

MARYLAND SHIPBUILDING & DRYDOCK COMPANY
P.C. BOX 537, BALTIMORE, MD 21203

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ADMINISTRATIVE, OPERATING AND EMERGENCY INSTRUCTIONS TO
QUALITY CONTROL PERSONNEL
FOR
HANDLING OF IRIIDIUM 192 RADIOISOTOPE

Wilton K. Carter, Jr.
Superintendent of Quality Control

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INTRODUCTION

A. Purpose

The purpose of this document is to establish a controlled method of use and the responsibility for the safe handling of Iridium 192.

B. Scope

This procedure shall apply to the ordering of the radioactive material, the transfer of sources to the radiographic machine and the safe handling of the radioactive sources during the process of radiography and the disposition of shipment.

C. Responsibility

It shall be the responsibility of the Radiographers of the Quality Control Department to adhere to the details of this procedure to assure that radioactive materials handling and shipping are conducted safely.

PART I

ORDERING INSTRUCTIONS FOR IRIIDIUM 192 RADIOISOTOPE

WITH

GAMMA INDUSTRIES MODEL "35" EXPOSURE DEVICE

1. In general, a one year source replacement service contract is to be acquired, if possible.
2. Yearly service contracts are to be based on the replacement of a 30 curie Iridium source four (4) times a year. The maximum number of curies available at any time for radiography will be 36.
3. If ordering is made on the basis of one source at a time, the maximum quantity to be ordered is to be 30 curies. This allows a 20% error in the production of the source ordered.
4. The maximum number of curies available at any one time within plant limits is to be no more than 45.

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OPERATING INSTRUCTIONS FOR

AUTOMATION INDUSTRIES INC.
(Referred to Hereafter as A.I.I.)

SOURCE CHANGER

For Installation of Source into Empty Radiography Machine "S" Tube

1. Be certain to have an operating survey meter on hand.
2. Locate the source changer within 2 feet of the shielded head.
3. Remove plug or source tube from the machine outlet.
4. Connect the short source tube supplied to machine outlet.
5. Connect source position indicator control to machine lock box and extend control so that operator is positioned a full 25 feet from machine.
6. Run control cable through machine and short source tube until disconnect is exposed.
7. Remove the cover cap from source changer, being careful not to pull out the source cable inside.
8. Carefully pull the source cable disconnect out of source changer outlet only enough to allow connection of disconnects.
9. Join disconnects on control cable and source cable.
10. Connect source tube to source changer outlet.
11. Pull source into machine by turning control handle counter-clockwise.
12. After a monitor check has been made with a survey meter, remove short source tube.
13. Replace the cover cap.
14. Remove source number plate from inside of source changer and attach with screws to head of machine.
15. Return short source tube with source changer PREPAID (to A.I.I.).

OPERATING INSTRUCTIONS FOR A.I.I. SOURCE CHANGER

For Installation of Source into Empty Radiography Machine "S" Tube (Cont'd.)

- NOTES:
1. Remove Radiation Warning Labels from source changer box.
 2. On those machines operated with beamer only, use the beam control supplies to insert source.
 3. No new source shall be transferred to the Gamma Industries Model "35" unit until a certificate of leak testing is obtained from the source manufacturer.

OPERATING INSTRUCTIONS FOR A.I.I. SOURCE CHANGER

Instructions for Removal of Spent Source from Radiography Camera and
Installation of Replacement Source

1. Be certain to have an operating survey meter on hand.
2. Locate the source changer within two (2) feet of the camera.
3. Remove plug or source tube from machine outlet.
4. Connect the short source exposure tube supplied to the camera outlet, attach the other end of the exposure tube to the empty tube on the source changer.
5. Connect source position indicator control to camera lock box and extend control so that operator is positioned a full 25 feet from the camera.
6. Quickly crank the spent source out of the camera and into the source changer.
7. Unscrew the coupling connecting the exposure tube and the source changer. Disconnect the source from the drive cable.
8. Replace the brass cover cap on the tube containing the spent source. Remove the spent source name plate from the camera. Close the access port over the spent source, secure the wing nut and seal the part with the lead seal provided. Attach the spent source name plate to the seal wire.
9. Remove the seal on the access port containing the new source. Open the port and remove the brass cover cap.
10. Align the camera and exposure tube with the source changer. Connect the new source to the drive cable.
11. Screw the exposure tube coupling to the source changer.
12. Quickly crank the new source into the camera.
13. Remove exposure tube from camera and changer, replace camera outlet plug, brass cover cap on empty changer tube and close access port.
14. Attach the new source identification plate to the camera.

NOTE: The above operations will be performed in strict accordance with radiation safety procedures. Survey instruments will be on and operating and after the transfer, a thorough check will be made of the exposure tube, source changer and camera to verify that all radiation levels are within safety limits.

OPERATING INSTRUCTIONS FOR A.I.I. SOURCE CHANGER

Instructions for Removal of Spent Source from Radiography Camera and
Installation of Replacement Source (Cont'd.)

15. Records

- A. Record in the Radiography Log Book the survey meter reading of the source shipping container upon receipt with the new source.
- B. Record in the Radiography Log Book the survey meter reading of the source shipping container after the transfer of the spent source has been secured and the new source has been transferred to the camera.
- C. Record in the Radiography Log Book the survey meter reading of the radiographic camera after the new source has been secured.

16. The source changer will be returned to Automation Industries Inc., Route 113 South, Phoenixville, Pennsylvania 19460, using the shipping labels supplied. Source changer will be labeled with appropriate Department of Transportation labels.

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OPERATING AND EMERGENCY INSTRUCTIONS

A. Source Description

- (1) Source - Iridium 192, hermetically sealed in stainless capsule
- (2) Quantity - 10 to 36 curies, depending upon age
- (3) Radiography Machine - Gamma Industries Model "35"
- (4) Accessories - 15' long control cable without position indicator
- 25' long control cable with source position indicator
- 14' long flexible source tube
- 23' long flexible source tube

B. Monitoring and Surveying Instrumentation

- (1) Victoreen Model 592 B, or Ludlum Model 4
- (2) Landsverk Pocket Dosimeter
- (3) Film Badge Service

C. Responsibility for Control of Source Use

- (1) Instructions for industrial radiographic use of the subject source are under the control of the Quality Control Superintendent.
- (2) Direct supervision of the use of the source is limited to the following personnel:

Jeff Cook, Radiographer and Radiation Safety Officer
Gerald Vasas, Radiographer
John Thornton, Radiographer
- (3) Radiation protection responsibility rests with the Radiation Safety Officer.
- (4) For emergency conditions, see Section D

D. Emergency Notification

- (1) In case of emergency, the following people shall be notified immediately (see Section M):

Jeff Cook, Ext. 580
Home Telephone - 255-6749

Gerald Vasas, Ext. 580
Home Telephone - 761-6490

John Thornton, Ext. 580
Home Telephone - 752-3882

E. Instruction to Personnel Radiation Hazards

- (1) Prior to using any industrial radiographic devices, all personnel who are to become directly involved shall be informed of radiation hazards and possible biological effects of radiation. Some of the possible effects of excessive exposure to radiation which will be emphasized are: (a) changes in blood count, (b) reddening of the skin with the appearance of ulcerous sores, (c) falling out of the hair, (d) cancer of the bone marrow, (e) extreme lassitude, etc. Protection against radiation shall also be discussed. All parts of this specification shall be required reading prior to practical applications by those personnel directly involved, as well as MD43D02.

F. Operation of Gamma Industries Model "35" Exposure Device

- (1) Beam Type Exposure - The Gamma Industries Model "35" may be used as a beam type unit either in the field or the laboratory. When used in the laboratory, the unit shall only be operated if the beam direction is vertically downward.
- (2) Open Air Exposure - For open air radiography the Gamma Industries Model "35" is to be operated in locations outside the laboratory only.
- (3) Use of Gamma Industries Model "35" for beam and open air exposures.
 - (a) For beam type exposure, with the source retracted and in locked position.
 1. Have an operating survey meter on hand always and use it.
 2. Remove the protector cap from the lock box thereby exposing the pigtail connector.
 3. Crank the control cable to a length of approximately six inches.
 4. Connect control cable to pigtail.
 5. Crank control cable in so that male connecting thread can be screwed into the lock box.
 6. Screw control cable into lock box.
 7. Remove safety plug from protruding nipple approximately one inch from top of unit.
 8. Connect tungsten collimators, end window or side window.

9. Stretch control cable away from exposure device in as straight a line as possible.
 10. Unlock exposure device.
 11. Crank source out as smoothly as possible. When you feel that source is approaching end of collimator, slow turning speed so that pigtail does not bang into end of collimator.
 12. Survey to see that radiation levels are within limits.
 13. At end of exposure, retract source into exposure device.
 14. Survey carefully to be sure that source has returned to safe position.
 15. Depress plunger lock.
 16. Disconnect control cable.
 17. Screw safety cap into place.
 18. Disconnect collimators.
 19. Insert safety plug.
- (b) For open air type exposures, with the source retracted and in locked position.
1. Have an operating survey meter on hand always and use it.
 2. Remove the protector cap from the lock box thereby exposing the pigtail connector.
 3. Crank the control cable to a length of approximately six inches.
 4. Connect control cable to pigtail.
 5. Crank control cable in so that male connecting thread can be screwed into lock box.
 6. Screw control cable into lock box.
 7. Remove safety plug from protruding nipple approximately one inch from top of unit.
 8. Connect source tube.
 9. Place free end of source tube in desired position trying to keep in a straight line without kinks.
 10. Stretch control cable away from exposure device in as straight a line as possible.

11. Unlock exposure device.
12. Crank source out as smoothly as possible. When you feel that source is approaching end of source tube, slow turning speed so that pigtail does not bang into end of source tube.
13. Survey to see that radiation levels are within limits.
14. At end of exposure, retract source into unit.
15. Survey carefully to be sure that source has returned to safe position.
16. Depress plunger lock.
17. Disconnect control cable.
18. Screw safety cap into place.
19. Disconnect source tube.
20. Insert safety plug.

G. Monitoring, Surveying, Restricted Areas

- (1) Personnel Monitoring Equipment - All personnel, while engaged in radiographic work of any kind are to wear 0-200 mr. pocket dosimeters and film badges. Film badges will be issued monthly. At the end of the periods, film badges will be collected and, with a control badge will be sent to the contracted film badge service company. Dosimeters shall be read at the end of each day during which exposure takes place and exposures recorded in the radiographic log book.

Note: Dosages in excess of those noted in Section M-8 must be reported in accordance with instructions contained in State of Maryland 43D02 - Regulations Governing Radiation Protection Section C.403, to the following address:

Maryland State Department of Health & Mental Hygiene
201 W. Preston Street
Baltimore, Maryland 21201

Phone: 383-2745 Week Days, MD. Department of Health & Mental Hygiene
823-8328 Robert Corcoran, Weekends, Holidays
243-8700 Maryland Department of Health & Mental Hygiene

- (2) Surveying Equipment - At least one operable survey instrument must be maintained in the radiographic laboratory at all times. Each survey meter shall be calibrated once every three months. A record of calibration shall be kept in the radiographic office. Each exposure, or groups of identical exposures, are to be surveyed at the beginning of each exposure period to determine the necessary restricted areas, whether in laboratory or field locations, as specified in Section H.

Each radiation survey shall be charted and recorded in the radiographic log book.

At the end of each exposure, a survey shall be made to insure that the source has been returned to the source container.

- (3) Restricted Areas - On the door of each entrance to the radiographic laboratory there shall be painted State of Maryland approved signs reading "Caution - Radiation Area" (See Section C-203). In the radiographic room in the laboratory is to be posted a "High Radiation Area" sign. For beam or open air radiography in laboratory or field locations, all areas with radiation levels exceeding those specified in Section H shall be roped off and posted with approved radiation warning signs as noted above. No personnel are to enter these areas during an exposure. Adequate radiographic or Safety Department personnel are to be present during exposures to insure that unauthorized personnel do not enter the restricted areas.

The laboratory shall be locked at all times and an audible alarm system shall remain in operation in case the doors to the radiographic room are opened.

H. Acceptable Radiation Levels and Dosages

- (1) Maximum permissible dosage rate for radiographic personnel - 100 mr/week or 5000 mr/year, whichever is smaller.
- (2) Maximum restricted area boundary radiation level - 2 mr/hour.

I. Storage of Iridium 192 Source

- (1) The Iridium 192 source shall always be stored in the Gamma Industries Model "35" exposure device.
- (2) After the series of exposures the source shall be locked in the exposure device and a radiation survey shall be conducted to insure that the source is in its shielded condition. A record shall be kept of this survey in the radiographic log book.
- (3) The exposure device, less the skid mount, shall be stored in the concrete vault in the radiographic laboratory when not in use.

J. Transportation of Iridium 192 Source and Exposure Device

- (1) Transportation to and from field locations may be made provided precautions are taken to limit the possible exposure of nearby personnel to a maximum dosage rate of 2 mr/hour.
- (2) Transportation to and from field locations is to be made by placing the locked source container in the center of a 2-1/2 foot square box, also locked, the large box to be clearly identified with approved radiation warning sign reading "Caution - Radioactive Material."
- (3) The locked and clearly labeled source container may be transported to and from field locations without the larger 2-1/2 foot square box providing (a) the area of the vehicle in which the source container is being transported is locked, (b) the source container is at least 2-1/2 feet away from any personnel, (c) the vehicle itself is clearly identified with an approved radiation warning sign reading "Caution - Radioactive Material".
- (4) If the locked source container within the locked 2-1/2 foot square box is not in a locked area of the vehicle used for transportation, the box must be chained, bolted or held on the floor of vehicle with welding clips to prevent unauthorized movement.

K. Labeling the Exposure Device

- (1) The exposure device shall be permanently and plainly labeled with an approved radiation warning sign reading "Caution - Radioactive Material".

L. Removal and Exchange of Sealed Source in Exposure Devices

- (1) See instructions, pages 4 and 5.

M. Emergency Procedures

- (1) An emergency is considered to exist in the event of (a) fire, (b) inability to fully retract the source and lock the exposure device, (c) a source or source container dropped overboard, (d) road accident, (e) a stolen source, (f) a disconnected exposed source.
- (2) Procedure in event of fire:
 - (a) Notify the Fire Department. Keep clear of personnel all radiation areas exceeding two milliroentgens/hours.
 - (b) Notify personnel in Section D.

- (c) When the fire hazard in the immediate source area is removed, the source shall be replaced in the container and removed from the area by one of the authorized supervisory personnel (Section C).
 - (d) The area and the container shall be surveyed for radiation indicative of a damaged source or container.
 - (e) If a container has been damaged, it shall be wrapped in lead sheet until the radiation level 6 inches from the container is less than fifty milliroentgens. Call Automation Industries Inc., Phone: (215-933-8961)
 - (f) If a source has been damaged, immediately call Automation Industries Inc., Phone: (215-933-8961) for assistance. Keep the contaminated area clear of personnel.
- (3) Procedure in event of inability to fully retract source
- (a) Keep clear of personnel all radiation areas exceeding two mr/hour.
 - (b) Try to straighten any kinks or bends in the source tube.
 - (c) Notify personnel in Section D.
 - (d) Failing all measures for retracting source, notify Automation Industries, Inc., Phone: (215-933-8961)
- (4) Procedure in the event of a source dropped overboard
- (a) Notify personnel in Section D.
 - (b) Note the exact area in which the source was dropped.
 - (c) Keep clear of personnel all radiation areas exceeding two mr/hour.
 - (d) Contact Automation Industries Inc., Phone: (215-933-8961)
- (5) Procedure in the event of road accident:
- (a) Notify the police. Clear of personnel all radiation areas exceeding two mr/hour.
 - (b) Notify the personnel in Section D.
 - (c) Conduct a radiation survey to determine if any damage to the source or container has occurred.
 - (d) If damage has occurred, follow procedure indicated under "Emergency Procedure - 2(e), (f)." If no lead is available for wrapping the damaged container, bury the container until lead sheet is available, after which the container may be transported, or until a replacement container can be obtained.

- (6) Procedure in the event of a stolen source
 - (a) Notify the Yard Safety Department.
 - (b) Notify personnel in Section D.
 - (c) Conduct a radiation survey of each person and/or vehicle leaving the company premises.
 - (d) At the same time begin broadcasting over the public address system the source description, dangers, etc., to warn personnel.
 - (e) Begin search of possible hiding places.
 - (f) Immediately notify the Office noted in Section G.
- (7) Procedures in the event of a disconnected exposed source
 - (a) Keep clear of personnel all radiation areas exceeding two mr/hour.
 - (b) Notify one of the personnel in sub-section C.
 - (c) Personnel in sub-section C are to move the source container near the dropped source, keeping physically as far as possible from the source.
 - (d) Picking up the source by the cable leader, it is to be inserted and locked in the source container in preferably 5 seconds or less.
- (8) Procedure for notification to the State of Maryland for radiation over-exposure.
 - (a) Any incident which results in an individual being exposed to 5 Roentgen or more shall be reported to the State of Maryland (see Section G) within twenty-four hours.
 - (b) Any incident which results in an individual being exposed to 25 Roentgen or more shall be reported to the State of Maryland (see Section G) immediately.

N. Records

- (1) A current record shall be kept in the radiographic log book by the individual radiographer of the following items:
 - (a) Identity of the radiographer to whom the source is assigned.
 - (b) Date of use.
 - (c) Location or site of use.
 - (d) Confirmation of securement of source in container at end of work period.
 - (e) Daily radiation exposure as indicated by pocket dosimeter.

- (f) Radiation survey details in the area of radiography for each exposure or, if identical in area, each series of exposures.
- (2) The Radiation Safety Officer shall record film badge results as they are procured and keep "Current Occupational External Radiation Exposure" forms up to date.

PART II

INSPECTION AND MAINTENANCE PROGRAM FOR RADIOGRAPHY EQUIPMENT

A. Purpose

To establish a procedure for conducting a designated, periodic inspection of the radiographic equipment, to evaluate extent of wear and necessity for replacement of parts.

B. Scope

This procedure is applicable to the maintenance of one (1) Iridium 192 Radiography machine, Model "35" manufactured by Gemma Industries, Inc.

C. Responsibility of Inspection

Personnel qualified to perform required inspection are as outlined in Part I, Section C.

D. The Performance of Inspection

Operational inspection checks shall be made daily, when equipment is in use, to ascertain the proper free working of the following:

(1) Source Lock

The source lock key shall be inserted into the key slot. Key must enter freely and turn one-half turn to allow piston to rise and release source cable. The use of graphite may be used to lubricate the lock assembly. Non-conformance of the operating lock will be examined by the company Locksmith and necessary repairs undertaken.

Note: Care shall be taken that the source shall not be moved from its shielded position. A survey meter will be used to monitor this operation.

(2) Crank Assembly

(a) When the source cable is fully retracted into the crank assembly, the indicator dial shall be positioned at "0" feet mark. Loosen dial screw and reposition to "0" feet if not in proper position.

(b) Remove the cover cap from the connect-disconnect end and examine threads. Threads shall not be damaged, mashed out of shape or stripped. Damaged thread end will be replaced with a new part, if necessary.

- (c) Inspect source connector on drive cable for wear in hole diameter and straightness. If worn such that there is danger of disconnect, replace drive cable with approved replacement cable.

(3) Open Source Tube

- (a) Remove protector plug from the tube machine connector end and examine. Damaged end will be replaced with a new part, if necessary.
- (b) Inspect entire length of the source tube for areas that may be mashed or crushed. Damaged areas shall be cut off, reusing end fitting on the shortened tube. Repaired coupling may be soldered in the tube if the location of the damaged area allows sufficient clearance from end to make an acceptable connection.

(4) Iridium Camera

Visually examine casing of machine for cracks or fractures in the aluminum shell. Any evidence of camera casing failure shall dictate that the camera be placed in the storage pit. A replacement container shall be ordered and utilized until the proper repairs are made or a new camera is purchased.

Note: Care shall be taken to assure that the source is not moved from its shielded position or that the level of radiation from the damaged camera does not exceed 200 mr from any surface. Survey meter shall be used to monitor this operation.

(5) Source Pigtail

- (a) Inspect Saf-T-Key connector for true elbow, straightness, and excessive wear. If damaged, notify the Radiation Safety Officer.
- (b) If source pigtail has been damaged, the Radiation Safety Officer shall immediately call Automation Industries Inc., Phone: (215-933-8961) for assistance.

E. Non-Routine Inspections

A complete inspection of all the equipment shall be made as described in "D" when the equipment has been exposed to any severe stress. Inspection will be mandatory when subjected to any of the following conditions:

- (1) Equipment dropped during lifting by crane or falling from any work areas.

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- (2) Equipment transported by a road vehicle involved in an accident.
- (3) Equipment subjected to fire, vandalism, theft or inability to retract source during regular periods of use.

Note: Any incident requiring "non-routine" inspection shall follow Emergency Procedures outlined in Section M.

F. Periodic Inspection

A preventative maintenance inspection shall be conducted on all of the associated radiography equipment by disassembly, cleaning and inspection of all parts essential to safe operation. This inspection shall be conducted at an interval not to exceed one (1) year and will be as follows:

(1) Crank Assembly and Source Drive Cable

The crank assembly shall be disassembled, cleaned and inspected for wear. The source cable drive gear shall be visually inspected for damaged or missing gear teeth. A dye penetrant test shall be performed on the drive gear for determining the existence of cracks. Examine all threaded and quick connect-disconnects in accordance with Section D (2) (b). Worn or damaged parts will be replaced with new parts.

The source drive cable shall be examined for wear. A dye penetrant test shall be performed to detect for fractures.

(2) Open Source Tube

Visually inspect the entire tube as outlined in Section D (3).

(3) Iridium Camera

Inspect the entire aluminum casing using the dye penetrant method for determining the existence of cracks. Examine all fasteners, e.g., screws, trunion threads and protective caps for condition and tightness.

G. Records

- (1) A current record shall be kept on Form I.M.P. 1 (Enclosure) by the Radiographer performing the inspection, including following items:
 - (a) Operation of the source lock assembly
 - (b) Condition of the cranking assembly
 - (c) Condition of the source drive cable

(d) Condition of the Iridium camera

(e) Condition of the open source tube

H. Management Inspection

- (1) A periodic inspection of the equipment by the Manager of Quality Control or his designated representative, shall be conducted in company with the persons as listed in Section C, Part I, to determine the extent of deterioration and if the operation of the camera has been affected by wear, corrosion or physical abuse. Inspection shall be made as outlined in Sections D, E, F, and G of Part II at intervals not to exceed three (3) months.
- (2) A record of periodic Management inspection shall be kept on Form I.M.P. 2 (Enclosure 2).

PART III

QUALITY ASSURANCE INSTRUCTIONS FOR HANDLING AND SHIPPING
OF IRIIDIUM 192 RADIOISOTOPE

A. Purpose

The purpose of this procedure is to establish an inspection system that will assure that the shipment of radioactive materials is conducted in a safe condition.

B. Scope

This procedure shall apply to the shipment of a partially depleted source of Iridium 192 back to the supplier upon the receipt of a full strength source as required by purchase order contract.

C. Reference

- (1) State of Maryland Radioactive Material License MD. 07-023-01
- (2) Source Supplier - Automation Industries Inc. Sperry Division, Rt. 113 South, Phoenixville, Pennsylvania 19460
- (3) Part I and II

D. Procedure

- (1) Upon receipt of an approved D.O.T. 55 shipping container from our supplier (Ref. C.2.) containing a new source, a visual inspection shall be conducted to verify the outer container condition for visible damage.
- (2) Evidence of container damage shall be reported to the carrier and to the supplier.
- (3) Repairs, when required, shall be performed under the direction of the supplier of the shipping container (Ref. C.2.).
- (4) The transfer of radioactive materials between the shipping container and the radiographic camera shall be conducted as described in Part I and Part II of this procedure.
- (5) The responsible radiographer, after transfer and securing the shipping container, shall apply the appropriate Department of Transportation labels. The labels shall denote the type material enclosed and the curie strength. The shipping container shall have its securing devices installed in their proper locations and the wire-lead seals attached to prevent unauthorized entry into the container.

- (6) The secured and labeled shipping container shall be delivered to the shipping department by the radiographer with the required shipping request form (Enclosure No. 3) instructing that the container be returned to the supplier (Ref. C.2.).

A copy of the shipping request shall be returned to the Quality Control office for record and maintained by the radiation safety officer.

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MARYLAND SHIPBUILDING & DRYDOCK COMPANY

BALTIMORE, MARYLAND 21203

MATERIAL SHIPMENT/RETURN REQUEST

Purchase Order No. 345987

Date May 5, 1979

Account & Item No. 14930 Item 99

Vessel's Name _____

Vendor _____

Please arrange to: SHIP RETURN Collect Prepaid

via: Motor Freight Parcel Post Our Truck
 Vendor's Truck Air Freight Other _____

the following material to: Automation Industries Inc.
Route 113 South
Phoenixville, Penna. 19460

P.O. ITEM	QUANTITY	DESCRIPTION OF MATERIAL
1	1	A.I.I. shipping container Ser. No. S-226 containing one (1) Iridium 192 source Ser. No. 12115 at 12 curies.
SAMPLE		

Material is now located at Shipping Dept. Approx. Weight 160 lbs.

Shipment to be: Delivered Shipped On May 5, 1979

Reason or Remarks:

- Overshipment Defective Material Incorrect Material
- To Be Repaired Sample Material Replacement Required
- Other Return of depleted source

Signature Jefferson Cook
 Department Quality Control

Distribution:

- Original - Receiving Dept. -White
- Copy - Purchasing File -Canary
- Copy - Financial Dept. (2) -Pink-Goldenrod

Enclosure No. 3

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