Portable Atomic X-Ray Co.

INDUSTRIAL X-RAY

11132 LAKERIDGE RUN • TELEPHONE 691-5229—691-1981 • OKLA. CITY, OKLA. 73170

PRESSURE VESSELS AIRCRAFT PETROLEUM INDUSTRY WELDMENTS—CONSTRUCTION—PIPELINE—FOUNDRIES

ALVIN M. CALAME

October 15, 1981

United States
Nuclear Regulatory Commission, Region IV
611 Ryan Plaza Drive, Suite 1000
Arlington, Texas 78011

SUBJECT: Routine Safety Inspection - NRC By-Product Material License 35-07488-03

NOTE: This response is in accordance with the provisions of section 2.201 of the NRC "Rules of Practice", Part 2, Title 10, Code of Federal Regulations for Notice of Violation, Docket: 30-08776.

CORRECTIVE ACTIONS FOR STATED ITEMS OF NONCOMPLIANCE

1. Pocket dosimeters shall be checked by a procedure to verify that all dosimeters are calibrated to ± 10%. This will be performed with a Ir-192 source and a recently calibrated survey meter.

This procedure will be accomplished on an annual basis (once each year). Posting of the calibration of each dosimeter by serial number shall be recorded for audit.

2. a. Transportation of licensed material outside the confines of our plant or other place of use has been corrected by initiation of a bill of lading describing the hazardous material on the paper, quantities being transported and placed in the glove box compartment of the vehicle.

b. Placards specified in 49CFR 172.556 have been permanently applied to the vehicle.

c. An outside container enclosing a specification package of radioactive material in transport was marked and labeled on the container flap door. This was not realized during the inspection. The container package (box) is labeled and marked properly and has always been since initiation of our operations.

d. Registration of technical operations model 683 exposure devices and technical operations model 750 source changer has been implemented. Copy of letter to the Office of Hazardous Materials Regulation, Materials Transportation Bureau, U.S. Dept. of Transportation, Washington, D.C. is attached.

e. Certification and transportation of special form radiography sources has been received. Records shall be maintained for future audits. Copy of certification is attached.

3. A Quality Assurance Program for shipments of licensed material has been established as of this date. A copy of this QA Program is attached.

In the future, compliance with current and on-going regulations of the NRC will be more closely monitored in order to avoid any noncompliance issues.

DATES OF FULL COMPLIANCE FOR THE NONCOMPLIANCE ITEMS ARE AS FOLLOWS

1. Full compliance shall be achieved by January 1, 1982.

2. a. Full compliance achieved September 10, 1981.

b. Full compliance achieved September 10, 1981.

c. Full compliance was achieved at the time of inspection. The flap on the storage box was in the down or hanging position. It is correctly labeled.

d. Full compliance shall be complied with within a 60-90 day time frame. Letter to Office of Hazardous Material Regulation for registration has been sent.

e. Full compliance achieved October 1, 1981.

3. Full compliance achieved October 9, 1981.

"I CERTIFY THAT ALL INFORMATION CONTAINED IN THIS LETTER, INCLUDING ANY SUPPLEMENTS ATTACHED THERETO, IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF."

Oct. 16, 1981
DATE

Alvin M. Calame
SIGNATURE

Radiation Safety Officer
TITLE

State of Oklahoma)
) SS
County of Oklahoma)

Subscribed and sworn to before me this 16th day of October, 1981.

Notary Public

My commission expires: 11-16-83

ATTACHMENTS:

LETTER - Request Registeration as Certificate Holder and User -
Office of Hazardous Material Regulation.
Copies of certificates enclosed.

LETTER - Request Registeration as User and Shipper of
Radioactive Material - NRC.
Copies of certificates enclosed.

QA Program - Copy Enclosed

Portable Atomic X-Ray Co.

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PRESSURE VESSELS AIRCRAFT PETROLEUM INDUSTRY WELDMENTS—CONSTRUCTION—PIPELINE—FOUNDRIES

ALVIN M. CALAME

October 15, 1981

Office of Hazardous Materials Regulation
Materials Transportation Bureau
U.S. Department of Transportation
Washington, D.C. 20590

Gentlemen:

This refers to certificate user other than technical operations, Burlington, Mass. to register Portable Atomic X-Ray Co., Inc. as a certificate holder and user for certificates, numbers USA/9053/B(U)T, (Revision 0) and USA/9021/B(U)T, (Revision 0).

Copies of certificates attached.

Dated Oct. 15, 1981

Alvin M. Calame

Alvin M. Calame, Radiation Safety Officer
Portable Atomic X-Ray Co., Inc.

DEPARTMENT OF TRANSPORTATION
RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION
WASHINGTON, D.C. 20590

REFER TO:

IAEA CERTIFICATE OF COMPETENT AUTHORITY

Type B Radioactive Material Package Design

Certificate Number USA/9053/B(U)T
(Revision 0)

This establishes that the packaging design described herein, when loaded with the authorized radioactive contents, has been certified by the National Competent Authority of the United States as meeting the regulatory requirements for Type B packaging for radioactive materials as prescribed in IAEA 1/ Regulations and in accordance with §§ 49 CFR 173.393a and 173.384(b)(3) of the USA 2/ Regulations for the transport of radioactive materials.

I. Package Identification - Model No. 683

II. Packaging Description - Packaging authorized by this certificate consists of a radiographic exposure device which is a zircalloy "S" tube with a plug and locking assembly with the tube surrounded by depleted uranium shielding and supported in an 11-gage carbon steel shell by polyurethane potting material. The device is contained in an 18-gage steel drum with a bolted ring closure and rubberized hair filler and has external dimensions of 19.5 inches in diameter by 15 inches in height with a gross of about 89 pounds.

III. Authorized Radioactive Contents - The authorized contents consist of not more than 120 curies of Iridium-192 as sealed sources meeting the requirements of special form (49 CFR 173.389(g)).

Contents must be of a design which has been tested and demonstrated to be leaktight to a sensitivity of 10^{-5} atm-cc/sec or less.

IV. General Conditions -

a. Each user of this certificate must have in his possession a copy of this certificate.

b. Each user of this certificate, other than Tech/Ops, Burlington, Massachusetts shall register his identity in writing to the Office of Hazardous Materials Regulation, Materials Transportation Bureau, U.S. Department of Transportation, Washington, DC 20590.

c. This certificate does not relieve any consignor or carrier from compliance with any requirement of the Government of any country through or into which the package is to be transported.

V. Marking Labels - The package must bear the marking USA/9053/B(U) as well as the other marking and labels prescribed by the USA Regulations.

VI. Expiration Date - This certificate, unless renewed, expires on July 31, 1985.

This certificate is issued in accordance with the requirements of the IAEA and USA Regulations and in response to the June 16, 1980 petition by Tech/Ops, Burlington, Massachusetts and in consideration of the associated information provided in U.S. Nuclear Regulatory Commission Certificate of Compliance No. 9053 (Appendix A) and related correspondence.

Certified by:

August 19, 1980
(Date)

Richard R. Rawl
Chief, Radioactive Materials Branch
Office of Hazardous Materials
Regulation
Materials Transportation Bureau

1/ "Safety Series No. 6, Regulations for the Safe Transport of Radioactive Materials, 1973 Revised edition" published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

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

DEPARTMENT OF TRANSPORTATION
RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION
WASHINGTON, D.C. 20590

REFER TO:

IAEA CERTIFICATE OF COMPETENT AUTHORITY

Type B Radioactive Material Package Design

Certificate Number USA/9021/B(U)T

(Revision 0)

This establishes that the packaging design described herein, when loaded with the authorized radioactive contents, has been certified by the National Competent Authority of the United States as meeting the regulatory requirements for Type B packaging for radioactive materials as prescribed in IAEA[1] Regulations and 49 CFR §§ 173.393b and 173.394(c)(2) of the USA[2] Regulations for the transport of radioactive materials.

I. Package Identification - Model 750.

II. Packaging Description - The packaging authorized by this certificate consists of a steel container with depleted uranium shielding surrounding a titanium U-tube in which the source is positioned. The gross weight of the package is about 70 pounds and the overall dimensions are 17 1/8" by 10" by 8 1/4".

III. Authorized Radioactive Contents - The authorized contents consist of radioactive material as not more than 240 curies of encapsulated iridium-192 which must meet the requirements of special form as set forth in 49 CFR 173.389(g).

IV. General Conditions -

a. Each user of this certificate must have in his possession a copy of this certificate.

b. Each user of this certificate, other than Technical Operations, Inc., Burlington, Massachusetts, shall register his identity in writing to the Office of Hazardous Materials Regulation, U.S. Department of Transportation, Washington, D.C. 20590.

c. This certificate does not relieve any consignor or carrier from compliance with any requirement of the Government of any country through or into which the package is to be transported.

V. Marking and Labeling - The package must also bear the marking USA/9021/B(U) as well as the other marking and labels prescribed by the USA Regulations.

VI. Expiration Date - This certificate, unless renewed, expires on September 30, 1984.

This certificate is issued in accordance with the requirements of the IAEA and USA Regulations and in response to the July 25, 1979, petition by Technical Operations, Inc., Burlington, Massachusetts, and in consideration of the associated information provided in U.S. Nuclear Regulatory Commission Certificate Number 9021 and technical correspondence of September 14, 1979 (Appendix A).

Certified by:

R. R. Rawl October 18, 1979
(Date)

R. R. Rawl
Designated U.S. Competent Authority for the
International Transportation of Radioactive Materials
Office of Hazardous Materials Regulation
Materials Transportation Bureau
U.S. Department of Transportation
Washington, D.C. 20590

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[1] "Safety Series No. 6, Regulations for the Safe Transport of Radioactive Materials", 1973 Revised Edition, published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

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

Portable Atomic X-Ray Co.

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PRESSURE VESSELS AIRCRAFT PETROLEUM INDUSTRY WELDMENTS—CONSTRUCTION—PIPELINE—FOUNDRIES

ALVIN M. CALAME

October 15, 1981

U.S. Nuclear Regulatory Commission
Division of Materials Licensing
Washington, D.C. 20590

Gentlemen:

This request is for registration of Portable Atomic X-Ray Co., Inc. as a user and shipper of radioactive material. Please list Alvin M. Calame for approval. Copies of certificates for technical operations, Burlington, Mass. model 683 and model 750 equipment are attached.

Dated Oct. 15, 1981

Alvin M. Calame

Alvin M. Calame, Radiation Safety Officer
Portable Atomic X-Ray Co., Inc.

DEPARTMENT OF TRANSPORTATION
RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION
WASHINGTON, D.C. 20590

IAEA CERTIFICATE OF COMPETENT AUTHORITY

Special Form Radioactive Material Encapsulation

Certificate Number USA/0154/S
(Revision 2)

This certifies that the encapsulated sources, as described, when loaded with the authorized radioactive contents, have been demonstrated to meet the regulatory requirements for special form radioactive materials as prescribed in IAEA 1/ and USA 2/ regulations for the transport of radioactive materials.

I. Source Description - The source capsules described by this certificate are identified as the Technical Operations, Inc., Models which are described and constructed as follows:

Capsule Model	Approximate Size (in inches, diameter x length)
60001	.25 x .97
60004	.25 x .97
60006 Pellet, Wafer or Large Wafer	.25 x .90
68310 Pellet or Wafer	.25 x .78
60017	.25 x .97
60018	.25 x .97

All capsules are constructed of either 304 or 304L stainless steel and conform with the following design drawings:

Capsule Model	Drawing Number
60001	B60001 - 1 Rev. H and - 2 Rev. F
60004	B60001 - 1 Rev. H and B60004 - 1 Rev. D
60006 Pellet	B60006 - 1 Rev. H and B60001 - 2 Rev. F
60006 Wafer	B60006 - 1 Rev. H and B60004 - 1 Rev. D
60006 Large Wafer	B60006 - 2 and B60001 - 2 Rev. F
68310 Pellet	C68310 Rev. B and B68310-3
68310 Wafer	C68310 Rev. B
60017	B60017 Rev. A
60018	B60018 Rev. A

II. Radioactive Contents - The authorized radioactive contents consist of metallic Iridium-192 with not more than 240 Curies in models 60001, 60004, 60006 Pellet, Wafer and Large Wafer or 120 Curies in models 60017, 60018, 68310 Pellet and Wafer.

III. This certificate, unless renewed, expires December 31, 1984.

This certificate is issued in accordance with paragraph 803 of the IAEA Regulations 1/, and in response to the December 29, 1980, petition by Technical Operations, Inc., Burlington, Massachusetts, and in consideration of the associated information therein.

Certified by:

R. R. Rawl
Chief, Radioactive Materials Branch
Office of Hazardous Materials Regulation
Washington, D.C. 20590

January 26, 1981
(Date)

1/ "Safety Series No. 6, Regulations for the Safe Transport of Radioactive Materials, 1973 Revised Edition", published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

2/ Title 49, Code of Federal Regulations, Parts 170-178, USA.

Revision 1 issued to reference Capsule Model instead of source model number.

Revision 2 issued to include Models 60017 and 60018 and to extend expiration date.

DEPARTMENT OF TRANSPORTATION
RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION
WASHINGTON, D.C. 20590

REFER TO:

IAEA CERTIFICATE OF COMPETENT AUTHORITY

Special Form Radioactive Material Encapsulation

Certificate Number USA/0165/S
(Revision 0)

This certifies that the encapsulated sources, as described, when loaded with the authorized radioactive contents, have been demonstrated to meet the regulatory requirements for special form radioactive material as prescribed in IAEA[1] and USA[2] Regulations for the transport of radioactive materials.

I. Source Description and Radioactive Contents - The sources described by this certificate consist of the following Technical Operations, Inc., models which are welded capsules constructed of either 304 or 304L stainless steel to the listed capsule designs (see Appendix A) and which contain not more than the listed quantities of Cobalt-60 in metallic form:

Model	Capsule Style	Activity (Curies)
A424-2	60011, 60001	22
A424-3	60011, 60001	22
A424-4	60011, 60000	55
A424-5	60011, 60001	6
A424-7	60012, 60002	165
A424-8	60011, 60000	110
A424-10	60011, 60004	6
A424-11	60011, 60004	55
A424-12	60011, 60004	110
A424-13	600 ?, 60002	330
A424-14	60011, 60004	110
A424-15	60011, 60004	11
A424-16	60011, 60000	55
A424-17	60011, 60000	55
A424-18	60011, 60000	33
A424-19	60001, 60004	0.11
A453-1	60011, 60000	110
A453-2	60012, 60002	165
A453-5	60012, 60002	550
A453-6	60013, 60003	1100
A453-7	60011, 60000	110
A453-8	60011, 60000	55
A453-9	60011, 60000	55
A453-10	60011, 60000	55

II. This certificate, unless renewed, expires on September 30, 1982.

This certificate is issued in accordance with paragraph 803 of the IAEA Regulations and in response to the July 26, 1979, petition by Technical Operations, Inc., Burlington, Massachusetts, and in consideration of the associated information therein.

Certified by:

R. R. Rawl

September 17, 1979
(Date)

R. R. Rawl
Designated U.S. Competent Authority for the
International Transportation of Radioactive Materials
Office of Hazardous Materials Regulation
Materials Transportation Bureau
U.S. Department of Transportation

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[1] "Safety Series No. 6, Regulations for the Safe Transport of Radioactive Materials, 1973 Revised Edition" published by the International Atomic Energy Agency (IAEA), Vienna, Austria.

[2] Title 49, Code of Federal Regulations, Part 170-178, USA.

Form NRC 618
(12-73)
10 CFR 71

U.S. NUCLEAR REGULATORY COMMISSION

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
9021	5	USA/9021/B( )	1	3

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):

Technical Operations, Inc.
Northwest Industrial Park
Burlington, Massachusetts 01803

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

Technical Operations, Inc. application dated July 25, 1979.

3.(c) Docket No. 71-9021

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 Number: 750

(2) Description

A portable container which utilizes depleted uranium for shielding. The depleted uranium shielding surrounds a titanium "U" tube which is crimped at the middle of the "U". The tianium source tube is reinforced with a titanium sleeve (2 inches long) located on the upper ends of the "U" tube where the source tube leaves the uranium. The shielding and the "U" tube are encased in a steel bottom housing. The space between the shielding and the bottom steel housing is potted with a polyurethane foam. During transport, the contents are securely positioned in the source tube by the source drive cable locking device. An outer steel top cover is bolted to the bottm steel housing to provide protection to the locking device and containment of the coiled drive cable. Tamper-proof seals are provided on the package. Shipping weight is 70 pounds.

5. (a) Packaging (continued)

(3) Drawings

The packaging is constructed in accordance with the following Technical Operations, Inc. Drawing No. 75090, Sheets 1, 2 and 3 of 3, Revision 0.

(b) Contents

(1) Type and form of material

Iridium-192 as sealed sources which meet the requirements of special form as defined in § 71.4(o) of 10 CFR Part 71.

(2) Maximum quantity of material per package

240 Curies

6. The source shall be secured in the shielded position of the packaging by the source assembly. The source assembly must be fabricated of materials capable of resisting a 1475°F fire environment for one-half hour and maintaining their positioning function. The cable of the source assembly must engage the lock retainer clip. The flexible cable of the source assembly must be of sufficient length and diameter to provide positive positioning of the source at the crimp of the "U" tube.

7. The name plate shall be fabricated of materials capable of resisting the fire test of 10 CFR Part 71 and maintaining their legibility.

8. The package authorized by this certificate is hereby approved for use under the general license provisions of Paragraph 71.12(b) of 10 CFR Part 71.

9. Expiration date: September 30, 1984.

Form NRC-618
(12-73)
10 CFR 71

U.S. NUCLEAR REGULATORY COMMISSION

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
9053	2	USA/9053/B( )	1	2

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 content is 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.

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):

Technical Operations, Inc.
Northwest Industrial Park
Burlington, MA 01803

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

Technical Operations, Inc. application dated June 16, 1980.

3.(c) Docket No. 71-9053

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.: 683

(2) Description

A radiographic exposure device contained within a protective overpack. The overpack is an 18-gage, MS27683 steel drum with a bolted and seal wire clamp closure ring. The drum is filled with molded rubberized hair to maintain a snug fit. Overall dimensions are 19.5" diameter x 15" high. The radiographic exposure device consists of an 11-gage carbon steel shell, depleted uranium shielding, zircalloy "S" tube, polyurethane filler material, source shipping plug and lock assembly. Gross weight of the package is approximately 89 lbs.

(3) Drawings

The packaging is constructed in accordance with the following Technical Operations, Inc. Drawing Nos.: C68302;C68302-1, 3, 4; C68303; B68303-1, Sh. 2; B68302-9, B68307-1; A68307; A68308-1C; A86302-8; A68311; A68309-9.

5. (b) Contents

(1) Type and form of material

Iridium-192 as sealed sources that meet the requirements of special form as defined in §71.4(o) of 10 CFR Part 71.

(2) Maximum quantity of material per package

120 curies

6. Source assemblies for use in this packaging are limited to those assemblies as identified in Technical Operations, Inc. Drawings Nos. A68309, and C68310.

7. Nameplate shall be fabricated of materials capable of resisting the fire test of 10 CFR Part 71 and maintaining their legibility.

8. The packaging authorized by this certificate is hereby approved for use under the general provisions of 10 CFR §71.12(b).

9. Expiration date: July 31, 1985.

REFERENCE

Technical Operations, Inc. application dated June 16, 1980.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Charles E. MacDonald, Chief
Transportation Certification Branch
Division of Fuel Cycle and
Material Safety

Dated: JUL 14 1980

REFERENCE

Technical Operations, Inc. application dated July 25, 1979.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Charles E. MacDonald, Chief
Transportation Certification Branch
Division of Fuel Cycle and
Material Safety

Date: SEP 07 1979

Portable Atomic X-Ray Co.

INDUSTRIAL X-RAY

11132 LAKERIDGE RUN • TELEPHONE 691-5229—691-1981 • OKLA. CITY, OKLA. 73170

PRESSURE VESSELS AIRCRAFT PETROLEUM INDUSTRY WELDMENTS—CONSTRUCTION—PIPELINE—FOUNDRIES

ALVIN M CALAME

NRC License #35-07488-03 October 15, 1981

QUALITY ASSURANCE PROGRAM

1. ORGANIZATION

The final responsibility for the QA Program for Part 71 requirements rests with Portable Atomic X-Ray Co., Inc..

Design and fabrication shall not be conducted under this QA Program. The Radiation Safety Officer is designated the responsible inidvidual for the part 71 quality assurance requirements.

The Radiation Safety Officer is responsible for overall administration of the program, training and certification, document control and auditing.

The Radiographers are responsible for handling, storing, shipping, inspection, test and operating status and record keeping.

2. QUALITY ASSURANCE PROGRAM

The management of Portable Atomic X-Ray Co., Inc., establishes and implements this QA Program. Training, prior to engagement, for all QA functions is required according to written procedures. QA Program revisions will be made according to written procedures with management approval. The QA Program will ensure that all defined QA Procedures, engineering procedures and specific provisions of the package design approval are satisfied. The QA Program will emphasize control of the characteristics of the package which are critical to safety.

The Radiation Safety Officer shall assure that all radioactive material shipping packages are designed and manufactured under a QA program approved by Nuclear Regulatory Commission for all packages designed or fabricated after January 1, 1979. This requirement can be satisfied by receiving a certification to this effect from the manufacturer.

3. DOCUMENT CONTROL

All documents related to a specific shipping package will be controlled through the use of written procedures. All document changes will be performed according to written procedures approved by management.

The Radiation Safety Officer shall ensure that all QA functions are conducted in accordance with the latest applicable changes to these documents.

4. HANDLING, STORAGE AND SHIPPING

Written safety procedures concerning the handling, storage and shipping of packages for certain special form radioactive material will be followed. Shipments will not be made unless all tests, certifications, acceptances and final inspections have been completed. Work instructions will be provided for handling, storage and shipping operations.

Radiography personnel shall perform the critical handling, storage and shipping operations.

5. INSPECTION, TEST AND OPERATING STATUS

Inspection, test and operating status of packages for certain special form radioactive material will be indicated and controlled by written procedures. Status will be indicated by tag, label, marking or log entry. Status of nonconforming parts or packages will be positively maintained by written procedures.

Radiography personnel shall perform the regulatory required inspections and test in accordance with written procedures. The Radiation Safety Officer shall ensure that these functions are performed.

6. QUALITY ASSURANCE RECORDS

Records of package approvals (including references and drawings), procurement, inspections, tests, operating logs, audit results, personnel training and qualifications and records of shipments will be amintained. Descriptions of equipment and written procedures will also be maintained.

a) The records will be maintained in accordance with a written procedure.
b) The records will be identified and retrievable.
c) The Radiation Safety Officer will maintain a list of the records and their storage location.

7. AUDITS

Established schedule of audits of the QA Program will be performed using written check lists. Results of audits will be maintained. Audit reports will be evaluated and deficient areas corrected. The audits will be dependent of the safety significance of the activity being audited, but each activity will be audited at least once a year. Audit reports will be maintained as part of the quality assurance records. Members of the audit team shall have no responsibility in the activity being audited.

Alvin M. Calame

Alvin M. Calame, Radiation Safety Officer
Portable Atomic X-Ray Co., Inc.