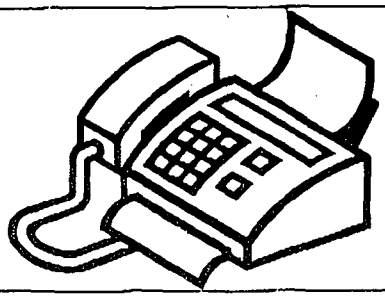


A facsimile from

BWX Technologies
Trish Stevens, 434-522-5616

To: Frank Gee, 301-492-3329
Fax number: 301-492-3350

Date: 7/21/2008

Regarding: See Attachment

Comments:

22 pages, including coversheet

BWXT
Nuclear Operations Division
P.O. Box 785 • Lynchburg, VA 24505-0785 • Phone 434.522.6000 • Web site www.bwxt.com

July 14, 2008
08-097

Spent Fuel Storage and Transportation Division
Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

References: (1) License No. SNM-42, Docket 70-27

(2) Letter dated May 30, 2008, Cole (BWXT) to Spent Fuel Storage and Transportation Division, Request to Transfer Certificates of Compliance in Parallel with the Transfer of Control of Special Nuclear Materials License No. SNM-42 (TAC L32657)

Subject: Submittal of Quality Assurance Plan Replacement

Gentlemen:

In letter dated May 30, 2008, BWX Technologies, Inc. (BWXT) submitted its Quality Assurance Plan for Shipping Program as Enclosure 6. The date on the plan in Enclosure 6 is incorrect and has been revised. At this time, BWXT is sending you a replacement copy of its Quality Assurance Plan with the corrected date of May 2008. Please accept my apology for any inconvenience this error may have caused you.

If you have any questions in this regard, please contact me at (434) 522-5665.

Sincerely,

Barry L. Cole
Manager, Licensing & Safety Analysis
(Licensing Officer)

Enclosure

cc: U.S. Region II
NRC, Resident Inspector
NRC, Amy Snyder

Enclosure 6

Revised Quality Assurance Plan

Quality Assurance Plan For Shipping Program

Introduction

This Quality Assurance Plan (QAP) describes Babcock & Wilcox Nuclear Operations Group, Inc. (B&W NOG) program to comply with the requirements established by 10CFR71, Subpart H. This plan does not apply to shipments of materials, which are specifically exempted from the plan by 10 CFR 71.15. B&W NOG and Lynchburg Technology Center (LTC) are the primary holders of several Certificates of Compliance (C of C), and engage in shipping activities as a user, designer and fabricator of packages. This plan is written in accordance with the guidance provided in Annex 1 of Reg. Guide 7.10. However, many of the user functions, including maintenance specified in the C of C Safety Analysis Reports (SAR), are performed within the guidance provided in Annex 2 of the Reg. Guide.

NOG Management policy applies high standards of quality to product, employee safety, and public safety. Quality is fundamental to B&W's business, and its quality system emphasizes the highest standards of workmanship, integrity, and teamwork throughout the organization.

Scope

This QAP is established to assure that shipping containers are designed, fabricated, used and maintained in accordance with the appropriate regulations, criteria, and procedures.

B&W has two facilities at this site. Both facilities are under the same NRC license (SNM-42) and share this QAP.

Shipments from the Nuclear Operations Group (NOG) covered by this plan can consist of:

1. All enrichments of Uranium fuel in fabricated and un-fabricated forms.
2. Scrap and waste materials or contaminated materials for burial.
3. Recovered scrap in the form of UNH or oxides.
4. Sealed Beta and Gamma sources used for activation analysis, calibration, and other analytical purposes.
5. All fissile and Type B shipments from both sites (excluding those excepted in 10 CFR 71.15).

Shipments from the Lynchburg Technology Center (LTC) covered by this plan can consist of:

1. Sources, source material, and by-product material (Fissile Excepted Quantities and Type A Quantities Only)
2. Irradiated fuel and hardware for contract work (Fissile excepted and Type A quantities only)

   NOTE: **NOG** is responsible for those shipments at LTC containing;
   1. Fissile material
   2. Non-fissile material containing Type B quantities.

Quality Assurance Plan For Shipping Program

Distribution and Approvals

The following controls apply to the use, distribution, and modification of this plan:

1. The plan and its revisions will be approved by the Department, Section, or Unit Managers having responsibility for the following functions:

   a. Environment, Safety, Health & Safeguards (**ESH&S**)
   b. Radiation Protection (**RP**)
   c. Nuclear Criticality Safety (**NCS**)
   d. Quality Control (**QC**)
   e. Technical Engineer (**ENG**)
   f. Procurement (**PROC**)
   g. Accountability Operations (**AO**)

2. **AO** is the author of this QAP. Distribution of this document will be controlled by the NovaManage system. All NOG procedures referenced in this plan are all stored and controlled by the NovaManage system. The Supervisor, Health Physics, will control implementing procedures specific to the LTC. Each cognizant organization at NOG maintains control of documents other than procedures controlled by NovaManage.

QAP Specifications and Commitments

1.1 Organization

1.1.1 Structure and Authority

Both NOG and LTC are managed by the Division General Manager. Department Level Managers report to the General Manager. Section Level Managers report to Department Level Managers and Unit Level Managers report to Section Level Managers. In some cases, Supervisors or Foremen report to the Unit Level Manager.

Procurement provides services to NOG. The General Manager of NOG and the Procurement Manager both report to the President of NOG. For the purpose of this plan, all functions come under the guidance of the General Manager of NOG Lynchburg, Va.

NOG management defines and documents the responsibility, authority, and interrelationships of personnel who manage, perform, and verify work affecting quality and safety through job descriptions, procedures, organizational charts and activity specific directives.

All functions requiring independence of function and cost report through the department chain of command to the General Manager under independent reporting protocol.

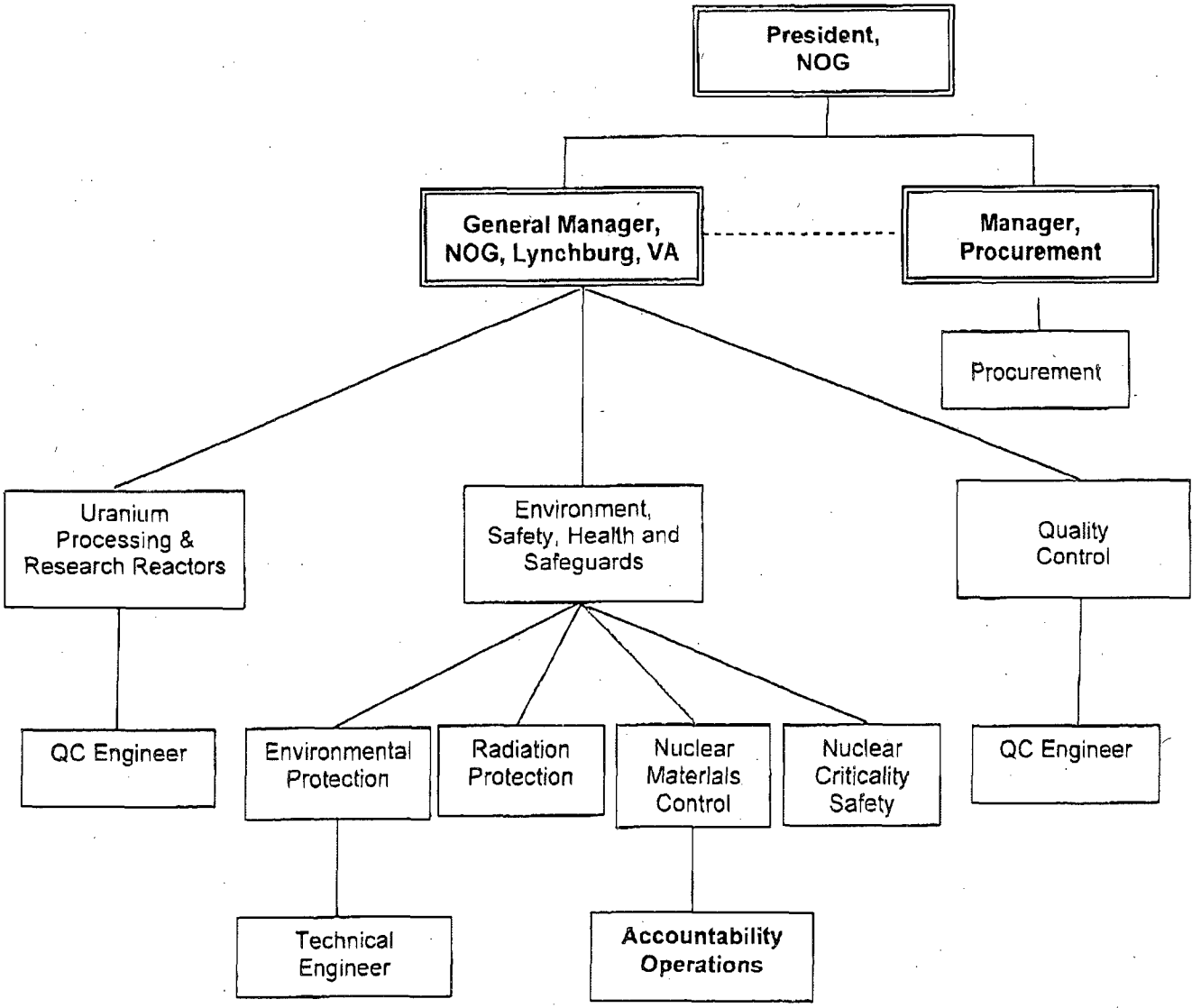
Accountability Operations (AO) is at the unit level and reports to the General Manager level through the Manager of NMC (section level) and the Manager of Environment, Safety, Health, & Safeguards (ESH&S) (department level).

All functions (i.e. preparation or verification of design, analysis...) may be provided through **B&W organizations which are independent of AO**, or by **consultants** on the APPROVED SUPPLIER DATABASE. Persons providing verifications shall not be those who performed the work being verified, and to the maximum extent possible, shall be in a different organizational group. **AO** will maintain design drawings as part of the C of C/ SAR documentation.

Quality Assurance Plan For Shipping Program

Figure 1.1.1

Organizational Structure
(partial, designated as function)



1.1.1.1 Accountability Operations (AO) is responsible for:

a. All Radioactive material (RM) shipping activities at NOG and only Fissile and Type B RM shipments at LTC.
b. Use and maintenance of shipping packages at NOG.
c. Preparation and maintenance of AO documents
d. Document SAR authorized repairs.
e. Review fabrication specifications, purchase order/technical packages and Quality Control records, audits and other shipping related information.
f. Assist with approving suppliers. Assure all paperwork is received by appropriate personnel to allow suppliers be put on the APPROVED SUPPLIER DATABASE in accordance with applicable procedures, when required.
g. Direct, oversee and manage any design, fabrication and repair activities concerning shipping containers. These functions may be performed by other NOG groups or independent designers, fabricators or consultants.
h. By authorization of the Division General Manager, stop any unsatisfactory work or otherwise control unsatisfactory processing, delivery or installation of nonconforming materials and unsatisfactory shipments.
i. Author and maintain this QAP.
j. Application of the Graded Approach (Method of assigning value to parts or processes on appropriate shipping containers, regarding their significance to safety).

NOTE: These **AO** responsibilities are performed under the guidance of the **Transportation Administrator** who reports **to the Unit Manager, Accountability Operations.**

1.1.1.2 Quality Control (QC) is responsible for:

a. Verifications requiring mechanical measurements and inspections.
b. By authorization of the Division General Manager, stopping unsatisfactory work or otherwise controlling unsatisfactory processing, delivery, or installation of nonconforming materials and unsatisfactory shipments
c. Review and approve technical specifications for fabrication, as needed.
d. Review and approve procurement of packages, parts, fabrication services, repair, and procedures covering those functions, as needed.
e. Performing "in-use" (pre-trip) container inspections, when required.
f. Performing source and /or receipt inspections as required.
g. Assist with evaluating suppliers in accordance with applicable procedures.
h. Review and approve supplier Quality Assurance (QA) systems including performing on site inspections, when required.
i. Trending of non-conformance, when applicable.
j. Train personnel to be multifunctional personnel so they are qualified to perform both manufacturing operations and quality control inspections.

1.1.1.3 The Technical Engineer (ENG) is responsible for:

a. Developing specifications, drawings, and specify evaluations as needed. These documents shall incorporate all requirements of (1) the C of C including drawings (2) this QAP, and (3) applicable sections of 10CFR 71 and 49CFR.
b. When needed, assist in approving suppliers in accordance with applicable procedures.
c. Generate technical specifications and approve PO/technical specification.

1.1.1.4 Procurement (PROC) is responsible for:

a. Establishing and maintaining, in accordance with the applicable procedures, the APPROVED SUPPLIER DATABASE (approved list of potential suppliers who may provide services under this plan).
b. Assuring procurement documents contain the necessary specifications and requirements, and are forwarded to suppliers on the APPROVED SUPPLIER DATABASE, when required.
c. Write the purchase order and issue the purchase order/technical package.

1.1.1.5 Nuclear Criticality Safety (NCS) is responsible for:

a. Providing nuclear criticality evaluations and independent verification.
b. Approved/qualified consultants may provide this function. They shall provide verification of these analyses using accepted methods.

1.1.1.6 Radiation Protection (RP) is responsible for:

a. RP shall evaluate appropriate radiological considerations.

1.1.2 Top Management Endorsement of the Quality Assurance Program:

Figure 1.1.2

General Manager's Policy Statement

POLICY STATEMENT

It is the policy of Babcock & Wilcox, Nuclear Operations Group (B&W-NOG) to perform work important to safety on Radioactive Material shipping containers in accordance with the requirements of 10 CFR Part 71, Subpart H, (Quality Assurance, 71.101 – 71.137) as described in the Shipping Container Quality Assurance Program No. 0088 and implemented by the B&W-NOG Quality Assurance System.

Roger P Cochrane

Roger Cochrane, General Manager
Babcock & Wilcox
Nuclear Operations Group, Inc.
Lynchburg, VA

1.2 Quality Assurance Program

This plan applies to the design, fabrication, procurement, analysis, and repair of packages, as described in the applicable SARs for which B&W NOG is the principal C of C holder. It also applies to the use and maintenance of all fissile (except those exempted by 10CFR 71.10 and references therein) and type B packages which B&W NOG is authorized to use, under the General License in 10CFR 71, Subpart C.

1.2.1 Documentation

Table 1.2.1.1 lists current procedures used to implement the various criteria of this plan. (Criteria as indicated in Reg. Guide 7.10)

Table 1.2.1.1: List of Implementing Procedures

Criteria	Procedure#	Title
1		Section 1 of Quality Assurance Plan For Shipping Program
	QSP 6.1	Purchasing
2	QWI 15.1.5*	Shipment of Radioactive Materials
3	QWI 6.1.13*	Procurement of Materials, Components, and Services or Radioactive Material Shipping Containers
4	QWI 6.1.13 *	Procurement of Materials, Components, and Services or Radioactive Material Shipping Containers
	QWI 6.1.1	Technical Requirements for Purchased Items
5		*See expanded list of applicable RMS Shipping Procedures below*
	QWI 6.1.13*	Procurement of Materials, Components, and Services or Radioactive Material Shipping Containers
	OP-1001324*	Inspection of Fissile and Type B Shipping Containers and Spare Parts
6	QWI 5.1.12	Change Administration Board
	QWI 5.1.1	Plan List System
	E41-157	Administration of Nuclear Materials Control Internal Procedures and Forms
7	QWI 6.1.13*	Procurement of Materials, Components, and Services for Radioactive Material Shipping Containers
	OP-1001324*	Inspection of Fissile and Type B Shipping Containers and Spare Parts
	QWI 6.1.2	Evaluation of New Suppliers
8	QWI 6.1.13*	Procurement of Materials, Components, and Services for Radioactive Material Shipping Containers
9	QWI 6.1.13*	Procurement of Materials, Components, and Services for Radioactive Material Shipping Containers
	OP-1001324*	Inspection of Fissile and Type B Shipping Containers and Spare Parts
10	QWI 6.1.13*	Procurement of Materials, Components, and Services for Radioactive Material Shipping Containers
	OP-1001324*	Inspection of Fissile and Type B Shipping Containers and Spare Parts
	OP-0756208	Inspection Qualification and Re-qualification
	OP-1008501	Source / Receipt Inspection Program

Quality Assurance Plan For Shipping Program

Table 1.2.1.1: List of Implementing Procedures		
Criteria	Procedure#	Title
11	QWI 6.1.13*	Procurement of Materials, Components, and Services for Radioactive Material Shipping Containers
	OP-1001324*	Inspection of Fissile and Type B Shipping Containers and Spare Parts
12	OP-1000180	Calibration System
13	QWI 15.1.5*	Shipment of Radioactive Materials
		See expanded list of applicable RMS Shipping Procedures below
14	QWI 15.1.5*	Shipment of Radioactive Materials
	QWI 6.1.13*	Procurement of Materials, Components, and Services for Radioactive Material Shipping Containers
	OP-1001324*	Inspection of Fissile and Type B Shipping Containers and Spare Parts
	RMS-02*	Package Selection and Use for Shipment of Radioactive Material
	RMS-16*	Package Maintenance
15	QWI 6.1.13*	Procurement of Materials, Components, and Services for Radioactive Material Shipping Containers
	OP-1001324*	Inspection of Fissile and Type B Shipping Containers and Spare Parts
16	QWI 6.1.13*	Procurement of Materials, Components, and Services for Radioactive Material Shipping Containers
	OP-1001324*	Inspection of Fissile and Type B Shipping Containers and Spare Parts
	QWI 14.1.1	Corrective Action System
17		*See expanded list of applicable RMS Shipping Procedures below*
18	QWI 17.1.2	Internal Audit Program
	QWI 15.1.5*	Shipment of Radioactive Materials

Expanded List of Applicable Shipping Procedures

RMS-01	Identification And Communication Requirements for Shipping of Radioactive Material
RMS-02	Package Selection and Use for Shipment of Radioactive Material
RMS-16*	Package Maintenance
RMS-17*	Training
E41-85	Requirements For Transport of SNM of Moderate Strategic Significance, and Export of SNM of Low Strategic Significance
OP-1000312	Tampersafing SNM Stored on Site
RP-09	Transportation of Radioactive Materials
RP-09-07	Shipping Radioactive Waste From the LTC to Chem-Nuclear at Barnwell, SC or to a waste processor
RP-09-18	Inspection, Use, and Storage of Various Shipping Packagings at the LTC

** A B&W QC Organization will review manufacturing and repair drawings, instructions, and procedures as noted with an asterisk in above table except changes not requiring review per QWI 15.1.12.*

1.2.2 Personnel

B&W and **supplier personnel** performing special processes, inspection, testing, and supplier reviews will be qualified. Acceptable qualification includes satisfaction of code requirements, education, and/or experience, as applicable.

The suggested qualification requirements for the **managers** or personnel providing design, inspection, and analysis verification are:

1. Bachelor's Degree in a technical field (or equivalent experience).
2. For fabrication verification, at least 5 years experience in engineering or manufacturing, with at least one year experience in quality assurance, or equivalent experience.
3. For design and analysis verification, at least five years experience in the discipline being verified.
4. Knowledge of applicable quality related codes, standards, regulatory, and statutory requirements.
5. Demonstrated ability to prescribe, apply, and assess compliance with applicable requirements.

The discipline with required expertise will have the responsibility to qualify and maintain any generated documentation.

B&W training includes review of parts of this plan applicable to functions performed and special training for the skills required for the designated activities. This training is maintained by retraining and re-certification, as appropriate.

1.3 Design Control

Design and development activities are planned and controlled on a project-specific basis. The planning addresses the required design activities, assignment of qualified personnel, organizational and technical interfaces, and the provision of adequate resources.

1.3.1 Control of Design Process

AO is the user of the containers, and will identify the need for new container designs or modification(s) to existing containers. This group will provide the mission definition.

B&W and/or supplier groups may contribute to the preparation of design documents.

1.3.2 Control of Design Input

For each design project, B&W identifies applicable statutory and regulatory requirements as well as other necessary design input information. Design

specifications include technical and quality requirements. This input is reviewed by the appropriate B&W organization possessing the required expertise or qualified consultants on the APPROVED SUPPLIER DATABASE. Design input information is documented and distributed for review to verify its adequacy and to resolve incomplete, ambiguous, or conflicting requirements.

1.3.3 Control of Design Verification

Design output is documented in drawings, product specifications, and reports in terms that can be verified against design input requirements, and validated against acceptance criteria. Design output documentation identifies those components and processes that are critical to safety and proper functioning of the container using the Graded Approach (see section 1.4).

Cognizant B&W groups or **consultants** on the APPROVED SUPPLIER DATABASE may provide the necessary design verifications.

1.4 Procurement Document Control

B&W, NOG applies the Graded Approach using for guidance, NUREG–6407. Where guidance is not provided by this document, personnel with required expertise (i.e. Engineering, Nuclear Criticality Safety, etc.) will be used to grade the process, component, or system. In addition to NUREG-6407, the following shall be considered when procuring items:

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

NOTE: This grading dictates the amount of documentation, traceability records and applicability of the APPROVED SUPPLIER DATABASE.

1.4.1 Preparation and Issuance of Procurement Documents

AO will request and **ENG** shall prepare technical documents. Procurement shall prepare the purchase order and both **AO** and a **QC Organization** will review and approve procurement documents.

1.4.2 Contents of Procurement Documents

For category A and B Items: (As defined in NUREG-6407)

Procurement documents (PO/technical specifications) will be written in accordance with procedures which require:

1.4.2.1 A statement of the scope of work to be covered by the purchase order.

1.4.2.2 Reference to the design technical basis or 10CFR71, and a complete set of instructions to assure that the part or service is certified to the applicable codes, standards, and requirements.

1.4.2.3 Identification of the supplier's QA program or plan where this is applicable.

1.4.2.4 Access to the supplier's facilities and records for inspections and audits relating to the order.

1.4.2.5 Listing of all records, certifications, procedures, analyses, and tests to be maintained and submitted to B&W.

1.4.2.6 Requirement for reporting and dispositioning non-conformances if applicable.

For category C Items: (As defined in NUREG-6407)

Category C items are typically off the shelf items with minor impact on safety. These items, with the exception of procurement documents, require no documentation, traceability or use of the APPROVED SUPPLIER DATABASE

1.4.3 Review of changes to procurement Documents

Implementing procedures shall specify that revisions to procurement documents are subject to the same level of review and approval as the original document, with the exception of changes not requiring review per QWI 5.1.12.

1.5 Instructions, Procedures, and Drawings

1.5.1 Quality Assurance Program Procedures

AO provides documented instructions, procedures, or drawings for activities affecting safety considerations of shipping. These incorporate appropriate quantitative and qualitative means for verifying quality of the packaging, its use, and compliance with Subpart H. Appropriate **AO, LTC,** or **QC** procedures

formalize responsibilities and actions required for the preparation, review, approval, and control of these documents.

1.5.2 Quality Assurance Review and Concurrence

A B&W QC Organization will review and approve manufacturing and repair drawings, instructions, and procedures as noted with an asterisk in Table 1.2.1.1 of this plan, as required by The Change Management Procedure (QWI 5.1.12). B&W QC will perform, or concur with inspections for fabrication and repair, which are performed under this plan. A B&W QC organization will review and concur with procurement of manufacturing services provided by any supplier.

1.6 Document Control

1.6.1 Controlled Documents

Each cognizant organization issues procedures to assure review, approval, and issuance of design and procurement documents, manuals, procedures, regulations, inspections, changes, and corrective actions to assure proper implementation of activities conducted under this plan. These procedures specify responsibilities for these actions and for required independent reviews by qualified individuals. All internal procedures referenced in this plan are controlled under the division wide NovaManage system.

1.6.2 Control of Document Generation and Issuance

A system has been established to ensure proper document revisions are used, superseded documents are controlled to prevent their use and packaging is performed in accordance with the appropriate document revision. According to procedure, all documents and changes thereto are to be reviewed and approved prior to issuance.

1.6.3 Control of Document Changes

The same procedures also specify that, to the extent possible, changes to documents are also reviewed and approved by the same organizations that performed the original reviews. Where same organization review is not possible, an equivalent alternate shall be used.

1.7 Control of Purchased Material, Equipment, and Services

1.7.1 Procurement Document Planning

Procedures are established that describe each procurement step leading to contract award for goods and services, and the organization responsible. Each step

in this process is designed to ensure that materials, equipment, and services conform to the requirements specified in the procurement documents. Procedures specify that purchased packages, components, or services conform to appropriate requirements.

1.7.2 Selection of Procurement Sources

Suppliers are evaluated and selected based upon their ability to meet administrative, technical, quality, cost, and schedule requirements. The type and extent of control of each supplier is dependent upon the category assigned using the Graded Approach, the complexity of the technical specifications and upon any historical performance data available. Records of acceptable suppliers (APPROVED SUPPLIER DATABASE) and supporting data are maintained by the Procurement Section. Supporting data for consultants may be a resume detailing appropriate education and applied experience.

1.7.3 Bid Evaluation and Award

NOG procedures specify that contract award criteria include technical considerations, conformance to QA requirements, production capabilities, and past performance. All outstanding issues must be resolved prior to a contract being awarded. A QC organization shall perform a preselection review for fabricators of their quality program, as appropriate, to determine capability, personnel qualifications, certifications, instrument calibration, material identification, traceability control and special processes (i.e. welding, heat treating, radiography, etc.) control.

1.7.4 Supplier Performance Control

Purchase orders/technical packages shall specify, if warranted, hold points in the manufacturing processes to allow verification of required inspection approvals.

1.7.5 Verification Activities

QC shall source and/or receipt-inspect items shipped by the fabricator using the applicable procedures.

1.7.6 Controlling Non-conformances

Purchase order/technical specifications shall specify that nonconforming items shall be dispositioned by B&W, if necessary.

Personnel with the required expertise shall evaluate non-conformances and recommend disposition based on appropriate technical justification.

1.7.7 Records

Records retention will be based on the category assigned using the Graded Approach. Records will be retained in accordance with 10CFR 71 and NUREG-6407 taking into consideration the additional items listed in 1.4 (a. through e.)

1.8 Identification and Control of Materials, Parts, and Components

1.8.1 Identification and Control

For category A and B items: (As defined in NUREG-6407)

Identification requirements are specified on a project-specific basis. Procedures provided by B&W or Vendor procedures approved by B&W shall direct the application of identifications and shall assure that identification is maintained through their processing, and is verified prior to release (if required). These requirements take into consideration the location and method of identification to preclude adverse function or fit. In cases where it is not practical to identify a component (such as an "O-ring") traceability will be maintained by segregation according to Purchase Order Number or other means that provide traceability.

For category C Items: (As defined in NUREG-6407)

This category of items does not require identification or traceability.

1.8.2 Conditional Releases

AO, ENG or QC shall approve all conditional releases. The area approving the conditional release shall be determined based on the expertise required to disposition the release.

1.9 Control of Special Processes

Procedures are established to assure that all processes, equipment and procedures used for special processes are qualified in accordance with the applicable codes, standards and specifications. These special processes (including, but not limited to, welding, heat treating, radiography) will be performed by persons qualified in accordance with the requirements of the applicable codes or standards. A cognizant section will maintain documentary evidence of the qualifications, and will monitor that they are current for all work being performed. The type and/or extent of documentation will be determined by category assignment using the Graded Approach.

1.10 Inspection Control

1.10.1 Suppliers' QA Plans

Purchase Orders/technical packages to suppliers shall specify that the applicable requested supplier's procedures be submitted to B&W's **QC Organization** for review. For Category A and B items, this review shall assure:

1. The supplier has identified characteristics and activities to be inspected.
2. The supplier has identified acceptance and rejection criteria.
3. The supplier has assigned responsibility to control activities for receiving, in-process, and final inspections.
4. Operator, inspector, and equipment qualifications are delineated.
5. Appropriate standards are used in support of sampling.
6. Individuals performing inspection functions for acceptance are independent from those performing activities being inspected.

NOTE: When no QA Plan or an inadequate plan exists, a job specific one shall be developed or supplemented. It need only cover the applicable elements of this plan.

1.10.2 Internal inspections

Inspectors who perform functions under the jurisdiction of this QAP are to be independent from the individuals performing the activity being inspected. The inspectors are qualified in accordance with company procedures.

1.10.2.1 Receipt Inspection

Inspection of procured items upon receipt is controlled by documented procedure. The degree of receipt inspection is dependent upon the category assigned using the Graded Approach. NOG procedures allow source inspection instead of receipt inspection under some conditions. Where source inspection replaces receipt inspection, upon receipt, items will be inspected at B&W for identification (if applicable) and shipping damage as a minimum.

1.10.2.2 In process (pre-trip) Inspections

In process inspections are performed by QC personnel or multi-functional personnel trained by QC.

1.10.3 Non-Conformances

Inspection and test records shall clearly indicate whether or not the item conforms to requirements. Where non-conformances are present they are documented and

processed in accordance with documented procedures for control of non-conforming parts.

1.11 Test Control

As appropriate, purchase orders/technical packages shall specify that procedures be established to control necessary testing of basic components. These procedures will specify identification of required testing, means for assessing adequacy of the tests, and designation of responsibilities.

These procedures and sub-tier instructions include:

1. Method and instruction for performing the test.
2. Requirements for calibration, equipment, training, qualifications, and environmental conditions.
3. Acceptance/rejection criteria.
4. Requirements for documenting data and results.

Test results shall be documented and evaluated by qualified individuals. Modifications, repairs, and replacements are tested as described above.

1.12 Control of Measuring and Test Equipment

QC maintains procedures for assuring that all measurement and associated equipment be appropriately calibrated and maintained in accordance with manufacturer's instructions, or with license, contract, or procedure requirements. These procedures specify:

1. Labeling of equipment to show next required calibration.
2. Calibration records be identified.
3. Calibration records be traceable.
4. Calibration standards be traceable to nationally recognized standards.
5. Inspections found to have been made with equipment which is out of calibration will be reevaluated to validate the reported results.
6. Equipment out of calibration will be repaired or replaced.

Purchase orders/technical packages to suppliers providing measurement data or performing tests under this plan shall require the same level of control over measuring and test equipment. The applicable **QC Organization** shall review and approve applicable procedures.

1.13 Handling, Storage, and Shipping

AO maintains procedures to control package handling, use, and protective storage, as applicable. These procedures may also be in the form of Route Cards, process specifications, and drawings.

1.14 Inspection, Test, and Operating Status

NOG procedures require that our **QC organization** perform and document receipt and periodic inspections which are established in the shipping container SARs or applicable technical specifications.

1.15 Control of Nonconforming Materials, Parts, or Components

NOG ensures that any non-conforming item is identified and documented in quality records, as are subsequent evaluations and dispositions. The primary consideration is that nonconforming items are prevented from being inadvertently used.

A QC organization maintains procedures to assure that all nonconforming parts and items are identified, segregated, and evaluated before dispositioning. These procedures identify individuals responsible for the evaluations and those with the authority to make the dispositions.

B&W typically makes small purchases that do not lend themselves to trending. These purchases will not be trended; however any non-conformances will be noted in the APPROVED SUPPLIER DATABASE qualification folder and will be considered when subsequent purchases are considered from that supplier. For long-term contracts, trending of non-conformances will be performed for management review. When repaired, such parts are inspected and tested, if appropriate, in accordance with original inspection and testing requirements.

Purchase orders/technical packages to suppliers providing fabrication and repair services under this plan shall require control over nonconforming materials, parts, or components.

1.16 Corrective Action

NOG maintains procedures to provide corrective actions for components fabricated under this plan. These procedures specify actions to preclude recurrence of quality degradation. They also identify individuals and organizations responsible to verify and close out in a timely manner corrective actions resulting from non-conformance reports, audits, and inspections.

1.17 Quality Assurance Records

NMC, LTC, and **QC,** when applicable, maintain procedures which specify the generation, maintenance, retention, and use of appropriate quality assurance records. These procedures control those design, fabrication, and inspection records necessary to demonstrate product quality. They also specify responsibility for all aspects of records management, and records storage to assure retrieval of all pertinent information.

1.18 Audits

All Quality Plan elements are audited, by personnel independent of the activity being audited, at least every two years. These audits are conducted to verify that activities are performed as planned and to determine the effectiveness of the quality system. Audit results are reported to personnel responsible for the activity, so they can initiate corrective actions. Results are also reported to management. Follow-up audits are conducted to verify that corrective actions have been effectively implemented. Audit results are maintained as quality records and are provided as inputs to the periodic management reviews of this quality system.