

QUALITY ASSURANCE
ADMINISTRATIVE & SYSTEM REQUIREMENTS
NO. 9763-QAS-2
PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE
SEABROOK STATION
UNITED ENGINEERS & CONSTRUCTORS INC.
PHILADELPHIA, PENNSYLVANIA

August 23, 1973

FOR INFORMATION ONLY

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United Engineers Procedure

Quality Assurance Administrative & System Requirements,
9763-QAS-2

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<u>PAGE</u>	<u>REVISION</u>
Cover Sheet	5
i	5
ii	5
Table of Contents	3
1	3
2	3
3	3
4	3
5	3
6	3
7	3
8	5
9	4
10	3

9763-QAS-2

IDENTIFICATION OF CHANGES

This document has been revised as listed below for reasons given:

<u>Section</u>	<u>Page</u>	<u>Reason</u>
Para 4.1	8	Resolve controversy per ECA 100070A.

TABLE OF CONTENTS

		<u>PAGE</u>
1.0	SCOPE	1
2.0	GENERAL	2
3.0	ADMINISTRATIVE & SYSTEM REQUIREMENTS	4
4.0	INFORMATION TO BE SUBMITTED	8
5.0	SHIPPING RELEASE	10

1.0

SCOPE

This document provides requirements for the Quality Assurance/Control program to be maintained by Contractors supplying Non-Nuclear Safety Class (NNS) items and services.

2.0 GENERAL

2.1 DEFINITIONS

2.1.1 Quality Assurance

All those planned and systematic actions necessary to provide adequate confidence that an item or facility will perform satisfactorily in service.

2.1.2 Quality Control

Those quality assurance actions which provide a means to control and measure the characteristics of an item, process or facility to established requirements.

2.1.3 Quality Assurance Program

The Contractor's written program describing the actions implemented for the control of the quality of the specific items which he proposes to manufacture or for any other work or services that he proposes to perform.

2.1.4 Contractor

Whenever the term Contractor, Supplier, Vendor or Manufacturer is used in this document, it shall be understood to refer to the "Seller".

2.1.5 Subcontractor

Any Supplier who is under contract to the "Seller" to furnish items or services; a lower tier Contractor who is not directly under contract with the Owner or Engineer.

2.1.6 Owner

The organization responsible for the operation, maintenance, safety, and power generation of Seabrook Station - Public Service Company of New Hampshire.

2.1.7 Engineer

The organization responsible for the design, engineering and procurement of equipment for the Balance of Plant of the Seabrook Power Station and for the coordination of all contractor design interfaces - United Engineers & Constructors Inc.

2.1.8 Engineering Supervisor

The organization responsible for administering and directing the engineering and construction of the project - The Nuclear Services Division of Yankee Atomic Electric Company.

2.2 QUALITY ASSURANCE SURVEILLANCE

All fabrication, inspection, and test operations performed by Contractors and their subcontractors or suppliers are subject to quality assurance surveillance by the Engineer, the Engineering Supervisor and the Owner. Surveillance shall not relieve the Contractor of any responsibility for the requirements of his contract and shall not be considered as waiver of warranty or other rights.

Compliance with the requirements of this specification does not relieve the Contractor of his responsibility to assure that the requirements of other ordering data (codes, specifications, drawings, etc.) are met.

1.0

ADMINISTRATIVE AND SYSTEM REQUIREMENTS

1.1

ORGANIZATION

The Contractor's organization shall be established in such a manner that persons involved in the Quality Assurance Program have sufficient authority and organizational freedom to identify quality problems; to initiate, recommend, or provide solutions; and to verify implementation of solutions.

The organization shall be established in such a manner that the individual or group assigned the responsibility for checking, auditing, inspecting or otherwise verifying that an activity has been correctly performed is independent of the individual or group directly responsible for performing the specific activity.

The authority and responsibility of persons performing activities affecting quality shall be clearly established and documented in the Contractor's Quality Assurance Manual.

1.2

QUALITY ASSURANCE PROGRAM

The Contractor shall establish and maintain a Quality Assurance Program for the control of the quality of the specific items being supplied or the work to be performed.

The quality of all products including materials under contract, whether manufactured within the manufacturer's plant or obtained from an outside supplier, shall be controlled at all points necessary to assure conformance with requirements of this specification and associated Codes and Standards.

The Quality Assurance Program shall be documented in detail in a Quality Assurance Manual. Prior to the start of work, the Contractor shall officially submit the Quality Assurance Manual, and all quality control and process procedures, to UE&C for approval. Changes requested by UE&C, may be accomplished in the form of supplements or addenda identified to the project. Changes made by the Contractor shall be submitted to UE&C for approval.

The Contractor's Quality Assurance Program, Quality Assurance Manual and written procedures shall as a minimum, describe how the requirements of paragraphs 3.3 through 3.11 of this specification will be met.

3.3

INSTRUCTIONS, PROCEDURES AND DRAWINGS

The Contractor shall have written instructions, procedures, or drawings to direct and control activities affecting quality. These documents may be in the form of job specifications, work instructions, shop drawings, job tickets, planning sheets, operating or procedure manuals, test procedures, or any other type of written format. These documents shall contain appropriate quantitative or qualitative criteria for determining compliance.

3.4

DRAWINGS, DESIGN CALCULATIONS AND SPECIFICATION CONTROL

The Contractor's quality control system shall provide procedures which will assure that the latest applicable drawings, design calculations, specifications and instructions required by the applicable code or specification, are used for manufacture, examination, inspection and testing. Changes to these documents shall be authorized and controlled in the same manner as the original documents.

3.5

CONTROL OF PURCHASED MATERIAL, EQUIPMENT AND SERVICES

The Contractor shall assure that purchased items and services, whether purchased directly by the Contractor or through his suppliers conform to the requirements of the Engineer's procurement documents. The Contractor's procedures shall include, as appropriate, provisions for source selection and selection by means of historical quality performance data, source surveys or audits, or source qualification programs; objective evidence of quality furnished by the equipment supplier; source inspection and audit; and inspection of items upon delivery.

3.6

MATERIAL CONTROL

The Contractor shall maintain a system of receiving control which will assure that the material received is properly identified and has documentation including required material certifications or material test reports to satisfy code or specification requirements as ordered. The material control system shall assure that only acceptable material is used for fabrication or construction.

3.7

EXAMINATION AND INSPECTION PROGRAM

The Contractor shall establish a program for in-process and final inspection of activities affecting quality to assure

conformance with documented instructions, drawings. Examinations, measurements of product processed shall be performed where necessary to assure quality. Those who verify the quality of work shall be more competent than those who performed the activities.

Mandatory inspection hold points, which shall be established by the Engineer, Engineering Supervisor or other authorized personnel. Work shall not proceed without the Engineer's approval as indicated by the Engineer. Following the establishment of mandatory inspection hold points by the Engineer, the Contractor shall provide timely advanced notification of when the event approaches. In this context, 72 hours advance notification shall be considered satisfactory.

3.3

CONTROL OF SPECIAL PROCESSES

The Contractor shall establish procedures to ensure that special processes such as welding, heat treatment, cleaning, and nondestructive examination are accomplished under controlled conditions and in accordance with applicable codes, specifications, criteria, and other special requirements. Qualified personnel, procedures and equipment. Qualified personnel, procedures, and equipment shall be in compliance with the requirements of applicable codes and standards. The Contractor shall maintain records for currently qualified personnel (operators and inspectors), processes or equipment in accordance with pertinent codes, standards and specifications.

3.4

NONCONFORMING ITEMS

The Contractor shall establish measures for controlling nonconforming services, or activities which do not conform to requirements. This includes provisions for identification, documentation, segregation, disposition, and notification to affected organizations. Nonconforming items shall be reviewed and accepted, rejected, repaired, or reworked in accordance with documented and approved procedures. The responsibility and authority for the dispositioning of nonconforming items shall be defined. Repaired and reworked items shall be reinspected in accordance with applicable procedures.

The measures shall provide control over further processing, delivery or installation of a nonconforming item pending a decision on its disposition. Documentation shall be provided to verify the acceptability of non-conforming items which have been dispositioned "accept as is" or repair". A description of the

conformance with documented instructions, procedures and drawings. Examinations, measurements or tests of material or product processed shall be performed for each work operation where necessary to assure quality. Inspection activities to verify the quality of work shall be performed by persons other than those who performed the activities being inspected.

Mandatory inspection hold points, which require witnessing by the Engineer, Engineering Supervisor or Owner and beyond which work shall not proceed without the Engineer's consent, shall be indicated by the Engineer. Following the identification of mandatory inspection hold points by the Engineer, the Contractor shall provide timely advanced notification as each designated event approaches. In this context, 72 hours advance telephone notification shall be considered satisfactory.

3.8

CONTROL OF SPECIAL PROCESSES

The Contractor shall establish procedures to assure that special processes such as welding, heat treatment, cleaning and nondestructive examination are accomplished under controlled conditions and in accordance with applicable codes, standards, specifications, criteria, and other special requirements, using qualified personnel, procedures and equipment. Qualification of personnel, procedures, and equipment shall be in compliance with the requirements of applicable codes and standards. The Contractor shall maintain records for currently qualified personnel (operators and inspectors), processes or equipment in accordance with pertinent codes, standards and specifications.

3.9

NONCONFORMING ITEMS

The Contractor shall establish measures for controlling items, services, or activities which do not conform to requirements. This includes provisions for identification, documentation, segregation, disposition, and notification to affected organizations. Nonconforming items shall be reviewed and accepted, rejected, repaired, or reworked in accordance with documented and approved procedures. The responsibility and authority for the dispositioning of nonconforming items shall be defined. Repaired and reworked items shall be reinspected in accordance with applicable procedures.

The measures shall provide control over further processing, delivery or installation of a nonconforming item pending a decision on its disposition. Documentation shall be provided to verify the acceptability of non-conforming items which have been dispositioned "accept as is" or repair". A description of the

change, waiver, or deviation as approved by the Engineer shall be incorporated into the records and the as-built condition indicated.

3.10

CONTROL OF MEASURING AND TEST EQUIPMENT

The Contractor shall establish measures to assure that all tools, gages, instruments and other measuring and testing devices employed in activities affecting quality are calibrated and properly adjusted at specified periods to maintain accuracy within necessary limits. He shall further assure that these instruments are of the proper range, type and sensitivity to reliably measure the parameters being evaluated. Calibration shall be against certified measurement standards which have known valid relationships to National Standards. Should no national standard exist, the Contractor shall document the basis for his calibration.

The method and interval of calibration for each item shall be defined and shall be based on the type of equipment stability characteristics, required accuracy, and other characteristics affecting measurement control. The procedures shall provide for special calibrations whenever accuracy of the equipment is suspect. When inspection, measuring and test equipment are found to be out of calibration, damaged or missing, procedures shall provide for determining the validity of previous inspection or test results.

Records shall be maintained and equipment suitably marked to indicate calibration status.

3.11

QUALITY ASSURANCE RECORDS

Sufficient records shall be prepared as work is performed to furnish documentary evidence of the quality of items and of activities affecting quality. These records shall be consistent with applicable codes, standards, specifications and contracts.

4.0

INFORMATION TO BE SUBMITTED

4.1

QUALITY ASSURANCE PROGRAM/MANUAL

Within 30 days after award of contract, the Contractor shall submit the following information for approval.

- a. Quality Assurance/Control Program that will be applicable to the contract, in conformance with Section 3.2 of this document.
- b. Quality Assurance procedures referenced in the Program.
- c. A letter certifying that the Manual is applicable to the contract, and listing any exceptions, and additional procedures.

All changes to any of the above documents shall be submitted and approved before the changes may be implemented.

4.2

QUALITY CONTROL AND PROCESS PROCEDURES

The following procedures must be submitted for approval before any work that requires use of the procedures may be performed.

- a. Welding procedures
- b. Welding procedure qualifications
- c. Nondestructive examination procedures
- d. Test procedures
- e. Cleaning procedures
- f. Heat treatment procedures
- g. Packaging procedures
- h. Inspection procedures

4.3

RECORDS AND DOCUMENTATION

The following documentation shall be submitted with each shipment and shall be available to the Engineer's Vendor Surveillance Representative at the time of final inspection.

- a. An index of items in the document package including

quantities of each type of document in the package. All document package pages shall be numbered sequentially, beginning with an index and all pages collated by generic document types. If there is information on both sides of a sheet, each side shall be numbered.

- b. Material certifications
- c. Code data forms
- d. Heat treatment charts
- e. Nondestructive test records
- f. Radiographs and interpretation sheets and standard shooting sketches

At the time of drawing submittal, the Contractor shall submit a listing of documents to be prepared, maintained and submitted in the document package accompanying the shipment. This list will include, but shall not necessarily be limited to the items listed in Paragraph 4.3.

5.0

SHIPPING RELEASE

The Contractor shall notify the Engineer at least 72 working hours in advance of any mandatory inspection hold-points identified by the Engineer. Unless otherwise specified or waived, final inspection prior to shipment is a mandatory hold-point. At that time, all required documentation shall be available to the Engineer's Vendor Surveillance Representative for review. Items may not be released until the Engineer's "Quality Shipment Release" form has been signed.

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QUALITY ASSURANCE
ADMINISTRATIVE & SYSTEM REQUIREMENTS

NO. 9763-QAS-2

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE

SEABROOK STATION

UNITED ENGINEERS & CONSTRUCTORS INC.

PHILADELPHIA, PENNSYLVANIA

19105

August 23, 1973

NO.	DATE	PREP. BY	QA REV.	APPR. BY
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1/30/78
Rev. 4

9763-QAS-2 CURRENT PAGE LISTING

<u>PAGE</u>	<u>REVISION</u>
Cover Sheet	4
1	4
11	4
Table of Contents	3
1	3
2	3
3	3
4	3
5	3
6	3
7	3
8	3
9	3
10	4
11	3

1/30/78
Rev. 4

ATTACHMENT 1

QUALITY ASSURANCE PROJECT STANDARD 9763-QAS-2

IDENTIFICATION OF CHANGES

This Standard has been revised as listed below for reasons given:

<u>Section</u>	<u>Page</u>	<u>Reason</u>
para: 4.3	10	Added requirement for an index and an inventory of documents.

TABLE OF CONTENTS

	<u>PAGE</u>
1.0 SCOPE	1
2.0 GENERAL	2
3.0 ADMINISTRATIVE & SYSTEM REQUIREMENTS	4
4.0 INFORMATION TO BE SUBMITTED	9
5.0 SHIPPING RELEASE	11

1.0

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CONTROL OF MEASURING AND TEST EQUIPMENT

The Contractor shall establish measures to assure that all tools, gages, instruments and other measuring and testing devices employed in activities affecting quality are calibrated and properly adjusted at specified periods to maintain accuracy within necessary limits. He shall further assure that these instruments are of the proper range, type and sensitivity to reliably measure the parameters being evaluated. Calibration shall be against certified measurement standards which have known valid relationships to National Standards. Should no national standard exist, the Contractor shall document the basis for his calibration.

The method and interval of calibration for each item shall be defined and shall be based on the type of equipment stability characteristics required accuracy, and other characteristics affecting measurement control. The procedures shall provide for special calibrations whenever accuracy of the equipment is suspect. When inspection, measuring and

test equipment are found to be out of calibration, procedures shall provide for determining the validity of previous inspection or test results.

Records shall be maintained and equipment suitably marked to indicate calibration status.

3.11

QUALITY ASSURANCE RECORDS

Sufficient records shall be prepared as work is performed to furnish documentary evidence of the quality of items and of activities affecting quality. These records shall be consistent with applicable codes, standards, specifications, and contracts.

4.0 INFORMATION TO BE SUBMITTED

4.1 QUALITY ASSURANCE PROGRAM/MANUAL

Within 30 days after award of contract, the Contractor shall submit the following information for approval.

- a. Quality Assurance/Control Program that will be applicable to the contract, in conformance with Section 3.2 of this document.
- b. Quality Assurance procedures referenced in the Program.
- c. A letter certifying that the Manual is applicable to the contract, and listing any exceptions, and additional procedures.

All changes to any of the above documents shall be submitted for approval before the changes may be implemented.

4.2 QUALITY CONTROL AND PROCESS PROCEDURES

The following procedures must be submitted for approval before any work that requires use of the procedures may be performed.

- a. Welding procedures
- b. Welding procedure qualifications
- c. Nondestructive examination procedures
- d. Test procedures
- e. Cleaning procedure
- f. Heat treatment procedure
- g. Packaging procedures
- h. Inspection procedures

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RECORDS AND DOCUMENTATION

The following documentation shall be submitted with each shipment and shall be available to the Engineer's Vendor Surveillance Representative at the time of final inspection.

- a. An index of items in the document package including quantities of each type of document in the package. All document package pages shall be numbered sequentially, beginning with an index and all pages collated by generic document types. If there is information on both sides of a sheet, each side shall be numbered.
- b. Material certifications
- c. Code data forms
- d. Heat treatment charts
- e. Nondestructive test records
- f. Radiographs and interpretation sheets and standard shooting sketches

4.4

At the time of drawing submittal, the contractor shall submit a listing of documents to be prepared, maintained and submitted in the document package accompanying the shipment. This list will include, but shall not necessarily be limited to the items listed in Paragraph 4.3.

5.0

SHIPPING RELEASE

The Contractor shall notify the Engineer at least 72 working hours in advance of any mandatory inspection hold-point identified by the Engineer. Unless otherwise specified or waived, final inspection prior to shipment is a mandatory hold point. At that time, all required documentation shall be available to the Engineer's Surveillance Representative for review. Items may not be released until the Engineer's "Release for Shipment" tag has been signed and affixed to the item.