



HITTMAN

HITTMAN NUCLEAR & DEVELOPMENT CORPORATION

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POLICIES AND PROCEDURES

QUALITY ASSURANCE  
MANUAL



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PREPARED <i>[Signature]</i> Quality Assurance Manager	HNDC-Q-001	5
APPROVED <i>Paul E. Blanchard</i> Director, RW Disposal and Support Services	PROCEDURE NUMBER	REV
	July 11, 1979	PAGE 1 OF 51

64, 124

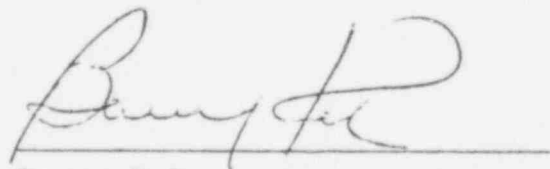
POLICIES AND PROCEDURES

HITTMAN NUCLEAR & DEVELOPMENT CORPORATION  
QUALITY ASSURANCE POLICY

It is the policy of Hittman Nuclear & Development Corporation (HNDC) to supply products that satisfy the quality requirements of its customers and comply with all regulatory criteria within the scope of its business ventures.

The HNDC Quality Assurance Manual is the approved medium designating the guidelines to accomplish the objective of this policy.

The management fully endorses and requires compliance with the objectives of the HNDC Quality Assurance Manual.



Barry Koh  
Vice President and  
General Manager

<u>Quality Assurance Manual</u> TITLE	<u>HNDC-Q-001</u> NUMBER	<u>5</u> REV	PAGE 1a OF 51
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649 125

# POLICIES AND PROCEDURES

## CONTENTS

		<u>Page</u>
SECTION 1	QUALITY ASSURANCE PROGRAM.....	3
SECTION 2	ORGANIZATION.....	9
SECTION 3	DESIGN CONTROL.....	18
SECTION 4	PROCUREMENT DOCUMENT CONTROL.....	21
SECTION 5	CONTROL OF PURCHASED MATERIAL EQUIPMENT AND SERVICES.....	23
SECTION 6	IDENTIFICATION AND CONTROL OF MATERIAL, PARTS AND COMPONENTS.....	26
SECTION 7	HANDLING, STORAGE, AND SHIPPING.....	28
SECTION 8	NONCONFORMANCE MATERIALS, PARTS OF COMPONENTS.....	30
SECTION 9	CORRECTIVE ACTION.....	33
SECTION 10	INSPECTION.....	35
SECTION 11	TEST CONTROL.....	38
SECTION 12	INSPECTION, TEST, AND OPERATING STATUS.....	40
SECTION 13	CONTROL OF MEASURING AND TEST EQUIPMENT.....	41
SECTION 14	CONTROL OF SPECIAL PROCESSES.....	43
SECTION 15	INSTRUCTIONS, PROCEDURES AND DRAWINGS.....	44
SECTION 16	DOCUMENT CONTROL.....	46
SECTION 17	QUALITY ASSURANCE RECORDS.....	48
SECTION 18	AUDITS.....	50
ADDENDUM A	(HNDC-Q-001A) APPLICABLE ONLY TO PROJECT N623. DISTRIBUTION CONTROLLED	
ADDENDUM B	(HNDC-Q-001B) APPLICABLE TO TRANSPORTATION CASKS LICENSED UNDER 10CFR PART 71 - DISTRIBUTION CONTROLLED	
ADDENDUM C	(HNDC-Q-001C) APPLICABLE ONLY TO CECO PROJECTS. DISTRIBUTION CONTROLLED	

# POLICIES AND PROCEDURES

## SECTION 1

### QUALITY ASSURANCE PROGRAM

#### 1.1 General:

The HNDC Quality Assurance Program assures that the provisions of applicable Codes, customers specifications, Federal Regulations, and HNDC directives are fully implemented. The Director of Radwaste Disposal and Support Services is responsible for its establishment, implementation, and execution. The vehicle for transmittal of this program to all levels of management is the HNDC Quality Assurance Manual.

#### 1.2 Applicability:

The HNDC Quality Assurance Program provides for direct participation in the safety and quality aspects of engineering, design, procurement, construction, inspection and testing of HNDC supplied equipment, systems, and services, as required by Federal Regulation, Customer Requirement, or HNDC Management Directive. The HNDC QA Manager is responsible for ensuring that the described QA Program is fully implemented by the HNDC organization, its vendors and subcontractors.

#### 1.3 QA Program:

The program provides written policies, procedures, and where necessary, instructions covering the following quality aspects.

1. Organization
2. Personnel Training
3. Design Control
4. Procurement Control
5. Receiving Control
6. Material Storage, Handling, and Maintenance
7. Control of Special Processes
8. Inspection, Test, and Assembly Status
9. Nonconforming Material Control
10. Corrective Action
11. Packaging & Shipping
12. Document Control
13. Control of Measuring and Test Equipment
14. Audits

Quality Assurance Manual	HNDC-Q-001	5	PAGE 3 OF 51
TITLE	NUMBER	REV	

## POLICIES AND PROCEDURES

The HNDC QA Manual (HNDC-Q-001) will be the controlling procedure for all applicable contracts and will set forth the minimum criteria applicable to delivering a quality product. Vendors and subcontractors may be delegated specific responsibility for quality assurance by HNDC as an extension of the HNDC QA Program. Delegated program responsibility shall conform to this standard and be approved by HNDC.

### 1.4 Quality Assurance Manual:

This manual and referenced appendices set forth the policy which address the requirements of 10CFR Part 71 Appendix E.

It also addresses the criteria given in 10CFR Part 50 Appendix B, N45.2 and the NRC position paper 11-1 & 11-3. However, since these documents are designed to establish quality assurance criteria primarily for the safety-related portions of Nuclear Power Plants, their requirements extend beyond the needs applicable to the equipment and services supplied by HNDC. Therefore, the HNDC QA policy and program implementation is based on an extraction from these documents and is designed to comply with their intent.

### 1.5 Quality Assurance Procedures:

Based on the policies in the HNDC QA Manual, detailed QA procedures are developed to implement and control the program. HNDC will conduct audits of its engineering, design, and procurement functions to ensure compliance with the HNDC QA program as outlined herein. The QA Manager is responsible for conducting these audits and where corrective action is required, he will ensure compliance with the findings of these audits.

Vendors and subcontractors will be evaluated by HNDC to ensure that their QA Programs comply with the requirements of HNDC directives to the extent required on HNDC's contract specifications. Vendors and subcontractors not meeting these requirements may elect to conform to the HNDC program as applicable to the items being furnished to HNDC.

Quality Assurance Manual

TITLE

HNDC-Q-001

NUMBER

5

REV

PAGE 4 OF 51

## POLICIES AND PROCEDURES

### 1.6 Periodic Review of The Quality Assurance Program:

The preparation and continued maintenance of the Quality Assurance Manual is the responsibility of the Quality Assurance Manager. All manuals will be controlled unless specifically designated by the QA Manager. The status and adequacy of the program and its manuals will be regularly reviewed by the Quality Assurance Manager. This is supplemented by periodic audits conducted to assure implementation of the program requirements, and to revise the program to properly reflect changing codes, standards, regulatory and operational requirements.

### 1.7 Qualification Requirements For QA Supervision:

QA Manager:

A. Education

B.S. Engineering or B.S. Management

B. Specialized, Technical Knowledge or Skills:

Technical knowledge should be supplemented with some basic knowledge of business practices. The individual with a business background or degree should have a strong engineering background. It is desirable that the individual have a working knowledge of industrial techniques such as welding, painting, testing and measurement practices and be familiar with applicable codes, standards, and federal regulations.

C. Kind and Length of Experience:

Shall have a four year accredited Engineering or Science degree or equivalent from work experience with a minimum of four years quality-related experience, two years of which is related to electric power generation facilities. Two years of which is related to a position in a supervisory capacity is also desirable.

QA Engineer:

A. Education:

A B.S. degree in an Engineering discipline.

## POLICIES AND PROCEDURES

### B. Specialized, Technical Knowledge or Skills:

An individual with a B.S. in Engineering; in addition, experience in fields of Quality Control/Quality Assurance methods and basic knowledge for Quality Assurance requirements in nuclear industry is desirable.

### C. Kind and Length of Experience:

Shall have a four year accredited Engineering degree or equivalent work experience, and two years Quality related experience.

## 1.8 Personnel Training

### TRAINING PLAN FOR OPERATIONAL QUALITY ASSURANCE PERSONNEL

PURPOSE: To establish the minimum training and experience requirements to effectively carry out the HNDC Quality Assurance activities. It shall be the intent of this plan to ultimately qualify each individual to a level whereby his performance will insure the policies of HNDC will be enforced.

APPLICABILITY: This training plan shall apply to all persons assigned to the Quality Assurance Department, on a non-temporary basis. This plan assumes the new employee, although possessing varied results in the nuclear power field and/or quality assurance field, is not conversant in the application of HNDC systems used in nuclear power generation. Based on the previous knowledge and work experience of the new employee, the manager of Quality Assurance may delete selected portions of this plan to suit the individual. Personnel employed prior to the implementation of this training plan shall, to the extent possible, satisfy its minimum requirements.

RESPONSIBILITY: The Manager of Quality Assurance shall be responsible for implementing this plan.

Quality Assurance Manual

TITLE

HNDC-0-001

NUMBER

5

REV

PAGE 6 OF 51

649 130



## POLICIES AND PROCEDURES

PROCEDURE: The Quality Assurance training program is divided into four distinct sections. Their order may be altered to suit the circumstances.

1. Company Indoctrination - in which the employee is briefed by his immediate supervisor on company policies using the guidance of "Individual Orientation Procedure," a copy of which is placed in the employee's training record. Additionally, administrative matters such as time sheet preparation, expense report preparation and Xerox machine operation are covered.
2. Quality Assurance Introduction - in which the employee is introduced to the overall purpose and philosophy of the quality assurance effort, and his individual job function. This is accomplished by reading references in section four, consulting the knowledgeable individual as to the application of HNDC systems and completing a progress interview(s). The results of this interview shall be documented in the employee's training record.
3. Nuclear Theory (Applicable only to those new employees without prior nuclear experience) - in which the new employee gains a basic knowledge of nuclear plant design and theory. The extent of this training will be determined on a case basis by the Manager of Quality Assurance. Suggested topics include:

- Nuclear Power Generation Method
- Waste Products Produced From Atomic Reactions
- Liquid Waste System
- Solidification Processes
- Solid Waste Disposal
- Radiation Theory

This portion of the training shall provide the new employee with a brief exposure of the application of the HNDC supplied system.

4. Reference Reading - in which the employee familiarizes himself with the various references used in the quality assurance effort. This is accomplished by reading references (1) through (13) as applicable, and by completing a progress interview with the Manager of Quality Assurance. This interview shall be documented in the employee's training record.

## POLICIES AND PROCEDURES

1. HNDC Quality Assurance Manual
2. HNDC Quality Assurance Procedures
3. ANSI 45.2
4. 10 CFR 50 Apx. B.
5. ANSI B 31.1
6. HNDC Topical Report
7. AWS Standards and Specifications
8. NRC Position Paper 11-1 and 11-3
9. Reg. Guide 1-26
10. Reg. Guide 8.8
11. ANSI N198 (Draft 1, Rev. 2)
12. API 620, 650
13. 10CFR Part 71

### 1.9 Quality Assurance Program Implementation

In the event of a dispute arising from a difference of opinion between quality assurance personnel and other department personnel (operations, engineering, etc), the matter will be brought to the attention of the Director of Radwaste Disposal and Support Services, the Director of Marketing and Projects, the Vice President, Engineering, and, if necessary, the General Manager for resolution.

Quality Assurance Manual

TITLE

HNDC-Q-001

NUMBER

5

REV

PAGE 8 OF 51

# POLICIES AND PROCEDURES

## SECTION 2

### ORGANIZATION

#### 2.1 General:

The total responsibility for the implementation and execution of the Quality Assurance Program for Hittman Nuclear & Development Corporation (HNDC) is the direct responsibility of the Director of Radwaste Disposal and Support Services. This responsibility is carried out through the Quality Assurance Organization. The resources and management of the Quality Assurance Organization ensure that effective policies and procedures are developed and implemented.

#### 2.2 Organization:

The HNDC Quality Assurance, Support Services, and Engineering Departments contribute to the QA Program as shown on the Organizational Chart, Figures 1.1, 1.2, and 1.3. The responsibilities for the positions described on the charts are found in Paragraph 2.6.

#### 2.3 Functional Assignments and Responsibilities

The provisions contained herein describe the authority, organizational freedom and independence of personnel performing Quality Assurance functions to identify quality problems, to initiate, recommend or provide solutions and to verify implementation of solutions.

##### 2.3.1 Director of Radwaste Disposal and Support Services

The direct responsibility for the conduct and implementation of the Quality Assurance Program is assigned to the Director of Radwaste Disposal and Support.

In this capacity, he has direct access to the General Manager and will exercise the management controls necessary to ensure that HNDC products meet the criterion of customer specifications, HNDC directives and applicable codes and regulations.

## POLICIES AND PROCEDURES

### 2.3.2 Quality Assurance Manager

The specific responsibility to coordinate and implement the Quality Assurance Program is assigned to the Quality Assurance Manager. He reports to the Director of Radwaste Disposal and Support Services and supervises the Quality Assurance Organization. He also has direct access to the General Manager to resolve problems whereby the Director of Radwaste Disposal and Support Services and the Quality Assurance Manager are not in agreement. This gives him a degree of freedom required to insure quality related decisions are not controlled by administrative authority. Under his direction, quality matters will be segregated between the client, HNDC and its vendors and subcontractors for correction in a responsible and timely manner.

Responsibilities assigned to the Quality Assurance Manager within this Manual or its referenced Addendum, may be delegated by him to other personnel provided that the individual has been properly trained and is not responsible for the work being performed.

### 2.4 Authority and Responsibility

The Quality Assurance Department's authority comes by way of the clients imposed criteria, Federal Regulations and HNDC's commitment to a Quality Assurance Program which will enhance the quality of our product. Persons performing quality assurance functions shall have sufficient authority and organizational freedom to:

- (1) Identify quality problems
- (2) Initiate, recommend, or provide solutions, through designated channels
- (3) Verify implementation of solutions
- (4) Control further processing, delivery or installation of a nonconforming item, deficiency, or unsatisfactory condition until proper dispositioning has occurred.

## POLICIES AND PROCEDURES

### 2.5 Qualification of Personnel

The Quality Assurance personnel shall possess the necessary skills and experience to perform the inspection, test or audits on which they are assigned. All Quality Assurance personnel shall be certified in accordance with the training program in Section 1 of this manual. Documentation supporting this training will be developed and maintained.

### 2.6 Position Responsibilities (see Figures 1.1, 1.2, and 1.3)

#### General Manager

Responsibilities include the development and implementation of corporate policy, including the establishment and initiation of the HNDC Quality Assurance Program.

#### Director of Radwaste Disposal and Support Services

Responsibilities include the establishment and implementation of functions within the sections reporting to him. These include establishment, implementation, and approval of the HNDC Quality Assurance Program.

#### Director of Marketing and Projects

Responsibilities include the presentation of HNDC production and service applications to utilities and architectural/engineering firms; proposal preparation; and input into the development of new products and services. Also included is the establishment and implementation of functions within the engineering and field projects groups.

#### Vice-President - Engineering

Responsibilities include the establishment and implementation of functions within the engineering group and the oversight of internal research and development.

#### Material Control Supervisor

Responsibilities include purchasing, expediting, internal material control, and the development and implementation of material control procedures and instructions.

## POLICIES AND PROCEDURES

### Expeditor

Responsibilities include expediting, oversight of the material store room, and the receipt and disposition of stored material.

### Contract Administrator

As the administrative liaison with utilities and architectural/engineering firms, his responsibilities include the distribution of purchase orders, referenced specifications, and bid requests to appropriate personnel for their review.

### Health Physics Officer

Responsibilities include developing and implementing Health Physics procedures, monitoring radiation exposures of personnel, and oversight of the handling of radioactive material.

### Quality Assurance Manager

Responsibilities include the development and implementation of the HNDC Quality Assurance Program; verification of program implementation by audit; vendor evaluations; specification, procedure and purchase order review; material inspections; the development and control of Quality Assurance procedures, specifications, and instructions; and all other Quality Assurance functions, unless otherwise specified in this manual.

### Regional Operations Manager, Midwest

Responsibilities include the coordination and scheduling of transportation cask shipments from the United States Midwest region.

### Regional Operations Manager, Eastern

Responsibilities include the coordination and scheduling of transportation cask shipments from the United States Eastern region; scheduling of cask maintenance and the procurement of cask spare and replacement parts and maintenance services; the transmission of cask certifications and referenced documents to package users; and the development and implementation of cask operating and maintenance procedures and instructions.

## POLICIES AND PROCEDURES

### Maintenance Supervisor

Responsibilities include direct oversight of cask maintenance and the procurement of spare and replacement parts.

### Manager, Systems and Equipment Design

Responsibilities include the oversight of design drafting personnel; the initiation and review of drawings, specifications, calculations, and the test procedures; the preparation of Safety Analysis Reports and Topical Reports; the review and disposition of nonconformances; the review of special test results; the development and implementation of Engineering procedures and instructions.

### Engineering Project Group Manager

Responsibilities include management of Radwaste Solidification System Projects.

### Field Projects Manager

Responsibilities include the oversight of Field Radwaste Packaging Services.

POLICIES AND PROCEDURES

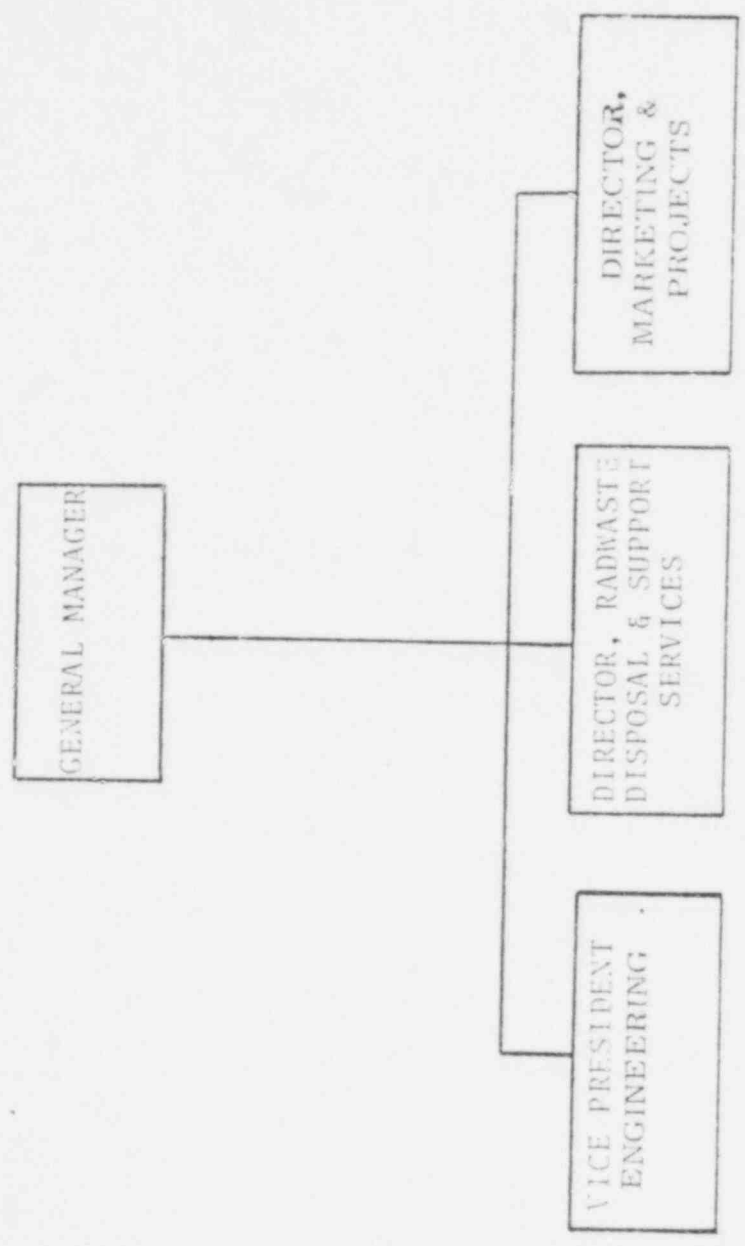


FIG. 1.1

649 138



POLICIES AND PROCEDURES

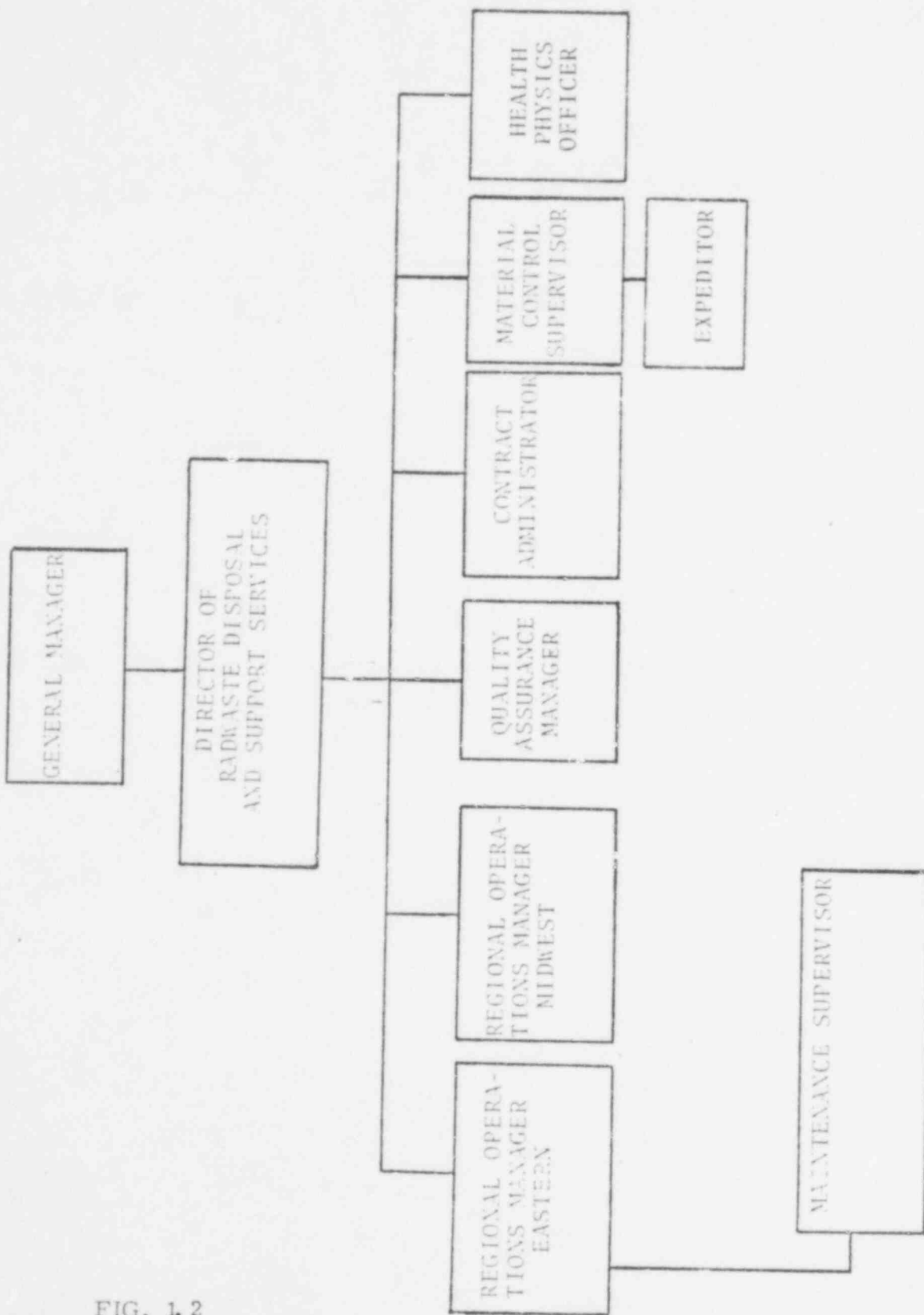


FIG. 1.2

POLICIES AND PROCEDURES

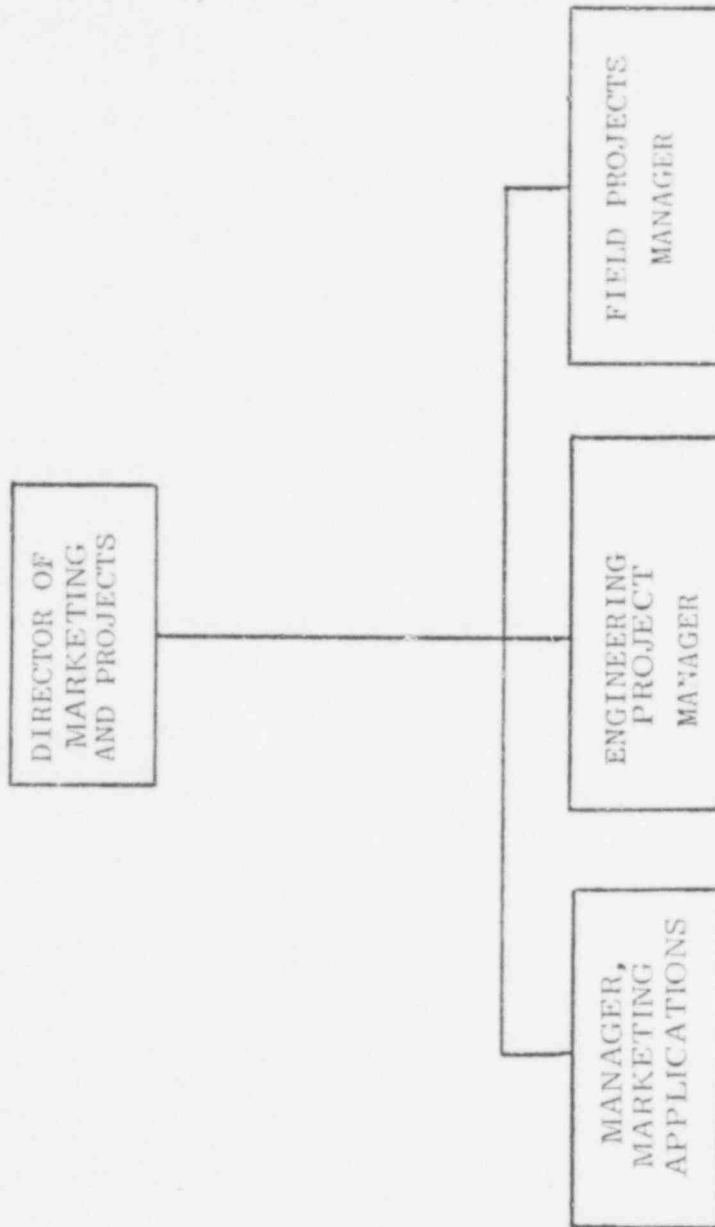


FIG 1.3

POLICIES AND PROCEDURES



FIG 1.4

# POLICIES AND PROCEDURES

## SECTION 3

### DESIGN CONTROL

#### 3.1 General:

The HNDC Quality Assurance Program provides assurance that applicable design criteria are correctly translated into specifications, drawings, procedures, and instructions. The essential elements required in these design documents affecting the quality and safety of HNDC systems are implemented in accordance with this section.

#### 3.2 Responsibility:

HNDC has the ultimate responsibility for controlling design activities affecting its product line. The HNDC Engineering procedures and instructions for drafting/design and design control activities will detail this responsibility.

#### 3.3 Design Criteria

3.3.1 Design criteria related to the safety and quality aspects of HNDC's products as reflected in the applicable code, customer contract documents, and Federal Regulations are essential elements of HNDC design control.

3.3.2 They are incorporated into the design by specifications and drawings. Review of the specifications and drawings by other than the original designer and final review by customer's technical staff (when required) provide the assurance that the proper design criteria have been incorporated.

3.3.3 Variations in criteria of project controlled drawings and specifications as dictated by the customer will be identified and controlled by the Project Manager in accordance with Engineering procedures governing design and document control.

#### 3.4 Drawings and Specification Controls

3.4.1 Control of drawings and specifications, and revisions to, or deviations from, drawings and specifications is the responsibility of

Quality Assurance Manual

TITLE

HNDC-Q-001

NUMBER

5

REV

PAGE 18 OF 51

649 142

## POLICIES AND PROCEDURES

the Vice President of Engineering and is delineated in System Engineering Procedures.

### 3.5 Engineering Approval

- 3.5.1 Engineering approval is required for all changes to, or deviations from, drawings and specifications. The Vice President - Engineering or his delegated representative, exercises this approval by review of drawings and specifications.
- 3.5.2 Approval required in project controlled drawings and specifications, as dictated by the customer, will be made only by the Project Manager in accordance with Engineering procedures governing design and document control.

### 3.6 Selection and Applicability of Materials

- 3.6.1 Selection and applicability of materials, parts, equipment, and processes related to the safety and quality of HNDC product lines shall be strictly controlled by Engineering. The design control system requires careful selection and application of materials based on past experience, material testing, and compatibility with the application.
- 3.6.2 Where there is a special technical need or material application that is not within the capability of the HNDC organization, consultants will be engaged to resolve the problem.

### 3.7 Design Reviews

- 3.7.1 Design reviews, alternative calculational methods and/or appropriate testing programs for verification of design adequacy will be conducted or delegated by the Vice President - Engineering to suit the application.
- 3.7.2 Alternate calculations will be performed by use of hand calculations independently checked by another engineer.
- 3.7.3 Test programs for the verification of design integrity may be required and will be approved by the Engineering Supervisor after appropriate design review of the subject.

## POLICIES AND PROCEDURES

3.7.4 The verification of design checking process is conducted by persons other than the original designer. Each document verified in this manner will have the checker's signature or initial in addition to the designer's.

### 3.8 Design Changes

3.8.1 Design changes are controlled in the same manner as the original design, and shall be made in accordance with the engineering design and engineering document control procedures.

3.8.2 The HNDC Engineering Change Notice and Engineering Change Request System will be used to control and document all design changes.

3.8.3 Reference copies of drawings will be maintained in the Master Design File.

### 3.9 Design Control Implementation

3.9.1 The provisions of this section are detailed in subsequent sections specifically dealing with design control procedures.

3.9.2 Review of procedures implementing design control measures will be conducted by Systems Engineering.

### 3.10 Verification of Compliance

3.10.1 The QA Department will verify compliance with this directive and the effectiveness of established procedures by means of periodic audit.

# POLICIES AND PROCEDURES

## SECTION 4

### PROCUREMENT DOCUMENT CONTROL

#### 4.1 General:

The HNDC procurement documents include criteria and requirements pertinent to supply a satisfactory, dependable, trouble free product. The review prior to the placement of the purchase order, ensures that the necessary code compliance, design bases, client specification requirements, and regulatory requirements are included.

#### 4.2 Procurement Documents:

4.2.1 A Purchase Requisition (PR) will be developed from the client's specification and/or applicable HNDC design documents. The Director of Marketing and Projects and the Quality Assurance Manager will review a PR before it is submitted to Purchasing.

4.2.2 The Purchase Order (PO) will be developed using the Purchase Requisition package. The Material Control Supervisor awards a contract, purchasing the item from a supplier on the Approved Vendors List.

#### 4.3 Procurement Document Review

4.3.1 These documents are reviewed by the HNDC Quality Assurance Manager to confirm the accuracy and adequacy of the quality references and requirements. The purpose of the review is to determine that: (1) quality requirements are correctly stated, inspectable and controllable, (2) there are adequate acceptance and rejection criteria, (3) the documents have been prepared, reviewed and approved in accordance with quality assurance procedures, and (4) that changes and revisions to procurement documents affecting the quality assurance program are reviewed and approved at the same scope and depth commensurate with the original document. "Purchase Requisitions" are reviewed for vendor selection and that the documents required for certification of the material to be used are included as a documentation requirement.

Quality Assurance Manual

TITLE

HNDC-Q-001

NUMBER

5

REV

PAGE 21 OF 51

649 145

## POLICIES AND PROCEDURES

- 4.3.2 The technical content of procurement documents will be reviewed by the Engineering Group and approved by the Vice-President - Engineering.
- 4.3.3 The HNDC Project Manager will be responsible for collecting and resolving "in-house" comments on HNDC documents as well as vendor purchase documents in accordance with HNDC procurement and engineering document control procedures.
- 4.4 Vendors and Subcontractors
- 4.4.1 Purchase documents for safety and quality related items will require HNDC vendors and subcontractors to provide QA programs and procedures to the extent necessary to comply with requirements of HNDC's purchase order documents and with any Federal Regulation.
- 4.4.2 HNDC will reserve the right to review the vendor or subcontractor's purchase orders to its suppliers and will so indicate this requirement in the HNDC purchase order.

Quality Assurance Manual	HNDC-Q-001	5	PAGE 22 OF 51
TITLE	NUMBER	REV	



# POLICIES AND PROCEDURES

## SECTION 5

### CONTROL OF PURCHASED MATERIAL, EQUIPMENT AND SERVICES

#### 5.1 General:

Measures within the HNDC Quality Assurance Program assure that purchase material, equipment, and services shall conform to the procurement documents. Such measures are taken before and after issuance of the procurement documents.

#### 5.2 Procurement Documents:

5.2.1 Procurement documents consist of specifications, purchase orders, drawings, procedures, and, if applicable, an Engineering and Quality Verification Documentation Requirements (EQVDR) Form for the purchase of an item. The EQVDR specifies supplier documentation submittals.

#### 5.3 HNDC Purchase Order Requirements

5.3.1 The purchase order requirements (e.g., Painting, Cleaning, Packaging, Welding, etc.) may be imposed on HNDC subvendors by one of the following methods:

A. Subvendor Blanket Acceptance of the Requirement

In the event that the subvendor agrees to supply equipment in accordance with the applicable HNDC technical standard and/or the stated requirements in an RFQ, then a copy of the procedure is referenced in the vendor/HNDC purchase documents.

B. Subvendor Submittal of Equal Procedure

In the event that the vendor has an established shop procedure which fully satisfies the HNDC requirements, then HNDC will review his procedure. If it meets the HNDC requirements, the vendor procedure shall be implemented in lieu of the HNDC standard procedure.

## POLICIES AND PROCEDURES

### C. Quality Verification at HNDC

In the event a vendor cannot conduct the required quality control testing or examination at his facility, then HNDC shall have the option of either conducting the required tests, examinations, etc. at HNDC facilities, or to conduct these tests at another HNDC designated subvendor shop.

### D. Standard Parts

In the event the subvendor standard product meets all requirements, then HNDC's Engineering shall review the documents describing this product. Upon approval, the HNDC purchase agreement with the vendor shall only include the description of the standard product.

### 5.4 Source Evaluation

Conducting of source evaluations to determine objective evidence of source quality, contractor performance and the delivery of a Quality Product is the responsibility of the QA Manager.

- 5.4.1 Source evaluation of a vendor is determined by a vendor survey. The survey determines the capability of the vendor to perform to the designated quality standards. It provides a measure of the vendor acceptability to the "Qualified Vendors List", for the appropriate item or service.
- 5.4.2 Evidence of source quality and vendor performance will be determined by inspection reports of visits made to the vendor, audits made during the visit, or by previous approval of his services or equipment.
- 5.4.3 Quality on delivery will be determined by physical inspection at HNDC or by a receipt inspection report made on delivery at point of destination.

## POLICIES AND PROCEDURES

### 5.5 Periodic Assessment of Vendors and Subcontractors

6.5.1 Those vendors or subcontractors qualified for inclusion on the "Approved Vendors List" will be requalified periodically.

The QA Manager will determine when requalification of a vendor or subcontractor is required. Generally, no longer than two years shall elapse between audits.

### 5.6 Manufacturer's Standard Equipment

When a purchased item is a standard, non-safety related, off-the-shelf product, the vendor may be qualified through the use of a Quality Rating System. This system will receive input from the Quality Assurance Vendor Survey Form, supplier and internal non-conformance reports, and receipt inspection reports. A receipt inspection will be performed on all items.

The Quality Rating System will be detailed within HNDC Quality Assurance Procedures.

# POLICIES AND PROCEDURES

## SECTION 6

### IDENTIFICATION AND CONTROL OF MATERIAL, PARTS, AND COMPONENTS

#### 6.1 General:

The requirements for identification and control of material, parts, and components will be implemented by HNDC, its vendors and subcontractors. The methods and systems used for identification and control will be developed from client specifications and Federal Regulations. The vendor/subcontractor may be audited during the fabrication of the product by HNDC to ensure compliance with his established program.

#### 6.2 Identification of Materials:

6.2.1 Materials, parts, and components including partial assemblies shall be identified and controlled as specified in purchase documents. HNDC shall define this requirement and require vendors and their subcontractors to identify their equipment and material in a similar manner.

6.2.2 The HNDC Project Manager and QA Manager shall assure, during their review of purchase documents, that requirements for the identification and control of materials, if applicable, are specified.

6.2.3 The correct identification of materials, parts, and components will be verified and documented in accordance with Quality Assurance receipt inspection procedures prior to release for fabrication, assembling, and installation.

#### 6.3 Traceability:

6.3.1 The identification of materials and parts important to the function of safety-related systems and components will be maintained so as to be traceable to the appropriate documentation, such as drawings, specifications,

## POLICIES AND PROCEDURES

purchase orders, manufacturing and inspection documents, deviation reports, and physical and chemical mill test reports.

- 6.3.2 The location and method of identification will be carefully determined so that the fit, function, and quality of the item being identified will not be affected.

### 6.4 Identification Through Fabrication and Installation:

- ( 4.1 Identification of ASME Code material during fabrication, erection, installation, and ultimate use will be as specified as ASME Code.
- 6.4.2 Noncode material is identified and controlled in accordance with HNDC's purchase document requirements, or the vendor/subcontractors QA procedures used for non-ASME Code items.

# POLICIES AND PROCEDURES

## 7.4 "Reject" and "Hold" Status of Equipment:

7.4.1 Equipment in a "Reject" or "Hold" status shall be handled, stored, or in the case of manufactured items shipped on a Risk Basis as described in Section 8 to HNDC or another subvendor for disposition shall be in accordance with specification requirements. A "Reject" or "Hold" status does not alter any responsibility in the handling, storing, or shipping of the equipment.

Quality Assurance Manual

TITLE

HNDC-Q-001

NUMBER

5

REV

PAGE 29 OF 51

# POLICIES AND PROCEDURES

## SECTION 8

### NONCONFORMING MATERIALS, PARTS OR COMPONENTS

#### 8.1 General:

Nonconforming materials, parts, and components, shall be controlled to prevent their inadvertent use or installation.

#### 8.2 Control of Nonconforming Items:

8.2.1 Nonconforming items shall be identified and rigidly controlled for all safety and quality related items. Items not conforming to specifications and drawings are tagged "Reject" or "Hold" with controlled tags issued by the QA Manager. These items are not to be used unless cleared by appropriate formal disposition, and the "Reject" or "Hold" tags formally removed by the Quality Assurance Manager.

8.2.2 The acceptability of rework or repair of materials, parts, components, and systems is verified by reinspection and retesting the item as originally inspected and tested or by a method which is at least equal to the original inspection and testing method.

#### 8.3 Supplier Nonconformances:

8.3.1 Deviations or nonconformance to HNDC specifications, purchase orders, drawings, and procedures shall be reported by HNDC's contractors or subcontractors to HNDC, via a Nonconformance and Deviation Report (N&D).

8.3.2 For the nonconforming item, the vendor or subcontractor shall describe the nonconformance precisely, and recommend corrective action including an alternate solution.

## POLICIES AND PROCEDURES

- 8.3.3 A vendor or subcontractor may elect to use his own N&D form, provided the information thereon is substantially the same as that on the HNDC form.
- 8.3.4 Where there is a nonconformance, the vendor or subcontractor shall attach a "Reject" or "Hold" form to the item and ensure it is not removed until disposition has been made.
- 8.3.5 A "Reject" or "Hold" tag is used by HNDC when the item is nonconforming and needs corrective action. A "Reject" or "Hold" tag is also used to indicate that additional information or documentation is needed to fulfill the purchase document requirements. An N&D submission is not necessary for this purpose. The "Hold" tag placement, removal and the resulting corrective action will be documented on the QA Receipt Inspection Form.
- 8.3.6 N&D reports shall be forwarded to a cognizant HNDC Engineer for disposition.
- 8.3.7 Disposition may take the form of Acceptance; Scrap; Repair; or Modify.
- 8.3.8 Upon completion of the disposition and the N&D form approved by the cognizant Engineer, the QA Manager and the Project Engineer, the form will be forwarded to the Material Control Department. Copies are maintained in the Project Master File, QA File and Purchasing Master File.
- 8.3.9 When corrective action is completed, an item will be considered ready for inspection. HNDC will reserve the right to inspect the item for compliance with the N&D report disposition. The QA Manager shall verify that the action has been properly completed and will sign off the N&D form. If the action is not correct, another N&D report will be issued citing the additional "Nonconformance or Deviation".
- 8.3.10 The HNDC Inspector will forward copies of the completed N&D form to the HNDC QA Manager for record retention.



## POLICIES AND PROCEDURES

### 8.4 Internal Nonconformances

HNDC nonconformances to specifications, purchase orders, drawings, procedures, or instructions will be documented on a corrective action notice form. Issuance and completion of this form will be monitored and controlled by the Quality Assurance Manager in accordance with Quality Assurance Procedures.

### 8.5 Risk Released Items:

8.5.1 In the event that the project manager is requested to ship an item by the client without proper documentation or with a quality related deficiency, he shall initiate a Risk Release Basis form for approval by the Quality Assurance Manager and Director of Marketing and Projects.

8.5.2 The Project Manager shall sign the release and submit same to the Quality Assurance Manager for his review and approvals as indicated in Section 8.4.1.

### 8.6 Risk Release Enforcement

8.6.1 In the event of an item being released on a risk basis, the Quality Assurance Manager or his designated alternate shall assure that the condition on the Risk Release is enforced. When all the conditions are resolved, the Risk Release will be cleared and a copy forwarded to Material Control Supervisor, Project Manager and Contracts Administrator.

# POLICIES AND PROCEDURES

## SECTION 9

### CORRECTIVE ACTION

#### 9.1 General:

Measures within the HNDC Quality Assurance Program assure that conditions adverse to quality are promptly identified and corrected in a timely manner. The responsibility for implementing corrective action systems rests with the QA Manager.

#### 9.2 Identification and Correction:

The Quality Assurance Manager is responsible for ensuring that conditions adverse to a quality product such as deviations, nonconformances, defective items, risk release items etc., are identified and appropriate corrective action is taken.

9.2.1 The principal source of quality defects identification is the Nonconformance and Deviation Report, the Receipt Inspection Form and the corrective action notice. The QA program shall ensure appropriate distribution for all documents reporting quality problems and shall identify the action necessary for correct documentation.

9.2.2 The QA Manager will review all nonconformance reports for accuracy, completeness, and assignment for corrective action.

9.2.3 Upon completion of the evaluation and disposition of N&D Reports, the QA Manager will again review the report for completeness of corrective action and ensure that the assigned authority has approved the disposition.

9.2.4 The QA Manager shall ensure that N&D Reports receive proper evaluation and disposition within a reasonable time. Those dispositions not resolved in a timely fashion will be brought to the attention of the Director of Engineering and Projects.

Quality Assurance Manual  
TITLE

HNDC-Q-001  
NUMBER

5  
REV

PAGE 33 of 51

## POLICIES AND PROCEDURES

9.2.5 Follow-up reviews will be conducted to verify proper implementation of corrective actions and to close-out the Nonconformance and Deviated Reports, Corrective Action Reports, and Receipt Inspection Forms.

9.2.6 In the event of an item being released on a risk basis, the Quality Assurance Manager or his designated alternate shall assure that the condition on the Risk Release is enforced. When all the conditions are resolved, the Risk Release will be cleared and copies forwarded to Material Control, the cognizant Project Manager, and Contracts Administration.

Quality Assurance Manual

TITLE

HNDC-Q-001

NUMBER

5

REV

PAGE 34 OF 51

649 157

# POLICIES AND PROCEDURES

## SECTION 10

### INSPECTION

#### 10.1 General:

The inspection function is performed by HNDC, vendors, and subcontractors and will be performed in accordance with an inspection plan. Vendors and subcontractors will be required to establish and follow an inspection plan as required by regulatory and/or client requirements and by the complexity of the material, part, or component and its relation to safety.

#### 10.2 Inspection Areas:

10.2.1 Inspection and monitoring areas are defined in the inspection plan and procurement documents.

10.2.2 Inspections and/or audits, as applicable, will be conducted by the QA Manager or his delegated representatives.

#### 10.3 "Hold Points":

10.3.1 Inspection "Hold Points" may be designated on the purchasing documents, EQVDR or in the controlling procedure in accordance with the applicable inspection plan. Work will not be continued until a QA representative witnesses or releases the particular "Hold Point."

10.3.2 A list of "Hold Points" will be inserted by the cognizant Project Manager in the specification, controlling procedures, and/or purchasing documents. These will be reviewed by the QA Manager.

#### 10.4 Independence of QA and Production Personnel:

10.4.1 HNDC's policy is to provide for the separation of the interests of inspection and production personnel in all aspects of the QA Program. Inspection personnel will be independent from the individuals performing the activity being inspected.

## POLICIES AND PROCEDURES

- 10.4.2 Vendor supplied items shall be inspection accepted by the vendor's inspectors who are not assigned to a production department or other group that might influence the decisions of the inspector.
- 10.4.3 HNDC will assess the relationship of inspection to production or operations activities by means of audits/inspections.
- 10.5 "STOP WORK" Order:
- 10.5.1 The QA Manager and/or his delegated representative may institute a "Stop Work" order, based on an unsatisfactory report, test witnessing, audit, or routine surveillance. It shall be the responsibility of the QA Manager to provide the Director of Radwaste Disposal and Support Services with the details pertinent to the "Stop Work" action for his review and approval. This must be accomplished as soon as practical after the initial "Stop Work" order is initiated. Where time allows, this review and approval shall be accomplished prior to the issuance of a "Stop Work" order.
- 10.5.2 Restart of work will depend on the satisfactory correction of the deficiency and documented by completion of the Nonconformance and Deviation (N&D) report, reporting the deficiency.
- 10.6 Evaluations:
- 10.6.1 The N&D report will be distributed to the appropriate personnel.
- 10.6.2 The QA Manager will review distribution lists to verify that the concerned personnel are receiving the N&D report.
- 10.6.3 Completed N&D reports will be reviewed by the QA Manager for compliance.

Quality Assurance Manual  
TITLE

HNDC-Q-001  
NUMBER

5  
REV

PAGE 36 OF 51

## POLICIES AND PROCEDURES

### 10.7 Inspection of Modifications, Repairs, and Replacements

Modifications, repairs, and replacements will be inspected in accordance with the original design and inspection requirements or acceptable alternatives.

### 10.8 Qualifications:

Inspectors will be qualified in accordance with the HNDC Quality Assurance Training Program. This program will incorporate the requirements of applicable regulations, codes, and standards. Documents supporting this training will be filed and kept current.

Quality Assurance Manual

TITLE

HNDC-Q-001

NUMBER

5

REV

PAGE 37 OF 51

649 - 160

# POLICIES AND PROCEDURES

## SECTION 11

### TEST CONTROL

#### 11.1 General:

Testing of HNDC supplied equipment is conducted in vendor or subcontractor shops or HNDC facilities in accordance with prescribed test procedures, or specifications. Tests may be witnessed or audited by HNDC representatives and, where necessary, the results evaluated by a cognizant HNDC engineer.

#### 11.2 Fabrication Tests:

- 11.3.1 In-process and final tests will be performed as required by specifications, drawings, and applicable codes. These tests will usually be performed by a vendor or subcontractor.
- 11.3.2 Tests conducted in vendor or subcontractor's shop will be witnessed, inspected, or audited by the HNDC inspector in accordance with the applicable inspection plan. In the case of "Hold Point" tests, the HNDC inspector will witness tests prior to the continuation of production.
- 11.3.3 HNDC will be notified of the schedule of fabrication tests to be performed in accordance with the contract requirements.
- 11.3.4 Preinstallation test results will be recorded by the vendor and/or an HNDC representative/inspector and forwarded to the HNDC cognizant engineer for evaluation and disposition.

#### 11.4 Preoperational Tests (solidification system only):

- 11.4.1 Preoperational tests are typically conducted by the ultimate user. HNDC assists in the performance of these tests as required.

#### 11.5 Operational Tests (solidification system only):

- 11.5.1 Operational tests are typically conducted by the ultimate user. HNDC assists in the performance of these tests as required.

## POLICIES AND PROCEDURES

### 11.6 Test Control:

- 11.6.1 Prior to HNDC testing, a procedure of sufficient detail will be developed by a cognizant HNDC engineer. Included in this procedure will be acceptance and rejection criteria or the requirement that the test results be reviewed and approved by the engineer prior to acceptance.
- 11.6.2 Prior to testing by a vendor, the test procedure, as required by the procurement documents, will be submitted for review by HNDC engineering. Review of this procedure will include approval of acceptance/rejection criteria or submittal of test results to HNDC engineering for approval.
- 11.6.3 Modifications, repairs, and replacements will be tested in accordance with the original design and testing requirements or acceptable alternatives.

### 11.7 Special Testing:

- 11.7.1 Special testing of components or equipment and the type of testing to be conducted will be as defined, on a case basis, in specifications.
- 11.7.2 The HNDC engineering personnel will witness special tests, review the documentation, and evaluate the results.

### 11.8 Engineering Evaluation:

- 11.8.1 In special cases where an actual test cannot be performed, i.e., a destructive test, engineering will determine through mathematical evaluation the adequacy of the design parameters.



# POLICIES AND PROCEDURES

## SECTION 12

### INSPECTION, TEST, AND OPERATING STATUS

#### 12.1 General:

HNDC will maintain a system to indicate the status of inspection and/or test requirements of individual components and equipment within the scope of the QA program.

#### 12.2 Status of Systems:

- 12.2.1 Status of inspection or tests of individual components and equipment will be maintained and kept current.
- 12.2.2 An identification system may use a tagging or color coding process. In the case of ASME Section III work, the "traveler" system will identify each stage the item has passed and the inspection performed.
- 12.2.3 Records of inspections performed (e.g., receipt inspection, shop tests, etc.) will be filed by the QA Department.
- 12.2.4 Records of vendors or subcontractors tests and inspections will be maintained by the vendor or subcontractor until the equipment is shipped. Where radiography is required or specified, radiographs will be maintained by the vendor or subcontractor pending customer disposition in accordance with applicable code requirements.

# POLICIES AND PROCEDURES

## SECTION 13

### CONTROL OF MEASURING AND TEST EQUIPMENT

#### 13.1 General:

Measuring and test equipment are controlled items. Each will be identified by a serial number and sticker indicating the calibration status and will be issued only by the Quality Assurance Manager.

#### 13.2 Calibration:

The calibration of measuring and test equipment will be performed annually or more frequently, if recommended by the equipment manufacturer. The calibration shall be performed with standards traceable to the National Bureau of Standards. No item will be issued without a current calibration sticker. The calibration period of a measuring or test device may be allowed to expire if it is not expected to be used for an extended period of time. However, prior to the next use of this item, it will be calibrated.

#### 13.3 Maintenance:

If controlled equipment is damaged, dropped, or if the user becomes suspicious of damage, use of the item will stop immediately and the calibration will be verified.

#### 13.4 Documentation:

Calibration test data, traceable to the equipment by serial number, will be maintained and filed. A log will be maintained to document usage of each controlled item so that in the event it is found to be out of calibration, usage may be traced to inspected items. These items will be tagged immediately with a hold tag and reinspected with calibrated equipment. A corrective action notice (see Section 8) will be issued immediately to HNDC engineering, which will evaluate the condition of the suspect items. If it is determined that a discrepant item could pose a safety or installation problem and the item is in use or has been shipped to the customer, corrective action will be taken as follows:

- (a) If the component is being operated by HNDC (transportation casks), use of the item will stop immediately until the item is reinspected and either found to be acceptable or repaired and retested, if required.

## POLICIES AND PROCEDURES

- (b) If the component has been shipped to the customer for his ownership and use (solidification system equipment), he will be notified immediately, in writing, of the discrepancy. Due to the long shipping, storage, installation, and testing period for this type of equipment, it is highly unlikely that the suspect item would be in-service prior to discovery of the calibration discrepancy. If there is any question, the customer will be notified by telecon with a follow-up in writing.

The completion of the above corrective action will be documented on the corrective action notice form.

# POLICIES AND PROCEDURES

## SECTION 14

### CONTROL OF SPECIAL PROCESSES

#### 14.1 General:

When required by applicable Regulatory, Customer, and/or HNDC Requirements, special processes, including welding, nondestructive examination (NDE) and heat treating, will be performed in accordance with written procedures. These will be developed in accordance with applicable codes, standards, or other requirements and paragraphs 14.2, 14.3 and 14.4 will be applicable.

#### 14.2 Personnel Qualifications:

Personnel performing special processes will be qualified for that process in accordance with the requirements of the ASME Boiler and Pressure Vessel Code, the American Welding Society standards, SNT-TC-1A, or as required by another applicable code.

#### 14.3 Procedure Qualifications:

Special process procedures will be qualified for its application in accordance with the requirements of the ASME Boiler and Pressure Vessel Code, the American Welding Society standards, or as required by another applicable code.

#### 14.4 Records:

The qualification records of procedures and personnel associated with special processes will be established, filed, and kept current.

# POLICIES AND PROCEDURES

## SECTION 15

### INSTRUCTIONS, PROCEDURES AND DRAWINGS

#### 15.1 General:

Activities affecting quality are controlled by documented instructions, procedures or drawings of types appropriate to the circumstances.

#### 15.2 Quality Activities:

15.2.1 Documented instructions pertinent to safety and quality related items including criteria which form the basis for acceptance, will be prepared in accordance with Document Control Procedures.

15.2.2 Requirements incorporated into HNDC instructions, procedures, or drawings are, where applicable, imposed on vendors and subcontractors to the extent necessary to insure compliance with the contract requirements.

#### 15.3 Document Procedures:

15.3.1 Instructions, procedures, or drawings for safety and quality related activities are described and implemented in the following documents:

a. Procedures

Quality Assurance (QA)

Procurement (Material Control and QA)

Administrative (Management and Engineering)

Design Control (Engineering)

Engineering Document Control (Engineering)

Operations Procedures

Maintenance Procedures

Quality Assurance Manual  
TITLE

HNDC-Q-001  
NUMBER

5  
REV

PAGE 44 OF 51

## POLICIES AND PROCEDURES

### d. Drawings and Specifications

HNDC originated (Engineering)

Vendor and Subcontractor supplied  
(Vendor)

Customer supplied (Client)

### 15.4 Procedure Review:

- 15.4.1 The QA Manager will be responsible for review of procedures affecting HNDC Quality activities. These procedures will be prepared by the responsible Section Managers.
- 15.4.2 The QA Manager will be responsible for insuring that the QA manual and procedures reflect current QA practices. He will prepare or recommend revision of procedures as necessary.

# POLICIES AND PROCEDURES

## SECTION 16

### DOCUMENT CONTROL

#### 16.1 General:

Control of the issuance of documents and changes thereto which affect quality is an integral part of the HNDC Quality Assurance Program.

#### 16.2 Document Control:

16.2.1 Verification of compliance with the document control procedures is the responsibility of the QA Manager. Department Managers will establish the required document control procedures, and the QA Manager will monitor their implementation, and audit the system.

#### 16.3 Document Changes and Revisions:

16.3.1 The same organization and system, as used for the original issue of a quality and safety related document, will be followed for all revisions and changes to such documents.

16.3.2 Review and approval of document changes will be performed by the originator or other equally qualified designated reviewer.

#### 16.4 Controlled Documents:

16.4.1 The Quality Assurance Manual, Manual Addenda, and designated Quality Assurance Procedures are controlled documents.

16.4.2 For safety and quality related items, as a minimum, the following documents are placed in a controlled status:

- (a) Specifications and/or Drawings
- (b) Purchase Orders

# POLICIES AND PROCEDURES

## SECTION 17

### QUALITY ASSURANCE RECORDS

#### 17.1 General:

The objective of maintaining a record retention system is to provide an appropriate and easily retrievable quality history that will be available for each quality or safety related item.

#### 17.2 Quality Records:

- 17.2.1 HNDC will maintain a master file for all quality and safety related products. This file will contain, but is not limited to:
- (1) Drawings.
  - (2) Specifications.
  - (3) Purchase orders.
  - (4) Test and inspection records, Certificates of Compliance, mill certifications and other equipment documentation. Inspection records will include receiving, in-process, assembly, final and packaging and shipping inspections when applicable.
  - (5) Special process procedures.
  - (6) Qualification records for personnel, procedures and special processes.
  - (7) Training records for inspection and test personnel and auditors.

- 17.2.2 The QA Manager is responsible for periodic audits to assure that QA documentation has been processed properly and that specified inputs are part of the historical record.

#### 17.3 Quality Record Files:

- 17.3.1 The Master File of Quality Records consists of the Purchase Order Master File, Quality Assurance Master File, Engineering Master Design File, and Contract File.



## POLICIES AND PROCEDURES

### 17.4 Identifiable and Retrievable:

- 17.4.1 QA/QC records will be filed in a manner that will allow records to be readily identifiable and retrievable.
- 17.4.2 The QA Manager will be responsible for assuring that standards are established including requirements for records and the maintenance of such records.

### 17.5 Retention of Records:

- 17.5.1 Records kept for retention will be maintained for the minimum period of time required by a customer's purchase order or specification, the applicable federal regulation, or for two years, if not otherwise specified.
- 17.5.2 Designated records (e.g., radiographs) may be stored at vendor or subcontractor facilities. Such requirements shall be clearly stated in the purchasing documents and HNDC will exercise final disposition of all such designated records, i.e., take possession of records at time of the shipment to be retained at HNDC.
- 17.5.3 (Transportation Packages)  
Design related records (drawings, calculations, etc.) will be maintained for the life of the shipping package. All other records will be maintained for a minimum of two years.

### 17.6 Protection of Records:

- 17.6.1 Protection and preservation of records as indicated in 17.5.2 will be the responsibility of HNDC.
- 17.6.2 HNDC will maintain a Master File at the Columbia, Maryland headquarters.

# POLICIES AND PROCEDURES

## SECTION 18

### AUDITS

#### 18.1 General:

The audit is a method for determining the effectiveness of the Quality Assurance Program. This will be accomplished by reviewing, in detail, selected areas of performance and comparing the results with objectives outlined in this manual.

#### 18.2 Unscheduled and Planned Audits:

18.2.1 HNDC has a responsibility for the implementation of its QA program. In order to exercise this responsibility and adequately control the program, unscheduled and planned audits will be conducted.

18.2.2 The QA Manager is responsible for planning, scheduling, and conducting these audits.

18.2.3 The preparation of audit plans, reporting the results and infractions and initiating the corrective action is also the responsibility of the QA Manager.

18.2.4 Frequency of internal audits will depend on various factors including the criteria and seriousness of past infractions.

#### 18.3 Audit-Checklists:

18.3.1 Audit plans will consist of selected checklists applicable to the area in which the audit is being conducted.

18.3.2 A general list of attributes from Sections 1-17 are used as a guide in the preparation of audits.

#### 18.4 Audit Teams:

18.4.1 The QA Manager will be responsible for assuring the technical competence of audit personnel. Audit items will be developed using the expertise of personnel from specific disciplines to provide the necessary ability.

## POLICIES AND PROCEDURES

- 18.4.2 Assignment of personnel to audit teams will reflect the realistic independence of the audit personnel in relationship to the personnel, area, or organization being audited.

### 18.5 Audit Findings:

- 18.5.1 Audits will be conducted using formal checklists. Infractions noted will be documented, indicating type and nature of infraction and its relative seriousness.
- 18.5.2 Upon completion of the audit, the audit leader will conduct a critique of the findings to the organization being audited.
- 18.5.3 A formal report will be sent to the appropriate management levels for action and will include the Director of Radwaste Disposal and Support Services, the Director of Marketing and Projects, the Vice-President - Engineering, and the HNDC General Manager.
- 18.5.4 Management of the area audited will, by completing an audit reply form, will advise the QA Manager of the corrective action to be taken indicating a reasonable schedule of when this action can be accomplished.
- 18.5.5 Based on the results of the audit, the review by management and follow-up actions, the QA Department will re-audit the same area to determine compliance with the results of the initial audit findings.

### 18.6 Audit Records and Schedules:

- 18.6.1 The QA Manager will maintain the official record of audits, findings, and actions taken.
- 18.6.2 The QA Manager will schedule, prepare, and maintain audits for engineering, design, procurement, etc.

HITTMAN NUCLEAR & DEVELOPMENT CORPORATION

COLUMBIA MARYLAND 21045

# POLICIES AND PROCEDURES

QUALITY ASSURANCE MANUAL ADDENDUM  
FOR TRANSPORTATION CASKS LICENSED  
UNDER 10CFR PART 71

QUALITY ASSURANCE MANUAL ADDENDUM  
(HNDC-Q-001B)

U.S. Nuclear Regulatory Commission

Docket 71-0024

Copy #5

PREPARED <i>[Signature]</i> Quality Assurance Manager	HNDC-Q-001B	0
APPROVED <i>[Signature]</i> Dir. RW Disposal & Support Serv.	PROCEDURE NUMBER July 11, 1979	REV PAGE <u>1</u> OF <u>5</u>

# POLICIES AND PROCEDURES

## 1.0 Scope

The Quality Assurance Program described in this manual (Procedure HNDC-Q-001) and addendum (Procedure HNDC-Q-001B), applies to the procurement, modification, maintenance, and use of transportation casks, certified by the United States Nuclear Regulatory Commission, for use in accordance with 10CFR Part 71.

## 2.0 Quality Assurance Program

A monthly review of the Quality Assurance Program will be performed by the Director of Radwaste Disposal and Support Services to assess the scope, status, implementation, and effectiveness of the program to assure that it is adequate and complies with 10CFR Part 71 Appendix E criteria.

## 3.0 Design Control

Design Control will be implemented in accordance with written Quality Assurance and/or department procedures to assure that; (1) regulatory and design requirements are correctly translated into specifications, drawings, and procedures; (2) quality standards are specified in the design documents and deviations and changes from these quality standards are controlled; (3) designs are reviewed to assure that design characteristics can be controlled, inspected, and tested; (4) designs are reviewed to assure that inspection and test criteria are identified; (5) when a test program is used to verify the adequacy of a design, a qualification test of a prototype unit under design conditions will be used; and (6) individuals responsible for design verification are other than the original designer and the designer's immediate supervisor.

## 4.0 Instructions, Procedures, and Drawings

Instructions, procedures and drawings will be prepared, reviewed, approved, and controlled in accordance with department procedures which clearly delineate the sequence of actions to be accomplished in each step.

QA Manual Addendum

TITLE

HNDC-Q-001B

NUMBER

0

REV

PAGE 2 OF 5

649 175

# POLICIES AND PROCEDURES

## 5.0 Document Control

Controlled documents, and changes to them, prior to release, will be reviewed, approved, and issued in accordance with written procedures to assure: (1) that they are adequate and that quality requirements are stated; (2) that approved changes are included in these documents prior to implementation of the change; and that (3) required documents are available at the location where the activity will be performed prior to commencing of the work.

Controlled documents are further identified in para. 16.4.2 of the manual.

The current revision number of instructions, procedures, specifications, drawings, and procurement documents will be identified on a master list maintained by the responsible department.

## 6.0 Procurement Document Control

Purchase Requisitions and Request for Quotation packages will be reviewed by the Quality Assurance Manager and the Director of Engineering, or his designee, as provided in procurement document control procedures.

Procurement documents will identify the applicable requirements of 10CFR Part 71 Appendix E which must be complied with and described in a Supplier's Quality Assurance Program.

Also identified will be the documentation to be prepared, maintained, and submitted to the purchaser for review and approval and records to be retained, controlled, and maintained by the supplier and those delivered to HNDC prior to use or installation of the hardware. This documentation may include drawings, specifications, procedures, inspection and fabrication plans, inspection and test records, personnel qualifications, and material test reports or certifications. As a minimum, the furnished records shall include documentation: (1) that identifies the purchased material or equipment and the specific procurement requirements met by the items, and (2) that describes any deviation from the procurement requirements and the disposition of the non-conformance ("Accept As Is" or "Repair").

Procurement documents will specify HNDC's right of access to a supplier's facilities and records for source inspection and audit.

QA Manual Addendum TITLE	HNDC-Q-001B NUMBER	0 REV	PAGE 3 OF 5
-----------------------------	-----------------------	----------	-------------

## POLICIES AND PROCEDURES

### 7.0 Control of Purchased Material, Parts, and Components

The results of supplier evaluations will be documented and filed.

Surveillance at suppliers during fabrication, inspection, testing, and shipment of materials, equipment, and components will be planned. Witness points will be specified in the procurement documents and surveillance at these points will be performed in accordance with written plans/checklists.

The receiving inspection of supplier-furnished material, equipment, and services will be performed to procurement documents in accordance with Quality Assurance Procedures, which require the following: (1) that the material, component, or equipment is properly identified and corresponds with the identification on the purchase documents; (2) that material, components, equipment and acceptance records are inspected and found to be in accordance with the procurement documents and/or inspection plan/checklist; (3) that inspection records and/or certificates of conformance attesting to the acceptance of material and components are available, and that; (4) items accepted and released are identified as to their inspection status prior to their removal from the inspection hold area to a controlled storage area, or releasing them for further work or use.

### 8.0 Inspection, Test, and Operating Status

The use of inspection and welding stamps and status indicators or other means to indicate inspection and test status, if used by, or for HNDC, will be in accordance with written procedures.

These procedures will also address the bypassing of required inspections, tests, and other critical operations so that these actions may be controlled.

### 9.0 Handling, Storage, and Shipping

Prior to the release of a transportation package to a customer for first use or following a repair or modification, the cask will be inspected to assure that

QA Manual Addendum

TITLE

HNDC-Q-001B

NUMBER

0

REV

PAGE 4 OF 5

609 177

## POLICIES AND PROCEDURES

all conditions of the NRC package approval and the U.S. Department of Transportation shipping requirements are satisfied. This inspection will be performed in accordance with an approved inspection plan/checklist and will be documented.

Prior to each shipment of material, the applicable NRC Certificate of Authorization with all referenced drawings and specifications will be supplied to the package user. Following loading of the package, it is the responsibility of the user to verify that the conditions detailed in the Certificate of Authorization, the routine determinations described in 10CFR Part. 71.54, and the U.S. Department of Transportation shipping requirements are satisfied prior to release of the shipment.

HNDC shipment record forms will be supplied to package users prior to the shipment date. This form will be completed by the user, with one copy each, distributed to the burial site, the user, HNDC, and the driver. The shipment form, when completed, documents the package number, shipment origin, shipment destination, a material description, that the results of determinations per 10CFR Part 71.54 are satisfactorily completed, that the requirements of the U.S. Department of Transportation are met, and required survey data information. A copy of the shipment form will be maintained by HNDC for a minimum of two (2) years.

Routing of the package will be delineated on a Work Order Form which will be completed for each shipment. This form will document the package truck and trailer serial numbers. Departure and arrival times will be monitored by the operations department in conjunction with the trucking dispatchers.

QA Manual Addendum

TITLE

HNDC-Q-001B

NUMBER

0

REV

PAGE 5 OF 5