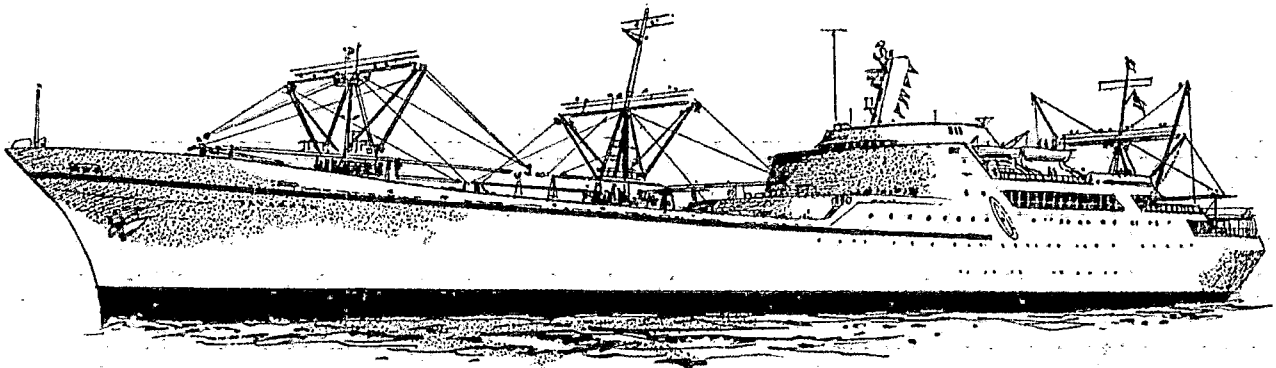




**U.S. Department of Transportation
Maritime Administration**



N.S. SAVANNAH

**DECOMMISSIONING QUALITY ASSURANCE
PLAN**

STS-003-001
Revision 4

Approved: _____

Date: 1/18/2024

Senior Technical Advisor

Prepared by:
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RECORD OF REVISIONS

Revision	Summary of Revisions
0	This is the original version of the Decommissioning Quality Assurance Plan.
1	<p>This revision includes items discussed with the NRC prior to the approval of Revision 0. The summary of issues are as follows:</p> <ul style="list-style-type: none">• Distinction of responsibility between the Senior Technical Advisor (STA) and Manager, NS <i>SAVANNAH</i> Programs• Added para. 17.3 in Corrective Actions• Modified the Organization Chart to address responsibility issues.
2	<p>This revision implements the commitment made to the NRC to update the QA plan to reflect the change from 'Review and Audit Committee' to 'Safety Review Committee.' Updated the Ship Name throughout applying Lloyds of London style for ship name. Changed cover page to reflect organization shift from the Office of Ship Operations. Corrected the Acronym used for Manager, N.S. <i>SAVANNAH</i> Programs for consistency with other program documents.</p>
3	<p>This revision describes the organization for terminating the license of the NSS. Section 2.0, Organization and Responsibilities is revised in its entirety.</p>
4	<p>This revision adds the Final Status Survey organization in Section 2.0, Organization and Responsibilities. The option of retrenchment as workload decreases is added to Section 2.1 and 2.3.</p>



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1.0 POLICY STATEMENT

The Maritime Administration (MARAD) Policy is to conduct nuclear plant activities within the scope of this Plan in such a manner as to ensure protection of the health and safety of the general public and project personnel. To implement this policy, MARAD will adhere to the Quality Assurance (QA) requirements established in this N.S. SAVANNAH (NSS) Decommissioning QA Plan and shall comply with and be responsive to, applicable federal, state and local requirements; 10 CFR (§) Parts 19, 20, 50 and 71. MARAD is also committed to the applicable industry codes and standards and commitments made to the U.S. Nuclear Regulatory Commission.

Project procedures shall provide for compliance with appropriate regulatory, statutory, license and industry requirements. Specific quality assurance requirements and organizational responsibilities for implementation of these requirements shall be specified.

Compliance with this QA program and provisions of project procedures is mandatory for personnel with respect to decommissioning activities which may affect quality or the health and safety of the general public and project personnel. Personnel shall, therefore, be familiar with the requirements and responsibilities of the QA program that are applicable to their individual activities and interfaces.

2.0 ORGANIZATION AND RESPONSIBILITIES

2.1 General

The U.S. Department of Transportation (DOT), acting by and through the Maritime Administration and its Senior Technical Advisor, N.S. SAVANNAH (STA), holds the NS-1 license. The Savannah Technical Staff (STS) organizational unit is MARAD's licensee organization and is primarily made up of a combination of direct employees and contractors as described herein. In 2021, the STS was realigned to report to the MARAD Office of Ship Operations (acting through the Director, Fleet Program Management), which has absorbed the functions of the Office of Ship Disposal Programs pending a formal reorganization. This primary organization is depicted Figure 2-1, *MARAD Organization*. The detailed STS organization is depicted in Figure 2-2, *STS Organization Chart*.

Revision 4 of the DQAP updates the MARAD organization and responsibilities following submittal of the License Termination Plan (LTP). In this context, it is useful to note that the STS is intended to cease functions and be disestablished in the period after license termination, once ship activities associated with decommissioning have been completed and service contracts have terminated. As noted herein, MARAD expects that as the workload decreases in the latter stages of decommissioning, there will be a gradual retrenchment of personnel among both its direct employees and contractors.

2.2 Responsibilities

The STA has overall responsibility for safely performing licensed activities. In addition, the STA is responsible to administer the NS-1 license and will provide guidance and oversight to the Manager, N.S. SAVANNAH Programs (MSP). The MSP is responsible for the execution of all program activities including radiological protection and emergency response, ship husbandry and custody, decommissioning, and historic preservation. MARAD may assign a single incumbent to both positions.

2.3 Organization

The NSS organization is comprised of MARAD direct employees, contractors, and consultants. The organization is structured on the basis that the objectives of the QA Manual will be met by those who manage, perform and support the activities within the scope of this plan. Those who



perform work on quality related functions are directly responsible for meeting quality standards and reporting nonconformances or conditions adverse to quality. The requirements stipulated in the QA Manual shall be imposed on all personnel and organizations, including contractors, who perform quality related decommissioning activities.

Meeting quality requirements and standards also relies on those who validate proper execution of activities and who have no direct responsibility for managing or performing the activity. For the NSS, these independent individuals will functionally report to the QA Manager. Administratively, these independent individuals may report to others.

Specific QA requirements and organizational responsibilities for implementing of these requirements shall be specified in various procedures and other NSS Decommissioning project documents.

MARAD has procedurally defined and established lines of authority, responsibility, and communication. The relationships will be identified and updated, as appropriate, in organizational charts, functional responsibility and relationship descriptions, job descriptions for key personnel positions, or equivalent forms of documentation.

Three MARAD¹ personnel fill STS positions and report to the MSP. They are procedurally responsible for assigned contractors and for providing direction, coordination and interfacing communications. As the decommissioning workload decreases, a single incumbent may be assigned two positions. No single individual will perform more than two positions. The STS positions filled by MARAD employees include the following:

- a. The Decommissioning Program Manager (DPM) position is responsible for administration of all facility functions, for direction of all licensed activities, and for assuring that the requirements of License No. NS-1, Technical Specifications and Emergency Port Operating Plans are implemented. The DPM may be assigned as a Contracting Officer's Representative (or Assistant COR) for NSS service contracts;
- b. The Facility Site Manager (FSM) is directly responsible for the physical reactor, nuclear systems, and radiologically controlled material, components, and equipment onboard the NSS. The FSM provides on-site management and oversight of licensed activities, including direct oversight of the routine radiological monitoring and surveillance program. The FSM provides technical direction and guidance on overall ship husbanding and maintenance. The FSM may be assigned as a Contracting Officer's Representative (or Assistant COR) for NSS service contracts; and,
- c. The Document Control Manager (DCM) is principally responsible for the management of document and records control to support licensed activities and the decommissioning program. The DCM is the lead for administrative support across all programmatic areas. The DCM manages NSS property both on-site (i.e., onboard the ship) and in the staff office (i.e., at MARAD HQ). The DCM has major procedural responsibilities for site safety, medical coordination and emergency response. The DCM may be assigned as a Contracting Officer's Representative (or Assistant COR) for NSS service contracts.

The STS Organization includes the following committees:

- a. Executive Steering Committee (ESC) is composed of senior civilian officials of MARAD. The committee provides an official framework for agency management to provide guidance to and receive inputs from the STA regarding the conduct of licensed

¹ MARAD may elect to fill a direct position with a contract employee as circumstances dictate. Any such contract employee will be independent of the primary integrated services contract described beginning on page 7.



activities, and to allow an integration of NSS activities into the broader efforts of the agency and Department of Transportation and vice versa; and,

- b. Safety Review Committee (SRC) provides independent review, oversight and assessment of the licensed activities of the NSS facility as required by the Technical Specifications. The SRC reports to the STA.

The membership experience shall include an appropriate balance of both maritime and commercial nuclear (operating and/or decommissioning) expertise.

The collective expertise of the SRC shall include, but not be limited to:

- Quality Assurance.
- Radiological Protection.
- Environmental.
- Occupational Safety and Health;
- Decommissioning;
- Marine Engineering and Vessel Husbandry; and,
- Management.

A significant portion of the decommissioning project work is being performed by contractors. In 2021, MARAD awarded an integrated services contract to Nuclear Ship Support Services (NSSSJV), LLC, of Seabrook, New Hampshire. This contract is based on the prior integrated technical support contract that provided radiological protection and radiological emergency response; ship husbandry and custodial care; core nuclear competencies and proficiencies, and decommissioning services. No significant changes to existing key personnel descriptions or lines of authority were made as part of this contract award; however, some additional functions were added based on the increased scope of decommissioning and license termination activities. At the outset, each position described below is filled by an individual. As decommissioning activities progress and workload decreases in the latter phases of the project, certain positions may be consolidated under single incumbents. The STS positions filled by contractors include the following:

- a. The Quality Assurance Manager (QAM) is responsible for assuring implementation of the Decommissioning Quality Assurance Plan and its implementing procedures. This manual has been established to control the activities performed by the NSS Decommissioning Project and its contractors, within the scope of this Plan. The QAM will provide independent verification of contractors. On a case-by-case basis, the QAM will verify and approve the adequacy of a contractor's QA Manual (if applicable) prior to its use. The QAM is granted organizational freedom and authority to assure that an appropriate quality assurance program is established and effectively executed. The QAM's organizational freedom permits direct reporting to the STA or MSP outside the Contractor's line management.
- b. The Project Manager (PM) is the major point of contact between the Contractor and MARAD. The PM is responsible for overall project management activities such as: task identification, tracking and control; schedule development, monitoring and control; cost estimating and controlling; project risk identification, analysis, response planning, implementation and monitoring; and communications management. The PM is responsible for establishing and monitoring safety culture.
- c. The Business and Risk Manager (BRM) is responsible for the management of work processes on the NSS. The BRM coordinates the activities of work planners and monitors the performance of work activities and closeouts. The BRM is responsible for



decommissioning planning; decommissioning oversight; subcontractor oversight; work control/ work planning technical support; management systems (including risk management); and surveillance and maintenance inspections oversight and performance monitoring.

- d. Following submittal of the LTP, the License Termination Plan Manager is responsible for Final Status Survey (FSS) project coordination and direction.
- e. The Final Status Survey (FSS) Manager (FSSM) is responsible for management and onsite implementation of the Final Status Survey (FSS) Plan. The FSSM is responsible for supervising the conduct of FSS activities; scheduling, planning, and implementing turnover surveys and survey area preparation prior to conducting an FSS; maintaining access controls for areas prior to, during and following the conduct of a field survey; and scheduling, planning, and implementing FSS activities.
- f. The License and Compliance Manager (LCM) is responsible for preparing regulatory correspondence and reports; coordinating facility inspections and public meetings; maintaining the licensing basis and basis documents; reviewing Federal Register rulemaking actions for applicability; preparing license amendments and exemption requests as required; and, preparing and briefing senior MARAD management on NRC issues.
- g. The Project Control and Compliance Manager (PCCM) is responsible for cost and schedule control during decommissioning. The PCCM provides oversight and guidance on schedule development, formalization, and execution; reviews work authorizations / work orders for cost and schedule impacts; and coordinates procurement activities with project cost and schedule programs.
- h. The Nuclear Advisor (NA) is responsible for providing multi-disciplinary nuclear skills and expertise to support the full range of on-site conduct of licensed activities. The NA provides this support to the MSP, DPM and FSM. The NA provides technical and peer review of NSS policies, programs, procedures and decommissioning activities. The NA is the Engineering and Technical Support Manager which includes responsibility for nuclear safety, alarms and control systems, fire protection, mechanical/ electrical/ structural engineering, work order support, national historic landmark support, training, procedure development, and support to document control and records management.
- i. The Radiation Safety Officer (RSO) is responsible for the conduct and oversight of all radiation safety activities through implementation of the Health Physics Manual. All radiological controls personnel have stop work authority in matters relating to or impacting radiation safety.
- j. The Maintenance Manager (MM) is responsible for the identification, coordination and supervision of the broad range of ship management services necessary to satisfactorily husband and maintain the NSS.
- k. The Environmental Safety, Health & Security Manager (ESH&S) is responsible for safety management, occupational safety & health, industrial hygiene, security, environmental compliance and medical services.



FIGURE 2-1 MARAD ORGANIZATION

Savannah Technical Staff Organization Chart
Nuclear Ship Savannah Decommissioning and License Termination

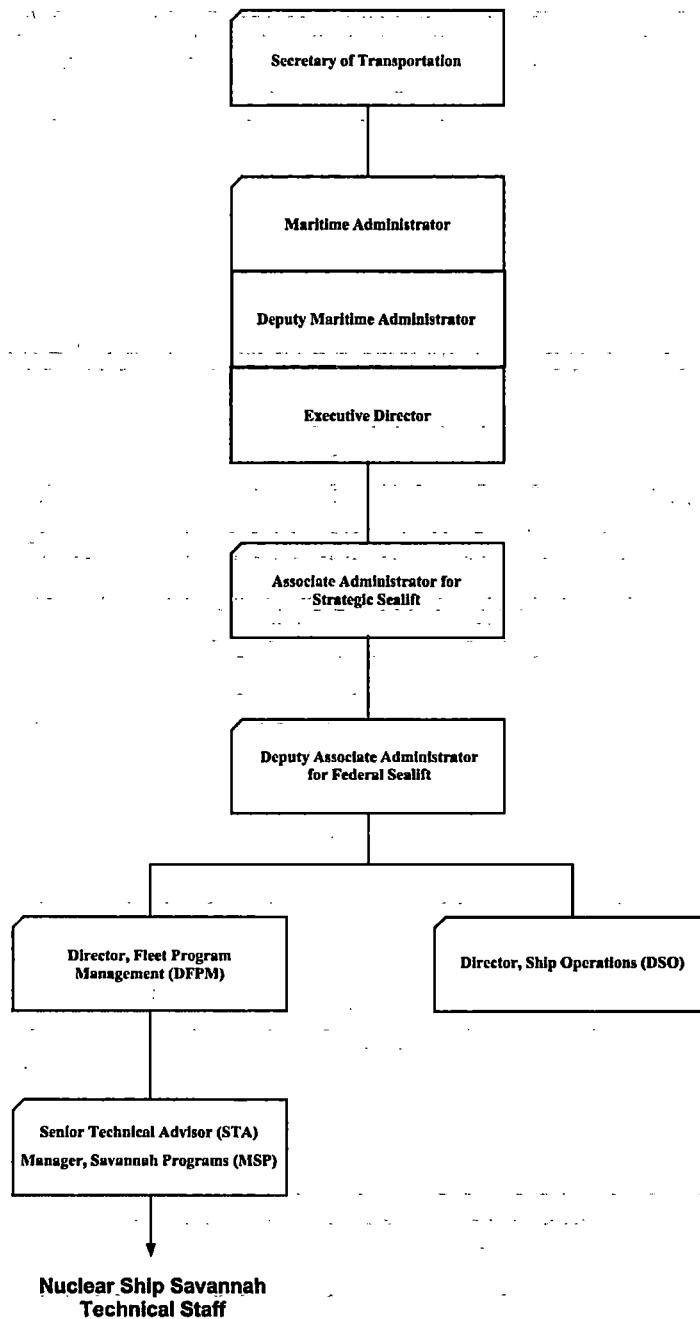
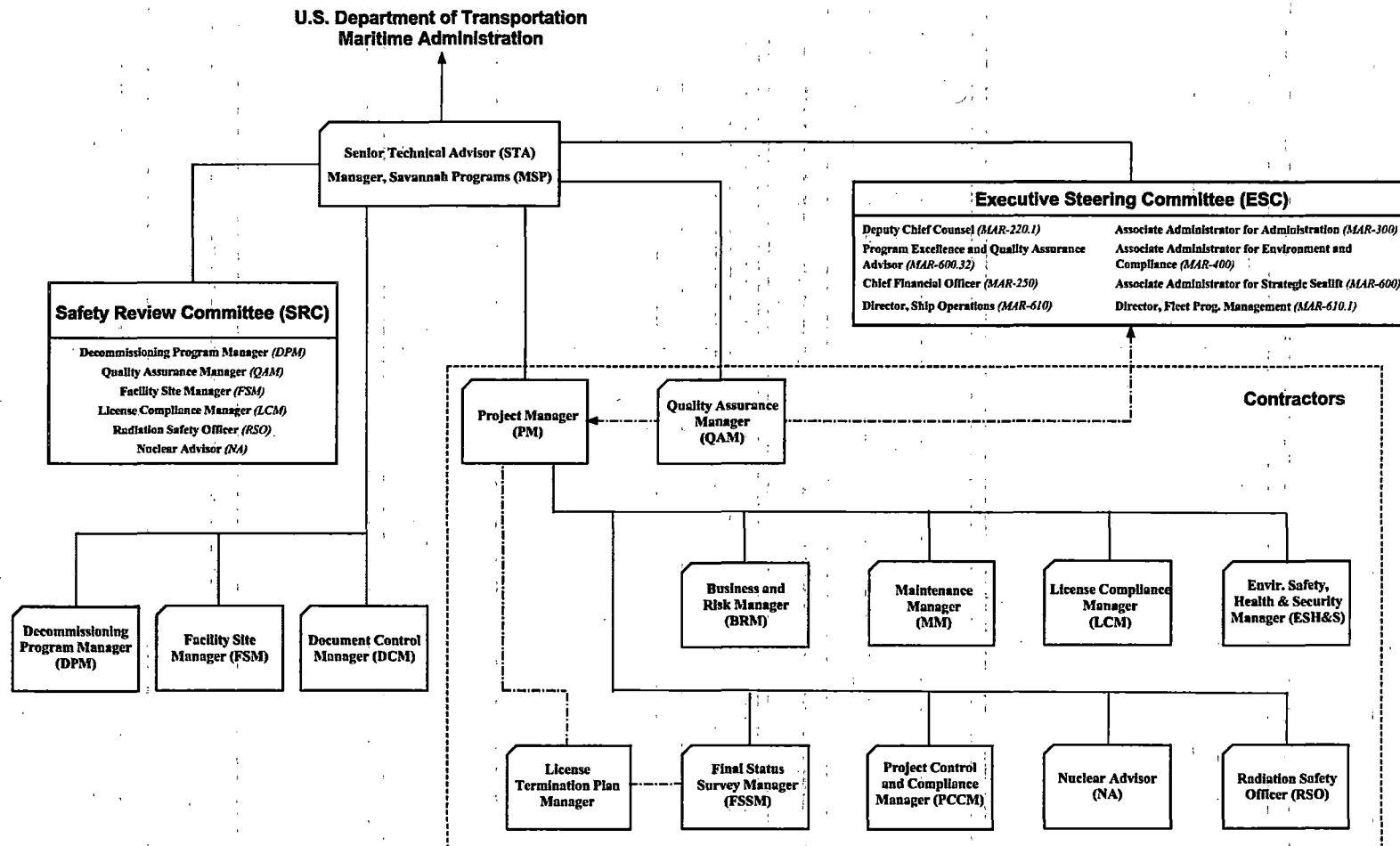




FIGURE 2-2 STS ORGANIZATION CHART

*Savannah Technical Staff Organization Chart
Nuclear Ship Savannah Decommissioning and License Termination*





3.0 DECOMMISSIONING QUALITY ASSURANCE PROGRAM

3.1 General

This Decommissioning QA Plan is the highest MARAD document which provides the generic and some specific requirements and methods to control activities. The term "QA Manual" as used herein includes this Plan and the approved documents which are used to implement this Plan. This Plan is implemented through such approved documents.

The NSS Decommissioning QA Manual has been established to control the activities performed by the NSS Decommissioning Project and its contractors, within the scope of this Plan. This control is exerted primarily through the provision of and compliance with, implementing documents and assurance that such documents are adequate and consistently used.

Adherence to the requirements of this Plan is mandatory for all MARAD (and other Government) organizations and for all external organizations providing items, parts, materials or conducting activities which are within the scope of this Plan.

This Plan shall be issued under the authority of the STA, and executed by the MSP. All changes to the Plan shall be approved by the STA. Revisions to this plan will be submitted to the NRC; prior to the implementation of changes which involve a reduction in commitments previously accepted by the NRC and after implementation of changes having no reduction in commitment.

3.2 Scope

The scope of this Plan includes radiological safety and implementation of the regulations as committed to in Section 1.0 of this Plan. To ensure consistency in identifying those structures, systems and components (SSCs), materials and activities within the scope of this Plan, a classification process shall be developed and documented. This process relies on the use of the term "QA Plan Scope."

3.2.1 A Quality Classification process for items shall be developed. This classification process shall produce a Quality Classification List (QCL) which identifies the permanent plant structures, systems and components that are within the scope of this plan. New items to which this Plan applies shall be added to the Quality Classification List subsequent to their installation.

Since the NSS has been shutdown and defueled since November 8, 1971, the criteria in § 50.2 definition of basic component is not applicable. This definition defines safety-related (SR) SSCs as those relied on to remain functional during and following design basis events to ensure the integrity of the reactor coolant pressure boundary; the capability to shut down the reactor and maintain it in a safe shutdown condition; or, the capability to prevent or mitigate the consequences of accidents that could result in potential offsite exposure comparable to the guidelines in § 50.34(a)(1), § 50.67(b)(2) or § 100.11. Therefore, only those permanently installed NSS structures, systems, and components whose intended function and/or operation is directly related to radiological safety, or whose failure could result in unexpected and/or unacceptable radiological conditions (for example: the NSS Reactor Containment) shall be included on the QCL.



3.2.2 Quality related activities within the scope of this Plan are those directly related to radiological safety and implementation of the regulations as committed to in Section 1.0 of this Plan. These activities are listed below:

Decommissioning activities within the scope of this Plan include the following:

- Equipment control and status;
- Dismantling, fabricating, erecting, installing, maintaining, repairing and testing;
- Lifting and handling which could jeopardize functionality of QCL equipment or whose potential drop could have adverse radiological impact;
- Shipping and storage of dismantled items;
- Technical Specification surveillance testing (if any);
- Functional testing (if any);
- Fire protection;
- Radiological controls;
- Radiological environmental monitoring; and
- Compliance with the License, Technical Specifications and Port Operating Criteria and Plans.

Support activities within the scope of this Plan are

- System, component, part classification;
- Design;
- Procurement (including shipping, handling and storage of procured items);
- Training;
- Security;
- Document control and records management;
- Housekeeping and cleaning;
- Welding;
- In-service inspection; and,
- Heat treatment.

Assurance activities within the scope of this Plan are

- Audit;
- Inspection;
- Nondestructive examination;
- Monitoring; Surveillance; and,
- Safety review.

Assurance activities are performed by individuals who are not directly responsible for managing or performing the work or activity. Assessment personnel, who are independent of the organization performing the work or activity, perform periodic assessments of the assurance activities to assure effectiveness and adequacy.

The above activities are controlled through the use of approved documents, which are, as a minimum, consistent with the requirements of this Plan. This Plan shall remain in effect throughout the decommissioning project.

Activities affecting quality shall be accomplished under suitable, controlled conditions. Controlled conditions include the use of appropriate equipment; suitable environmental conditions for accomplishing the activity, such as adequate cleanliness, lighting, climate control, etc.; and assurance that all prerequisites for the given activity have been satisfied.

3.3 Training



- 3.3.1 The program shall provide for indoctrination and training of personnel performing quality related activities within the scope of this Plan's activities to assure that suitable proficiency is achieved and maintained. The program shall take into account the need for special controls, processes, test equipment, tools and skills to attain the required quality and the need for verification of satisfactory implementation.
- 3.3.2 Training programs shall be established for those personnel performing quality related activities within the scope of this Plan such that they are knowledgeable in the QA program and proficient in implementing these requirements. These training programs shall assure the following:
 - 3.3.2.1 Personnel responsible for performing these activities are instructed as to the purpose, scope and implementation of applicable procedures;
 - 3.3.2.2 Personnel performing such activities are trained and qualified, as appropriate, in the principles and techniques of the activity being conducted;
 - 3.3.2.3. The scope, objective and method of implementing the training are documented; and,
 - 3.3.2.4 Methods are provided for documenting training sessions describing content, attendance, date of attendance and the results of the training session, as appropriate.

4.0 PROCEDURES AND DRAWINGS

- 4.1 Procedures and drawings of a type appropriate to the circumstances, shall be provided for the control and performance of quality related activities within the scope of this Plan which affect quality, health and safety of the public or project personnel or regulatory requirements.
- 4.2 Procedures and drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished.
- 4.3 A procedure shall be implemented to control and delineate the requirements for the review and approval of documents implementing the requirements of this plan. These documents typically include, but are not limited to, those termed, called and/or labeled as: plans, procedures, instructions, drawings and specifications. This procedure shall include the review and approval requirements for the implementation of documents not specifically written for the ship decommissioning activities (e.g., vendor documents, etc.). This review must consider the appropriateness of the document for work at the ship and must ensure the document complies with higher tier ship documents.
 - 4.3.1 The following typical procedures shall be provided as appropriate:
 - Calibration procedures;
 - Radiation protection procedures;
 - Special process procedures;
 - Maintenance procedures;
 - Dismantlement procedures;
 - Audit procedures;
 - Administrative control procedures;
 - Emergency procedures;
 - Rigging, lifting and handling; and,
 - Inspection procedures.



5.0 DESIGN CONTROL

- 5.1 When quality related activities within the scope of this Plan require design or modification of existing design, controls shall be applied commensurate with the potential impact on quality or health and safety of project personnel and the general public.
- 5.2 Appropriate provisions of design control shall include the specifying of design input, the correct translation of input in design documents, the verification of design by persons other than the originator and the assurance that changes to the design beyond design tolerance are properly reviewed and controlled.

6.0 PROCUREMENT DOCUMENT CONTROL

- 6.1 For quality related activities within the scope of this Plan, measures shall be established to assure that applicable regulatory requirements, design bases and other requirements which are necessary to assure adequate quality are suitably included or referenced in the documents for procurement of material, equipment and services, whether purchased by MARAD, the NSS Project or by its contractors or subcontractors. To the extent necessary, procurement documents shall require contractors or subcontractors to provide a QA program consistent with the contractor's potential impact on quality or the health and safety of project personnel and the general public.
- 6.2 Procurement documents shall contain specific technical and quality requirements, as appropriate.
- 6.3 Procurement documents shall contain provisions which establish the right of access to vendor facilities and records for source inspection and audits as appropriate.
- 6.4 Documents and changes thereto, initiating procurement of equipment, components or services shall be approved by appropriate management personnel and shall be subject to a quality review to ensure applicable regulatory requirements, design bases, quality assurance and other requirements are adequately satisfied prior to release.

7.0 DOCUMENT CONTROL

- 7.1 Measures shall be established to control the issuance of documents, such as procedures and drawings, including changes thereto, which prescribe quality related activities within the scope of this Plan.
- 7.2 These measures shall assure that quality related documents, including changes, are reviewed for adequacy and approved for release by authorized personnel and are distributed to and used at the location where the prescribed activity is performed.
- 7.3 Changes to documents shall be reviewed and approved by the same organization that performed the original review and approval or another designated responsible organization.
- 7.4 Procedures shall be controlled to assure that current copies are made available to personnel performing the prescribed activities. These procedures shall be reviewed by a technically competent person other than the preparer and shall be approved by a management member of the organization responsible for the prescribed activity.
- 7.5 All procedure changes, except Non-Substantive Changes, shall be reviewed and approved in the same manner as the original.



8.0 CONTROL OF PURCHASED MATERIAL, EQUIPMENT AND SERVICES

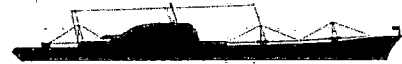
- 8.1 For quality related activities within the scope of this Plan, measures shall be established to assure that purchased material, equipment and services conform to the procurement documents. These measures shall include provisions, as appropriate, for vendor evaluation and selection, objective evidence of quality furnished by the vendor, inspection at the vendor source and inspection of products on delivery.
- 8.2 The effectiveness of the control of contractor services shall be assessed at intervals consistent with the importance of the service.
- 8.3 The adequacy of vendor's QA program specified in procurement documentation shall be verified prior to use when appropriate. Vendors' adherence to their QA program shall also be verified as appropriate.
- 8.4 Commensurate with potential adverse impacts on quality or health and safety, material and equipment shall be inspected on receipt at the NSS designated locations adjacent to the NSS work areas or other sites authorized by the MSP prior to use or storage to determine that procurement requirements are satisfied.
- 8.5 Measures shall be established for identifying nonconforming material, parts and components.

9.0 IDENTIFICATION AND CONTROL OF MATERIALS - PARTS & COMPONENTS

- 9.1 For quality related activities within the scope of this Plan, measures shall be established for the control of materials, parts and components which are within the scope of this Plan.
- 9.2 These identification and control measures shall be designed to prevent the use of incorrect or defective material, parts and components.

10.0 CONTROL OF SPECIAL PROCESSES

- 10.1 For quality related activities within the scope of this Plan, measures shall be established to assure that special processes, including welding, heat treating and nondestructive examination are controlled and accomplished by qualified personnel using qualified procedures in accordance with applicable codes, standards, specifications, criteria and other special requirements.
- 10.2 Welding of equipment within the scope of this Plan shall be performed in accordance with qualified procedures. Such procedures shall be qualified in accordance with applicable codes and standards and shall be reviewed to assure their technical adequacy.
- 10.3 Measures shall be established that assure welding of equipment within the scope of this Plan is performed by qualified personnel.
- 10.4 Nondestructive examinations (NDE) of equipment within the scope of this Plan shall be performed in accordance with procedures formulated in accordance with applicable codes and standards and shall be reviewed to assure their technical adequacy.
- 10.5 Measures shall be established that assure NDE is performed by personnel qualified in accordance with applicable codes and standards.



11.0 INSPECTION

- 11.1 For appropriate quality related activities within the scope of this Plan, measures shall be established to verify conformance with the documented procedures and drawings for accomplishing the activity.
- 11.2 If mandatory inspection hold points, which require witnessing or inspection and beyond which work shall not proceed without prior consent are required, the specific hold points shall be indicated in appropriate documents. The document containing the inspection hold points shall be reviewed prior to implementation by the organization required to perform the inspection.
- 11.3 Measures shall be established which assure that activities associated with technical services (such as surveillance testing, instrument calibration, laboratory services, etc.) are reviewed, when determined appropriate, by qualified personnel.
- 11.4 Required inspections shall be performed in accordance with appropriate procedures. Such procedures shall contain a description of objectives, acceptance criteria and prerequisites for performing the inspections. These procedures shall also specify any special equipment or calibrations required to conduct the inspection.
- 11.5 Personnel performing required inspections shall be qualified based on experience and training in inspection methods. Required inspections shall not be performed by individuals who performed the inspected activity or directly supervised the inspected activity.

12.0 TEST CONTROL

A documented test program shall be established to assure that all required testing is performed to demonstrate that the structures, systems or components within the scope of this Plan will perform satisfactorily in service. The tests shall be performed in accordance with written, approved and controlled test procedures or instructions which incorporate or reference the requirements and acceptance standards contained in the applicable design documents. The extent of the testing shall be based on the complexity of the modification, replacement or repair. Testing shall include proof tests prior to installation, hydro testing, functional testing and preoperational tests.

13.0 CONTROL OF MEASURING AND TEST EQUIPMENT

Measures shall be established to assure that tools, gauges, instruments and other measuring and testing devices used in quality related activities within the scope of this Plan or important to the protection of health and safety are properly controlled, calibrated and adjusted at specified periods to maintain accuracy within necessary limits.

14.0 HANDLING, STORAGE AND SHIPPING

Measures shall be established and documented to control handling, storage and shipping, including cleaning, packaging and preservation of items within the scope of this Plan in accordance with established instructions, procedures and drawings to prevent damage, deterioration or loss.

15.0 INSPECTION, TEST AND OPERATING STATUS

Inspection, test and operating status of equipment and components within the scope of this Plan shall be established based on the following criteria:

- 15.1. Inspection, test and operating status for equipment within the scope of this Plan shall be indicated and controlled by established procedures;



- 15.2. Status of such equipment shall be indicated by tag, label, marking or log entry; and,
- 15.3. Status of nonconforming parts, components or materials shall be positively maintained by established procedures.

16.0 NONCONFORMING MATERIALS - PARTS & COMPONENTS

- 16.1 Measures shall be established to control materials, parts and components within the scope of this Plan which do not conform to requirements in order to prevent their inadvertent use. These measures shall include, as appropriate, procedures for identification, documentation, segregation, disposition and notification to affected organizations.
- 16.2 Nonconformance items shall be reviewed and accepted, rejected, repaired or reworked in accordance with documented procedures.

17.0 CORRECTIVE ACTION

- 17.1 Measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, discrepancies, deviations, defective material and equipment and nonconformances are promptly identified and corrected.
- 17.2 The identification of the condition adverse to quality, the cause of the condition and the corrective action taken shall be documented and reported to appropriate levels of management.
- 17.3 All Corrective Action Program recommended and supplementary actions, NRC inspection adverse findings and MARAD internal audit/ self-assessments and QA monitoring findings and recommendations will be tracked in a computerized system that assigns and tracks the resolution of the stated findings and recommendations.

18.0 QUALITY ASSURANCE RECORDS

- 18.1 Sufficient records shall be maintained to furnish evidence of quality related activities within the scope of this Plan (e.g., inspection reports, receipt inspection documents, engineering evaluations, monitoring reports, final survey records, and survey instrument calibration records etc.). These records shall document, when applicable, the identification of the individual generating the document or the data recorder, the type of observation, the results, the acceptability and the action taken in connection with any deficiencies noted.
- 18.2 Records shall be identifiable and retrievable.
- 18.3 Requirements shall be established concerning record retention, such as duration, location and assigned responsibility. Such requirements shall be consistent with the potential impact on quality, health and safety of the public, safety of project personnel and applicable regulations.
- 18.4 Measures shall be established which assure that qualification records of personnel performing special process activities, such as welding, NDE, inspection, etc., are retained.
- 18.5 Measures shall be established which assure that quality related procurement documents are retained.
- 18.6 Measures shall be established which assure that appropriate records pertaining to audits are retained.
- 18.7 Measures shall be established which assure that records associated with personnel exposure control are retained.



- 18.8 Measures shall be established which assure that records associated with personnel training are retained.

19.0 AUDITS

- 19.1 A program of internal assessment will be conducted. It will combine elements of monitoring and auditing to assess the adequacy of performance for quality related activities within the scope of this Plan.
- 19.2 Planned audits shall be conducted to verify compliance with appropriate requirements of the QA Manual and to determine its effectiveness. The audits shall be performed in accordance with written procedures or checklists by appropriately qualified personnel not having direct responsibility in the areas being audited. Audit results shall be documented. Management, having responsibility in the area audited, shall review the documented results. Follow-up action, including re-audit of discrepant areas, shall be taken where indicated.
- 19.3 Reports of the results of each audit shall be prepared. These reports shall include a description of the area audited, identification of individuals responsible for implementation of the audited provisions and for performance of the audit, identification of discrepant areas and recommended corrective action as appropriate.
- 19.4 Audit reports shall be distributed to the MSP and Safety Review Committee, and to those individuals responsible for implementation of audited provisions.
- 19.5 Measures shall be established which assure that discrepancies identified by audits or other means are resolved. These measures shall include notification of the manager responsible for the discrepancy, recommended corrective action and verification of satisfactory resolution. Discrepancies shall be resolved by the management responsible for the discrepancy. Line management should resolve disputed discrepancies. If line management is not capable of resolving disputed discrepancies, the resolution shall be escalated to the next level of management until the disputed discrepancy is resolved.
- 19.6 Monitoring is used to establish adequate confidence levels that activities within the scope of this Plan are being performed in accordance with the QA Manual requirements and project/ship administrative controls. Monitoring will be performed and the degree of monitoring performed shall be based typically on the status and safety significance of activities, extent of previous experience, thoroughness of overall coverage, uniqueness of the activity and trending data.
- 19.7 Monitors shall be qualified in accordance with a documented procedure that ensures Monitors are knowledgeable in the activities they are monitoring to the extent that they can readily verify compliance of the activity performed.

20.0 CONTROL OF RADIOACTIVE WASTES OR MATERIALS

20.1 General

- 20.1.1 Measures shall be established and documented to assure that the requirements of § 20, § 71; and 49CFR, Parts 100 through 199 applicable to the packaging and transporting of radioactive wastes or materials are satisfied.
- 20.1.2 Subpart H to § 71 identifies the QA criteria applicable to the control of packaging to be utilized to ship radioactive wastes or materials. The portions of this Plan that relate to the criteria in Subpart H to § 71 describe to a large extent the administrative controls



and quality requirements to be applied in the control, packaging and transportation of radioactive waste or material.

20.1.3 MARAD's policy, on the NSS Project, is to minimize the generation of radioactive waste in concert with the ALARA concept to minimize personnel exposures and environmental contamination.

20.1.4 10 CFR 20 requires that a quality control program be implemented to verify compliance with § 61.55 (Waste Classification) and § 61.56 (Waste Characteristics). This Plan will be implemented to the extent necessary to assure compliance with those Parts of 10 CFR using a graded approach.

20.2 Requirements

20.2.1 Procedures and administrative controls shall be developed and implemented to cover the following:

20.2.1.2 Processing of radioactive wastes including the collection, handling and preparation for shipment of radioactive liquids and solids. These procedures shall be consistent with the ALARA program and shall clearly identify the administrative controls and organizational responsibilities.

20.2.1.2 Training and qualification of personnel operating radioactive waste processing equipment, health physics monitoring, packaging and shipping (which includes Waste Classification and establishment of Waste Characteristics) and other operations deemed appropriate by management.

20.2.1.3 Activities associated with the packaging of radioactive wastes or materials to include the proper selection of the receptacles to be used for containing the waste materials, the selection of the shipping containers (structures used to contain and support the receptacle and its contents), establishment of Waste Characteristics, Radiological control inspections of the packaging prior to release, proper markings on the outside of the package and the preparation of shipping papers and certificates. The activities shall be in accordance with § 20, § 61, § 71 and 49CFR.

20.2.1.4 Movement of radioactive wastes or materials to assure personnel protection at all times.

20.2.1.5 Shipment of radioactive wastes or materials from the NSS to be in accordance with the regulations of the U.S. Department of Transportation (DOT) for the transportation of hazardous materials (49CFR) and of the NRC (§ 71 and § 20).

20.2.1.6 Design, fabrication, assembly, testing and modification of packaging used for transportation of radioactive waste or material which exceed the limits specified by § 71 shall not be performed by MARAD. Such packaging shall be purchased from an outside supplier and shall comply with § 71 and 49CFR. MARAD shall review and accept designs of packaging purchased from an outside supplier.

20.2.1.7 Packaging used for transporting of radioactive waste or material, which does not exceed the limits specified in § 71.10, whether purchased from an outside supplier or designed by (or for) MARAD, shall meet 49CFR.

20.2.1.8 Minimization of the generation of radioactive wastes through training programs, prudent scheduling and use of equipment and personnel and good housekeeping practices.

20.2.2 The carriers to be used for transporting of radioactive waste or material shall be selected on the basis of their experience, knowledge of DOT regulations, control and



maintenance of their equipment and the selection and control of their drivers. The carrier is required to have or shall be supplied documented procedures covering acceptance of radioactive waste or material from a shipper, certification requirements, placarding, storage control, reporting of incidents and security. The NSS Project shall review and accept carrier procedures specified by procurement documents covering the acceptance of radioactive waste or material for shipment

20.2.3 Operations involving radioactive waste processing or radioactive material shall be controlled to minimize personnel exposures or environmental contamination consistent with ALARA.

20.2.4 Operations procedures relating to radioactive waste or material shipping and packaging shall be reviewed by Quality Verification to establish any necessary inspection points.