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APPENDIX-E-

QUALITY ASSURANCE CRITERIA FOR

SHIPPING PACKAGES FOR RADIOACTIVE MATERIAL

1- Organization:

The Quality Assurance Manual for the Magnaflux Corporation lists the executive line of authority with names of those responsible for the Quality Assurance Program and Quality Control application.

The quality control managers are free of schedule and cost considerations and are only bound by the criteria listed on the control drawings and specific written inspection instructions where so designated on the subassembly and final assembly drawings.

2- Quality Assurance Program For The MX-IC-100 Camera:

A- The QA Program is outlined in the QA Manual, the QC Manual, and the inspection required per the "Inspection Control MX-IC-100" drawing B-211553. (See Appendix - Item 1-2-3).

B- All materials and components of the MX-IC-100 exposure device must comply to the QA Program and in particular to the safety related items as the lock assembly, the depleted uranium casting and its welded housing.

The QC Inspection Department, under the direction of the QC Manager, has the sole responsibliity of 100% inspection of each finished unit before it is ready to be sold. The finished units as a group have one or more "move" tickets attached with the signature of the inspector. The units are stored in a locked metal cabinet in the stock room.

The sequence of inspections and inspection drawings for the MX-IC-100 are listed on the Inspection Control drawing, B-211553 (App.-3). This drawing lists the inspection reports which must be signed and kept on file for the life of the MX-IC-100 unit.

The five considerations outlined in this section of the CFR, were incorporated in the QA Program by the special notations listed on the various inspection reports. These inspection reports are supplied to the QC Inspection Department with each new production order.

The considerations are:

1- The importance of malfunction or failure of the item to safety is stated in:

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a- Drawing B-211552 - Inspection required for B-211600 Lock - (Appendix-4), line B-10 states: "This lock is used to secure dangerous amounts of radio-active material. Failsafe operation must be assured".

b- Drawing B-212819 - Inspection required for the MX-IC-100 Camera - (Appendix-5), line C-3 states: "If any lock malfunction occurs, reject the unit".

c- Drawing B-211726 - Radiation Inspection; Shield Casting - (Appendix-6) note 5 states: "All castings with I_4 larger than 200 MR/HR must be reworked". (I_4 = present surface radiation corrected for 100 Ci IR 192).

2- The design and fabrication uniqueness were controlled by safety considerations. Compliance to the design as approved by the NRC is assured by specific inspection procedures outlined in the inspection control drawing B-211553 (Appendix-3).

3- Special controls and surveillance of the major safety features of the unit are assured by separate, written inspection instructions which are signed and kept on file by the Inspection Department for the life of the unit. The major safety oriented features are:

a- Adequate radiation shielding (B-211726 Appendix-6).

b- Weld inspection (B-211607 Appendix-7).

4- Functional compliance is assured by written inspection procedures which require the actual operation of each final unit without failure. (B-212819 Appendix-5).

5- The quality history has been excellent with no serious malfunction resulting from design or workmanship. Standardization of all components has been maintained since the original design. Design changes will be made as dictated through experience. Any major design change will be sent to the Washington N.R.C. which evaluated the original design, so their records will be updated.

3- Design Control:

The equipment is designed per standard manufacturing practices, and all designs are reviewed by a mechanical engineer, with radiographic training, and the radiation safety officer for compliance with NRC codes and regulations.

All details, assemblies and inspection lists are formally drawn and kept on permanent file at the company's Chicago address.

All changes of design are reviewed by the above parties, and formal change records are kept.

The verifying process is done by the QA Inspection Department which is independent of the Design and Manufacturing Departments.

Any changes will comply with NRC rules and regulations, and the NRC will be consulted on any major change for possible license revision requirements.

4- Procurement Document Control:

All procurement records are kept on file as standard company policy. The most critical detail, the depleted uranium casting, is recorded by serial number on the inspection report. This report is kept on file for the life of the camera in our Inspection Department.

5- Instructions, Procedures, and Drawings:

Each part is made and inspected per formal drawings to ensure compliance to the original design as approved by the N.R.C. Specific instructions for inspections or procedures are on the required drawings or are referred to by the inspection drawing number.

6- Document Control:

With each new production order, a complete new set of drawings and inspection lists are issued. All changes are reviewed per step 3 above, and changes are formally recorded and kept on permanent file.

7- Control of Purchased Material, Equipment, and Services:

All parts and materials are purchased from permanent company "Purchase-Cards" which contain exact descriptions of the material or part, and space for recording the vendor, date, quantity, and price.

The purchase-card information is typed onto a purchase order form. Copies are kept on company file and also sent to our Incoming Inspection for verification of the incoming parts and material. Any deviations from the purchase card specifications must be cleared with appropriate Engineering personnel.

8- Identification and Control of Materials, Parts, and Components:

Each part of any assembly which is manufactured is drawn and assigned a specific part number and drawing number. All purchased parts are assigned a purchase part number and corresponding purchase-card. All purchased and manufactured parts are stored in a central Stock Room by their part numbers until final assembly. The assembly drawing and/or Bill of Material contain all part numbers required to make the assembly. All parts are traceable by their part numbers for specification verification or detail drawing comparison.

9- Control of Special Processes:

All safety related procedures and inspections are in written form and outlined on Drawing B-211553 - Inspection Control (Appendix-3).

10- Inspection:

All inspections which are required for the MX-IC-100 unit are in written form and outlined on Drawing B-211553 Inspection Control. Specific hold points for inspections before proceeding with work are so specified on the work drawings.

11- Test Control:

All required tests have written instructions, specific written inspetions, or recorded and signed documents which are kept on permanent file as outlined on Drawing B-211553 - Inspection Control. Defective parts must be repaired and reinspected.

12- Control of Measuring and Test Equipment:

The survey meter which is used during the depleted uranium casting radiation test, is calibrated by an outside certified party at three month intervals per 10 CFR 34.24.

13- Handling, Storage, and Shipping:

The depleted uranium casting is a low grade source material and requires special handling, storage and shipping per our source material license.

a- Handling - the castings are handled in a normal manner but notification has been given to all parties who might contact them to wash thier hands before eating or smoking.

b- Storage - The castings are kept in a locked metal storage cabinet within the main stock room. After the completion of the packaging, the units are again stored in the same cabinet.

Production records are kept of the castings entering and leaving and finished MX-IC-100 units entering and leaving.

c- Shipping -

1- Depleted uranium castings: rejected castings are returned to vendor in their original heavy, double-walled boxes. Labeling and shipping papers conform to 49 CFR 173.389 C2, and 173.392, 49 CFR 172.400 LABELING, 172.200 SHIPPING PAPERS and 172.300 MARKING.

2- Finished MX-IC-100 Exposure Devices -

It is company policy to not ship any units with live sources from our plant. Therefore the empty exposure device is shipped in a sturdy carton, wooden box, or metal drum with appropriate labeling (49 CFR 172.400) and shipping papers (49 CFR 172.200.) Depleted Uranium when in the metal housing

of the finished package is exempt from specification packaging, marking, and labeling per 49 CFR 173.391C.

For orders which require loading the MX-IC-100 with a live source, the packaging is sent to a source manufacturer who loads the device and then ships it in a type-"B" drum overpack.

14- Inspections, Test and Operating Status:

The depleted uranium castings are marked with "acc" date and initials if tests indicate acceptance. The casting serial number is also recorded on the radiation test record for verification of acceptability (B-211726 Appendix-6).

The finished packaging run is tagged with a signed "Move Ticket" to indicate acceptance and movement to next operation of storage for eventual sale.

15- Nonconforming Materials, Parts, or Components:

All incoming inspection must verify that the material or part numbers are per ordered description on their copy of the purchase order. The purchase order is copied from the information on the part number purchase cards. The Bill of Material, for a given assembly, specifies all part numbers required to complete the assembly.

Incorrect or defective parts are returned to vendors for correction and must be reinspected when returned.

The only crucial incoming inspection required is for the depleted uranium casting. These inspections are controlled by the written procedures listed in section E-10, Inspection, of this report.

16- Corrective Action:

QC Inspection Department is responsible for the compliance of all parts to their respective drawings. Should excessive and persistent rejections occur, the manager of the QC Department would so report to the President of Manufacturing for corrective action from the executive level.

17- Quality Assurance Records:

Permanent signed records are kept of all changes to drawings and Bills of Material.

Signed inspection reports are ketp for the life of the MX-IC-100 units, per the inspection control drawing (B-211553 Appendix-3).

All records are identifiable by drawing numbers and can be retrieved through use of the Bills of Material which designate part numbers with their respective drawing numbers. The Bills of Material also designate the inspection drawings and the storage location for those records to be filed.

18- AUDITS:

Audits of Product, Records, and Corrective Action are described in the QA Manual (section 7) (Appendix -1).

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APPENDIX

Details referred to but not included with this report may be examined by the Commission during their regional regulatory operations programs.

1- Magnaflux Quality Assurance Manual

2- Magnaflux Quality Control Manual for Equipment

3- (Drawing B-211553) Inspection Control MX-IC-100

4- (Drawing B-211552) Inspection required for B-211600 lock

5- (Drawing B-212819) Inspection required for the MX-IC-100 Camera

6- (Drawing B-211726) Radiation Inspection; Shield Casting

7- (Drawing B-211607) Body weld assembly and inspection report

Issued to: _____, Copy No. 19.

MAGNAFLUX CORPORATION

QUALITY ASSURANCE MANUAL

Approved: [signature] 6/23/75
~~President~~ Date

[signature] 6/23/75.
Quality Assurance Manager Date

TABLE OF CONTENTS

1. INTRODUCTION

1.1 Scope and Purpose

This manual sets forth the general requirements for a Quality Assurance Program for Magnaflux Corporation, which is also in accordance with the stipulations of Federal Regulation 10 CFR 50, Appendix B (Section II); ASME Boiler and Pressure Vessel Code, Section III; and RDT Standard F2-4T, Amendment 1, (Section I).

These requirements are based on proven practices and controls, and are intended to assure that in fact Magnaflux products are produced and evaluated in accordance with those practices and controls.

1.2 Definitions

A. Batch -- Any individual lot of material of the same type produced at one time.

B. Characteristic -- Any property or attribute of an item that is distinct, describable and measurable in relation to the specified quality requirements.

C. Purchaser -- The individual and/or company responsible for the issuance and administration of a purchase order to Magnaflux Corporation for manufactured products, covered by one or more of the standards listed in Section 1.1 or comparable documents.

D. Quality Assurance -- The actions necessary to provide confidence that the ordered products will be produced under those prescribed and controlled conditions and therefore comply with the requirements specified by the purchaser.

E. Quality Verification -- The actions required to confirm that the Quality Assurance activities have been carried out and that the products do conform to the specified requirements of the purchase order.

F. Quality Control -- The Quality Verification actions that measure the characteristics of the material for conformance to predetermined requirements.

1.3 Applicability

This manual shall apply to the production and testing of all Magnaflux manufactured products and is intended to be a basic document that can be supplemented by the specific requirements of a related standard for a specific item.

1.4 Responsibility

It is the responsibility of Magnaflux Corporation to apply the Quality Assurance Program to the products produced against the purchaser's purchase order. It is the responsibility of the purchaser to state explicitly that the product to be supplied is intended for use in a system subject to 10 CFR 50 Appendix B, or other applicable standard.

1.5 Purchaser Actions

The purchaser shall have the privilege of access to any pertinent aspect of the Quality Assurance Program at any time, including any period prior to the execution of the purchase order.

2. QUALITY ASSURANCE - MANAGEMENT AND PLANNING

This section covers the actions required to develop, implement, and maintain a Quality Assurance Program.

2.1 Planning

This manual sets forth and formally documents the basis for the Quality Assurance Program. The manual shall be available to qualified and responsible purchasers. Procedural changes in the Quality Assurance Program shall be reflected in corresponding revisions to this manual.

2.2 Organization

The final responsibility for developing and administering all aspects of this Quality Assurance Program rests with the Magnaflux Corporation President. It is implemented by the Quality Assurance Manager, who is a subordinate of the President. These relationships as well as those of personnel performing quality control and verification functions are depicted in the Organization Chart, page 14.

3. DOCUMENTATION

3.1 Procedures

The Quality Assurance Program incorporates all the standards, procedures and criteria set forth in the Magnaflux Quality Control Manual for Expendable Materials or the Quality Control Manual for Equipment, and the maintenance of adequate separate records. Magnaflux shall permit on-site examination of its Quality Control Manuals by responsible parties, but the manuals in whole or in part may not be removed from Magnaflux facilities.

Specifications covering raw materials and purchased components may be supplied to vendors, as necessary, to assure delivery of acceptable goods.

3.2 Audits, Data and Reviews

Magnaflux shall audit the Quality Assurance Program in accordance with Section 7 of this manual and allow reviews with the purchaser on its performance.

The Quality Control System, as a part of the Quality Assurance Program per Subsection 3.1 of this standard, provides the means for the control of the quality of the product and for the detection and correction of product deficiencies, per Section 7 of this manual.

3.3 Records

Results of all tests and inspections shall be recorded and be readily identifiable, per Subsections 4.7 and 5.6.

4. DESIGN AND DEVELOPMENT

4.1 Scope

This section lists the general developmental activities to be performed as part of the Quality Assurance Program.

4.2 Material Design

The purchaser shall be responsible for all design planning and other designations of inspection material or equipment characteristics, if different from our standard products. Magnaflux shall be responsible for meeting accepted requirements in accordance with the specifications stipulated by the purchaser.

4.3 Design Definition and Control

Magnaflux shall review design or other purchase order criteria for inspection materials or equipment to assure compatibility with the purchaser's requirements.

4.4 Design Reviews

Magnaflux will participate and assist in all proposed and documented reviews in relation to product characteristics whenever deemed necessary by the purchaser.

4.5 Development

As requested, Magnaflux shall establish and impose criteria for evaluating whether a product specified in a purchase order will meet the requirements per Subsection 4.4.

4.6 Failure Reporting and Corrective Action

Magnaflux shall establish and implement procedures for reporting, verifying, analyzing, and correcting failures or deviations in relation to Magnaflux products, per Subsection 6.8 of this standard.

4.7 Quality Records

Magnaflux shall compile and maintain required records and data pertaining to inspection materials or equipment produced for and supplied to the purchaser.

4.8 Quality Audits

Magnaflux shall regularly audit Quality Assurance activities in accordance with the requirements of Section 7 of this standard.

5. PROCUREMENT

5.1 Scope

This section identifies the Quality Assurance Program requirements to be satisfied by Magnaflux in respect to raw material procurement. Implementation procedures for these requirements are detailed in the Quality Control Manuals, including the receiving and inspection activities and controls to be used for acceptance and disposition of purchased raw materials.

5.2 Evaluation and Selection of Procurement Source

5.2.1 General Requirements -- Magnaflux shall select procurement sources primarily on the basis of a demonstrated capability to provide proper materials and components of consistent quality.

5.2.2 Acceptable-Source List -- Magnaflux shall establish and maintain lists of suppliers that have demonstrated their capability to provide acceptable materials and components and shall use such lists in selecting sources for similar materials.

5.3 Calibration and Standardization

5.3.1 Testing Equipment -- Testing equipment used to evaluate quality and uniformity of procured materials shall be calibrated in accordance with Subsection 6.7 of this standard and the Quality Control Manuals.

5.3.2 Standard Solutions -- Reagents must be of standard strength, shall be standardized in accordance with Subsection 6.7 of this standard, and the Quality Control Manual.

5.4 Receiving Inspection

Magnaflux shall establish and implement procedures for receipt, inspection, test, and distribution of items delivered by suppliers, per Subsection 5.1.

Inspection instructions and test procedures shall provide for verification of characteristics in accordance with acceptance criteria. All data generated from inspection and testing of items delivered by suppliers shall be documented.

5.5 Control of Nonconforming Items

Magnaflux shall develop and implement procedures, and describe them in the Quality Control Manuals, to handle purchased items that do not conform to acceptance criteria. The procedures shall provide for prompt identification, documentation, segregation, and disposition of nonconforming purchased items.

5.6 Control of Received Items

Magnaflux shall establish and implement procedures, and describe them in the Quality Control Manuals, to identify, handle and store received materials.

5.7 Quality Audits

Magnaflux shall regularly audit Quality Assurance Functions related to procurement, in accordance with Section 7 of this standard.

6. MATERIAL AND EQUIPMENT PRODUCTION

6.1 Scope

This section includes Quality Assurance requirements to be satisfied by Magnaflux during production. The requirements include production planning; control of materials and processes; inspection or testing of in-process or completed items; preparation for shipping; recording and auditing of activites. The requirements are intended to assure and confirm that the items produced by Magnaflux conform to specification requirements.

6.2 Planning

Magnaflux shall establish and implement those procedures and instructions required to assure that production activities are carried out in accordance with the standard practices set forth in the Quality Control Manuals, and follow any special requirements of the purchaser. Magnaflux's planning activities shall include identification and sequencing of processing functions and their associated inspection and testing activities.

6.3 Inspection and Test Plan

Magnaflux's Quality Assurance Program shall provide for the necessary inspection and test activities related to production operations. The Quality Control Manuals shall contain a narrative description of the sequence of activities for production, inspection and testing of the characteristics to be measured.

6.4 Material Identification and Control

To assure traceability, all materials shall be identified and followed throughout each operation. Identification shall be placed on the actual material containers or components and entered on related records. Controls shall be exercised at all points to assure that only accepted materials are further processed.

6.5 Control of Processes

6.5.1 Production Processes -- Process controls shall encompass those standard practices, methods and procedures established for the manufacture of the item, and documented in the log books, shop orders, engineering drawings, or other records.

6.5.2 Testing Processes -- Examination procedures for inspection materials and equipment shall be controlled to assure that results provide accurate, uniform and reproducible levels of quality. Examinations shall be performed in accordance with standard procedures and specified acceptance criteria, as recorded in the Quality Control Manuals.

6.5.3 Personnel Training & Qualification -- As part of the Quality Assurance Program, Magnaflux personnel who perform the Quality Control tests must be qualified. Original qualification consists of a three-month training regimen, with the Manager of Quality Control, Supervisor of Quality Control or an experienced and qualified QC Technician or Inspector monitoring every test the novice technician performs. Successful completion of the three-month program signifies qualification.

Qualification is maintained by two levels of audits. The Manager and Supervisor of Quality Control perform the first level in their capacity of Supervisors. On a regular basis they must monitor the thoroughness of record-keeping and the care performing tests and compel adherence to the standards set forth in the Quality Control Manuals. Additional auditing shall be performed as per Section 7 of this plan.

6.6 Inspection and Tests

6.6.1 General Requirements -- Throughout the production cycle Magnaflux shall perform or have performed inspections, tests and other verification methods in accordance with procedures set forth in the Quality Control Manuals. Magnaflux shall verify that inspection and test pre-requisites are met, that appropriate instruments and devices are used, that inspections and tests are performed in the proper sequence under suitable environmental conditions and that results are recorded and are traceable to the individual responsible.

Magnaflux shall furnish inspection and test results and related data to the purchaser on request.

These general requirements are detailed in the Quality Control Manuals.

6.6.2 Procedures -- Magnaflux shall prepare procedures and instructions that clearly describe the appropriate inspections and tests for materials, work in process, and completed items as required by specification. In addition, the criteria for acceptance or rejection of product shall be established.

All characteristics required to be reported shall be examined as prescribed by specified procedures and instructions, and the results recorded on documents appropriate to the inspection or test. Instructions and procedures shall be revised and up-dated as required to reflect specification changes.

6.6.3 Certification -- When requested, Magnaflux shall certify in writing that each item conforms to the applicable code, standard specification, or purchase order requirements. Certification shall include reports of the results of all required tests, analyses, inspections, and examinations, and shall be identified with the applicable item by batch number or serial number as applicable.

6.7 Calibration and Standards:

Magnaflux shall undertake the selection, acquisition, calibration, adjustment, maintenance, and control of inspection, measuring and test equipment and reagents necessary to determine conformance of products to applicable requirements.

6.7.1 Equipment Evaluation -- Magnaflux shall evaluate inspection, measuring and test equipment to determine its accuracy and tolerance before it is used, and the results shall be documented.

6.7.2 Control of Inspection Measuring and Test Equipment -- Inspection, measuring and test equipment shall be calibrated at scheduled intervals against certified standards having known and valid relationships to national standards, where such exist. Records shall be maintained that indicate the last calibration date.

The calibration interval for each item shall be based on the type of equipment, required accuracy, use, and other conditions affecting measurement control. Equipment that has not been properly maintained or calibrated in accordance with specified schedules shall be identified and removed from service.

6.7.3 Calibration Standards -- Magnaflux may provide its own services or use those of an approved standards laboratory for the calibration of inspection, measuring and test equipment.

Standards shall be maintained, calibrated, and used in an environment compatible with the required accuracy and operating characteristics of the standards.

6.7.4 Discrepant Equipment -- When discrepancies in inspection and testing equipment are found at calibration, Magnaflux shall determine the required corrective action.

6.7.5 Standard Solutions -- Reagents which must be used at accurately known concentrations shall be standardized before use, and restandardized under conditions set forth in the Quality Control Manual.

6.8 Control of Nonconforming Items:

Magnaflux shall establish, implement, and maintain procedures for control of products that do not conform to applicable purchase order requirements. The procedures shall provide for the prompt detection, recording, verification, technical review, and disposition of nonconforming items.

Magnaflux shall identify and segregate nonconforming items to prevent their unauthorized use or shipment. Hold areas shall be provided for storage of nonconforming items.

Magnaflux shall maintain records of all nonconformances and the corrective actions taken. Acceptance, rejection, rework or retest of nonconforming items shall be accomplished in accordance with documented instructions.

The acceptance or rejection of nonconforming items offered for delivery shall be the prerogative of the purchaser. Unless otherwise specified in the purchase order, delegation of this authority by the purchaser on his own responsibility shall be limited to instances involving minor incidental discrepancies that do not adversely affect product characteristics.

Nonconforming items furnished by suppliers shall be controlled as prescribed in Subsection 5.5.

6.9 Corrective Action:

Quality Assurance functions shall provide for detection of conditions adversely affecting quality, and for corrective action and feedback in accordance with the requirements of Subsection 3.2.

6.10 Handling, Packaging, Storage and Shipping:

6.10.1 Handling -- Magnaflux shall develop and implement handling practices, procedures, and instructions as required by applicable specifications. Special precautions in handling shall be taken when damage due to handling might result.

6.10.2 Packaging and Storage -- Magnaflux shall provide procedures and instructions for packaging (and storage if required) in accordance with specification requirements. Items subject to damage shall be packaged in such a manner, and with such materials, as prescribed by the purchase order to prevent damage. Packaging shall allow for conditions that could reasonably affect quality of the item at Magnaflux, in transit to destination, and at destination.

Items to be stored shall be protected against reasonable risk of damage. Periodic inspections shall be performed to detect damage to stored items, and corrective action taken as required.

6.10.3 Shipping -- Magnaflux shall provide for inspection and control of all items shipped to assure that (1) they have received and satisfactorily passed the required inspections and tests, (2) they have been packaged in accordance with applicable specifications, (3) they and the packaging have been properly identified.

6.11 Quality Records:

In accordance with the requirements of Subsections 3 and 6.6, inspection, test, and other data related to the quality of product shall be collected, processed, analyzed, and distributed to pertinent areas within the Magnaflux organization, to sources of supply when appropriate, and to the purchaser as required by the purchase order or specification.

Examples of records include acceptance test data, inspection and test reports, material certifications, quality audit reports, summaries of nonconformances, and corrective actions.

6.12 Quality Audits:

Magnaflux shall regularly audit Quality Assurance functions related to production operations in accordance with the requirements of Section 7 of this standard.

7. QUALITY ASSURANCE AND VERIFICATION AUDITS

7.1 Scope:

This section covers requirements for auditing and evaluating the Quality Assurance Program established by Magnaflux in accordance with requirements of this standard. The elements comprise: planning and execution of audits and evaluations; assessment of Magnaflux's procedures, activities, and products; reporting of results to management, including recommendations for any required corrective action; follow-up to assure effectiveness of corrective actions.

The requirements of this section shall apply to Magnaflux in performing self-audits or as a guideline to the purchaser or his designated agency in conducting independent audits of Magnaflux's Quality Assurance Program. Surveillance and audit by the purchaser with proper planning is encouraged by Magnaflux.

7.2 Planning:

Magnaflux shall plan audit and evaluation of specific areas, as indicated or required. Check lists may be prepared for each activity or product to be audited, including the quality characteristics to be evaluated.

7.3 Evaluation of Methods:

As part of Quality Verification program, Magnaflux shall evaluate its quality control system by experienced personnel not having direct responsibilities for the control areas to be audited.

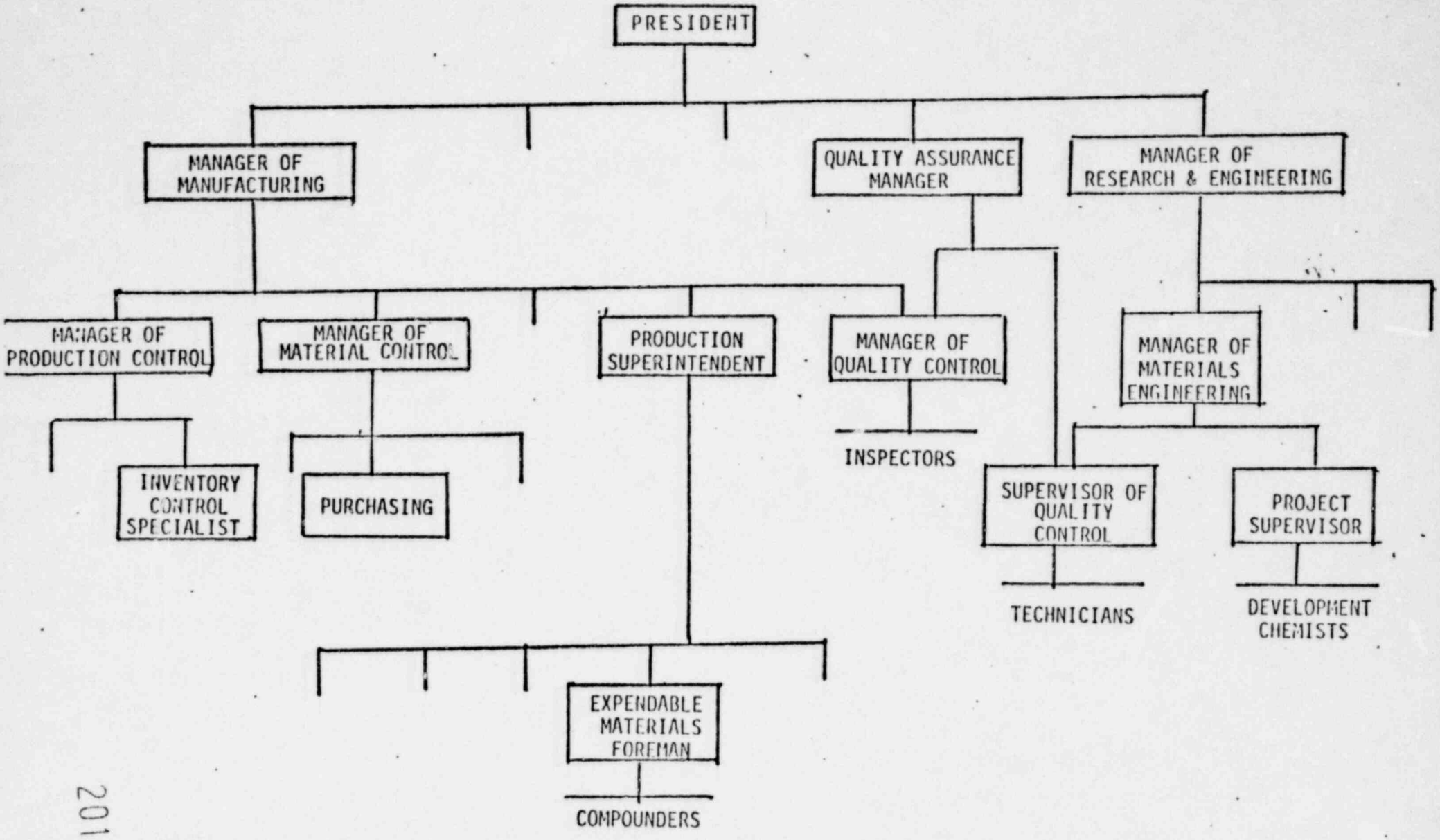
7.3.1 Product Audits -- Magnaflux shall periodically audit inspection areas and shall re-inspect randomly selected products, already inspected, accepted, and identified as accepted. The extent of the re-inspection must be sufficient to provide objective evidence of inspection effectiveness.

7.3.2 Record Audits -- Records of inspections and tests shall be audited by Magnaflux to assure adequacy and availability.

7.3.3 Reporting and Corrective Action -- The results of each audit and evaluation of quality assurance methods and activities conducted by Magnaflux shall be reported to and reviewed by management with recommended summaries of corrective actions if required. Such results may be submitted to the purchaser as required.

Magnaflux Quality Assurance personnel shall take necessary action to assure that any deficiency in Quality Assurance activities is corrected. Deficient areas shall be re-audited as frequently as necessary until the required corrections have been made operable.

ORGANIZATI CHART



Form NRC 618
(12-73)
10 CFR 71

U.S. NUCLEAR REGULATORY COMMISSION

5-11-78

CERTIFICATE OF COMPLIANCE

For Radioactive Materials Packages

1.(a) Certificate Number	1.(b) Revision No.	1.(c) Package Identification No.	1.(d) Pages No.	1.(e) Total No. Pages
9110	0	USA/9110/B( )	1	

2. PREAMBLE

2.(a) This certificate is issued to satisfy Sections 173.393a, 173.394, 173.395, and 173.396 of the Department of Transportation Hazardous Materials Regulations (49 CFR 170-189 and 14 CFR 103) and Sections 146—19—10a and 146—19—100 of the Department of Transportation Dangerous Cargoes Regulations (46 CFR 146—149), as amended.

2.(b) The packaging and contents described in item 5 below, meets the safety standards set forth in Subpart C of Title 10, Code of Federal Regulations, Part 71, "Packaging of Radioactive Materials for Transport and Transportation of Radioactive Material Under Certain Conditions."

2.(c) This certificate does not relieve the consignor from compliance with any requirement of the regulations of the U.S. Department of Transportation or other applicable regulatory agencies, including the government of any country through or into which the package will be transported.

3. This certificate is issued on the basis of a safety analysis report of the package design or application—

3.(a) Prepared by (Name and address):

Magnaflux Corporation
7300 West Lawrence Avenue
Chicago, Illinois 60656

3.(b) Title and identification of report or application:

Magnaflux Corporation Application
Dated February 16, 1978, as supplemented.

3.(c) Docket No. 71-9110

4. CONDITIONS

This certificate is conditional upon the fulfilling of the requirements of Subpart D of 10 CFR 71, as applicable, and the conditions specified in item 5 below.

5. Description of Packaging and Authorized Contents, Model Number, Fissile Class, Other Conditions, and References:

(a) Packaging

(1) Model No.: MX-IC-100

(2) Description

The isotope camera is a uranium-shielded, cylindrical, stainless steel container 6-5/8 inches in diameter and 6-3/4 inches long. The special form source is held in place inside a titanium or zircalloy "S" tube by a stainless steel cable secured with a key-operated locking device on one end. A cable-restrained spacing plug is attached at the other end of the "S" tube. The "S" tube is surrounded with depleted uranium metal as a shielding material. The void space between the uranium and steel shell is filled with polyurethane foam. A carrying handle at the top and a base plate are provided. The gross weight of the container is 49.5 pounds.

(3) Drawings

The packaging is constructed according to Magnaflux Corporation drawing No. C-211626, Rev ion Dated 2-9-78.

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This certificate is issued in accordance with the requirements of the IAEA and USA Regulations and in response to the June 13, 1978 petition by Magnaflux Corporation, Chicago, Il and in consideration of the associated information provided in the U. S. Nuclear Regulatory Commission Certificate No. 9110.

Certified by:

A. W. Grella (DATE) July 21 1978

A. W. Grella
Chief, R&D Management Division
Office of Program Support
Materials Transportation Bureau
U. S. Department of Transportation

[1]"Safety Series No. 6, Regulations for the Safe Transport of Radioactive Materials, 1967 Edition" published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

[2]Title 49, Code of Federal Regulations, Parts 100-199, USA.