MAINE YANKEE ATOMIC POWER COMPANY

QUALITY ASSURANCE PROGRAM

Revision 29
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MAINE YANKEE ATOMIC POWER COMPANY

QUALITY ASSURANCE PROGRAM

PREPARED BY: ____________________________ Date: ______________

APPROVED BY: ____________________________ Date: ______________

ISFSI Manager
Maine Yankee Atomic Power Company

APPROVED BY: ____________________________ Date: ______________

Programs Manager/ISFSI QA
Maine Yankee Atomic Power Company

APPROVED BY: ____________________________ Date: ______________

President
Maine Yankee Atomic Power Company

In addition to 10CFR50 activities, this QA Program applies to activities covered by 10CFR71, Subpart H, “Quality Assurance for Packaging and Transportation of Radioactive Material,” and 10CFR72, Subpart G, “Quality Assurance for Independent Storage of Spent Nuclear Fuel and High-Level Radioactive Waste.”

Specific license basis-related requirements applicable to decommissioning of the nuclear plant site are identified in Appendix E of this manual. Upon completion of all activities required to support release of the non-ISFSI land from the jurisdiction of the license, Appendix E will no longer be applicable.

Maine Yankee Atomic Power Company personnel who perform quality related and important to safety functions are responsible for complying with the requirements of this QA Program.

Changes to the QA Program shall be documented and approved by the Programs Manager/ISFSI QA, ISFSI Manager, and the Maine Yankee President.

__________________________
Maine Yankee President
Maine Yankee Atomic Power Company
I. ORGANIZATION

A. SCOPE

This section describes the functions and relationship of personnel responsible for establishing and implementing the Quality Assurance Program.

B. RESPONSIBILITY

1. MAINE YANKEE ISFSI ORGANIZATION

The President has the overall responsibility for all aspects of the QA Program. The Maine Yankee Quality Assurance Program encompasses the requirements of 10CFR 50, Appendix B, 10CFR 71, Subpart H, 10CFR 72, Subpart G, and the quality assurance requirements for the packaging and shipment of radioactive waste. Maine Yankee Management retains full responsibility for establishing, executing and measuring the overall effectiveness of the administrative controls and quality assurance program.

Maine Yankee may delegate to others such as contractors, agents, or consultants, the implementation of the Quality Assurance Program or any part thereof; but shall retain overall responsibility. As appropriate, Maine Yankee will monitor delegated quality assurance activities to assure effective implementation through program oversight that may include auditing, surveillance, inspections, meetings, periodic reports, reviews and approvals of selected documents.

a. Maine Yankee ISFSI Organization

The President and subordinate management and staff, execute the Quality Assurance Program in those organizational units assigned responsibility for operation, procurement, design and construction, quality assurance, and technical support activities. Individual functions described below can be combined into one or more positions.

The ISFSI Manager is responsible for the day-to-day implementation of the Quality Assurance Program within the operating organization relative to the safe storage and transport packaging of spent fuel. The ISFSI Manager will assume the responsibilities of the generic title “Plant Manager” as defined in ANSI N18.7-1976. This position reports to the President. The ISFSI Manager may delegate responsibilities for selected QA Program activities but retains overall responsibility of QA Program implementation.

The ISFSI Programs Manager is responsible for the implementation of the Radiation Protection Program and administrative oversight of the Quality Assurance Program. The Programs Manager fulfills the position of Quality Assurance Manager (ISFSI QA) and Radiation Protection Manager (ISFSI Radiation Protection).

The ISFSI Programs Manager functioning in capacity of ISFSI Radiation Protection is responsible for the radiation control support of the ISFSI including directing radiation protection associated with operation, procurement, design and construction, and technical support activities including survey activities and the transport packaging of radioactive waste. This function reports to the ISFSI Manager.
The ISFSI Shift Lead is the senior individual onsite during backshifts and weekends. This position reports to the ISFSI Manager.

The ISFSI Programs Manager functioning in capacity of ISFSI QA is the management function, which provides an independent overview of ISFSI operation and retains overall responsibility for establishing and measuring the effectiveness of the Quality Assurance Program.

ISFSI QA reports directly to the ISFSI President. As a direct report to the ISFSI President, he/she shall have direct access to other senior management positions and shall maintain effective communications with them on quality matters under their cognizance. The ISFSI QA shall regularly report to the ISFSI Manager on the effectiveness of the program.

ISFSI QA will maintain a direct line of communications with the President to ensure:

1. Sufficient independence from cost and scheduling considerations when opposed to safety considerations.

2. Direct access to responsible management at a level where appropriate action can be accomplished.

3. Sufficient authority and organizational freedom to identify quality problems, to initiate, recommend or provide solutions through designated channels and to verify implementation of solutions.

ISFSI QA in the pursuit of official duties, shall have authority for access to all records necessary to fulfill his responsibilities, to stop unsatisfactory work, and to control further processing, delivery, or installation of non-conforming material.

ISFSI Engineering is responsible for engineering activities associated with operation, procurement, design and construction, and technical support of the ISFSI. This function reports to the ISFSI Manager.
C. REVIEW AND AUDIT ENTITIES

Two organizational entities have been established to ensure that the ISFSI is operated in accordance with regulatory requirements and the standards established by this Program.

1. INDEPENDENT SAFETY REVIEW

Independent Safety Reviews shall be a thorough review by a qualified Independent Safety Reviewer. Persons performing these reviews shall be knowledgeable in the subject area being reviewed. These independent Safety Reviews are completed prior to implementation of proposed activities.

a. Composition

   (1) Reviewers

   Independent safety reviewers shall be an individual not having direct responsibility for the development of the documents under review, but who may be from the same functionally cognizant organization as the individual or group developing the original document.

b. Qualifications

   The Independent Safety Reviewers shall have five years of professional level experience and either a Bachelor’s Degree in Engineering or the Physical Sciences or equivalent in accordance with ANSI/ANS-3.1-1981.

   The Chairman of the Independent Review and Audit Committee shall designate the Independent Safety Reviewers in writing.

c. Responsibilities

   The following subjects shall be independently reviewed by a qualified Independent Safety Reviewer:

   (1) Written 10 CFR 50.59 evaluations that provide the basis for the determination that changes in the facility as described in the Safety Analysis Report (SAR), changes in the procedures as described in the SAR or the conduct of tests or experiments not described in the SAR, do not require prior NRC approval.

   (2) Proposed changes in the facility as described in the Safety Analysis Report (SAR), changes in the procedures as described in the SAR or the conduct of tests or experiments not described in the SAR which require prior NRC approval.

   (3) Approval of the review of the Offsite Dose Calculation Manual and its implementing procedures and ensuring that recommended changes are submitted to the ISFSI Manager.

   (4) Approval of the review of the Fire Protection Program and implementing procedures and ensuring that recommended changes are submitted to the Chairman of the Independent Review and Audit Committee.

   (5) Maine Yankee initiated 10 CFR 72.48 Evaluations which provide the basis for the determination that changes in the facility or spent fuel storage cask design as described in the SAR, make changes in the procedures as described in the SAR, and conduct tests or experiments not described in the SAR, do not require prior NRC approval.
2. INDEPENDENT REVIEW AND AUDIT COMMITTEE

The Independent Review and Audit Committee (IRAC) is responsible for reviewing and advising the ISFSI Manager on matters relating to safe storage and transport packaging of fuel. This review and audit function is independent of the line organization responsibilities.

a. Composition

(1) The President shall designate in writing the chairman, the members, and alternates for the IRAC. The chairman shall not have management responsibilities for, or report to the line organizations responsible for the storage, control, monitoring or transport packaging of fuel.

(2) The IRAC shall collectively have competence in the disciplines specified below. If sufficient expertise is not available within the IRAC to review particular issues, the IRAC shall have the authority to utilize consultants or other qualified organizations for expert advice. IRAC members and utilized experts shall meet or exceed the qualifications described in Section 4.7 of ANSI/ANS 3.1-1987 and shall have no direct responsibility for activities they review.

(a) ISFSI Operations
(b) Packaging of Spent Nuclear Fuel for Transportation
(c) Engineering
(d) Radiation Protection
(e) Quality Assurance and Administrative Controls

(3) Meeting Frequency/Quorum

IRAC review of the subjects in (2) shall be performed by members or support personnel selected on the basis of technical expertise relative to the subject being reviewed. If the assigned reviewer determines the need for interdisciplinary review, a committee consisting of the IRAC Chairman, or his designate, and at least one other IRAC member or utilized expert shall be assigned.

The committee shall meet as conditions requiring interdisciplinary review arise, but not less than annually.

b. Review Responsibilities

The IRAC shall be responsible for the review of:

(1) Written 10 CFR 50.59 and Maine Yankee initiated 10 CFR 72.48 evaluations to verify that changes in the facility or spent fuel storage cask design as described in the SAR, changes in the procedures as described in the SAR or the conduct of tests or experiments not described in the SAR, did not require prior NRC approval.

(2) Proposed changes in the facility as described in the Safety Analysis Report (SAR), changes in the procedures as described in the SAR or the conduct of tests or experiments not described in the SAR which require prior NRC approval.

(3) Proposed changes to Technical Specifications or the Operating License.

(4) Violations of codes, regulations, orders, Technical Specifications, license
requirements, or of internal procedures or instructions having nuclear safety significance.

(5) Significant operating abnormalities or deviations from normal and expected performance of equipment that affect nuclear safety.

(6) All reportable events.

(7) Perform special reviews and investigations and render reports thereon as requested by the President, Maine Yankee or his designated alternate.

(8) Significant accidental, unplanned, or uncontrolled radioactive release, including corrective action to prevent recurrence.

c. Audit Responsibilities

Audits of facility activities shall be performed under the cognizance of the IRAC. These audits shall encompass:

(1) The conformance of facility operation to provisions contained within the Technical Specifications and applicable license conditions at least once per 24 months.

(2) The performance, training and qualification of those members of the facility staff who have a direct relationship to the storage control and monitoring of fuel at least once per 24 months.

(3) The effectiveness of the Corrective Action Program in achieving results of actions taken to correct deficiencies occurring in facility equipment, structures, systems or method of storage control or monitoring of fuel at least once per 24 months.

(4) The performance of activities by the Quality Assurance Program to meet the applicable criteria of Appendix “B”, 10CFR50; 10CFR71, Subpart H; 10CFR72, Subpart G; and ANSI N18.7-1976 at least every 24 months.

(5) The Facility Fire Protection Program and implementing procedures at least once per 24 months.

(6) The Offsite Dose Calculation Manuals and its implementing procedures at least once per 24 months.

(7) Any other area of facility activities considered appropriate by the IRAC or the President, Maine Yankee.

Reports or records of these audits, including any recommendations for improving the safe storage, control, monitoring or transport packaging of fuel, shall be forwarded to the President and the ISFSI Manager within 30 working days following completion of the audit.
I. QUALITY ASSURANCE PROGRAM

A. SCOPE

The Quality Assurance Program applies to activities affecting the quality of the identified structures, systems, and components classified and designated by ISFSI Engineering and which are necessary to ensure the capability to prevent or mitigate the consequences of an accident. ISFSI Engineering is responsible for establishing and maintaining documentation which designates the safety classification of plant systems. The program takes into account the need for special controls, processes, environmental conditions, equipment, tools, and skills to attain the required quality and the need for verification of quality by inspections, evaluations, or tests.

The Quality Assurance Program (QA Program) assures that the quality assurance requirements for the Maine Yankee ISFSI as specified in 10 CFR 72 are satisfied. The requirements of this program apply to the design, fabrication, construction, testing, operation, modification, and decommissioning of the structures, systems, and components (SSC’s) of the ISFSI that are important to safety. These requirements also apply to the ISFSI managerial and administrative controls that affect quality.

The NAC International Inc., Safety Analysis Report for the UMS Universal Storage System Docket No. 72-1015, as applicable to Maine Yankee, lists the universal storage system SSC’s subject to this Quality Assurance Program control using a graded approach to the extent commensurate with its importance to safety.

The Quality Assurance Program assures that the requirements for packaging of radioactive material for transport as specified in 10 CFR 71 and the quality assurance criteria for shipping packages for radioactive material are satisfied. The QA Program will assure that waste materials intended for disposal at a land disposal facility are properly classified, identified, and documented as required by 10 CFR 21 and 10 CFR 61.55, 61.56, and 61.57. Activities involving the receipt and shipment of Type A packages under the requirements of 49 CFR 172-173 are prescribed in written procedures, instructions, or drawings. All chapters of the QA Program are applicable to Packaging Radioactive Materials for Transport activities except as modified or expanded herein.

B. RESPONSIBILITIES

Compliance with the requirements of the Quality Assurance Program is the responsibility of all personnel involved with activities affecting safety. Individuals responsible for establishing and executing the Quality Assurance Program are delineated in Section I, "Organization."

C. IMPLEMENTATION


Establishment of an effective Quality Assurance Program is assured through conformance with ANSI Standards and the regulatory position of regulatory guides as specified in Appendix C. Implementation of this Program is assured through procedures derived from those standards and guides.
NOTES:

1. This Quality Assurance Program shall be the governing document when determining requirements to be imposed in all areas, which are addressed in both this program and the specified standards and guides listed in Appendix C.

2. Revisions to the specified standards and guides will be considered for applicability to the Maine Yankee Quality Assurance Program upon written direction thereof by the Nuclear Regulatory Commission.

3. Certain Regulatory Guides invoke or imply Regulatory Guides and Standards in addition to the standard each primarily endorses. Certain ANSI Standards invoke or imply additional standards. The Maine Yankee commitment refers to the Regulatory Guides and ANSI Standards specifically listed in Appendix C of this manual. Additional Regulatory Guides, ANSI Standards, and similar documents implied or referenced in those specifically identified are not part of this QA Program. Imposition of these Regulatory Guides on Maine Yankee suppliers and subtier suppliers will be on a case-by-case basis depending on the item or service to be provided.

4. Changes to the Quality Assurance Program shall be handled as follows:

   a. This program shall be applicable to those activities requiring quality assurance which occur commencing 90 days after acceptance of the program by the Nuclear Regulatory Commission.

   b. Changes that reduce commitments in the accepted description of the Quality Assurance Program, shall be submitted in accordance with 10CFR 50.4(b)(7) and 50.54 (a)(3) for NRC review and acceptance prior to implementation. Acceptance will be assumed 60 days after submitting unless notified otherwise.

   c. Changes that do not reduce Quality Assurance Program commitments shall be submitted to the NRC in accordance with 10 CFR 50.54(a)(3) and 10 CFR 50.71(e)(4).

   d. Editorial changes or personnel reassignments of a minor nature do not require NRC notification.

5. Independent Spent Fuel Storage Installation

Controls are established for activities affecting the quality of the identified ISFSI structures, systems, and components to an extent commensurate with the importance to safety, and as necessary to ensure conformance to the approved ISFSI design.

Quality Assurance requirements and procedures are based on the following considerations concerning the complexity and proposed use of the ISFSI structures, systems, or components:

   a. The impact of malfunction or failure of the item on safety;

   b. The design and fabrication complexity or uniqueness of the item;

   c. The need for special controls and surveillance over processes and equipment;

   d. The degree to which functional compliance can be demonstrated by inspection or test; and

   e. The quality history and degree of standardization of the item.
6. **Packaging of Radioactive Material for Transport**

Controls are established over activities affecting the quality of materials and components as necessary to ensure conformance to the approved design of each individual package used for the shipment of radioactive material. Quality Assurance requirements and procedures are based on the following considerations concerning the complexity and proposed use of the package and its components.

   a. The impact of malfunction or failure of the item to safety;
   b. The design and fabrication complexity or uniqueness of the item;
   c. The need for special controls and surveillances over processes and equipment;
   d. The degree to which functional compliance can be demonstrated by inspection or test; and
   e. The quality history.

7. **Quality Related**

For the purposes of this manual, the term “quality related” is limited to those activities, programs, and material described within this Quality Assurance Program.

D. **MANAGEMENT EVALUATION**

The Independent Review and Audit Committee (IRAC), under the direction of the President, Maine Yankee, conducts evaluations of the Quality Assurance Program for compliance and effectiveness. The Chairman, IRAC, shall bring unresolved issues to the attention of the Maine Yankee President.

E. **TRAINING**

1. The indoctrination and training programs shall provide the following quality assurance related activities:

   a. Instruction as to the purpose, scope, and implementation of quality assurance manuals, instructions, and procedures.
   b. Training and qualification in the principles and techniques of the activity being performed.
   c. Maintenance of proficiency by retraining, reexaming, and/or re-certification of personnel.
   d. Documentation of the training sessions including content, attendance, dates and results where applicable.

2. The President and ISFSI Manager shall be responsible for the overall direction of the retraining and replacement training programs for the facility staff to ensure they meet or exceed the requirements of Section 5.5 of ANSI 18.1-1971 and 10CFR 50.120.

3. The ISFSI Manager or designee(s) shall be responsible for training and qualifying personnel assigned as facility staff.
II. DESIGN CONTROL

A. SCOPE

This section establishes measures to assure that the design of and changes to structures, systems, and components covered by the Quality Assurance Program are controlled.

Measures are established for the selection and review for suitability application of materials, parts, equipment, and processes that are essential to the functions of the ISFSI structures, systems, and components which are important to safety. Measures are established to assure that proposed design changes are evaluated to determine if a change to the ISFSI license is required. Changes to conditions specified in the ISFSI license require NRC approval.

B. RESPONSIBILITIES

1. ISFSI ENGINEERING shall be responsible for:
   a. The control of design activities for changes to structures, systems, or components.
   b. Preparation, review and approval of design documents including the correct translation of applicable regulatory requirements and design bases into specifications, drawings and written documents.
   c. Application of suitable design controls to such activities as: field design engineering; physics; seismic, stress, thermal, hydraulic, radiation, and accident analyses; compatibility of materials; accessibility for inservice inspection, maintenance and repair; and quality standards. In addition to these design control measures, the following design control measures shall be applied to the ISFSI: criticality, shielding analyses, and features to facilitate decontamination.
   d. Identification, documentation, and control of deviations from specified design requirements and/or quality standards.
   e. Delineation of acceptance criteria for inspections and tests.
   f. Design reviews to assure that design characteristics can be controlled, inspected and tested.
   g. Proper selection and performance of design verification processes such as design reviews, alternate calculations, qualification testing or test programs. If the verification method is only by test, procedures shall provide: criteria that specify when verification should be by test; that prototype, component or feature testing is performed as early as possible prior to installation of ISFSI equipment, or prior to the point when installation would become irreversible; and verification by test is performed under conditions that simulate the most adverse design conditions.
   h. Subjection of design and specification changes to the same design controls and approvals that were applicable to the original design, unless designated in writing to another responsible organization. Minor changes may be performed without original design controls using approved procedures that provide appropriate alternate controls.
   i. Selection of suitable materials, parts, equipment, and processes for important to safety structures, systems, and components.
   j. Notification to responsible personnel that a design change may affect performance of their duties.
k. Maintenance of records that correctly identify the as-built condition of the facility for the life of the item while installed.

l. Establishing design control program procedures that prescribe:

   (1) Implementation of the provisions delineated above.

   (2) Organizational responsibilities for preparing, reviewing, verifying, including independent verification and approving design documents such as system descriptions, design input and criteria, design drawings/sketches, design analyses, specifications, and procedures/instructions.

   (3) Identification of internal and external design interface controls including lines of communication among participating design organizations and across technical disciplines for the review, approval, release, distribution and revision of design documents.

   (4) Provisions to satisfy Regulatory Guide 1.64, Rev. 2 (ANSI Standard N45.2.11 - 1974), except as modified in Appendix C of this program.

m. Management overview and overall direction and coordination of safety analysis activities supporting license amendments, DSAR, and demonstration that design bases are met.

n. Imposing requirements equivalent to the above on contract organizations that conduct design change activities independent of the Maine Yankee processes.

2. The ISFSI MANAGER shall be responsible for:


   b. Review and approval of proposed design changes.
III. PROCUREMENT DOCUMENT CONTROL

A. SCOPE

This section establishes measures to assure that applicable requirements necessary to assure adequate quality requirements are included or referenced in procurement documents for material, equipment, and services that are designated as important to safety or quality related.

Measures are established to assure that the applicable requirements of 10 CFR 71 are included or referenced in documents for procurement of materials, equipment, and services for the design, fabrication, and use of packaging for radioactive material, and that packages and procedures for use of these packages have been authorized by the NRC and documented in the NRC Certificate of Compliance.

Measures are established to assure that, to the extent necessary, contractors or subcontractors provide a quality assurance program consistent with the applicable provisions of 10 CFR 72, Subpart G.

B. RESPONSIBILITIES

1. PROGRAMS MANAGER/ISFSI QA shall be responsible for:
   a. Review and specifying Quality Assurance requirements for material, equipment, and service purchases.
   b. Review of important to safety (ITS) purchase specifications for inclusion of proper inspection requirements and acceptance criteria.

2. The ISFSI MANAGER shall be responsible for:
   a. Processing and control of requisitions for Purchase Orders.
   b. Establishing procedures which prescribe:
      (1) Preparation of procurement documents.
      (2) Documentation of the review and approval of procurement documents prior to release and availability of this documentation for verification.
      (3) Identification of the vendor’s quality assurance requirements applicable to the items or services procured.
      (4) Identification in the procurement documents of the documentation to be prepared, maintained, and submitted to the purchaser prior to use.
      (5) Assuring that changes and revisions to procurement documents receive reviews and approval at least equivalent to those of the original documents.
      (6) Control of procurement documents for spare and replacement parts such that the technical requirements are equal to or better than the original and that all current Quality Assurance Program requirements are satisfied.
      (7) Controls for procurement of commercial grade items (CGI) to be used in important to safety applications such that appropriate assurance of quality is achieved.
(8) Inclusion of 10CFR21 reporting requirements in procurement documents when applicable.

(9) Provisions to satisfy Regulatory Guide 1.123, Revision 1 (ANSI Standard N45.2.13 - 1976), as it pertains to procurement document control.

(10) Selection of qualified vendors for purchasing material from the Approved Vendor's List.

3. ISFSI ENGINEERING shall be responsible for:
   a. Reviewing and specifying technical requirements for material, equipment, and service purchases.
   b. Evaluation of commercial "off-the-shelf" items for suitability for use in important to safety systems, components, or structures prior to use.
IV. INSTRUCTIONS, PROCEDURES, AND DRAWINGS

A. SCOPE

This section establishes measures to assure that important to safety or quality related activities are prescribed and implemented by instructions, procedures, or drawings appropriate to the circumstances.

ISFSI Procedures and Programs (including procedures which implement these programs) identified by the cask Certificate of Compliance, NRC SER, Technical Specifications, or Safety Analysis Report are required to be established and maintained.

B. RESPONSIBILITIES

1. The ISFSI Manager shall be responsible for establishing procedures which prescribe preparation, use of, and adherence to procedures.

2. The ISFSI Manager or designee(s) shall be responsible for:
   a. Preparing and implementing instructions and procedures associated with important to safety or quality related activities, including computer programs controlled by Maine Yankee.
   b. Assuring that specifications, instructions, procedures, and drawings include appropriate quantitative and qualitative acceptance criteria, as applicable, for determining that activities have been satisfactorily accomplished.

C. IMPLEMENTATION

Each procedure required by Appendix D or, ISFSI procedures, identified by the Cask Certificate of Compliance, NRC SER, Technical Specifications, or Safety Analysis Report and changes thereto, shall be reviewed by an Independent Safety Reviewer (ISR) and approved by the ISFSI Manager prior to implementation and reviewed periodically as set forth in administrative procedures.

Temporary changes to procedures listed above may be made provided:

1. The intent of the original procedure is not altered.

2. The change is approved by two members of the ISFSI staff, at least one of whom is the ISFSI Manager or designee.

3. The change is documented, reviewed by an ISR and approved by the ISFSI Manager within 14 days of implementation.
V. DOCUMENT CONTROL

A. SCOPE

This section establishes measures to assure that proper documents, such as procedures, instructions and drawings, are available for use in important to safety or quality related activities. The measures provide for review, approval, issuance and control of documents, including revisions thereto.

B. RESPONSIBILITIES

1. PROGRAMS MANAGER/ISFSI QA shall be responsible for:

   a. Review and approval of all Quality Assurance Program implementing procedures (0-series).

   b. Review of maintenance, modification and inspection procedures for inclusion of quality assurance requirements.

2. The ISFSI MANAGER shall be responsible for establishing document control procedures which prescribe:

   a. Establishment of distribution lists.

   b. Action to be taken for obsolete or superseded documents.

   c. Availability of proper and current documents at the location where the activity is to be performed prior to commencing the work.

   d. Establishment, revision, and distribution of a master list or equivalent to identify the current revision number of procedures, specifications, or other quality assurance documents as applicable.

   e. Identification of documents to be controlled which shall include, as a minimum:

      (1) Design documents, including calculations, drawings, specifications and analyses.

      (2) Design, manufacturing, construction, and installation drawings

      (3) Procurement documents

      (4) Quality Assurance Program, Quality Assurance Program implementing procedures (0-series), maintenance and operating procedures.

      (5) Maintenance, modification, inspection, and test instructions

      (6) Test documents

      (7) Design change requests

      (8) DSAR

      (9) Nonconformance reports
f. Establish storage maintenance and document retention requirements for Quality Assurance records as applicable.

g. Review of procedures by appropriately qualified personnel.

h. Review and approval of document changes by the same organizations that performed the original review and approval or by other responsible organizations delegated by Maine Yankee.

i. Inclusion of approved changes in procedures and other applicable documents prior to placing the system in operating status.

3. ISFSI ENGINEERING shall be responsible for:

a. Controlling the issuance of engineering drawings, general specifications, welding and non-destructive examination procedures.

b. Revision and distribution of welding and non-destructive examination procedures.

c. Maintenance and distribution of general specifications, controlled drawings and installation instructions.

d. Establishing procedures which prescribe the receipt, distribution, revision and use of Vendor Instruction Manuals.
VI. CONTROL OF PURCHASED MATERIAL, EQUIPMENT AND SERVICES

A. SCOPE

This section establishes measures to assure that purchased material, equipment and services, whether purchased directly or through contractors and subcontractors, conform to the procurement documents.

B. RESPONSIBILITIES

1. PROGRAMS MANAGER/ISFSI QA shall be responsible for:

   a. Audits and surveys of vendor quality programs based on one or more of the following:

   - Vendor’s capability to comply with the applicable criteria of 10CFR50 Appendix B and/or ANSI N18.7.
   - Review of vendor’s previous records and performances.
   - Surveillance of vendor’s facilities/services and Quality Assurance Program to determine vendor’s ability to produce the item to the purchase specifications.
   - Review of the supplier’s current quality records supported by qualitative and quantitative information that can be objectively evaluated. The evaluation may include review and evaluation of the supplier’s Quality Assurance Program, Manual and Procedures, as appropriate.

   b. Planned vendor surveillances, which provide for:

   - Specification of processes to be witnessed or verified, the surveillance method and documentation required, and personnel responsible for performing the surveillance.
   - Assurance that the vendor complies with the quality requirements by surveillance of in-process work at intervals consistent with the importance, complexity and quality of the item.

   c. Documentation and maintenance of the results of vendor audits, surveys and surveillances, including a listing of qualified vendors.

   d. Surveillance of material and/or services control.

   e. Surveillance of bids to assure adequacy of QA requirements.
f. Receipt inspection of vendor furnished material to assure:

(1) Material is identified and conforms to receiving documentation.

(2) Material and documentation are inspected in accordance with predetermined instructions or recognized standards and are determined acceptable prior to use.

(3) Inspection, test and other records (or certificates of conformance attesting to material acceptability) are on-site prior to use.

Certificates of conformance shall contain as a minimum:

(a) Identification of purchased material or equipment, such as by the purchase order number.

(b) Specific procurement requirements met by the purchased material or equipment, such as codes, standards and other specifications.

(c) Purchase requirements not met and the resolution of the nonconformance.

(d) Attested to by a person responsible for the quality assurance function including their title.

(4) Items are identified as to their inspection status prior to release for controlled storage, installation or further work.

g. Verifying the validity of supplier certificates of conformance.

h. Establishing procedures to satisfy Regulatory Guides 1.38, Revision 2 (ANSI Standard N45.2.2 - 1972) and 1.123, Revision 1 (ANSI Standard N45.2.13 - 1976), as pertains to vendor audit, surveys, surveillance and receipt inspection.

2. The ISFSI Manager shall be responsible for:

a. Control of material and equipment until issued.

b. Establishing procedures to satisfy Regulatory Guides 1.38, Revision 2 (ANSI Standard N45.2.2 - 1972) and 1.123, Revision 1 (ANSI Standard N45.2.13 - 1976), as pertains to control of purchased material, equipment and services.

3. The ISFSI Manager or designee(s) shall be responsible for:

a. Control of material and equipment after issuance.

b. Bid evaluation as applicable.

c. Evaluation of purchased services during and/or after completion of the service.
VII. IDENTIFICATION AND CONTROL OF MATERIAL, PARTS, AND COMPONENTS

A. SCOPE

This section establishes measures for identification and control necessary to prevent the use of incorrect or defective material, parts, and components that are important to safety or quality related.

B. RESPONSIBILITIES

1. PROGRAMS MANAGER/ISFSI QA shall be responsible for:
   a. Review of vendor Quality Assurance Programs for traceability of materials through the use of heat number, part number, or serial number, either on the item or on records traceable to the items.

2. The ISFSI Manager shall be responsible for establishing procedures for the identification and control of materials, parts, and components, including partially fabricated subassemblies and consumables, to prevent the use of incorrect, defective or outdated items. The procedures shall require the following:
   a. Identification is maintained either on the item, in a location and with a method which does not affect its fit or function, or on records traceable to the item.
   b. Maintenance of traceability of materials and parts to the appropriate documentation such as drawings, specifications, purchase orders, manufacturing and inspection documents, deviation reports, and physical and chemical mill test reports.
   c. Identification of materials, parts, and components is verified and documented prior to release for use.
VIII. CONTROL OF SPECIAL PROCESSES

A. SCOPE

This section establishes measures to assure that special processes, including welding, heat treating, and nondestructive testing, are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria and other special requirements.

B. RESPONSIBILITIES

1. PROGRAMS MANAGER/ISFSI QA shall be responsible for:
   a. Performance and/or evaluation of certain nondestructive tests in accordance with approved procedures.
   b. Training, qualification, and re-qualification of personnel in nondestructive examination.
   c. Review of special process documents provided by vendors for use on-site and when otherwise specified.

2. ISFSI ENGINEERING shall be responsible for establishing procedures which prescribe control of special processes, including:
   a. Verification that qualification records of procedures, equipment, and personnel connected with special processes are in accordance with applicable codes, standards, and specifications as applicable.
   b. Special processes are accomplished in accordance with written process sheets or equivalent with recorded evidence of verification.
   c. Maintenance and updating of qualification records of special process procedures, equipment, and personnel as applicable.
   d. ISFSI Engineering shall be responsible for approving documents for welding, and non-destructive examinations.

3. ISFSI MANAGER or designees(s) shall be responsible for:
   a. Assurance that work involving special processes is performed by qualified personnel in accordance with approved documents.
   b. Control of material used in special processes.
   c. Review of special process documents, as applicable, provided by vendors for use on-site and when otherwise specified.
IX. **INSPECTION**

A. **SCOPE**

This section establishes measures for inspection of important to safety or quality related activities, to verify conformance with approved instructions, procedures, drawings, and specification for accomplishing the activities.

B. **RESPONSIBILITIES**

1. **PROGRAMS MANAGER/ISFSI QA** shall be responsible for:
   
   a. Evaluation of inspection activities and personnel.
   
   b. Establishing and/or reviewing hold and/or notification points for ISFSI activities.
   
   c. Establishing and/or reviewing hold and/or notification points for vendor activities.
   
   d. Writing and approving inspection instructions and check lists.
   
   e. Establishing procedures which prescribe:
      
      (1) Independence of personnel performing the inspection from the personnel performing the activity.
      
      (2) Use of procedures, instructions or check lists which incorporate the following as applicable:
         
         (a) A description of the type of inspection.
         
         (b) Date and results of the inspection.
         
         (c) Information related to conditions adverse to quality.
         
         (d) Inspector identification.
         
         (e) Evidence as to acceptability of the results.
         
         (f) Action taken to resolve any discrepancies noted.
      
      (3) Use of drawings and specifications when performing inspections.
      
      (4) Inspection of repairs and replacements in accordance with applicable design and inspection requirements or acceptable alternatives.
      
      (5) Evaluation of processing methods, equipment, and personnel when direct inspection is not possible.
      
      (6) Qualification of inspectors in accordance with applicable codes, standards, and company training programs; and maintenance of qualifications and certifications.
(7) Review of maintenance documents by qualified personnel knowledgeable in quality assurance to determine the need for inspection, identification of inspection personnel, and documenting inspection results.

(8) When inspections associated with routine maintenance, surveillance, and tests are performed by individuals other than those who performed or directly supervised the work, but are within the same group, the following controls shall be met:

(a) The quality of the work can be demonstrated through a functional test when the activity involves breaching a pressure retaining item.

(b) The qualification criteria for inspection personnel are reviewed and found acceptable prior to initiating the inspection.

2. The ISFSI Manager or designee(s) shall be responsible for:

a. Assuring that activities requiring quality assurance meet predetermined requirements.
X. TEST CONTROL

A. SCOPE

This section establishes measures for a test program to demonstrate that important to safety or quality related structures, systems, and components will perform satisfactorily in service.

Measures are established to assure that test procedures incorporate the applicable requirements of 10 CFR 72 and the acceptance limits contained in the ISFSI license.

B. RESPONSIBILITIES

1. PROGRAMS MANAGER/ISFSI QA shall be responsible for:
   a. Evaluation of the control of the test program.
   b. Evaluation of the documentation generated during the test program.

2. ISFSI ENGINEERING shall be responsible for:
   a. Preparation or review of specifications, requirements, and acceptance criteria for testing following ISFSI changes and maintenance activities.
   b. Determination of when testing is required following ISFSI changes and maintenance activities.
   c. Establishing procedures which prescribe that test documents incorporate or reference the following, as appropriate:
      (1) Purpose
      (2) Test date
      (3) Requirements and acceptance criteria contained in applicable design and procurement documents.
      (4) Reference sources, such as vendor's literature.
      (5) Instructions for performing the test.
      (6) Precautions
      (7) Test prerequisites, such as:
         (a) Calibrated instrumentation
         (b) Adequate and appropriate test equipment and instrumentation including accuracy requirements
         (c) Trained, qualified, and licensed/certified personnel
         (d) Completeness of item to be tested
(e) Suitable and controlled environmental conditions

(f) Provisions for data collection and storage

(g) Completion of other procedures

(8) Mandatory inspection hold points for witness by owner, contractor or inspector, when applicable.

(9) Identification of test prerequisites that must be met.

(10) Acceptance and rejection criteria.

(11) Method of documenting test data and results.

(12) Identity of person recording the data and approving test results.

3. The ISFSI MANAGER shall be responsible for establishing procedures to satisfy the surveillance testing and inspection program provisions of ANSI Standard N18.7 - 1976 (Section 5.2.8). Documents to implement this program shall be consistent with the requirements of 2.c, above, and shall also require recording the as-found condition, corrective actions performed, if any, and as-left condition.

4. ISFSI MANAGER or designee(s) shall be responsible for:

   a. Supplying qualified personnel and calibrated equipment for testing.

   b. Establishing test programs, procedures and acceptance criteria to satisfy the procedures established per 2.c and 3, above.

   c. Scheduling and performing tests.

   d. Documenting, evaluating, and approving test results.
XI. CONTROL OF MEASURING AND TEST EQUIPMENT

A. SCOPE

This section establishes measures to assure that tools, gages, instruments, and other measuring and test equipment, used in important to safety or quality related activities, are controlled and at specified periods calibrated and adjusted to maintain accuracy within necessary limits.

B. RESPONSIBILITIES

1. PROGRAMS MANAGER/ISFSI QA shall be responsible for:
   a. Review of engineering specifications and procurement documents to assure that proper handling, storage, and shipping requirements have been specified.

1. The ISFSI MANAGER shall be responsible for establishing procedures which prescribe:
   a. Identification of measuring and test equipment and traceability to the calibration data.
   b. Labeling or tagging of measuring and test equipment to indicate due date for calibration. (Other means may be employed provided there is adequate assurance out-of-calibration devices will not be used).
   c. Calibration of measuring and test equipment at specified intervals based on type of equipment, required accuracy, purpose, degree of usage, reliability, stability characteristics, and other conditions affecting the measurement.
   d. Traceability of reference standards to nationally recognized standards; or, documentation of the basis for calibration where national standards are nonexistent.
   e. Calibration accuracy requirements shall be as follows:

      (1) Measuring and test equipment shall be of equal or greater accuracy as the installed instrumentation.

      (2) In general, the inaccuracy of the reference standards shall contribute no more than one fourth of the allowable measuring and test equipment tolerance. However, when the actual inaccuracy of the measuring and test equipment is less than one fourth of the installed plant equipment tolerance, the requirement of one fourth the tolerance between the reference standards and measuring and test equipment may not be necessary.

      (3) Reference standards shall be calibrated against standards of equal or greater accuracy.

When the foregoing accuracy requirements cannot be attained, the rationale for deviating from these requirements shall be justified, documented and authorized by responsible management. The management authorized to perform this function shall be identified.
f. Documentation and maintenance of the status of all items under the calibration system.

g. Documentation of measures taken to determine the validity of previous inspections performed when measuring and test equipment is found to be out of calibration.

h. Maintaining calibration records.
XII. HANDLING, STORAGE AND SHIPPING

A. SCOPE

This section establishes measures to control the handling, storage, shipping, cleaning and preservation of important to safety or quality related material and equipment to prevent damage or deterioration.

B. RESPONSIBILITIES

1. PROGRAMS MANAGER/ISFSI QA shall be responsible for:
   a. Review of engineering specifications and procurement documents to assure that proper handling, storage, and shipping requirements have been specified.

2. The ISFSI MANAGER shall be responsible for establishing procedures which prescribe:
   a. Specification and accomplishment of special handling, preservation, storage, cleaning, packaging, and shipping requirements by suitably trained individuals in accordance with predetermined work and inspection instructions for critical, sensitive, perishable or high value items.
   b. Preparation of instructions in accordance with design and specification requirements to control the cleaning, handling, storage, packaging, shipping and preservation of safety classified materials, components and systems to preclude damage, loss or deterioration by environmental conditions such as temperature or humidity.
   c. Provisions to satisfy Regulatory Guide 1.38, Revision 2 (ANSI Standard N45.2.2 - 1972), as pertains to handling, storage and shipping.
   d. Provisions for a Preventive Maintenance Program for materials, items and components, as applicable, under his control.
   e. Developing implementing documents for handling, storage and shipping of materials and equipment to satisfy the procedures established above as necessary.
   f. Establishing procedures which prescribe provisions for the storage of chemicals, reagents (including shelf life), lubricants, and other consumable materials under their control.

3. ISFSI Manager or designee(s) shall be responsible for:
   a. Providing suitable facilities and equipment for handling, storage, and shipping of materials as necessary.
   b. Inspecting and testing special handling tools and equipment.
   c. Providing and controlling special handling tools and equipment to ensure safe and adequate handling.
XIII. INSPECTION, TEST AND OPERATING STATUS

A. SCOPE

This section establishes measures for indicating the status of important to safety or quality related items undergoing inspections and tests (via tags, labels, log books, etc.), to prevent the unintentional bypass of required tests. In addition, this section establishes measures for indicating the operating status of important to safety or quality related components and systems to prevent their inadvertent operation.

B. RESPONSIBILITIES

1. PROGRAMS MANAGER/ISFSI QA shall be responsible for the evaluation of inspection, test and operating status of systems and components throughout fabrication, installation, and test.

2. The ISFSI MANAGER shall be responsible for:
   a. The status of operating equipment or systems removed from service for maintenance, test, inspection, repair, or change.
   b. Periodic review and update of standing orders.
   c. Periodic review, updating and cancellation of special orders.
   d. Periodic review to evaluate ISFSI operations and plan future activities. The important elements of the reviews shall be documented.
   e. Establishing procedures to satisfy the equipment control provisions of ANSI Standard N18.7 - 1976 (Section 5.2.6).
   f. Maintaining the current status of equipment or systems removed for repair, maintenance, test, inspection, or change.
   g. Designating personnel who are responsible for the status of equipment and systems.
XIV. NONCONFORMING MATERIALS, PARTS, AND COMPONENTS

A. SCOPE

This section establishes measures to control important to safety or quality related items, services or activities which do not conform to requirements.

B. RESPONSIBILITIES

1. The ISFSI Manager shall be responsible for reviewing significant nonconformance reports.

2. PROGRAMS MANAGER/ISFSI QA shall be responsible for:
   a. Review and concurrence of dispositions and corrective actions of nonconformance reports.
   b. Establishment of measures to provide for the documented control of nonconforming materials, parts, and components in order to prevent their inadvertent use or installation.
   c. Followup and closeout of nonconformances.
   d. Establishing procedures which prescribe:
      (1) Identification, documentation, disposition, inspection and segregation of nonconforming items.
      (2) Identification of those individuals or groups delegated the responsibility and authority for the disposition and written approval of nonconforming items.
      (3) Inspection and test of reworked or repaired items which require reinspection and retest to original methods or methods equivalent thereto.
      (4) Inclusion of nonconformance reports dispositioned "use-as-is" or "repair" as part of the inspection records furnished to the ISFSI.
      (5) Periodic analysis of nonconformance reports to show quality trends with the results reported to management for review and assessment.
      (6) Documentation of the identification, description, disposition, inspection and signature approval of the disposition for nonconformances in a nonconformance report.
   e. Stopping unsatisfactory work.

3. ISFSI ENGINEERING shall be responsible for:
   a. Review of nonconforming items which cannot be corrected by vendor action.
   b. Preparation or approval of implementing documents for repair and/or rework of nonconforming items.
   c. Establishment of a feedback system between Maine Yankee and vendor representatives in regard to nonconforming material.


XV. **CORRECTIVE ACTION**

A. **SCOPE**

This section establishes measures to assure that conditions adverse to quality are promptly identified and corrected. For significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and documented, and corrective action taken is to preclude repetition.

B. **RESPONSIBILITIES**

1. PROGRAMS MANAGER/ISFSI QA shall be responsible for:
   a. Evaluation and/or review of documentation of corrective action.
   b. Establishing procedures which prescribe:
      (1) Identification and correction of conditions adverse to quality.
      (2) Significant conditions adverse to quality, the cause, and action taken to preclude repetition are documented and reported to management.

2. ISFSI ENGINEERING shall be responsible for:
   a. Reviewing significant or recurring design deficiencies to determine the cause.
   b. Instituting appropriate changes in the design process to prevent similar deficiencies from recurring.

3. The ISFSI MANAGER or designee(s) shall be responsible for:
   a. Identification and correction of conditions adverse to quality.
   b. Identification and documentation of the cause and preparation of recommendations to preclude repetition of significant conditions adverse to quality.
   c. Implementation of corrective action including, as appropriate, action to preclude repetition.
   d. Documentation of corrective action taken.
XVI. QUALITY ASSURANCE RECORDS

A. SCOPE

1. This section establishes measures for maintenance of records which provide documentary evidence of the quality of items and of activities affecting quality. Requirements shall be established for identification, transmittal, retrievability and retention of quality assurance records including duration, location, protection and assigned responsibility.

2. The quality assurance records shall include facility history; operating logs; principal maintenance; design change activities; reportable occurrences; nonconformance reports; results of reviews, inspection, tests, audits and material analyses; monitoring of work performance; qualification of personnel, procedures and equipment; drawings; specification; procurement documents; calibration documents and reports; corrective action reports; and other records as delineated below.

a. The following records shall be retained for at least five years:

   (1) Records and logs of principal maintenance activities, inspections, repair and replacement of principle items of equipment related to nuclear safety.

   (2) ALL REPORTABLE EVENTS

   (3) Records of surveillance activities, inspections and calibrations required by the Technical Specifications.

   (4) Records of changes made to Operating Procedures.

   (5) Records of radioactive shipments.

   (6) Records of sealed source and fission detector leak tests and results.

   (7) Records of annual physical inventory of all sealed source material of record.

   (8) Records of reviews performed for changes made to procedures or reviews of tests and experiments pursuant to 10CFR50.59.

b. The following records shall be retained for the duration of the Facility Operating License:

   (1) Records and drawing changes, including records of reviews performed for changes made to equipment pursuant to 10CFR50.59, reflecting facility design modifications made to systems and equipment described in the Defueled Safety Analysis Report (DSAR).

   (2) Records of new and irradiated fuel inventory, fuel transfers and assembly burn up histories.

   (3) Records of facility radiation and contamination surveys.

   (4) Records of radiation exposure for all individuals entering radiation control areas.
(5) Records of gaseous and liquid radioactive material released to the environs.

(6) Records of training and qualification for current members of the staff.

(7) Records of Quality Assurance activities required by the QA Manual.

(8) Records of meetings of the PORC and the NSAR (IRAC) Committees.

(9) Records of analysis required by the Radiological Environmental Monitoring Program.

(10) Records of review performed for changes made to the OFF-SITE DOSE CALCULATION MANUAL and the PROCESS CONTROL PROGRAM.

In addition to the records required above, the records must include the instructions, procedures, and drawings required by 10 CFR 71.111 and must include closely related records such as required qualifications of personnel, procedures, and equipment. The records must include the procedures which establish the records retention program. These records shall be retained for three years beyond the date when the last packaging and shipping of radioactive materials occurs.

In addition to the quality assurance records required above, records pertaining to the design, fabrication, erection, testing, maintenance, and use of structures, systems, and components important to safety required by 10 CFR 72.174 shall be controlled and/or maintained by Maine Yankee or the certificate holder until the Commission terminates the license or the C of C.

Records associated with structures, systems, and components (SSCs) for the nuclear power generator unit may be disposed of when the nuclear power unit and its associated support systems no longer exist. Records associated with Spent Fuel Pool SSCs may be disposed of any time.
B. RESPONSIBILITIES

1. PROGRAMS MANAGER/ISFSI QA shall be responsible for:
   a. Maintenance of audit, evaluation, inspection, and vendor surveillance records generated by ISFSI QA.

2. The ISFSI MANAGER shall be responsible for:
   a. Providing for the receipt, storage, preservation, safekeeping, retrieval and final disposition of QA records.
   b. Maintaining facilities for the permanent and temporary storage of records to prevent destruction of the records by fire, flooding, theft, and deterioration caused by a combination of extreme variations in temperature and humidity conditions. Duplicate records shall be stored in a separate remote location when the type of document is not included in the record storage facility.
   c. Establishing procedures to satisfy Regulatory Guide 1.88, Revision 2 (ANSI Standard N45.2.9 - 1974).

3. The ISFSI MANAGER or designee(s) shall be responsible for:
   a. Identifying QA records and establishing retention periods in accordance with Regulatory Guide 1.88, Rev. 2 (ANSI N45.2.9-1974) and as specified in Section A.2 above.
XVII. AUDITS

A. SCOPE

This section establishes measures for a system of planned and documented audits to verify compliance with all aspects of the Program and to assess the effectiveness of the Program.

B. RESPONSIBILITIES

1. ISFSI PRESIDENT shall be responsible for:

   a. Confirming the independence of auditors from any direct responsibility for the area being audited and independence from reporting to a management representative responsible for the area being audited (e.g., when the ISFSI QA has collateral responsibilities as the Program Manager for the area(s) being audited).

   b. Reviewing and approving audit plans and documentation of results of audits in areas for which the ISFSI QA has collateral responsibilities as the Programs Manager.

2. ISFSI QA shall be responsible for:

   a. Providing a program and procedures for conducting audit activities to satisfy requirements of 10CFR 50 Appendix B and ANSI N18.7 Regulatory Guide 1.144-January 1979 (N45.2.12-1977) and applicable requirements of 10CFR 71 and 10CFR 72.

   b. Scheduling and coordinating of the Audit Program to meet requirements established in Section I of this Quality Assurance Program.

      (1) Supplement regularly scheduled audits as determined necessary based on: significant changes in functional areas of Quality Assurance Program, indeterminate quality of an item, verification of corrective actions, or otherwise deemed warranted by ISFSI QA.

   c. Providing for trained, qualified auditors appropriately independent from any direct responsibility for the area being audited and independent from reporting to a management representative responsible for the area being audited.

   d. Preparing, reviewing, and approving ISFSI Audit Program implementing documents including:

      (1) Audit plans and checklist.

      (2) Documentation of audit results and review with responsible management.

      (3) Inclusion of objective evaluation of quality-related practices, procedures and instructions and the effectiveness of implementation.

      (4) Inclusion of objective evaluation of work areas, activities, processes and items and the review of documentation.
(5) Recommendations/necessary actions required by responsible management to correct identified deficiencies.

(6) Reschedule of deficient areas to assess effectiveness of corrective actions to prevent recurrence.

e. Providing information regarding the Audit Program for review by the Independent Review and Audit Committee.

f. Providing for audits of vendors.

3. The ISFSI MANAGER or designee(s) shall be responsible for:

a. Providing reasonable and timely access of audit personnel to facilities, documents, and personnel.

b. Evaluating and approving recommended corrective actions for ISFSI Audit issues.

c. Investigating and responding to audit issues.

d. Implementing corrective action approved by management.
QUALIFICATION REQUIREMENTS FOR ISFSI QA

An individual performing the ISFSI QA function must meet the below listed qualification requirements:

EDUCATION: Bachelor Degree in Engineering or related science, or the equivalent in practical experience.

EXPERIENCE: Four (4) years experience in the field of quality assurance, or equivalent number of years of nuclear plant experience in a supervisory position preferably at an operating nuclear plant or a combination of the two. At least one (1) year of this four (4) years experience shall be nuclear power plant experience in the implementation of the quality assurance program. Six (6) months of the one (1) year experience shall be obtained within a quality assurance organization.

An additional year of quality assurance program implementation experience may be substituted for six (6) months experience within a quality assurance organization.
MAINE YANKEE
CLASSIFICATION OF STRUCTURES, COMPONENTS AND SYSTEMS

APPLICABILITY

This Appendix lists the systems, structures and components (SSC) associated with the storage, control and maintenance of spent fuel in a safe condition which are subject to QA Program controls. Items added to the list will be subject to QA Program control beginning on the date the addition is approved.

I. ISFSI SAFETY CLASSIFICATION

Each component of the Universal Storage System which is important to safety is classified with respect to its function and corresponding effect on public safety.

The classification categories and the classification of each system component of the Universal Storage System is described in the NAC SAR – UMS Universal Storage System, Docket No. 72-1015, as applicable to Maine Yankee. Components classified as A, B, or C in the NAC SAR are considered important to safety.

II. MAINE YANKEE NUCLEAR PLANT SAFETY CLASSIFICATION

1. STRUCTURES

None

2. ELECTRICAL SYSTEMS AND COMPONENTS

None

3. MECHANICAL SYSTEMS AND COMPONENTS

None

III. OTHER ITEMS REQUIRING QUALITY ASSURANCE

Items which require a degree of quality shall be designated as QA Related (QAR). QAR materials and components shall be in compliance with those parts of the QA Program necessary to achieve the desired intermediate level of quality. A partial list of QA Related items follows:

1. Fuel Assemblies
2. Weld Rod
3. Packaging of radioactive material for transport (as required by 10CFR71)
4. Special Nuclear Material
5. Calibration Services for Controlled Measuring and Test Equipment
6. Calibration Services for Portable Radiation Protection Instruments
7. Liquid Penetrant Materials
8. Reagents for Liquid Radwaste Processing
ANSI STANDARDS AND REGULATORY GUIDES

The Quality Assurance Program is written to conform to the ANSI standards and regulatory guides listed below, as modified herein.

   
   a. EXCEPTION:

   Maine Yankee takes exception to the provisions of Paragraph 4.5.2 which requires technicians in responsible positions to have a minimum of two years of working experience in their specialty.

   ALTERNATIVE:

   Maine Yankee will adhere to the following:

   Technicians shall meet or exceed the minimum qualifications of:

   (1) Two years experience applicable to their specialty, or

   (2) Two years of related academic training in engineering or science and one year experience applicable to their specialty and successful completion of a qualification program applicable to their specialty.

   b. EXCEPTION:

   Maine Yankee takes exception to the provisions of paragraphs 4.2.1, 4.2.2, 4.3.1, 4.5.1, 5.1, 5.2 and 5.5.1 which requires the identified positions to have NRC licenses.

   ALTERNATIVE:

   In lieu of the above, no personnel are required to hold NRC licenses.

   c. EXCEPTION:

   Maine Yankee takes exception to the provisions of paragraphs 5.2 and 5.5.1 which discusses training of candidates for NRC examinations and retraining, respectively.

   ALTERNATIVE:

   Maine Yankee will provide Certified Fuel Handler (CFH) training on subjects applicable to the permanently defueled mode. In addition, CFH training need only maintain proficiency in allowed activities.
2. ANSI N18.7 - 1976, Administrative Controls and Quality Assurance for the Operational Phase of Nuclear Power Plants, as modified by Regulatory Guide 1.33, Revision 2, and the following exceptions.

   a. EXCEPTION:

      The following exception is taken by Maine Yankee.

      ANSI standards not referenced in ANSI N18.7-1976, but which are referenced in an ANSI standard endorsed by N18.7-1976 shall not be considered as applicable to the Maine Yankee Quality Assurance Program.

      ALTERNATIVE:

      Maine Yankee may use the noted standards as guides, as necessary.

   b. EXCEPTION:

      Maine Yankee takes exception to Section 4.3 "Independent Review Program" and Section 4.4 "Review Activities of the Onsite Operating Organization".

      ALTERNATIVE:

      Section 4.3 refers to requirements for the Independent Review and Audit Review Committee (IRAC). Section 1 of this Quality Assurance Program establishes appropriate requirements for independent review for IRAC.

      Section 4.4 refers to requirements for the Independent Safety Review (ISR). Section 1 of this Quality Assurance Program establishes appropriate requirements for review activities of the onsite operating organization.

   c. EXCEPTION:

      Maine Yankee takes exception to Paragraph 5.2.1.1 of ANSI N18.7-1976 which discusses the RO authority and responsibility and Paragraph 5.2.1.3 which discusses the SRO responsibilities.

      ALTERNATIVE:

      No personnel are required to hold RO or SRO licenses.

   d. EXCEPTION:

      Maine Yankee takes exception to the application of paragraph 5.2.16, as applied to control of measuring and test equipment for radiological controls equipment. Paragraph 5.2.16 requires that an evaluation be made and documented concerning the validity of previous tests from the time of the last calibration when the device is found out of calibration.

      ALTERNATIVE:

      It is impractical to log everywhere that a survey instrument is used. Personnel carry a Secondary Dosimetry Device and TLD for monitoring radiation levels.
e. EXCEPTION:

Maine Yankee takes exception to Section 5.3 of ANSI N18.7-1976 which requires procedures for starting up the reactor, steady-state power operations and load changing, shutting down and tripping the reactor, and changing modes.

ALTERNATIVE:

Procedures are not required for these actions in a decommissioning mode.

f. EXCEPTION:

Maine Yankee takes exception to the provisions of paragraph 4, Section 5.2.15, REVIEW, APPROVAL AND CONTROL OF PROCEDURES, which requires that "Plant Procedures shall be reviewed no less frequently than every two years to determine if changes are necessary or desirable."

ALTERNATIVE:

Programmatic controls will ensure that applicable plant procedures will be reviewed following an unusual incident, such as an accident, an unexpected transient, significant operator error, or equipment malfunction and following any modification to a system, as specified by Section 5.2 of ANSI N18.7/ANS 3.2 which is endorsed by RG 1.33.

Non-routine procedures (procedures such as emergency operating procedures, off-normal procedures, procedures which implement the emergency plan, and other procedures whose usage may be dictated by an event) will be reviewed at least every two years and revised as appropriate.

At least every three years, the Quality Programs (or other "independent") organization will audit a sample of the routine plant procedures that are used more frequently than every two years.

g. EXCEPTION:

Maine Yankee takes exception to the amplified audit requirements of Regulatory Guide 1.33, Section C.4.a through C.4.c.

ALTERNATIVE:

The frequencies for these audits are specified in Section 1.D.2.3 of this Quality Assurance Program.
3. **ANSI N45.2.2 - 1972, Packaging, Shipping, Receiving, Storage & Handling of Items for Nuclear Power Plants (During the Construction Phase), as modified by Regulatory Guide 1.38, Revision 2, and the following exceptions.**

   a. **EXCEPTION:**

   **Subsection 3.7.1 & A3.7.1 - Containers**

   Maine Yankee takes exception to the specific requirements for containers.

   **ALTERNATIVE:**

   Containers shall be of suitable construction to assure material is received undamaged.

   **JUSTIFICATION:**

   Containers shipped by closed carrier, stored inside and not subjected to a wet environment do not require weather resistant fiberboard. Therefore, this is an unnecessary expense. Additionally, numerous vendors utilize shipping containers that do not comply with the specific requirements of this section, i.e., flaps overlap. The acceptance criteria for a shipping container should be established based on the capability of the container to maintain the component/material in a safe condition. Technology has advanced beyond the standard.

   b. **EXCEPTION:**

   **Subsection 3.7.2 - Crates and Skids**

   Maine Yankee takes exception to the requirement that skids and runners shall be used on boxes with a gross weight of 100 pounds or more.

   **ALTERNATIVE:**

   Skids or runners shall be used on boxes with a gross weight of 100 pounds or more if practical.

   **JUSTIFICATION:**

   Storage methods and container design frequently are such that runners or skids are not feasible.

   c. **EXCEPTION:**

   **Subsection 5.2.1 - Shipping Damage Inspection**

   Maine Yankee takes exception to the requirement that a preliminary visual inspection or examination be performed prior to unloading.

   **ALTERNATIVE:**

   Maine Yankee shall perform those required inspections after unloading. In special instances, pre-unloading inspections shall be performed.

   **JUSTIFICATION:**

   Post unloading inspection is adequate to determine any damage that may have been incurred during shipping and handling.
d. **EXCEPTION:**

Subsection 5.2.2 - Item Inspection

Maine Yankee takes exception to the requirement, that "The inspections shall be performed in an area equivalent to the level of storage requirements for the item."

**ALTERNATIVE:**

Maine Yankee shall perform receiving inspection in a manner and in an environment which does not endanger the requisite quality of the item; however, receiving area environmental controls may be less stringent than storage environmental controls for that item. When inspections are performed in receiving areas with environmental controls less stringent than storage area environmental controls, a time limit shall be established on a case basis for retention of items in the receiving area. Retention time shall be such that deterioration is prevented and applicable manufacturer recommendations are addressed.

**JUSTIFICATION:**

Receipt inspection activities are for a much shorter duration and therefore should not be subjected to the same stringent requirements as required for storage.

e. **EXCEPTION:**

Subsection 5.2.3 - Special Inspection

Maine Yankee takes exception to attaching special inspection procedures to the item or container.

**ALTERNATIVE:**

Special inspection procedures shall be readily available to personnel performing inspections.

**JUSTIFICATION:**

Procedures are subject to less abuse and more stringent controls when maintained on file and not attached to the item. Inspection status is maintained by tagging and procedure control.

f. **EXCEPTION:**

Appendix A-3 Subsection A3.5.1(1) - Caps & Plugs

Maine Yankee takes exception to the requirement that non-metallic plugs and caps shall be brightly colored.

**ALTERNATIVE:**

Non-metallic plugs and caps shall be of a contrasting color.

**JUSTIFICATION:**

The purpose of utilizing brightly colored plugs and caps is to assist in assuring obstructions are not inadvertently placed in operating components or systems. By using plugs and caps of a contrasting color this objective can be achieved.
g. EXCEPTION:

Appendix A-3 Subsection A3.9(1) - Second Group, Markings

Maine Yankee takes exception to the requirement that container markings shall appear on a minimum of two sides.

ALTERNATIVE:

Containers shall be adequately marked to provide identification and retrievability.

JUSTIFICATION:

Containers are tagged to provide identification and inspection status. Employment of two tags on small containers adds bulk and confusion and does not provide for better identification or traceability.

h. EXCEPTION:

Appendix A-3, Subsection A.3.9(4) - Second Group, Marking

Maine Yankee takes exception to the requirement that container markings shall be no less than 3/4” high container permitting.

ALTERNATIVE:

Container markings shall be of a size which permits easy recognition.

JUSTIFICATION:

Markings were intended to provide identification and instructions. The criteria should be that the markings clearly provide the same.

i. EXCEPTION:

Appendix A-3 Subsection A.3.9(6) - Second Group, Marking

Maine Yankee takes exception to the information required for container marking.

ALTERNATIVE:

Marking shall be adequate in each case to provide identification, traceability and instructions for special handling, as applicable.

JUSTIFICATION:

The information required is excessive. Cluttering a container with excessive markings only reduces the main objectives, maintaining identification, and establishing special controls.
4. ANSI N45.2.3 - 1973, *Housekeeping During the Construction Phase of Nuclear Power Plants*, as modified by Regulatory Guide 1.39, Revision 2, and the following exceptions.

   a. **EXCEPTION:**

   Instead of the five-level zone designation system referenced in ANSI N45.2.3, Maine Yankee bases its controls over housekeeping activities on a consideration of what is necessary and appropriate for the activity involved. The controls are affected through procedures or instructions which, in the case of maintenance or modification work, are developed on a case-by-case basis. Factors considered in developing the procedures and instructions include cleanliness control, personnel safety, fire prevention and protection, radiation control, and security. The procedures and instructions make use of standard janitorial and work practices to the extent possible. However, in preparing these procedures, consideration is also given to the recommendations of Section 2.1 of ANSI N45.2.3.

5. ANSI N45.2.5 - 1974, *Supplementary Quality Assurance Requirements for Installation, Inspection, and Testing of Structural Concrete and Structural Steel During the Construction Phase of Nuclear Power Plants*, as modified by Regulatory Guide 1.94, Revision 1.

6. ANSI N45.2.6 - 1978, *Qualifications of Inspection, Examination, and Testing Personnel for Nuclear Power Plants*, as modified by Regulatory Guide 1.58, Revision 1, and the following exception.

   a. **EXCEPTION:**

   Maine Yankee takes exception to the application of the Standard to all Maine Yankee personnel performing inspection, examination and testing.

   **ALTERNATIVE:**

   Maine Yankee personnel identified in ANSI N18.1-1971 who perform inspection, examination, and testing will be qualified to ANSI N18.1-1971.

   Maine Yankee personnel not identified in ANSI N18.1-1971 who perform inspection, examination, and testing will be qualified to ANSI N45.2.6-1978.

   Contractor personnel who perform inspection, examination, and testing at Maine Yankee will be qualified to ANSI N45.2.6-1978.
7. ANSI N45.2.9 - 1974, Requirements for Collection, Storage and Maintenance of Quality Assurance Records for Nuclear Power Plants, as modified by Regulatory Guide 1.88, Revision 2.

a. EXCEPTION:

Maine Yankee takes exception to the requirement of “protection equivalent of a NFPA Class A, four hour minimum rated facility.

ALTERNATIVE:

Door, structures, frames and hardware shall be designed to comply with the requirements of a minimum of a two (2) hour fire rating, meeting NFPA No. 232 guidelines.

b. EXCEPTION:

Maine Yankee takes exception to ANSI N45.2.9, section 5.4.3.

ALTERNATIVE:

Provisions shall be made for special processed records such as radiographs, photographs, negatives, microfilm, and magnetic media to prevent damage from excessive light, stacking, electromagnetic fields, temperature, and humidity as appropriate to the record type with appropriate consideration of packaging and storing recommendations as provided by the manufacturer of these materials. Optical disk document imaging systems may be employed consistent with the quality controls described in NRC Generic Letter No. 88-18.

8. ANSI N45.2.10 - 1973, Quality Assurance Terms and Definitions, as modified by Regulatory Guide 1.74, February 1974, and the following exception.

a. EXCEPTION:

Subsection 2 - Terms and Definitions

Maine Yankee takes exception to the definitions of "Certificate of Conformance" and "Certificate of Compliance".

ALTERNATIVE:

Maine Yankee shall reverse the definitions of the above terms so our Program will be in compliance with the implied definitions in the ASME B&PV Code and Maine Yankee specifications.

a. **EXCEPTION:**

Maine Yankee takes exception to Regulatory Guide 1.64, Revision 2, C.2.

**ALTERNATIVE:**

The designer’s immediate supervisor may perform the design verification provided:

(1) The supervisor is the only technically qualified individual capable of performing the verification,

(2) the need is individually documented and approved in advance by the supervisor’s management, and

(3) the frequency and effectiveness of the supervisor’s use as a design verifier are independently verified to guard against abuse.


a. **EXCEPTION:**

Subsection 4.2.2 Team Selection

Maine Yankee takes exception to the requirement that a “Lead Auditor” be appointed as team leader.

**ALTERNATIVE:**

Team Selection

Audits will be performed under the cognizance of a lead auditor.

b. **EXCEPTION:**

Subsection 3.5.3

Maine Yankee takes exception to the requirement for supplemental audits.

**ALTERNATIVE:**

Maine Yankee Internal Audits are performed on a calendar year frequency and preclude the need for supplemental audits. Supplemental Audits will be initiated by the Quality Programs Manager as deemed necessary for significant changes in the QA Program or procedures.
c. **EXCEPTION:**

Maine Yankee takes exception to the thirty day requirement for issuance of the audit report.

**ALTERNATIVE:**

Maine Yankee will issue audit reports within thirty working days.

d. **EXCEPTION:**

Subsection 4.5.1

Maine Yankee takes exception to the thirty day requirement for corrective action.

**ALTERNATIVE:**

The safety significance of corrective action issues will be based on the guidance in GL 91-18, Revision 1.

In the event that the audited organization determines that corrective actions cannot be completed within 30 working days, such organization will establish an alternate schedule based upon the safety significance of the issue as described in GL 91-18, Revision 1.


a. **EXCEPTION:**

Subsection 2.3.4

Maine Yankee takes exception to demonstration of ability by prospective lead auditors.

**ALTERNATIVE:**

Prospective lead auditors shall demonstrate their ability to effectively implement the audit process and that they shall have participated in at least one audit within the year preceding the individual's effective date of qualification.

   
a. EXCEPTION:

   Subsection 6.1

   Maine Yankee takes exception to the requirement that for photon and neutron monitoring instrument calibrations, the source-to-detector distance shall be seven times the maximum dimension of the source or detector, whichever is larger, or suitable corrections shall be used.

   ALTERNATIVE:

   Maine Yankee will comply with the monitoring equipment manufacturer's technical manual recommendations for calibration using a pulse generator.
QUALITY ASSURANCE AND LICENSE BASIS-RELATED ADMINISTRATIVE CONTROLS FOR MAINE YANKEE ISFSI

I. SCOPE

This appendix contains additional administrative controls and specific license basis-related requirements relating to the Maine Yankee ISFSI.

The administrative controls and requirements contained herein were relocated from the MY Technical Specifications and MY License Conditions following the removal of all the spent fuel from the spent fuel pool and its placement in the ISFSI. As a result, these administrative controls have been included in this Quality Assurance Program. However, the inclusion of these administrative controls does not increase the scope of structures, systems, components or activities to which the requirements of the Quality Assurance Program apply.

Changes to the requirements detailed in this appendix shall be processed in accordance with 10 CFR 50.54(a) requirements.

I. ORGANIZATIONAL ADMINISTRATIVE CONTROLS RELOCATED FROM MY TECHNICAL SPECIFICATIONS AND MY LICENSE CONDITIONS

A. RESPONSIBILITY

The ISFSI Manager shall be responsible for overall site operation and shall delegate in writing the succession to this responsibility during his absence.

The ISFSI Manager or his designee shall approve, prior to implementation, each proposed test, experiment or modification to systems or equipment that are important to safety as defined in 10 CFR 72.3.

B. GENERAL ORGANIZATIONAL REQUIREMENTS

Site organizations shall be established for the ISFSI operation and support management, respectively. The organizations shall include the positions for activities affecting the safe storage of irradiated fuel.

1. The President shall have corporate responsibility for overall site nuclear safety and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to ensure the safe storage of irradiated fuel.

2. Lines of authority, responsibility, and communication shall be defined and established throughout highest management levels, intermediate levels, and all operating organization positions. These relationships shall be documented and updated, as appropriate, in organization charts, functional descriptions of responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements shall be documented in the QA Program.
3. The ISFSI Manager shall have control over those onsite activities necessary for maintenance and storage of irradiated fuel in a safe condition.

4. The individuals who carry out radiation protection functions or perform quality assurance functions may report to the appropriate line manager; however, these individuals shall have sufficient organizational freedom to ensure their ability to perform their assigned functions.

C. ISFSI STAFF

The ISFSI staff organization shall include the following:

1. Each on duty shift shall be composed of at least one ISFSI Shift Lead person. Any unexpected absence of the on-duty Shift Lead shall be restored within two hours. This does not permit the Shift Lead position to be unmanned upon shift change due to an oncoming Shift Lead being late or absent.

2. Administrative procedures shall be developed and implemented to limit the working hours of the ISFSI staff that perform functions that are important to safety.

   Adequate shift coverage shall be maintained without routine heavy use of overtime. The baseline for determining overtime use will be a 40-hour week. However, in the event that unforeseen problems require substantial amounts of overtime to be used; or during major maintenance or modifications the following guidelines shall be followed on a temporary basis:

   a. An individual should not be permitted to work more than 16 hours straight, excluding shift turnover time;

   b. An individual should not be permitted to work more than 16 hours in any 24 hour period, nor more than 24 hours in any 48 hour period, nor more than 72 hours in any 7 day period, all excluding shift turnover time;

   c. A break of at least 8 hours should be allowed between work periods, including shift turnover time;

   d. The use of overtime should be considered on an individual basis and not for the entire staff on a shift.

   The ISFSI Manager or his designee, in accordance with established procedures and with documentation of the basis for granting the deviation, shall authorize any deviation from the above guidelines in advance. Routine deviation from the above guidelines is not authorized.

D. ISFSI STAFF QUALIFICATIONS

Each member of the ISFSI staff shall meet or exceed the minimum qualifications of Regulatory Guide 1.8- September 1975 for comparable positions unless otherwise noted in this Quality Assurance Program.
II. PROGRAMATIC ADMINISTRATIVE CONTROLS RELOCATED FROM MY TECHNICAL SPECIFICATIONS AND MY LICENSE CONDITIONS

A. PROCEDURES

Written procedures shall be established, implemented, and maintained covering the following activities:

1. The procedures applicable to the safe storage of irradiated fuel recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978;
2. Emergency Plan implementation;
3. Quality assurance for environmental monitoring;
4. Fire Protection Program implementation; and

Each procedure and changes thereto, shall be reviewed by an Independent Safety Reviewer (ISR) and approved by the ISFSI Manager prior to implementation and reviewed periodically as set forth in administrative procedures.

The following programs shall be established, implemented and maintained.

B. RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR 20 and shall be approved, maintained, and adhered to for all operations involving personnel radiation exposure.

C. OFFSITE DOSE CALCULATION MANUAL (ODCM)

The ODCM shall contain the methodology and parameters used in the calculation of off-site doses and in the conduct of the radiological environmental monitoring program; and

The ODCM shall also contain the radiological environmental monitoring activities and descriptions of the information that should be included in the Annual Radiological Environmental Operating Report required by the ODCM.

1. Licensee initiated changes to the ODCM shall be documented and records of reviews performed shall be retained. This documentation shall contain:
   a. Sufficient information to support the change(s) together with the appropriate analyses or evaluations justifying the change(s);
   b. A determination that the change(s) maintain the levels of radioactive effluent control required by 10 CFR 20.1302, and 40 CFR 190, 10 CFR 50.36a, and 10 CFR 50, Appendix I, and do not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations;
   c. Shall become effective after approval by the ISFSI Manager or designee; and
   d. Shall be submitted to the NRC in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Annual Radiological Environmental Operating Report for the period of the report in which any change in the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (i.e.,
month and year) the change was implemented.
III. REPORTING REQUIREMENTS RELOCATED FROM MY TECHNICAL SPECIFICATIONS AND MY LICENSE CONDITIONS

The following report(s) shall be submitted in accordance with 10 CFR 50.4.

A. ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT

The Annual Radiological Environmental Operating Report covering the plant activities during the previous calendar year shall be submitted by May 15 of each year. The report shall include summaries, interpretations, and analyses of trends of the results of the radiological environmental monitoring program for the reporting period. The material provided shall be consistent with the objectives outlined in the Offsite Dose Calculation Manual (ODCM).

The Annual Radiological Environmental Operating Report shall include the results of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in a supplementary report as soon as possible.

B. RADIOACTIVE EFFLUENT RELEASE REPORT (Site)

The Radioactive Effluent Release Report covering the activities of the site in the previous year shall be submitted prior to May 1 of each year in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the plant. The material provided shall be consistent with the objectives outlined in the ODCM and Process Control Program and in accordance with 10 CFR 50.36a and 10 CFR Part 50, Appendix I, Section IV.B.1.

IV. HIGH RADIATION AREA CONTROL REQUIREMENTS RELOCATED FROM MY TECHNICAL SPECIFICATIONS AND MY LICENSE CONDITIONS

Pursuant to 10 CFR 20, paragraph 20.1601(c), in lieu of the requirements of 10 CFR 20.1601, each high radiation area, as defined in 10 CFR 20, in which the intensity of radiation is > 100 mrem/hr but <1000 mrem/hr, shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit (RWP). Individuals qualified in radiation protection procedures or personnel continuously escorted by such individuals may be exempt from the RWP issuance requirement during the performance of their assigned duties in high radiation areas with exposure rates > 1000 mrem/hr, provided they are otherwise following site radiation protection procedures for entry into such high radiation areas.
Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

1. A radiation-monitoring device that continuously indicates the radiation dose rate in the area.

2. A radiation-monitoring device that continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such area with this monitoring device may be made after the dose rate levels in the area have been established and personnel are aware of them.

3. An individual qualified in radiation protection procedures with a radiation dose rate-monitoring device, who is responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by Radiation Protection in the RWP.

In addition to the requirements above, each high radiation area, as defined in 10 CFR 20, with radiation levels $\geq 1000$ mrem/hr shall be provided with locked or continuously guarded doors to prevent unauthorized entry and the keys shall be maintained under the administrative control of the ISFSI Manager on duty or radiation protection supervision. Doors shall remain locked except during periods of access by personnel under an approved RWP that shall specify the dose rate levels in the immediate work areas and the maximum allowable stay times for individuals in those areas. In lieu of the stay time specification of the RWP, direct or remote (such as closed circuit TV cameras) continuous surveillance may be made by personnel qualified in radiation protection procedures to provide positive exposure control over the activities being performed within the area.

For individual high radiation areas, as defined in 10 CFR 20, with radiation levels of $> 1000$ mrem/hr, accessible to personnel, that are located within large areas such as reactor containment, where no enclosure exists for purposes of locking, or that cannot be continuously guarded, and where no enclosure can be reasonably constructed around the individual area, that individual area shall be barricaded and conspicuously posted, and a flashing light shall be activated as a warning device.
QUALITY ASSURANCE AND LICENSE BASIS-RELATED ADMINISTRATIVE CONTROLS FOR MAINE YANKEE NUCLEAR PLANT DECOMMISSIONING

I. SCOPE

This appendix contains additional Quality Assurance Program requirements, administrative controls and specific license basis-related requirements relating to the remainder of physical nuclear plant decommissioning. Upon completion of all activities required to support release of the non-ISFSI land from the jurisdiction of the license, Appendix E will no longer be applicable and may be removed from this QA Program as a change that does not reduce the commitments in the QA Program description previously accepted by the NRC.

The administrative controls and requirements contained herein were relocated from the MY Technical Specifications and MY License Conditions following the removal of all the spent fuel from the spent fuel pool and its placement in the ISFSI. As a result, these administrative controls have been included in this Quality Assurance Program. However, the inclusion of these administrative controls does not increase the scope of structures, systems, components or activities to which the requirements of the Quality Assurance Program apply.

During the remaining duration of decommissioning, prior to completion of all activities required to support release of the non-ISFSI land from the jurisdiction of the license, changes to the requirements detailed in this appendix shall be processed in accordance with 10 CFR 50.54(a) requirements.

II. QUALITY ASSURANCE PROGRAM

The Quality Assurance Program assures that quality related and specific license basis-related requirements relative to the remainder of physical nuclear plant decommissioning are implemented. The requirements of this appendix apply to the decommissioning of the structures, systems and components remaining at the Maine Yankee Nuclear Plant site.
The aspects of the QA Program applicable to the remainder of physical nuclear plant decommissioning are described and modified below.

A. MAINE YANKEE PLANT ORGANIZATION

Various organizational positions and entities will remain for the period of time from the completion of fuel removal from the Spent Fuel Pool to the completion of all activities required to support release of the non-ISFSI land from the jurisdiction of the license. The relationship of these positions and entities to the Quality Assurance Program are defined below.

1. The Vice President and Chief Nuclear Officer, the Vice President and Chief Financial Officer, the Director of Decommissioning, and the Business Manager, report directly to the President and support Quality Assurance Program implementation in those organizational units assigned responsibility for operation, procurement, design and construction, quality assurance and technical support activities as delegated by the ISFSI Manager.

2. The Director, Nuclear Safety and Regulatory Affairs reports to the Vice President and Chief Nuclear Officer and provides an independent overview of Plant and ISFSI Operation through the Quality Programs Department as delegated by the ISFSI Manager.

3. The Radiation Protection Manager reports to the Vice President and Chief Nuclear Officer and is responsible for directing radiation protection associated with operation, procurement, design and construction, and technical support activities including survey activities and the transport packaging of radioactive waste as delegated by the ISFSI Manager.

4. The Director of Engineering reports to the Director of Decommissioning and is responsible for directing engineering activities associated with operation, procurement, design and construction, and technical support activities including Decommissioning/ Plant and ISFSI support including ISFSI Engineering responsibilities as delegated by the ISFSI Manager.

5. ISFSI QA functions as the Quality Programs Manager and is the individual who retains overall authority and responsibility for establishing and measuring the effectiveness of the Quality Assurance Program. In this dual capacity ISFSI QA/Quality Programs Manager is responsible for QA oversight of both the ISFSI and remaining quality related activities associated with decommissioning and final release of the non-ISFSI land from license jurisdiction.

As a direct report of the Director, Nuclear Safety and Regulatory Affairs, and the ISFSI Manager, the ISFSI QA/QP Manager has direct access to other senior management positions and shall maintain effective communications with them on quality matters under their cognizance. The Quality Programs Manager shall report regularly to the Director, Nuclear Safety and Regulatory Affairs and the ISFSI Manager on the effectiveness of the Program.
Quality Programs Department personnel, in the pursuit of their official duties, have authority for access to all records necessary to fulfill their responsibilities, to stop unsatisfactory work and to control further processing, delivery or installation of non-conforming material.

(1) Maine Yankee Plant Organizational Relationships

The ISFSI QA/Quality Programs Manager reports directly to the Director, Nuclear Safety and Regulatory Affairs. The ISFSI QA/Quality Programs Manager will maintain a direct line of communications with the President. As such, Quality Programs Department personnel have:

a. Sufficient independence from cost and scheduling considerations when opposed to safety considerations.

b. Direct access to responsible management at a level where appropriate action can be accomplished.

c. Sufficient authority and organizational freedom to identify quality problems, to initiate, recommend, or provide solutions through designated channels and to verify implementation of solutions.

6. Areas of Delegated Authority

As described in Chapter I of this manual, the ISFSI Manager has responsibility for implementation of the Quality Assurance Program. To support the remaining decommissioning effort and release of the non-ISFSI land, the tables below detail the ISFSI Manager delegated areas of QA Program implementation responsibility for the Maine Yankee Plant Organization. As decommissioning progresses and these Plant positions are eliminated, responsibility reverts back to the designated ISFSI function without modification to the table being required.

<p>| ISFSI Manager QAP Responsibilities Delegated to Business /Financial Group |</p>
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<td>Control Of Purchased Material, Equipment And Services</td>
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ISFSI Engineering QAP Responsibilities Delegated to MY Engineering

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<td>XVI Corrective Action</td>
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ISFSI QA Responsibilities Delegated to MY QPD

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<td>IX Control Of Special Processes</td>
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III. REVIEW AND AUDIT ENTITIES

The review and audit entities described in Chapter I of this manual retain their oversight responsibilities to ensure activities associated with the physical nuclear plant decommissioning and final release of the non-ISFSI land are performed in accordance with regulatory requirements and the standards established by this Program with the following additional modifications and requirements.

A. INDEPENDENT SAFETY REVIEWER

In addition to those subjects listed in Section I.C.1.c of this manual a qualified Independent Safety Reviewer shall independently review the following:

1. Approval of the review of the Process Control Program and its implementing procedures and ensuring that recommended changes are submitted to the ISFSI Manager.

B. INDEPENDENT REVIEW AND AUDIT COMMITTEE

1. In addition to those areas of expertise listed in Section I.C.2.a 2 of this manual the IRAC shall collectively have experience and knowledge in the following functional areas:
   a. Chemistry and Radiochemistry

2. In addition to those audits listed in Section I.C.2.c of this manual the following additional audit shall be performed under the cognizance of the IRAC.
   a. The Process Control Program and its implementing procedures at least once per 24 months.

IV. REQUIREMENTS RELOCATED FROM MY TECHNICAL SPECIFICATIONS AND MY LICENSE CONDITIONS

The administrative control and reporting requirements resulting from the relocation of MY Technical Specifications and license conditions to the Quality Assurance Program listed on Appendix D to this manual apply to physical nuclear plant decommissioning and final release of the non-ISFSI land as modified and expanded below.

A. ORGANIZATIONAL ADMINISTRATIVE CONTROLS RELOCATED FROM MY TECHNICAL SPECIFICATIONS AND MY LICENSE CONDITIONS (Appendix D Section B)

This section fully applies to physical nuclear plant decommissioning and final release of the non-ISFSI land.
B. PROGRAMMATIC ADMINISTRATIVE CONTROLS RELOCATED FROM MY TECHNICAL SPECIFICATIONS AND MY LICENSE CONDITIONS (Appendix D Section C)

This section fully applies to physical nuclear plant decommissioning and final release of the non-ISFSI land; additionally the following programs shall be established, implemented and maintained as well.

1. Offsite Dose Calculation Manual (ODCM)

The ODCM shall contain the methodology and parameters used in the calculation of off-site doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm and trip setpoints, and in the conduct of the radiological environmental monitoring program; and

The ODCM shall also contain the radioactive effluent controls and the radiological environmental monitoring activities and descriptions of the information that should be included in the Annual Radiological Environmental Operating and Radioactive Effluent Release Reports required by the ODCM.

2. Licensee initiated changes to the ODCM shall be documented and records of reviews performed shall be retained. This documentation shall contain:

   a. Sufficient information to support the change(s) together with the appropriate analyses or evaluations justifying the change(s);

   b. A determination that the change(s) maintain the levels of radioactive effluent control required by 10 CFR 20.1302, and 40 CFR 190, 10 CFR 50.36a, and 10 CFR 50, Appendix I, and do not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations;

   c. Shall become effective after approval by the ISFSI Manager or designee; and

   d. Shall be submitted to the NRC in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Radioactive Effluent Release Report for the period of the report in which any change in the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (i.e., month and year) the change was implemented.
3. Radioactive Effluent Controls Program

This program conforms to 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to members of the public from radioactive effluents as low as reasonably achievable. The program shall be contained in the ODCM, shall be implemented by procedures, and shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

a. Limitations on the functional capability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM;

b. Limitations on the concentrations of radioactive material released in liquid effluents to unrestricted areas, conforming to 10 times the concentration values in 10 CFR 20, Appendix B; Table 2, Column 2;

c. Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents in accordance with 10 CFR 20.1302 and with the methodology and parameters in the ODCM;

d. Limitations on the annual and quarterly doses or dose commitment to a member of the public from radioactive materials in liquid effluents released from the unit to unrestricted areas, conforming to 10 CFR 50, Appendix I;

e. Determination of cumulative dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days;

f. Limitations on the functional capability and use of the liquid and gaseous effluent treatment systems to ensure that appropriate portions of these systems are used to reduce releases of radioactivity when the estimated doses in a period of 31 days would exceed 2% of the guidelines for the annual dose or dose commitment, conforming to 10 CFR 50, Appendix I;

g. Limitations on the dose rate resulting from radioactive material released in gaseous effluents to areas beyond the site boundary shall be limited to the following:

(1) For noble gases: Less than or equal to dose rate of 500 mrem/yr to the total body and less than or equal to a dose rate of 3000 mrem/yr to the skin, and

(2) For Iodine-131, Iodine-133, tritium and all radionuclides in particulate form with half-lives greater than 8 days: Less than or equal to a dose rate of 1500 mrem/yr to any organ.

(3) Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from the unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I;

(4) Limitations on the annual and quarterly doses to a member of the public from tritium and radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from the unit to areas beyond the site boundary, conforming to 10 CFR 50, Appendix I; and

(5) Limitations on the annual dose or dose commitment to any member of the public due to releases of radioactivity and to radiation from uranium fuel cycle sources, conforming to 40 CFR 190.
C. REPORTING REQUIREMENTS RELOCATED FROM MY TECHNICAL SPECIFICATIONS AND MY LICENSE CONDITIONS (Appendix D Section D)

This section fully applies to physical nuclear plant decommissioning and final release of the non-ISFSI land; additionally the following report shall be submitted in accordance with 10 CFR 50.4.

1. Radioactive Effluent Release Report (Site)

The Radioactive Effluent Release Report covering the activities of the plant in the previous year shall be submitted prior to May 1 of each year in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the site. The material provided shall be consistent with the objectives outlined in the ODCM and Process Control Program and in conformance with 10 CFR 50.36a and 10 CFR Part 50, Appendix I, Section IV.B.1.

D. HIGH RADIATION AREA CONTROL REQUIREMENTS RELOCATED FROM MY TECHNICAL SPECIFICATIONS AND MY LICENSE CONDITIONS (Appendix D Section E)

This section fully applies to physical nuclear plant decommissioning and final release of the non-ISFSI land.