAL INTO THEIR MANUALS AND REMOVE AND DESTROY SUPERSEDED MATERIAL.

DATA	REVISION	DATE	TITLE
COVER PAGE	E	2/21/86	
NRC LETTER OF APPROVAL		2/6/86	
POLICY LETTER		2/21/86	
TABLE OF CONTENTS	E	2/21/86	
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SECTION 19	D	2/21/86	CONTROL OF THE STANDARD QUALITY ASSURANCE PROGRAM DOCUMENT AND RELATED PROJECT QUALITY ASSURANCE MANUALS
APPENDIX II	С	2/21/86	QUALIFICATION AND EXPERIENCE REQUIREMENTS, SWEC QUALITY ASSURANCE PERSONNEL

TO:

DATA	REVISION	DATE	TITLE
APPENDIX III	E	2/21/86	GLOSSARY
APPENDIX VI	E	2/21/86	APPROVALS AND CONCURRENCES FOR QUALITY ASSURANCE SYSTEM DOCUMENTATION

JANE M. CASTOR QUALITY SYSTEMS DIVISION QUALITY ASSURANCE DEPARTMENT





UNITED STATES NUCLEAR REGULATORY COMMISSION WASHINGTON, D. C. 20555

FEB 6 1986

Docket No. 99900509

Stone & Webster Engineering Corporation ATTN: Mr. R. B. Kelly Vice President and Quality Assurance Manager P. O. Box 2325 Boston, Massachusetts 02107

SUBJECT: NRC ACCEPTANCE OF REVISED STONE & WEBSTER QUALITY ASSURANCE TOPICAL REPORT

Dear Mr. Kelly:

We have completed our review of Revision E to Stone & Webster's Standard Nuclear Quality Assurance Program, SWSQAP 1-74A, transmitted by your letters of October 25, 1985, and December 16, 1985. This revision updates the topical report to reflect recent organization and title changes and a change in Section 10 regarding welding inspection in the current Stone & Webster Engineering Corporation's Quality Assurance Program.

Based on our evaluation of the proposed changes described in Revision E, we find that the revised topical report continues to meet the criteria of Appendix B to 10 CFR Part 50 and is therefore acceptable. This acceptance is based in part on your commitment to comply with the quality assurance related regulatory guides that endorse the ANSI/ASME N45.2 standard and daughter standards. Should regulatory criteria or regulations change such that our conclusions about this topical report are invalidated, we will notify you. You will be given the opportunity to revise and resubmit it should you so desire.

To use the topical report in future license applications, applicants need only reference this topical in Section 17 of the Safety Analysis Report. Should it be referenced in a Safety Analysis Report for a new nuclear power project, the basis of our evaluation will be the guidelines in the latest revision to Standard Review Plan Section 17.1 (currently Revision 2). Appropriate changes may, therefore, be necessary.

Please replace our letter of August 10, 1983, with a copy of this letter, renumber SWSQAP 1-74A as Revision E, and forward one signed original to the

Stone & Webster Eng. Corp.

Document Control Desk, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555. The report should highlight the changes by use of a black bar in the margin where a change is made and the revision number should be adjacent to the bar.

Should you have any questions regarding our review or if we can provide assistance please contact Bill Belke on (301) 492-4512.

- 2 -

Sincerely,

Ser S

Gary G. Zech, Chief Vendor Program Branch Division of Quality Assurance, Vendor, and Technical Training Center Programs Office of Inspection and Enforcement

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STONE & WEBSTER ENGINEERING CORPORATION

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BOSTON NEW YORK CHERRY HILL, N.J. DENVER HOUSTON PORTLAND, OREGON RICHLAND, WA WASHINGTON, D.C.

February 21, 1986

DESIGN CONSTRUCTION REPORTS EXAMINATIONS CONSULTING ENGINEERING

TO WHOM IT MAY CONCERN:

The policies, requirements, and tasks described in this Stone & Webster Engineering Corporation Standard Nuclear Quality Assurance Program (SWSQAP) have been developed to fulfull 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 Vice President, 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 Vice President, 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.

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F. W. Ries President







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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 examine, audit, inspect, or otherwise verify a quality activity shall be independent of the individuals or groups performing the activity. Independence shall be achieved by assigning such responsibilities to the quality assurance organization, or individuals or groups not responsible for performing the original activity.
- 1.4 The quality assurance organization shall be adequately staffed throughout the life of a project. This organization shall review the project scope, determine the personnel requirements to support quality assurance activities, and staff to provide required support. A Quality Assurance Representative shall participate in scheduling meetings and other day to day activities at the site and headquarters, as necessary, to assure adequate qualified personnel, equipment, and procedures are available to perform quality activities in support of the engineering and construction schedule.

2.0 TASKS

The responsibilites for the administration and management of the SWEC quality assurance program have been set forth in the President's Policy letter promulgating this document. The SWEC quality assurance organization and its relationship to the company 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 organization of the Engineering Assurance Division, Engineering Department is shown in Figure 3. Figure 4 shows quality assurance interrelationships within the project organization.

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2.1 Engineering Department

- 2.1.1 Engineering Assurance Division (EA), Engineering Department shall:
 - A. Develop management systems and training for the control of technical work.
 - B. Audit Engineering Department work for conformance to and effectiveness of SWEC procedures.
 - C. Perform source evaluation and auditing of engineering service suppliers.
 - D. Implement a feedback system for the reporting of significant and recurring problems for preventive action.
- 2.1.2 Advisory Operations Division (AOD), Engineering Department shall implement and control the Standard Nuclear Test Program.
- 2.1.3 Licensing Division, Engineering Department shall implement and control the positions and responses to Regulatory Guidance and Interfaces with commitments made in Appendix VII of this program.
- 2.1.4 Project Engineering is headed by a Project Engineer provided by the Engineering Department. The Project Engineer is responsible for all the design and engineering activities conducted by the Project.
- 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.
 - 2.2.3 Provide training in quality assurance requirements.
 - 2.2.4 Review documents, such as specifications, to provide quality assurance inputs.

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- 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 the equipment meet the requirements of drawings, specifications, and other procurement documents.
 - 2.3.2 Establish and maintain an inspection staff at district offices throughout the United States to carry out the required tasks at Seller facilities.
- 2.4 Field Quality Control Division (FQCD), Quality Assurance Department shall:
 - 2.4.1 Ensure by inspections, tests, and examinations that the requirements of drawings, specifications, instructions, and procedures are fulfilled at the site during fabrication, erection, and installation and at selected local Sellers' facilities.
 - 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 Representative shall:
 - 2.6.1 Assist the Project in its complete implementation of the Quality Assurance Program.
 - 2.6.2 Perform liaison/interface with the Licensee, Project, SWEC Divisions, Nuclear Steam Supply Systems (NSSS) Supplier, and other Sellers and contractors regarding quality assurance activities.
 - 2.6.3 Assure that the Quality Assurance Program is properly described in the Safety Analysis Report (SAR) and that the QA Program fulfills applicable SAR commitments.

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- 2.6.4 Coordinate the development and approval of the Project QA Program Manual or the Management Plan for Project Quality and support project applicable QA procedures and instructions.
- 2.6.5 Coordinate audits of the Project, Sellers, and contractors by SWEC and follow-up audit findings to assure adequate corrective action. Assist the Licensee and other outside organizations when they audit SWEC, SWEC Sellers/contractors and follow-up audit findings to assure adequate corrective action.
- 2.6.6 Coordinate the development and implementation of indoctrination and training programs to train and qualify project personnel performing quality rel ted activities.
- 2.6.7 Prepare quality assurance activity reports, when required, for submission to the Licensee, based on inputs from the Quality Assurance Department Divisions and the Engineering Assurance Division.
- 2.6.8 Review and act upon guality trand data from internal and external sources. This includes identifying problems and following-up to assure adequate corrective action.
- 2.6.9 Coordinate the preparation of estimates of costs, schedules of activity, and manpower requirements necessary to implement the QA Department scope of work. Assure the project is adequately staffed with quality assurance and control personnel.
- 2.7 The QA Auditing Division (QAAD) shall provide Department cost control, program evaluation, special management studies, audits, and information and support services within this program. The following summarizes the specific activities of the Division.
 - 2.7.1 Maintain the internal QA Department cost control system providing inputs for the QA program estimates to SWEC management as required.
 - 2.7.2 Conduct audits to determine the adequacy, effectiveness, and adherence to quality related procedures and systems; these include project

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quality program evaluations; site audits; contractor audits; ASME Section III program audits; and Quality Assurance Department, Construction Department, Records Management Division, Purchasing Department, and Engineering Assurance Division performance audits, as well as the appraisal of a quality system or function to determine adequacy and effectiveness of implementation.

- 2.7.3 Maintain the QA Department central files containing incoming and outgoing general and project quality related correspondence.
- 2.7.4 Maintain the QA Department library providing reference material such as PSAR/FSARs, technical literature, Project manuals, Codes, and standards.
- 2.8 Project Management Department The Project Management Department is responsible for assigning the Project Manager who has the authority for the overall planning, organizing, staffing, directing, and controlling of those activities required to achieve project objectives within approved schedules, budgets, and product specifications. Included in this authority is the establishment and implementation of a records management system.
- 2.9 <u>Construction Department</u> The Construction Department shall:
 - 2.9.1 Develop management systems, methods, and training to implement the quality assurance program for Construction Department activities.
 - 2.9.2 Construct systems, structures, and components in accordance with engineering design documents and SWEC procedures.
- 2.10 <u>Purchasing Department</u> The Purchasing Department shall:
 - 2.10.1 Develop management systems and methods to implement the quality assurance program for Purchasing Department activities.

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- 2.10.2 Provide direction to the field purchasing or contract representative for purchases originated at the construction site.
- 2.11 Plant Services Department The Plant Services Department is responsible for providing engineering, security, maintenance, and modification services to operating plants. It consists of three divisions: Engineering Services, Maintenance and Modification Services, and Security Services Divisions.

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 that 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 Criterion I of Appendix B to 10CFR50 is gained through the audit program delineated in Section 18.

3.2 Reference Paragraph 2.4.2

Each jobsite with field quality control activities shall have an individual designated as the Resident QC Manager, Superintendent of Field Quality Control, or acting Superintendent of Field Quality Control. This individual has total authority for the management and implementation of the Field Quality Control Program at the construction site. This includes responsibility for quality verification inspection of work let to subcontractors who are working to their SWEC approved quality assurance program.





COMPANY ORGANIZATION FOR QUALITY ASSURANCE



LEGEND

- QR QUALITY REQUIREMENTS
- EA ENGINEERING ASSURANCE
- FUNCTIONAL AND ADMINISTRATIVE DIRECTION
- COMMUNICATION
- ---- PROJECT DIRECTION
- ENGINEERING DIRECTION

Figure 1 1-7 SWSQAP 1-74A Revision D)



QUALITY ASSURANCE DEPARTMENT ORGANIZATION

STONE & WEBSTER ENGINEERING CORPORATION









Figure 3 1-9 SWSCAP 1-74A Revision D



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QUALITY ASSURANCE INTERRELATIONSHIPS STONE & WEBSTER ENGINEERING CORPORATION



QUALITY ASSURANCE

DIRECTOR AND VICE PRESIDENT, QA QUALITY ASSURANCE MANAGERS PROJECT QA REPRESENTATIVE PROJECT MANAGER PROJECT ENGINEER SUPERINTENDENT FIELD QC RESIDENT QC MANAGER

> Figure 4 1-10 SWSQAP 1-74A Revision **D**

STONE & WEBSTER ENGINE QUALITY ASSURANC	ERING CORPO	ORATIO
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TITLE:	NUMBER:	SECTION
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SECTION 2

QUALITY ASSURANCE PROGRAM

1.0 REQUIREMENTS

- 1.1 This program applies to Stone & Webster design, procurement, construction, and testing responsibilities for nuclear power stations as defined in the Licensee's Safety Analysis Report (SAR).
- 1.2 The design, procurement, construction, and testing of QA Category I structures, components, and systems shall be controlled through implementation of the criteria of Appendix B, 10CFR50. QA Category I structures, components, and systems are designated in the Licensee's SAR 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 QA Category II and Category III structures, components, and systems shall meet applicable codes and standards and good design, construction, and quality assurance practices appropriate to the function of the item (see Appendix III, "Glossary", for definitions applied to various Categories).
- 1.4 All work which falls within the scope of Sections III and XI, ASME Boiler and Pressure Vessel Code, shall be controlled by Stone & Webster in compliance with the Stone & Webster ASME approved QA Manuals and the Code.

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- 1.5 Stone & Webster's commitments to quality assurance related regulatory guides are identified in Appendix VII.
- 1.6 Stone & Webster shall, as directed by the Licensee, audit and witness tests of selected Nuclear Steam Supply System equipment.
- 1.7 Sellers employed at the site shall be required to comply with applicable parts of this program and use applicable Stone & Webster manuals and procedures or their own Stone & Webster approved manuals and procedures.
- 1.8 Indoctrination, training, and qualification programs shall be established and implemented, as appropriate, such that:
 - 1.8.1 Personnel receive indoctrination and training to familiarize them with the procedures and systems developed to govern and support quality related and quality assurance activities, including tests, inspections, examinations, and audits.
 - 1.8.2 Formal training programs shall be documented, including objectives, content of the program, attendees, and date of attendance.
 - 1.8.3 Personnel performing quality assurance functions shall be qualified, certified, and recertified as required by applicable codes and standards.
 - 1.8.4 Certificates of qualification show the basis for qualification, including testing or proficiency testing, when applicable, and the specific functions personnel are qualified to perform.
 - 1.8.5 The training program complies with the Regulatory Position in Regulatory Guide 1.58, with alternatives as noted in Appendix VII.
- 1.9 All procedures which are used to implement this quality assurance program shall be consistent with the commitments of this program. The QA Organization shall review and concur with those quality related procedures in accordance with Appendix VI. Documentation of the review and concurrence shall be maintained.

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- 1.10 The status and adequacy of the quality assurance program for a project shall be reviewed on an annual basis and reported to the Licensee.
- 1.11 The status and adequacy of the overall Quality Assurance Program, as described herein, shall be assessed on an annual basis by the SWEC Internal Audit Division or other organization having no direct relationship to the SWEC Quality Assurance Organization. This annual assessment will include an evaluation of project quality assurance audits, conducted in accordance with Section 18 of this document, to ensure proper translation and implementation of SWSQAP 1-74A commitments on using projects. Reports of this assessment and recommendation shall be submitted to the President of SWEC and the SWEC Vice President, Quality Assurance.

2.0 TASKS

- 2.1 Engineering Department
 - 2.1.1 Project Engineering, headed by the Project Engineer, shall ensure that design and engineering activities affecting quality are documented, as appropriate, in drawings, specifications, instructions and procedures. These documents shall, as appropriate:
 - A. Designate the QA Category of structures, components, and systems.
 - B. Extend applicable criteria of Appendix B, 10CFR50 to Sellers.
 - C. Indicate applicable codes and standards.
 - D. Include requirements for controlled conditions.
 - 2.1.2 Engineering Assurance shall:
 - A. 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.

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- B. Indoctrinate and provide continuing education for Engineering Department personnel performing activities affecting quality of engineering and design.
- C. Maintain qualification and certification records for personnel qualified and certified by the EA Division.
- 2.1.3 Licensing Division shall coordinate the program of establishing a SWEC position guideline on NRC Regulatory Guides and revisions, publish and maintain the listing of these Guides, and inform SWEC personnel of newly issued and proposed Regulatory Guides.

2.2 Construction Department

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

2.3 Quality Assurance Department

2.3.1 Quality Systems Division shall:

- A. Develop management systems and methods needed to implement the quality assurance program within the Quality Assurance Department.
- B. Establish and maintain a program for the indoctrination and continuing education of Quality Assurance Department personnel and maintain program records.
- C. Maintain gualification and certification records of personnel gualified or certified by QSD.
- D. Develop and maintain the quality assurance program for implementing the requirements of the ASME Boiler and Pressure Vessel Code, Sections III and XI.
- E. Coordinate the Quality Assurance Department's position with respect to code

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requirements with other SWEC organizations and prepare requests for code cases or interpretations of codes and standards, as requested.

- 2.3.2 Procurement Quality Assurance Division shall:
 - A. Provide input to QSD for necessary updating of procedures affecting procurement quality assurance.
 - D. Audit and witness tests of selected equipment procured by the NSSS Supplier, as requested by the Licensee.
 - C. Employ and maintain a staff of qualified inspection personnel.
 - D. Maintain qualification and certification records for personnel qualified or certified by PQAD.
- 2.3.3 Field Quality Control Division shall:
 - A. Provide input to QSD for necessary updating of procedures affecting field quality control.
 - B. Employ and maintain a staff of qualified inspection personnel.
 - C. Maintain qualification and certification records for personnel qualified or certified by FQCD.
- 2.3.4 Nondestructive Test D sion shall:
 - A. Provide input to 0 for necessary updating of procedure fecting nondestructive testing.
 - B. Establish and maintain a training program for the qualification and certification of SWEC personnel involved in nondestructive testing and evaluation.
 - C. Maintain qualification and certification records documenting competency of SWEC

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personnel performing nondestructive testing and evaluation.

- D. Perform surveillance of nondestructive test operations, including periodic review of examinations, and provide technical assistance, as required.
- 2.3.5 QA Auditing Division shall:
 - A. Provide input to QSD for necessary updating of procedures affecting QAAD activities.
 - B. Employ and maintain a staff of qualified audit personnel.
 - C. Maintain qualification and certification records for personnel qualified or certified by QAAD.
- 2.3.6 The Project Quality Assurance Representative (PQAR) shall assure the project is adequately staffed with quality assurance and control personnel. Additionally, the PQAR shall prepare, at least annually, a report to the Licensee on the status of the SWEC Quality Assurance Program. This report shall be approved by the Vice President, Quality Assurance Department.
- 2.4 <u>Plant Services Department</u> The Plant Services Department may provide engineering, security, maintenance, and modification services for operating plant projects. For such projects:
 - 2.4.1 The Plant Services Department designation may be used interchangeably, within this document, for the Engineering and/or Construction Departments.
 - 2.4.2 The Quality Assurance Department shall perform all quality assurance services in accordance with their procedures.
 - 2.4.3 The engineering, security, maintenance, and modification activities will be performed in accordance with Engineering Assurance Procedures, Plant Services Procedures, or Construction Department Procedures, as appropriate.

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- 2.4.4 The engineering activities will be audited by the Engineering Assurance Division.
- 3.0 DISCUSSION

3.1 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.

3.2 Reference Paragraph 1.7

Where Sellers employed at the construction site perform work and provide quality control services to their own SWEC approved manuals and procedures, the Field Quality Control Division will perform Seller quality verification inspection and provide documentation appropriate to the individual Seller consistent with the work or service provided. FQCD will perform specified inspections for Sellers employed at the construction site who do not provide quality control services.

STONE & WEBSTER ENGIN QUALITY ASSURAN	LE ERING CORPORATION
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	PROGRAM
TITLE:	NUMBER: SECTION 10
INSPECTION	REVISION: D
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SECTION 10

INSPECTION

1.0 REQUIREMENTS

- 1.1 Drawings, specifications, instructions, and procedures shall include the necessary technical requirements with acceptance criteria. Inspections are conducted 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's facilities in accordance with the requirements of the procurement document.
 - 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 Technical and quality assurance requirements shall be translated into inspection procedures, inspection plans, 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 techniques may be utilized for inspecting a group of homogeneous items. If sampling is used to verify the acceptability of items, the sampling plan shall be based on a recognized standard sampling plan or other accepted technique. The method utilized and conclusions obtained from sampling shall be documented to assure correct interpretation of the plan and the results. Licensee approval of sampling plans for QA Category I items is required when the method is outside the scope of approved procedures or accepted techniques as described above.
- 1.4 When notification or hold points have been established, the process control procedure or checklist shall

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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 necessary technical requirements with acceptance criteria in drawings, specifications, instructions, and procedures.
- 2.2 PQAD shall perform inspection tasks at Seller's facilities in accordance with the procurement documents.
- 2 3 FQCD shall perform the following field quality control inspections as required.

NOTE

See Section 7, Paragraph 2.6, 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 QA Category I equipment. Unless there are specific requirements in applicable specifications, instructions, or procedures, QA Category II and III equipment shall be routinely inspected on a surveillance basis with the level of effort determined by functional importance.

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- 2.3.3 FQCD shall perform inspection of welding in accordance with applicable specifications, instructions, and procedures. Visual inspection of welding shall, at least, be in accordance with the following:
 - A. All welding of or to QA Category I items shall be 100 percent inspected, except as described in Paragraph 2.3.3B.
 - B. Welding of QA Category II or III items to the nonpressure boundary portions of non-ASME III QA Category I items shall be inspected on a surveillance basis.
 - C. Welding inspection of QA Category II and III items to each other will vary based upon the importance to plant operation.
- 2.3.4 FQCD shall perform required NDT such as 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 ASME III Division 1 and 2 work.
- 2.3.6 FQCD shall document inspection/testing tasks performed.
- 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.
- 2.5 Construction Department

Construction shall notify FQC when work approaches FQC and ANI HOLD points.

- 3.0 DISCUSSION
 - 3.1 Reference Paragraphs 1.1.1 and 1.1.2

The Quality Assurance Department, as part of its quality planning activity in both its Field Quality Control and Quality Systems Division, performs an ongoing review of construction schedules versus our inspection procedure and inspection plan library in



See. 3

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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 a specification or drawing would preclude either work or inspections being performed.

3.2 Reference Paragraph 1.2

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

- Quality Characteristics to be Inspected These are delineated in the appropriate specification or purchase document which is reviewed and signed by Quality Assurance personnel.
- Individuals or Groups Responsible for Performing the Inspection - Delineated in the appropriate Quality Standard.
- 3. <u>Acceptance and Rejection Criteria</u> Same as one (1).
- A Description of Method of Inspections Delineated in the appropriate Quality Assurance Department document; i.e., Quality Assurance Directive, Inspection Plan, etc.
- 5. Evidence of Completions and Certifications of Inspection Operations - An inspection report prepared in accordance with applicable Quality Assurance Department procedures.
- Record of the Results of the Inspection Operation -Same as five (5).
- 7. Verification that all Inspection Operations are <u>Complete and Acceptable</u> - 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 one (1) through seven (7) is gained through an independent audit of the above activities performed by the QA Auditing Division.

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3.3 Reference Paragraph 2.1

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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 quality assurance requirements which, if changed from the original, would require a change to the specification and a subsequent Quality Assurance review.

3.4 Reference Paragraph 2.3

The QA Auditing Division will conduct audits to verify that Sellers employed at the construction site comply with the requirements of their own SWEC approved manuals and procedures. The Field Quality Control Division will perform Seller quality verification inspections and provide documentation appropriate to the individual Seller consistent with the work or service provided.

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SECTION 15

NONCONFORMING MATERIALS, PARTS, OR COMPONENTS

1.0 REQUIREMENTS

- 1.1 Nonconforming and unsatisfactory 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 impractical.
- 1.3 Dispositions authorizing a change in requirements shall be made by the same (or equally authorized) personnel or group responsible for establishing the original requirements.
- 1.4 Nonconformance and Disposition Reports (N&Ds) may be initiated by Engineering, Construction, or Quality Assurance Department personnel.
- 1.5 Nonconforming items existing at the time of system turnover to the Licensee will be identified.
- 1.6 A system shall be established for reporting potentially significant design and construction deficiencies to the Licensee as defined in Paragraph 50.55(e) of 10CFR50.

2.0 TASKS

- 2.1 Project Engineering shall develop and approve dispositions for N&Ds which originate from nonconformances noted in Seller shops and at the site.
- 2.2 PQAD shall prepare, issue, distribute, and control N&Ds which originate from nonconformances noted in Seller facilities and which cannot be corrected within the scope of the applicable drawings and specifications or otherwise requires an Engineering disposition. Copies of N&Ds shall be provided to the Licensee, if required.
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- 2.3 Field Quality Control Division shall:
 - 2.3.1 Prepare, issue, distribute, and control N&Ds which are issued to resolve unsatisfactory conditions, noted at the site, that cannot be corrected within the scope of the applicable drawings and specifications or otherwise requires an Engineering disposition.
 - 2.3.2 Review all dispositions and close-out all site originated N&Ds when actions have been completed.
 - 2.3.3 Provide copies of N&Ds to the Licensee, if required.
- 2.4 Construction (field) shall request FQC to obtain Engineering dispositions for unsatisfactory conditions which cannot be resolved within the scope of the applicable drawings and specifications or otherwise requires an Engineering disposition. This action shall include the preparation of N&Ds for processing by FQC. 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

Unsatisfactory and nonconforming conditions are analyzed by QSD. Copies of related status, trend, and analysis reports are issued to Project Management, Project Engineering, and Quality Assurance Management to assure timely resolution of identified problems. Quality trend reports for specific activities are made and forwarded to SWEC management, i.e., Vice President, Quality Assurance; Project Manager; Engineering Manager; Quality Assurance Manager; Project Engineer; and Senior Construction Site Representatives. Further, a semiannual summary review is made of all unsatisfactory and nonconforming conditions to ascertain significant trends or conditions and a summary report, with recommended courses of action, is forwarded to the President of SWEC and other appropriate management.

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3.2 Reference Paragraph 1.2

Unsatisfactory and nonconforming material is rejected, identified, and controlled to prevent inadvertent use. Controls shall include segregation, if practical, until the unsat or nonconforming condition is corrected either by rework to return it to the specified condition or by a change in the specified requirements by the Engineering Department. Both the rework and/or the change in the specified requirement is subject to Quality Assurance review and sign off. Assurance of compliance is gained through the audit program delineated in Section 18.

3.3 Reference Paragraph 2.1

Nonconforming items reported on a Nonconformance and Disposition (N&D) report shall be reinspected in accordance with the accept/reject criteria contained in the engineering specification/procedure and the final condition documented on the N&D.

3.4 Reference Paragraphs 2.2 and 2.3

Each N&D 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.



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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, unsats, 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 on other SWEC projects and by review of selected government and industry documents.
- 2.0 TASKS
 - 2.1 The Quality Assurance Department and the Engineering Assurance Division shall fulfill the requirements of this section 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 selected government and industry documents for problems related to engineering, design, construction, or quality assurance so that applicable potential problems are brought to the attention of appropriate personnel.
 - 2.4 EA shall implement a feedback system for the reporting of significant and recurring problems for preventive action.
 - 2.5 QSD shall utilize inspection data, based on inputs from FQC and PQA, to perform analysis and determine the

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cause of major and recurring nonconforming conditions. Audit reports issued by PQA and QAAD shall be reviewed by QSD to determine whether they contain findings which relate to major or recurring nonconforming conditions. Based on the above analysis and reviews, QSD shall submit reports to management with recommended action.

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

3.0 DISCUSSION

Reference Paragraph 1.2

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.





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SECTION 17

QUALITY ASSURANCE RECORDS

1.0 REQUIREMENTS

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- 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 the NSSS supplier.
- 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 the Licensee in the temporary construction facility and issued on a controlled basis to prevent loss. Records designated by the Licensee as permanent plant records shall be transferred to the permanent plant file area as directed by the Licensee.
- 1.6 Permanent plant records shall be microformed, as appropriate.
- 1.7 Records shall be legible, 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.
- 2.2 Construction (field) shall:

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- 2.2.1 Implement the Construction portion of the records management system established by Project Management to ensure the inclusion of quality assurance records into the permanent plant file.
- 2.2.2 Establish and maintain a records facility, as required, for the collection and storage of permanent plant records.
- 2.2.3 Transfer permanent plant records to the Licensee, as required.
- 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

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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 QSD, NDT, and QAAD shall develop appropriate working file systems for QA Department Records.



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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 Stone & Webster internal operations, Seller's operations, and areas of identified concern. The programs shall include provisions for reporting nonconforming conditions to the responsible level of management for any necessary corrective action. Deficient areas shall be reaudited 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 the Licensee if requested.
- 1.6 Project audit reports shall be made available to the Licensee for review, upon request.
- 1.7 Upon request, Stone & Webster may act as the Licensee'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 each project's quality assurance program for compliance with the Safety Analysis Report and Appendix B to 10CFR50. Copies of the assessment and recommendations shall be submitted to the Chief Engineer, Engineering Assurance; Project Manager; Project Engineer; Project Quality

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Assurance Representative (PQAR); and other affected parties.

- 2.2 Engineering Assurance shall:
 - 2.2.1 Establish audit schedules and provide copies to the PQAR to forward to the Licensee, if requested.
 - 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 Auditing Division of the Quality Assurance Department.
- 2.3 Procurement Quality Assurance Division shall:
 - 2.3.1 Establish audit schedules and provide copies to the PQAR to forward to the Licensee, if requested.
 - 2.3.2 Conduct audits of Sellers after the 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 Auditing Division shall:
 - 2.4.1 Establish audit schedules, and provide copies to the PQAR to forward to the Licensee, if requested.
 - 2.4.2 Conduct audits of all Quality Assurance Department Divisions, Purchasing Department, Construction Department, Engineering Assurance Division, and Records Management Division activities.
 - 2.4.3 Conduct site and contractor audits including records management and site testing activities.

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- 2.4.4 Maintain records of audits performed.
- 2.4.5 Report to the Vice President, Quality Assurance on adherence to and adequacy of quality related procedures and systems.
- 2.5 QA Department personnel shall support audits upon request.

3.0 DISCUSSION

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- 3.1 Reference Paragraph 1.2
 - 3.1.1 Project audits are scheduled and conducted based on the scope of work being performed by the project. 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 the appropriate management.

The audit program includes an evaluation of:

- A. Work areas
- B. Activities
- C. Processes
- D. Items (hardware)
- E. Documents and records
- F. Quality related practices, procedures, and instructions
- G. Effectiveness of QA Program implementation
- H. Conformance with policy objectives
- 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 Auditing Division audit data is analyzed by QAAD and reported to the Vice President, Quality Assurance.

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3.2 Reference Paragraph 2.1

- 3.2.1 This item requires that the Vice President, Quality Assurance periodically assesses each project's Quality Assurance program for compliance and effectiveness.
- 3.2.2 This assessment shall be conducted by QAAD and reported to the Vice President, Quality Assurance.

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SECTION 19

CONTROL OF THE STANDARD QUALITY ASSURANCE PROGRAM DOCUMENT AND RELATED PROJECT QUALITY ASSURANCE MANUALS

1.0 REQUIREMENTS

- 1.1 Control of the Standard Nuclear Quality Assurance Program
 - 1.1.1 The Standard Nuclear Quality Assurance Program and all subsequent revisions shall be approved, prior to issue, by the Vice President of Quality Ass rance, the Vice President of Engineering, the Vice Fresident of Construction, the Vice Pres dent of Project Management, and the Vice President of Plant Services. Each revision, along with an analysis with respect to (1) compliance to Appendix B to 10CFR50 and (2) the program's effectiveness, shall be provided to the NRC Vendor Program Branch for approval prior to implementation. Organizational changes not reported by revision to this program document shall be reported by separate correspondence within 30 days of the change.
 - 1.1.2 This program document is controlled by the Quality Systems Division and will be issued in a controlled manner.
 - 1.1.3 Program document holders are responsible for maintaining their assigned documents.
 - 1.1.4 The Vice President, Quality Assurance shall be responsible, as a minimum, for an annual (12-month) review of this program and direct upgrading, as appropriate.
- 1.2 Development of the Project Quality Assurance Manual
 - 1.2.1 Projects which choose to adopt the Standard Nuclear Quality Assurance Program by direct reference in their SAR without a Project Quality Assurance Program Manual shall be subject to all applicable provisions of this program and subsequent NRC approved changes to the program document.

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- 1.2.2 Projects which adopt the Standard Nuclear Quality Assurance Program, but choose to develop a Project QA Manual, may do so providing the Project QA Manual is consistent with the Standard Nuclear QA Program revision in force on the date of acceptance for use by the Licensee. The Project QA Manual shall be the governing QA Document for the Project and shall be a verbatim copy of the Standard Nuclear QA Program with the exception of project, Licensee, and NSSS names; policy letter; introduction; and titles; Section 19 text. Licensee additions to the Project QA Program Manual shall be entered under, "Client Considerations", within each section and appendix, and shall not be considered as a program revision. The Project OA Manual's Policy Letter shall denote the accepted revision of SWSQAP, address the Project QA Manual, and be signed by the Vice President of Quality Assurance. The Introduction shall substitute "Project Quality Assurance Program" for "Standard Quality Assurance Program".
- 1.2.3 If the Licensee requirements are applicable in general to the entire Project QA Program Manual, they may be delineated in the Introduction section. Section 19 shall be altered to address the control of the Project QA Manual only. Any degradation of the Standard Nuclear QA Program in the conversion to the Project QA Program Manual or by subsequent revision of the Project QA Program Manual shall be detailed in writing by the Vice President, Quality Assurance and brought to the attention of the Licensee for SAR change and/or approval by the NRC prior to adoption.
- 1.2.4 The Project Quality Assurance Program Manual shall be prepared by the Quality Assurance Department. The manual shall be approved in accordance with Appendix VI.
- 1.3 Revisions to the Standard Nuclear Quality Assurance Program, subsequent to initial issue of an approved Project Quality Assurance Manual, shall be brought to the Licensee's attention for consideration in adopting similar changes in the Project Quality Assurance Program Manual. Such changes may be made on a section basis. Adoption of sections previously approved by the

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NRC as part of the process described in Paragraph 1.1.1 shall not constitute a Project Quality Assurance Program Manual dogradation.

1.4 Projects with a limited scope of work may choose to adopt appropriate portions of SWSQAP 1-74A. In such cases, a Management Plan for Project Quality shall be developed referencing SWSQAP 1-74A and shall be approved in accordance with Appendix VI.

2.0 TASKS

- 2.1 Quality Assurance Department
 - 2.1.1 The Quality Systems Division shall:
 - A. Assign a number to each document as issued to manual holders.
 - B. Maintain a distribution list of all SWSQAP document and PQAM holders and their locations.
 - C. Maintain history files for the originals, revisions, and cancellations issued against each section of the SWSQAP document and PQAM.
 - D. Maintain history files of any NRC approved degradation in the conversion from the Standard Program to the Project QA Program Manual.
 - E. Distribute documents and record or file receipt acknowledgements.
 - F. Issue an updated Table of Contents with each change, revision, or addition.
- 2.2. All program document 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 the Quality Systems Division of any discrepancies and changes of address.

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- 2.2.3 Maintain the manual by replacing superseded material with the revised material received.
- 2.2.4 Destroy all superseded material immediately.
- 2.2.5 Return the program document to the Quality Systems Division when it is no longer needed or when requested by the Quality Assurance Department.

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APPENDIX II

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QUALIFICATION AND EXPERIENCE REQUIREMENTS* SWEC QUALITY ASSURANCE PERSONNEL

TITLE	EDUCATION	BACKGROUND EXPERIENCE	
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/di- vision management.	
Quality Assurance Manager	BS/BA	Minimum of 10 years in responsible assignments in engineering, quality assurance and control, or power station con- struction or operation.	1
Chief Engineer, Engineering Assurance	BS/BA	Minimum of five years in responsible assignments in engineering, quality assurance and control, inspection, or auditing.	1
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 inspec- tion.	
Manager, Field Quality Control	BS/BA	Minimum of five years in responsible assignments in quality assurance and control or construction of a power station.	

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TITLE	EDUCATION	BACKGROUND EXPERIENCE
Chief Engineer, Nondestructive Test	BS/BA	Minimum of five years in responsible assignments in nondestructive test- ing of materials or metallurgy.
Chief Engineer, QA 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, construc- tion, and/or instal- lation 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.
Resident QC Manager, Supt. of FQC, Assistant	BS/BA	Minimum of five years experience in quality

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Manager or Assistant

Chief Engineer of QA

Divisions

experience in quality assurance and related fields, including testing and/or inspection of manufacturing, construction, and/or installation activities. least two years shall be in a supervisory

field.

OR

High School General Education Development Equivalent (GED)

Minimum of ten years of experience in general quality assurance or equivalent engineering, manufacturing, construction, and/or installa-

capacity in the nuclear

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TITLE

EDUCATION

BACKGROUND EXPERIENCE

tion activities. Five years of total experience is required in quality assurance, including testing and/or inspection of equivalent manufacturing, construction, and/or installation 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 inspection of equivalent manufacturing, construction, and/or installation 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, construction, and/or installation activities. Five years of this experience is required in quality assurance, including testing and/or inspection of equivalent manufacturing, construction, and/or installation activities. At least two years of this experience should be associated with the nuclear field.

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TITLE	EDUCATION	BACKGROUND EXPERIENCE
Section Head/Super- visor/Sr. 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.
QA Engineer	BS/BA	Minimum of five years experience in quality assurance and related fields.

OR

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Associates

Degree

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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.

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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 Standard 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.

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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 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.

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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 organization structure.

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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 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.

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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.

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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.

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Contract (SWEC)

A form of agreement used to procure site 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 characteristic 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.

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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.

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.

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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.



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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.

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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 materials which deviate 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 Report (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


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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 preselected 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 on 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.

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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 a 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

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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 products(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.

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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 Quality Assurance Manager 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 Quality Assurance Manager 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 Resident QC Manager, 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.

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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 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.

<u>NOTE</u>: 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.

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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 Auditing Division (QAAD) (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.



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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 Quality Assurance 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.

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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.

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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.

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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 Assocation 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.

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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.

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Witness (SWEC)

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

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APPENDIX VI APPROVALS AND CONCURRENCES FOR QUALITY ASSURANCE SYSTEM DOCUMENTATION

	Program Documents	Approval	Concurrences	
1.	Standard SWEC Nuclear Quality Assurance Program	Office of the Chief Executive (Sections approved by Vice Pres- idents of affected Departments)		E
2.	<u>Project QA Pro-</u> gram	Vice President, QA; Chief Engineer, Engrg. Assurance; Project Manager; Superintendent of Construction Service and Project QA Represen tative (when designated as a Project QA Manager	s; -	M
3.	Management Plans for Project Quality	Vice President, QA or Quality Assurance Manager, as appro- priate; Chief Engi- neer, Engrg. Assur- ance; and Superinten- dent of Construction Services (if Depart- ment activities are included); and the Project Manager or equivalent and the Project Engineer (if assigned).	Licensee QA Repre- sentative (if required)	
4.	Standard Nuclear Test Program Directives	VPs of Quality Assur- ance and Engineering Departments and VPs of Construction and Project Management, when affected.		
5.	<u>Project Test Pro-</u> gram Directives	Senior Construction Site Representative, if affected, QA Representative, Senior Engineering Test Representative. The above personnel shall be specifically		

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Program Documents

Approval

Concurrence

Department Heads

Affected

identified in the appropriate Project Test Program Directive.

6. <u>Company Quality</u> <u>Assurance and</u> <u>Control Manual -</u> <u>ASME Section III</u>

Policy

Changes

-

President

Procedure orig- Vice President, QA inals, Appendices, and revisions

Vice President, QA

NOTE

Also requires acceptance by the Authorized Nuclear Inspection Agency.

VI-3 SWSQAP 1-74A Revision E

Procedural Documents

Approval

Concurrence

1. Quality Standards

Generic and project model

Charter (QS-5.1) Office of the Chief ------Executive

Originals, revis- VPs of Affected ions, and changes 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. Quality Assurance Directives

Generic and project model

Origir	hal,	revis-	Quality	Assurance	D
ions,	and	changes	Manager		0
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All NDT QADs

Div. Mgr/Ch. Eng. of affected QA Division

Chief Engineer, NDTD, Chief Engineer, QSD in addition to the QA Manager; and Level III NDT Engineer

E

VI-4 SWSOAP 1-74A Revision E

Procedural Documents

Approval

Cancellations

Quality Assurance Manager

Projectized original, revisions, and changes

Quality Assurance Manager, and Project QA Manager, Resident QC Manager, or FQC Superintendent, as applicable

Chief Engineer, NDT

NDT Engineer

All NDT QADs

3.

Quality Control Instructions

Concurrence

Div. Mgr/Ch. Eng. of affected QA Division

Division and Level III,

FQC-Resident QC Manager or Supt. of FQC, & Manager, FQCD OR PQA-District Manager & Manager, PQA OR Headquarters and Operations Centers - Quality Department Management

4. Calibration

cedure

Metrology Standards

Quality Assurance Manager

Calibration Pro- Div. Mgr./Ch. Eng. of preparing Div.

Div. Mgr./Ch. Eng. of affected QA Division

Div. Mgr./Ch. Eng. of affected QA Division

5. Engineering Assurance Procedures*

> Originals and re- Vice President, Eng. isions Dept.

Change Vice President, Eng. Dept. or Chief Engineer, EA



VI-5 SWSQAP 1-74A Revision E

	Procedural Documents	Approval	Concurrence
	Cancellations	Chief Engineer, EA	
6.	Project Manual	Project Manager	
7.	Construction Management Manual*	Vice President, Construction Department	
8.	Standard Con- struction Methods Procedures (CMPs) or Project Con- struction Methods Procedures**	Vice President, Construction Depart- ment	
9.	Records Manage- ment Guidelines*	Affected Department and Division Heads	
10.	Purchasing Department Procedures*	Affected Department Heads	

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