



THE AMERICAN SHIP BUILDING COMPANY

HEADQUARTERS: 400 COLORADO AVENUE • LORAIN, OHIO 44052  
216/288-1234 • TELEX 980-335 • CABLE ADDRESS: 'AMERSHIP'

THE AMERICAN SHIP BUILDING COMPANY

AMSHIP DIVISION

400 COLORADO AVENUE  
LORAIN, OHIO 44052  
PHONE (216) 288-1234

NCR BY-PRODUCT MATERIALS LICENSE NO. 34-11422-01

QUALITY ASSURANCE PROGRAM

COVERING

ORGANIZATION, QUALITY ASSURANCE PROGRAM, DOCUMENT  
CONTROL, HANDLING STORAGE AND SHIPPING, INSPECTION  
TEST AND OPERATING STATUS, QUALITY ASSURANCE RECORDS,  
AUDITS OF RADIOACTIVE MATERIAL.

(10 CFR PART 71)

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TOLEDO YARD • 2245 FRONT STREET • TOLEDO, OHIO 43605 • 419/691-2475  
CHICAGO YARD • 101ST STREET & CALUMET RIVER • CHICAGO, ILLINOIS 60617 • 312/734-2000



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QA Program (10-CFR-71)

THE AMERICAN SHIP BUILDING COMPANY

AMSHIP DIVISION

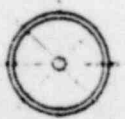
LORAIN, OHIO 44052

REV #	COMMENTS	DATE	APPROVED

PREPARED BY: John R. Martin  
John R. Martin, R.S.O.

DATE 8/15/79

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QA Program (10-CFR-71)

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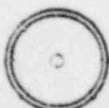
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QA Program (10-CFR-71)

### 1.0 ORGANIZATION

#### 1.1 GENERAL

The final responsibility for administering this QA Program rests with the Management of The American Ship Building Company, Lorain, Ohio. The QA Program will be implemented by using the Organization Chart in Appendix "A".

#### 1.2 RESPONSIBILITIES

- (A) The Radiation Safety Officer (RSO) will have the primary responsibility for implementing this program. He will assure that the procedures required by this Manual are prepared, distributed, and administered accordingly. He will monitor implementation of this program as part of the radiation safety audits.
- (B) The responsible Management (President, Vice President Administration, Safety Director, and the Radiation Safety Officer) will have direct control of all organization, quality assurance program, document control, handling storage and shipping, inspection, test and operating status, quality assurance records, and audits.
- (C) The responsible Management will direct and delegate those duties which are incident to the day-to-day functions which sustain the continued operations of this facility. These functions will be accomplished only by individuals who have been trained in Radiation Safety and/or are radiation oriented. The responsible Management has the responsibility and authority to stop all unsatisfactory work.

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(D) (History and Comments) The radiography group at this facility consists of a small group of three (3) individuals: one (1) Radiation Safety Officer, thirteen years experience and two (2) Radiographers, one with three years experience and one with two years experience. We have an excellent working team. We know our job, have excellent communications, and function as a very efficient group.

2.0 QUALITY ASSURANCE PROGRAM

- 2.1 The American Ship Building Company establishes and implements the Quality Assurance Program in training, revisions, and control of the characteristics of the program which is critical to safety.
- 2.2 The Radiation Safety Officer shall assure that all radioactive material shipping packages are designed and manufactured under a quality assurance program approved by the Nuclear Regulatory Commission.

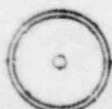
3.0 DOCUMENT CONTROL

- 3.1 The Radiation Safety Officer will insure that all documents are controlled through the use of written procedures approved by Management.

4.0 HANDLING STORAGE AND SHIPPING

- 4.1 The Radiation Safety Officer and the radiography personnel will perform the critical handling, storage and shipping operations of all radioactive material following written safety procedures, tests, certification, and acceptance and final inspection. Appendix "B" and "C".

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5.0 INSPECTION, TEST AND OPERATING STATUS

- 5.1 Radiography personnel shall perform the regulatory required inspections and tests in accordance with written procedures.
- 5.2 The Radiation Safety Officer will ensure that these functions are preformed.

6.0 QUALITY ASSURANCE RECORDS

- 6.1 The Radiation Safety Officer will maintain all records of procurement, inspections, tests, operating logs, audit results, personnel training and qualifications, and records of shipments.

7.0 AUDITS

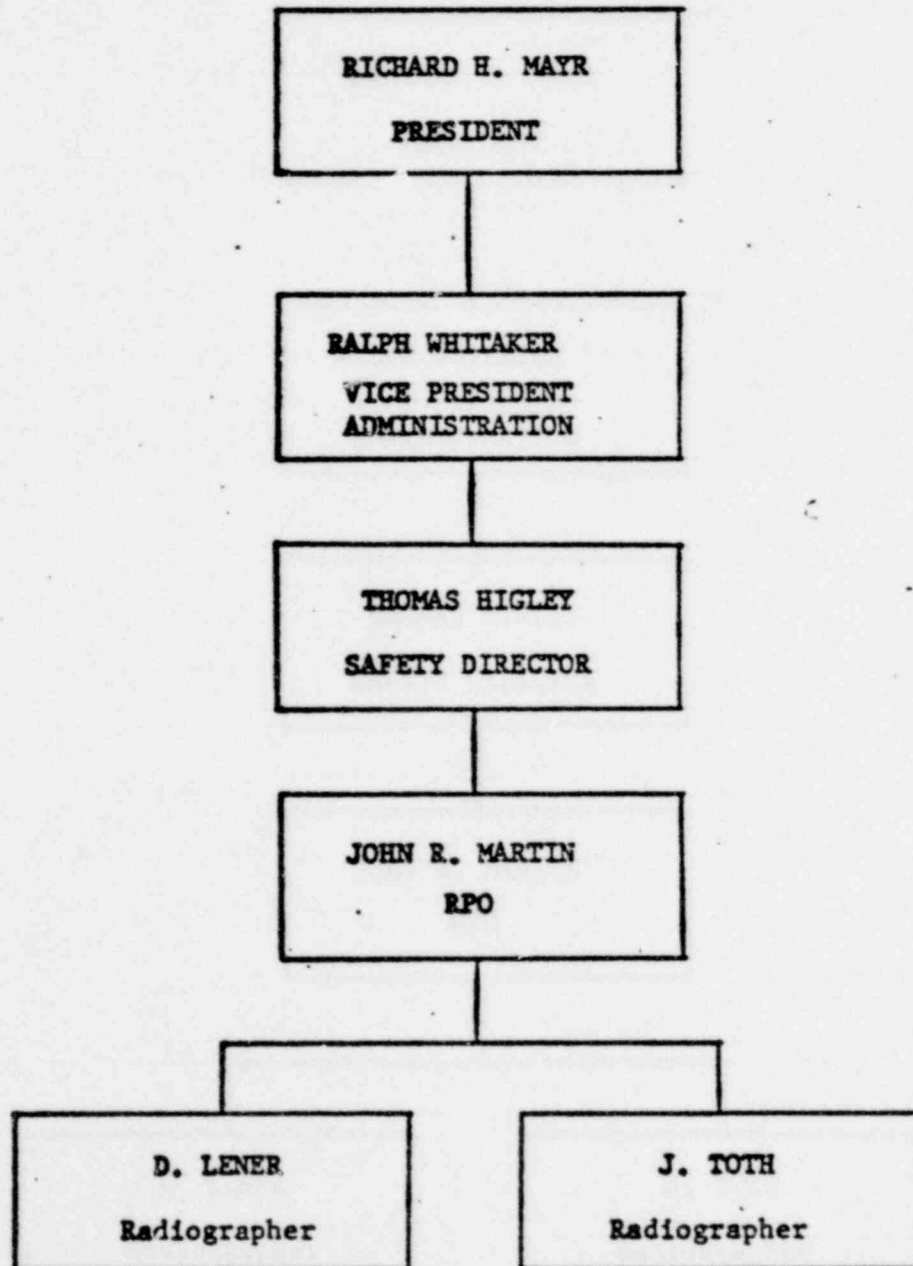
- 7.1 The Radiation Safety Officer will schedule all audits by written check lists. Audit reports will be maintained as part of the quality assurance records.

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AMSHIP DIVISION  
THE AMERICAN SHIP BUILDING COMPANY

ORGANIZATION STRUCTURE



RADIOGRAPHIC UTILIZATION LOG  
THE AMERICAN SHIP BUILDING COMPANY

LORAIN YARD  
(IRIDIUM 100)

JOB NO. CHANGE SOURCE DATE \_\_\_\_\_

LOCATION X-RAY LAB WORK DESCRIPTION CHANGE OLD

BY-PRODUCT MATERIAL IR-192 AND NEW SOURCE

QUANTITY NEW OLD

DOSEMETER READINGS: START FINISH SOURCE SECURED \_\_\_\_\_

\_\_\_\_\_ 0 \_\_\_\_\_ NEW SOURCE  
DOSEMETER READINGS \_\_\_\_\_ ① 6" FROM FRONT  
\_\_\_\_\_ 0 \_\_\_\_\_ OF SAFE

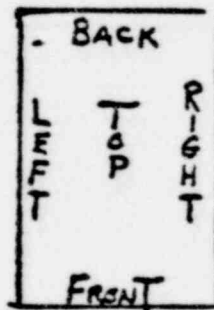
\_\_\_\_\_ " " AT ROPED OFF AREA LESS  
\_\_\_\_\_ THAN \_\_\_\_\_

SKETCH:

RADIATION READINGS ON CONTAINER OF INCOMING RADIOACTIVE SOURCE  
(READINGS TAKEN IN STOREROOM)

SERIAL No. \_\_\_\_\_  
NEW SOURCE \_\_\_\_\_

POOR  
ORIGINAL



READINGS TAKEN AGAINST  
CONTAINER

OUTGOING RADIOACTIVE SOURCE  
(READINGS TAKEN IN X-RAY LAB)

SERIAL No. \_\_\_\_\_  
OLD SOURCE \_\_\_\_\_



READINGS TAKEN AGAINST  
CONTAINER  
965 129

\_\_\_\_\_  
RADIOGRAPHER





**AUTOMATION INDUSTRIES, INC.**  
**SPERRY DIVISION**  
P. O. BOX 245, PHOENIXVILLE, PA., 19460

**OPERATING INSTRUCTIONS**  
**for**  
**AUTOMATION INDUSTRIES' SOURCE CHANGER**

**For removal of decayed source and installation of  
replacement source.**

1. Be certain to have an operating survey meter on hand.
2. Locate the source changer within two feet of the shielded head.
3. Remove plug or source tube from the machine outlet.
4. Remove ROUND PLUG from source changer. Save (new) source number plate.
5. Connect the short source tube supplied to machine outlet and source changer outlet.
6. Connect source position indicator control to machine lock box and extend control so that operator is positioned full 25 feet from machine.
7. Run decayed source into source changer by turning control handle clockwise until source stops in the changer.
8. At this point, the survey meter should be employed to insure that source has been safely located in shielded position.
9. Disconnect short source tube at source changer and disengage disconnects, being careful not to pull out source.
10. Replace ROUND PLUG, securing decayed source in changer.
11. Remove HEX HEAD PLUG from source changer, being careful not to pull out source cable inside.
12. Carefully pull the source cable disconnect only enough to allow joining of disconnects.
13. Join disconnects on control cable and source cable.

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Continued -

OPERATING INSTRUCTIONS for:  
AUTOMATION INDUSTRIES' SOURCE CHANGER

- 14. Connect short source tube to source changer outlet.
- 15. Pull source into machine by turning control handle counterclockwise.
- 16. After a monitor check has been made with a survey meter, remove short source tube.
- 17. Replace HEX HEAD PLUG on empty source changer hole.
- 18. Remove decayed source number plate from plate holder on machine and replace with new source number plate attached to lead seal wire. Attach old source number plate to source changer cap plug by lacing seal wire provided through number plate when sealing returned source.
- 19. Two (2) Lead Seal wires have been furnished with your new source. One (1) is to be used for re-sealing source changer cap plugs and attaching old source number plate, and one (1) for sealing "U" Bolt Lock on changer box.
- 20. Two D.O.T. style shipping labels are included in the envelope. These are to be pasted over the similar labels on the shipping box. The blank spaces should be filled in as follows:

Principal Radioactive Content - spell out: Iridium 192 or Cobalt 60, not IR 192.

Activity of Contents . . . . . Number of curies.

Transportation Index . . . . . By radiation survey - MR/hr. at 3 ft.

- 21. Return the source changer containing short source tube to:

AUTOMATION INDUSTRIES, INC.  
Sperry Division  
Route #113, Kimberton Road  
Phoenixville, Pa. 19460

January, 1973

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