

Dockets Nos. 50-29/271/309

Ms. Diana P. Sidebotham, President  
New England Coalition on Nuclear  
Pollution, Inc.  
Box 637  
Brattleboro, Vermont 05301

Dear Ms. Sidebotham:

In our telephone conversation today, July 2, 1976, you requested a copy of the list of 89 QA items the NRR staff discussed with the Yankee Atomic Electric Company on August 21, 1975, which was referred to in my April 9, 1976 letter. A copy of that list is enclosed.

I am also enclosing a copy of my May 6, 1976 letter to that company.

Sincerely,

THIS DOCUMENT CONTAINS  
POOR QUALITY PAGES

Victor Stello, Jr., Director  
Division of Operating Reactors  
Office of Nuclear Reactor Regulation

Enclosures:

1. List of 89 QA Items
2. May 6, 1976 letter

cc w/encl:

Anthony Z. Roisman, Esquire  
Berlin, Roisman and Kessler  
1712 N. Street, NW.  
Washington, D.C. 20036

Mr. D. E. Vandenberg, Vice President  
Vermont Yankee Nuclear Power Corporation  
20 Turnpike Road  
Westboro, Massachusetts 01581

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410.0 QUALITY ASSURANCE

410.1  
(I)

The responsibilities of ~~one~~ <sup>the</sup> "Vice President" are given on page 2 of Section I, but Figure 1 on page 21 of Section I shows two "Vice Presidents". Clarify this discrepancy.

410.2  
(I)

Describe the provisions which assure that clear and effective lines of communication between the QA organizations of Yankee Atomic and his principal contractors are established to assure proper direction of the QA program and resolution of QA problems.

410.3  
(I)

Describe the qualification requirements for the principal QA/QC management positions to demonstrate competence commensurate with the responsibilities of these positions.

410.4  
(I)

Describe the provisions which assure that verification of conformance to established requirements is accomplished by individuals or groups who do not have direct responsibility for performing the work being verified.

410.5  
(I)

Describe the provisions which assure that personnel performing QA/QC functions have sufficient authority and organizational freedom to perform their QA/QC functions effectively and without reservation. They can:

- a. Identify quality problems;
- b. Initiate, recommend, or provide solutions through designated channels, and;
- c. Verify implementation of solutions.

410.6  
(I)

Describe the provisions which assure that designated QA individuals have the responsibility and authority, delineated in writing, to stop unsatisfactory work and control further processing, delivery, or installation of nonconforming material.

410.7  
(II)

Give a brief summary of the corporate QA policies, goals, and objectives and describe how these policies, goals, and objectives are transmitted down through the levels of management.

410.8  
(II)

Describe the provisions which assure that the QA program procedures are derived from QA policies, goals, and objectives.

410.9  
(II)

Describe the provisions which assure that QA/QC responsibilities are designated for the implementation of the major activities contained in the QA manual.

410.10  
(II)

Describe the provisions for controlling the distribution of the QA manuals and revisions thereto.

- 410.11 (II) Describe the provisions for communicating to all responsible organizations and individuals that quality policies, QA manuals, and procedures are mandatory requirements which must be implemented and enforced.
- 410.12 (II) Give a listing of QA procedures plus a matrix of these procedures cross referenced to each criterion of Appendix B to 10 CFR Part 50 to demonstrate that Appendix B provisions are fully implemented by documented procedures.
- 410.13 (II) Identify the safety-related structures, systems, and components controlled by the QA program.
- 410.14 (II) Describe the provisions which assure that Yankee Atomic reviews and formally concurs with the QA program provisions of his suppliers to the extent that he can be assured that Appendix B will be implemented.
- 410.15 (II) Describe the provisions <sup>for</sup> resolving disputes involving quality, arising from a difference of opinion between QA/QC personnel and other department (engineering, procurement, manufacturing, etc.) personnel.
- 410.16 (II) Clarify that the indoctrination and training program assures that:
- a. Personnel responsible for performing quality affecting activities are instructed as to the purpose, scope, and implementation of the quality-related manuals, instructions, and procedures.
  - b. Personnel performing quality-affecting activities are trained and qualified in the principles and techniques of the activity being performed.
  - c. The scope, the objective, and the method of implementing the indoctrination and training program are documented.
  - d. Proficiency of personnel performing quality-affecting activities is maintained by retraining, reexamining, and/or recertifying.
  - e. Methods are provided for documenting training sessions describing content; who attended; when attended; and the results of the training session.
- 410.17 (II) Describe the provisions which assure that quality-related activities are performed with specified equipment under suitable environmental conditions and prerequisites have been satisfied prior to inspection and test.



- 410.18  
(II) Describe the provisions provided for describing how changes to the SAR QA program are identified and incorporated into the FSAR.
- 410.19  
(III) Describe the provisions for correctly translating the applicable regulatory requirements and design bases into specifications, drawings, written procedures, and instructions.
- 410.20  
(III) Describe the provisions which assure that suitable design controls are applied to such activities as reactor physics; seismic, stress, thermal, hydraulic, radiation, and accident analyses; compatibility of materials; and accessibility for inservice inspection, maintenance, and repair.
- 410.21  
(III) Describe the provisions which assure that designs are reviewed to assure that design characteristics can be controlled, inspected and tested.
- 410.22  
(III) Describe the provisions which assure that proper selection and accomplishment of design verification or checking process such as by design reviews, alternate calculations, or qualification testing are performed. When a test program is used to verify the adequacy of a design, a qualification test of a prototype unit under the most adverse design conditions shall be used.
- 410.23  
(III) Describe the provisions which assure that design and specification changes, including those originating "onsite", are subject to the same design controls and approvals that were applicable to the original design unless Yankee Atomic designates another responsible organization.
- 410.24  
(III) Describe the provisions which assure that errors and deficiencies that adversely affect safety-related structures, systems, and components in the design process are documented, and corrective action is taken to preclude repetition.
- 410.25  
(III) Describe the provisions which assure that standard "off the shelf" commercial or previously approved materials, parts, and equipment that are essential to the safety-related functions of structures, systems, and components are reviewed for suitability of application prior to selection.
- 410.26  
(III) Describe the provisions for selecting suitable materials, parts, equipment, and processes for safety-related structures systems, and components.
- 410.27  
(IV) Describe the provisions which assure that the review and approval of procurement documents are documented prior to release and are available for verification.

- 410.28  
(IV) Describe the provisions which assure that procurement documents identify the applicable 10 CFR Part 50, Appendix B requirements which must be complied with and described in the supplier's QA program. This QA program or portions thereof should be reviewed and concurred with by qualified personnel in QA prior to initiation of activities affected by the program.
- 410.29  
(IV) Describe the provisions which assure that procurement documents identify the documentation (e.g., drawings, specifications, procedures, inspection and fabrication plans, inspection and test records, personnel and procedure qualifications, and chemical and physical test results of material) to be prepared, maintained, and submitted to Yankee Atomic for review and approval.
- 410.30  
(IV) Describe the provisions which assure that procurement documents identify those records which shall be retained, controlled, and maintained by the supplier and those delivered to Yankee Atomic prior to use or installation of the hardware.
- 410.31  
(IV) Describe the provisions which assure that procurement documents contain Yankee Atomic's right of access to supplier's facilities and records for source inspection and audits.
- 410.32  
(IV) Describe the provisions which assure that changes and revisions to procurement documents are subject to at least the same review and approval as the original document.
- 410.33  
(IV) Describe the provisions which assure that procurement documents for spare or replacement parts of safety-related structures, systems, and components are subject to controls at least equivalent to those used for the original equipment.
- 410.34  
(V) Describe the provisions for clearly delineating the sequence of actions to be accomplished in the preparation, review, approval, and control of instructions, procedures, and drawings.
- 410.35  
(V) Describe the provisions which assure that methods for complying with each of the 18 criteria of 10 CFR Part 50, Appendix B are specified in instructions, procedures, and drawings.
- 410.36  
(V) Describe the provisions which assure that the "offsite" or "onsite" QA organization reviews and concurs with inspection plans; test, calibration, special process, maintenance, modification and repair procedures; drawings and specifications; and changes thereto or acceptable alternatives are described.
- 410.37  
(VI) Describe the provisions which assure that changes to documents are reviewed and approved by the same organizations that performed the original review and approval or by other qualified responsible organizations delegated by Yankee Atomic.

- 410.38 (VI) Describe the provisions which assure that approved changes are included in instructions, procedures, drawings, and other documents prior to implementation of the change.
- 410.39 (VI) Describe the provisions which assure that documents are available at the location where the activity will be performed prior to commencing the work.
- 410.40 (VI) Describe the provisions which assure that a master list or equivalent is established to identify the current revision number of instructions, procedures, specifications, drawings, and procurement documents. This list is updated and distributed to predetermined, responsible personnel to preclude use of superceded documents.
- 410.41 (VI) Identify the documents that are controlled under this subsection. As a minimum this should include:
- a. Design specifications.
  - b. Design, manufacturing, construction, and installation drawings.
  - c. Procurement documents.
  - d. QA manual and maintenance, modification, and operating procedures.
  - e. Final safety analysis report (FSAR).
  - f. Manufacturing, inspection, and testing instructions.
  - g. Test procedures.
  - h. Design change requests.
  - i. Nonconformance reports.
- 410.42 (VII) Clarify that the evaluation of suppliers is based on one or more of the following:
- a. The supplier's capability to comply with the elements of 10 CFR Part 50, Appendix B that are applicable to the type of material, equipment, or service being procured.
  - b. A review of previous records and performance of suppliers who have provided similar articles of the type being procured.
  - c. A survey of the supplier's facilities and QA program to determine his capability to supply a product which meets the design, manufacturing, and quality requirements.



410.43  
(VII)

Describe the provisions which assure that results of supplier evaluations are documented and filed.

410.44  
(VII)

Describe the provisions which assure that surveillance of suppliers during fabrication, inspection, testing, and shipment of materials, equipment, and components is planned and performed in accordance with written procedures to assure conformance to the purchase order requirements. These procedures provide for:

- a. Instructions that specify the characteristics or processes to be witnessed, inspected or verified, and accepted; the method of surveillance and the extent of documentation required; and those responsible for implementing these instructions.
- b. Audits and surveillance which assure that the supplier complied with the quality requirements. Surveillance is performed on those items where verification of procurement requirements cannot be determined upon receipt.

410.45  
(VII)

Describe the provisions which assure that the supplier furnishes the following records, as a minimum, to Yankee Atomic:

- a. Certifications that identify the purchased material or equipment and the specific procurement requirements (e.g., codes, standards, specifications) met by the items.
- b. Certifications that identify any procurement requirements which have not been met together with a description of those nonconformances dispositioned "accept as is" or "repair".

The review and acceptance of these documents shall be described in Yankee Atomic's QA program and, as a minimum, shall be undertaken by a responsible QA individual.

410.46  
(VII)

Describe the provisions which assure that receiving inspection of the supplier furnished material, equipment, and services is performed to assure:

- a. The material, component, or equipment is properly identified and corresponds with the identification on the receiving documentation.
- b. Material, components, or equipment, and acceptance records are inspected and judged acceptable in accordance with predetermined inspection instructions, prior to installation or use.
- c. Inspection records or certificates of conformance attesting to the acceptance of material, components, and equipment are available at the nuclear power plant prior to installation or use.

- d. Items accepted and released are identified as to their inspection status prior to forwarding them to a controlled storage area or releasing them for installation or further work.

- 410.47  
(VII) Describe the provisions which assure that the effectiveness of the control of quality by suppliers is assessed by Yankee Atomic at intervals consistent with the importance, complexity, and quality of the item.
- 410.48  
(VIII) Describe the provisions which assure that identification of materials and parts important to the function of safety-related structures, systems, and components can be traced to the appropriate documentation such as drawings, specifications, purchase orders, manufacturing inspection documents, deviation reports, and physical and chemical mill test reports.
- 410.49  
(VIII) Describe the provisions which assure that the location and the method of identification do not affect the fit, function, or quality of the item being identified.
- 410.50  
(VIII) Describe the provisions which assure that correct identification of materials, parts, and components is verified and documented prior to release for fabrication, assembling, shipping, or installation.
- 410.51  
(IX) Describe the provisions which assure that qualification records of procedures, equipment, and personnel associated with special processes are established, filed, and kept current.
- 410.52  
(X) Describe the provisions which assure that inspection personnel are independent from the individuals performing the activity being inspected.
- 410.53  
(X) Describe the provisions which assure that inspection procedures, instructions, and check lists provide for the following:
- a. Identification of characteristics and activities to be inspected.
  - b. Identification of the individuals or groups responsible for performing the inspection operation.
  - c. Acceptance and rejection criteria.
  - d. A description of the method of inspection.
  - e. Recording evidence of completing and verifying a manufacturing, inspection, or test operation.
  - f. Recording the inspector or data recorder and the results of the inspection operation.



- 410.54  
(X) Describe the provisions which assure that inspection procedures or instructions are used with necessary drawings and specifications when performing inspection operations.
- 410.55  
(X) Describe the provisions which assure that modifications, repairs, and replacements are inspected in accordance with the original design and inspection requirements or acceptable alternatives.
- 410.56  
(X) Describe the provisions, <sup>for</sup> indirect control by monitoring processing methods, equipment, and personnel if direct inspection is not possible.
- 410.57  
(X) Describe the provisions which assure that inspectors are qualified in accordance with applicable codes, standards, and company training programs, and their qualifications and certifications are kept current.
- 410.58  
(X) Describe the provisions which assure that maintenance and modification procedures are reviewed by qualified personnel knowledgeable in QA to determine the need for a) inspection, b) identification of inspection personnel, and c) documenting inspection results.
- 410.59  
(XI) Describe the provisions which assure that modifications, repairs, and replacements are tested in accordance with the original design and testing requirements or acceptable alternatives.
- 410.60  
(XI) Describe the provisions which assure that written test procedures incorporate or reference:
- a. The requirements and acceptance limits contained in applicable design and procurement documents.
  - b. Instructions for performing the test.
  - c. Test prerequisites such as:
    - Calibrated instrumentation.
    - Adequate and appropriate equipment.
    - Trained, qualified, and licensed or certified personnel.
    - Completeness of item to be tested.
    - Suitable and controlled environmental conditions.
    - Provisions for data collection and storage.
  - d. Mandatory inspection hold points for witness by owner, contractor, or inspector.

e. Acceptance and rejection criteria.

f. Methods of documenting or recording test data and results.

- 410.61  
(XII) Describe the provisions which assure that measuring and test equipment is identified and traceable to the calibration test data.
- 410.62  
(XII) Describe the provisions which assure that measuring and test equipment is labelled or tagged to indicate the date of the next calibration.
- 410.63  
(XII) Describe the provisions which assure that measuring and test instruments are calibrated at specified intervals based on the required accuracy, purpose, degree of usage, stability characteristics, and other conditions affecting the measurement.
- 410.64  
(XII) Describe the provisions for determining the validity of previous inspections performed when measuring and test equipment is found to be out of calibration.
- 410.65  
(XII) Describe the provisions which assure that calibrating standards have an uncertainty (error) requirement of no more than 1/4th of the tolerance of the equipment being calibrated. A greater uncertainty may be acceptable when limited by the "state-of-the-art."
- 410.66  
(XII) Describe the provisions which assure that the complete status of all items under the calibration system is recorded and maintained.
- 410.67  
(XII) Describe the provisions which assure that reference and transfer standards are traceable to nationally recognized standards; or, where national standards do not exist, provisions are established to document the basis for calibration.
- 410.68  
(XIV) Describe the provisions which assure that identification of the inspection, test, and operating status of structures, systems, and components is known by affected organizations.
- 410.69  
(XIV) Describe the provisions which assure that bypassing of required inspections, tests, and other critical operations is procedurally controlled under the cognizance of the QA organization.
- 410.70  
(XV) Describe the provisions which assure that documentation identifies the nonconforming item; describes the nonconformance, the disposition of the nonconformance, and the inspection requirements; and includes signature approval of the disposition.

- 410.71  
(XV) Describe the provisions for identifying those individuals or groups delegated the responsibility and authority for the disposition and approval of nonconforming items.
- 410.72  
(XV) Describe the provisions which assure that nonconforming items are segregated from acceptable items and identified as discrepant until properly dispositioned.
- 410.73  
(XV) Describe the provisions which assure that acceptability of rework or repair of materials, parts, components, systems, and structures is verified by reinspecting and retesting the item as originally inspected and tested or by a method which is equivalent to the original inspection and testing method; and inspection, testing, rework, and repair procedures are documented.
- 410.74  
(XV) Describe the provisions which assure that nonconformance reports dispositioned "accept as is" or "repair" are made part of the inspection records and forwarded with the hardware to Yankee Atomic for review and assessment.
- 410.75  
(XV) Describe the provisions which assure that nonconformance reports are periodically analyzed to show quality trends, and the results are reported to management for review and assessment.
- 410.76  
(XVI) Describe the provisions which assure that corrective action is initiated following the determination of a condition adverse to quality to preclude recurrence.
- 410.77  
(XVI) Describe the provisions which assure that follow-up reviews are conducted to verify proper implementation of corrective actions and to close out the corrective action documentation.
- 410.78  
(XVI) Describe the provisions which assure that significant conditions adverse to quality, the cause of the conditions, and the corrective action taken are reported to cognizant levels of both "offsite" and "onsite" management for review and assessment.
- 410.79  
(XVII) Describe the provisions which assure that QA records include plant history; operating logs; principal maintenance and modification activities; abnormal occurrences; results of reviews, inspections, tests, audits, and material analyses; monitoring of work performance; qualification of personnel, procedures, and equipment; and other documentation such as drawings, specifications, procurement documents, calibration procedures and reports; nonconformance reports, and corrective action reports.



- 410.80  
(XVII) Describe the provisions which assure that requirements and responsibilities for record transmittals, retention (such as duration, location, fire protection, and assigned responsibilities), and maintenance subsequent to completion of work are consistent with applicable costs, standards, and procurement documents.
- 410.81  
(XVII) Describe the provisions which assure that inspection and test records contain the following where applicable:
- a. A description of the type of observation.
  - b. Evidence of completing and verifying a manufacturing, inspection, or test operation.
  - c. The date and results of the inspection or test.
  - d. Information related to conditions adverse to quality.
  - e. Inspector or data recorder identification.
  - f. Evidence as to the acceptability of the results.
- 410.82  
(XVII) Describe the provisions which assure that record storage facilities are constructed, located, and secured to prevent destruction of the records by fire, flooding, theft, and deterioration by environmental conditions such as temperature or humidity.
- 410.83  
(XVIII) Describe the provisions which assure that audit results are documented and then reviewed with management having responsibility in the area audited.
- 410.84  
(XVIII) Describe the provisions which assure that responsible management takes the necessary action to correct the deficiencies revealed by the audit.
- 410.85  
(XVIII) Describe the provisions which assure that deficient areas are reaudited until corrections have been accomplished to preclude recurrence of the deficiencies.
- 410.86  
(XVIII) Describe the provisions which assure that audits include an objective evaluation of quality-related practices, procedures, and instructions and the effectiveness of implementation.
- 410.87  
(XVIII) Describe the provisions which assure that audits include the objective evaluation of work areas, activities, processes, and items and the review of documents and records.

410.88  
(XVIII)

Describe the provisions for requiring that audits be performed in those areas where the requirements of Appendix B to 10 CFR Part 50 are being implemented. These areas shall include those safety-related activities associated with:

- a. Operation, maintenance, and modification.
- b. The preparation, review, approval, and control of designs, specifications, procurement documents, instructions, procedures, and drawings.
- c. Receiving and plant inspections.
- d. Indoctrination and training programs.
- e. The implementation of operating and test procedures.
- f. Calibration of measuring and test equipment.

410.89  
(XVIII)

Describe the provisions which assure that audits are regularly scheduled on the basis of the status and safety importance of the activities being performed.