Process Technology North Jersey

Subsidiary of RTI Inc.

108 LAKE DENMARK ROAD, ROCKAWAY, NJ 07866
(201) 625-8400 • FAX: (201) 625-7820

December 4, 1989

Mr. John White
Nuclear Materials Safety Branch
United States Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Re: License No. 29-13613-02

Dear Mr. White:

Process Technology of North Jersey has contracted with Chem-Nuclear Systems, Inc. to remove the remaining sealed sources in the "R&D" pool. The remaining sources will be shipped to Barnwell, SC for disposal by the last week of December 1989 in accordance with license condition 25.B..

In order to ship all of the sealed sources it will be necessary to cut open four of the 54" steel tubes which contain the sealed sources. The Chem-Nuclear systems procedure enclosed outlines the steps that will be taken when these tubes are cut. This procedure should in no way breach the sealed sources themselves. This procedure will only cut the tubes holding the sealed sources. Both stainless steel encapsulations on the sources will remain intact.

Please review the enclosed procedure. If you have any questions or concerns, please contact me as soon as possible. Thank you.

Sincerely,

John D. Schlecht
Radiation Safety Officer

enc/
cc: J. Scandalios, President
P. Shapiro, VP

TEMPORARY WORK INSTRUCTIONS

FOR THE PACKAGING OF PENCIL SOURCES,

LINER DEWATERING AND CASK HANDLING

AT RADIATION TECHNOLOGY INC.

Prepared by: _____
Project Manager Fuel Pool Services

Approved by: _____
General Manager Nuclear Plant Services

Concurrence by: _____
Quality Assurance

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1.0 SCOPE

1.1 Purpose

The purpose of this work instruction is to provide guidelines for the packaging, liner loading, and CNS 1-13G cask handling at Radiation Technology Inc. (RTI) for the disposal of ~30,000 Curies of Co 60 pencil sources.

1.2 Applicability

This work instruction is only applicable to the packaging, liner loading, liner dewatering, and CNS 1-13G Cask handling associated with the disposal of the Co 60 pencil sources at RTI

2.0 REFERENCES

2.1 CNSI Procedure, TR-OP-013 "Handling Procedure for Transport Cask Number 1-13G Certificate of Compliance Number 9216"

2.2 CNSI Procedure, FO-AD-007 "Nuclear Services Equipment Shipping Procedure "

3.0 SYSTEM DESCRIPTION

3.1 The packaging, liner loading, liner dewatering, and cask handling will consist of the following equipment.

3.1.1 RTI Co-60 Source Disposal Container

3.1.2 Dewatering Hoses

3.1.3 Vice grip air grapple with foot pedal

3.1.4 "J" Hooks

3.1.5 Aluminum extension poles

3.1.6 1/4" Nylon Rope

3.1.7 Portable Crane 25 Ton

3.1.8 Tubing Cutter

3.1.9 CNS 1-13G Cask

3.1.10 RO-7 Underwater Survey Meter

4.0 RTI REQUIREMENTS

4.1 Chem Nuclear will require the following support from RTI.

4.1.1 Crane support for CNS 1-13G Cask Handling.

4.1.2 Compressed Air Supply 80 ± 10 PSIG @ 40 SCFM

4.1.3 Health Physics monitoring of operations.

4.1.4 Underwater Lighting

4.1.5 Documentation of sources related to activity and a statement of Special Form

4.1.6 Preparation of shipping manifests in accordance with information indicated in the waste analysis and classification, packaging documentation, and required advanced notifications.

4.1.7 Adequate work space for the operation of Chem-Nuclear equipment, storage of equipment, and the loading/unloading of shipping containers.

5.0 CNSI REQUIREMENTS

5.1 Provide one (1) Supervisor and two (2) Technicians to package the sources and preform CNS 1-13G cask handling operations.

5.2 Provide underwater handling tools to package the sources.

5.3 Provide RO-7 underwater survey meter to dose profile the sources.

5.4 Provide a specially designed source disposal container.

5.5 Provide the CNS 1-13G Cask to transport the sources to Barnwell Waste Management Facility for disposal.

6.0 SAFETY

6.1 The CNSI technicians shall observe all applicable RTI and CNSI safety procedures.

6.2 The CNSI technicians shall wear safety shoes and safety glasses while working in the operating area. Ear protection and hard hats shall be worn in accordance with RTI procedures.

6.3 The CNSI technicians shall adhere to all requirements of the RWP.

6.4 All lifting devices used for handling sources in the pool shall be marked with a visible indication five (5) foot below the water surface.

6.5 All operations shall stop upon loss of pool visibility.

6.6 Personnel working near the pool's edge where the safety rail are removed shall wear a safety line.

7.0 PACKAGING SOURCES

7.1 Equipment Receipt, Set up and Checkout

7.1.1 Prepare a controlled work area around the pool.

A. Install Herculite on the floor around the pool.

7.1.2 Assemble the underwater handling tools.

7.2 RTI lower pool water level 18 inches.

The CNS 1-100 cask will displace ~400 gallons of water when submerged in the pool. To prevent the pool from over flowing, the pool level must be lowered ~ 18 inches.

7.3 Transfer the RTI Co-60 Source Container to the pool.

7.3.1 Remove the lid from the Source Container and retain for installation later.

7.3.2 Connect the dewatering hoses to the quick disconnect fittings on the Source Container.

7.3.3 Using the RTI 5 ton jib crane, attach the slings on the Source Container to the hoist hook.

7.3.4 Raise the Source Container high enough to clear the pool wall.

7.3.5 Trolley the jib crane and the Source Container to the desired position.

7.3.6 Slowly lower the Source Container into the pool, allowing it to fill with water.

7.3.7 Place the Source Container in the desired position on the floor of the pool.

7.3.8 Disconnect the hoist hook from the lifting sling.

7.4 Packaging Source

7.4.1 Using the air operated vise grip grapple, attach the grapple to one Co 60 Source.

7.4.2 Using the RO-7 survey meter, complete a dose profile of the Co-60 Source.

7.4.3 Dose rates will be taken at six (6) inches of water.

7.4.4 Dose rates will be taken every twenty-four (24) inches over the length of the Co 60 source.

7.4.5 Record the dose rates on the dose profile data sheet.

7.4.6 Sources with dose rates >20,000 R/hr. will be packaged in the center HDR section of the disposal container.

7.4.7 Sources with dose rates <20,000 R/hr. will be packaged in the annuls section of the disposal container.

7.4.8 Continue packaging Co-60 sources until all sources are packaged in the disposal container.

7.5 Segment fifty four (54) inch long Co-60 sources

7.5.1 The four (4) remaining Co-60 sources are fifty four (54) inches long and will not fit in the disposal contained and must be segmented to allow packaging.

7.5.2 Each of the 54 inch source is actually a tube containing four (4) thirteen (13)inch pencil sources. The tube will be cut with a tubing cutter leaving the pencil sources intact. The resulting twenty two (22) inch pieces of tubing contain two (2) pencil sources will be dose profiled and packaged in the disposal liner the same as step 7.4

7.5.3 Place the source tube cutter on the bottom of the pool and connect the air supply hose to a air suppy line.

7.5.3 Grapple the source tube with the Vicu-Grip air grapple and insert into the cutter. Move the tube into the clamp and tighten the two (2) set screws with a 3/4" socket

7.5.4 Attach the tubing cutter to the aluminum extension pole and place in the pool

7.5.7 Place the tubing cutter on the source tube and possition at the middle of the tube

7.5.8 Tighten the tubing cutter making contact with the source tube.
Note: Do not over tighten

7.5.9 Slowly turn on the air supply to the cutter until the cutter is rotating slowly.

7.5.10 Gently tighten down on the tubing cutter, adjusting the air suppy as necessary to rotate the source tube.

7.5.11 Continue tightening down on the tubing cutter and adjusting the air supply until the tubing is cut.

7.5.12 Loosen the two (2) 3/4" set screws and remove the cut source tube.

7.5.13 Package the cut source tubes as per step 7.4

7.5.14 After all the cut source tubes have been package in the liner, inspect and dose the bottom of the pool to insure that all sources have been located and properly packaged.

8.0 LINER DEWATERING

8.1 Replace the lid on the disposal liner.

8.1.1 Install the 1/2 inch bolt to the aluminum extension pole.

8.1.2 Thread the 1/2 inch bolt into the bolt welded on the top of the disposal liner lid.

8.1.3 Install the lid on the disposal liner.

8.1.4 Using a 3/4" socket on a extension pole tighten the eight (8) disposal liner bolts until tight.

8.1.5 disconnect the 1/2" bolt for the top of the disposal liner lid.

8.2 Dewater the disposal liner

8.2.1 Connect the dewatering air line to the air supply line.

8.2.2 Secure the end of the dewatering exhaust hose and direct it to discharge back into the pool

8.2.2 Slowly open the valve on the air supply until the Gauge indicates 5 PSIG.

8.2.3 Continue dewatering the disposal container until all of the water has been displaced from the disposal container as indicated by air discharging from the dewatering exhaust hose.

8.2.4 Close the valve on the dewatering exhaust hose and allow the disposal container to pressurize to 5 psig as indicated on the pressure gauge.

8.2.5 observe the lid of the disposal container for and leaks as indicated by escaping air bubbles.

8.2.6 Retighten the 3/4" bolts on the liner lid as necessary to stop any leaks.

8.2.7 When all leaks have been stopped, close the valve the air supply.

8.2.8 Observe the pressure gauge for a pressure drop for a period of five (5) minutes.

A. If no pressure drop is noted proceed to step 8.2.9

B. If a pressure drop is noted, retighten the bolts on the disposal liner lid and repeat the pressure test.

8.2.9 Disconnect the air supply and exhaust hoses from the disposal container.

A. The air supply and exhaust lines on the disposal liner are equipped with quick disconnect fitting that close and seal when disconnected.

9.0 CNS 1-13G Cask Handling

9.1 Receive CNS 1-13G Cask

9.1.1 The CNS 1-13G Cask will arrive at RTI.

9.1.2 A receipt inspection will be preformed on-site by RTI.

9.1.3 Remove he overpack from the CNS 1-13G cask and place on the back of the trailer.

9.1.4 Move the CNS 1-13G cask and trailer to the designated area.

9.2 CNS 1-13G Cask Handling

9.2.1 All cask handling will be completed in accordance with Chem-Nuclear procedure #TR-OP-013 "Handling Procedure for Transport Cask Number 1-13G Certificate of Compliance Number 9216."

10.0 EQUIPMENT PACKAGING

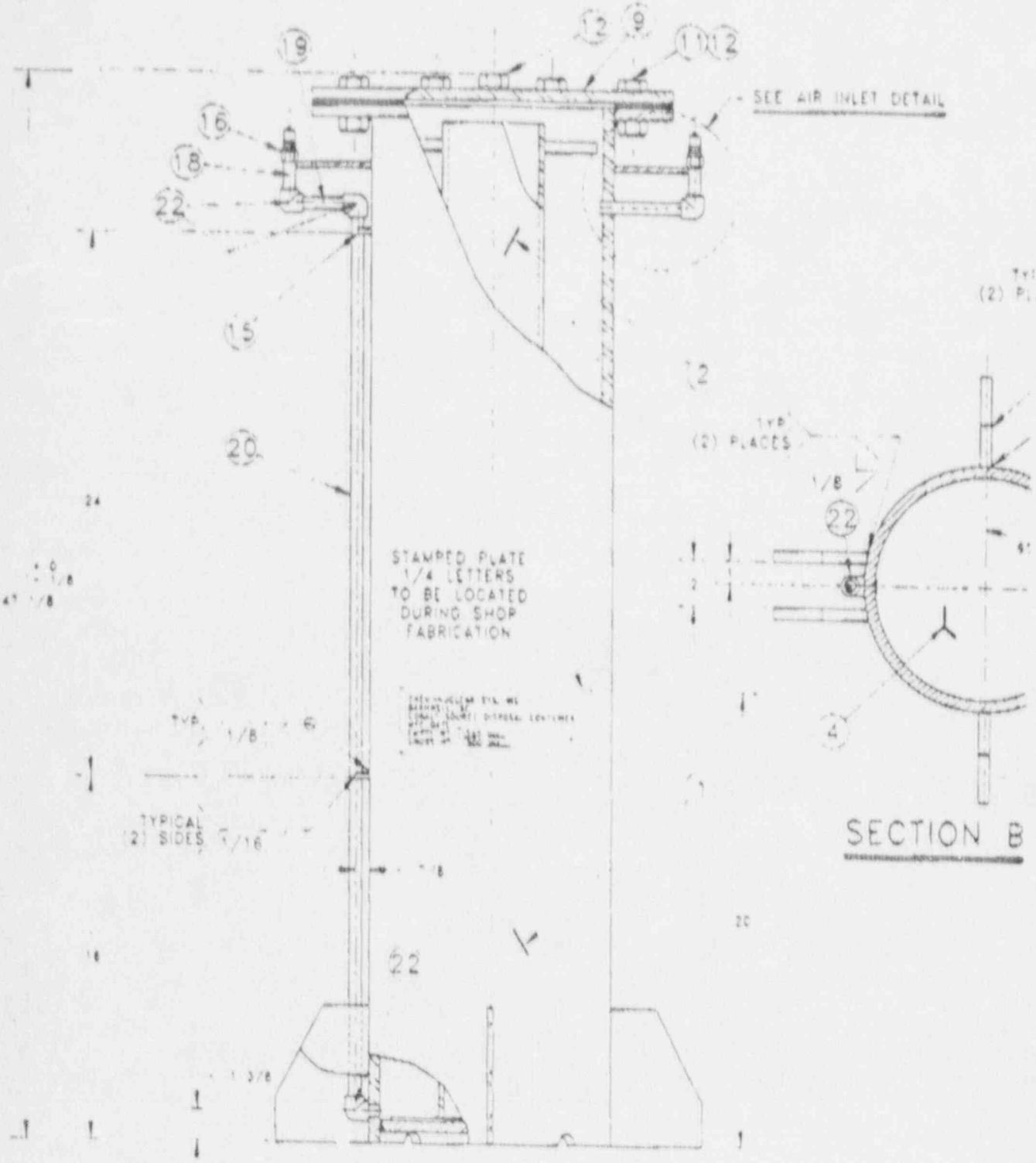
10.1 Package Chem-Nuclear equipment in the Chem-Nuclear supplied LSA container.

10.2 All LSA containers will be packaged and inspected in accordance with Chem-Nuclear procedure #FO-AD-007 "Nuclear Services Equipment Shipping Procedure."

11.0 RECORDS

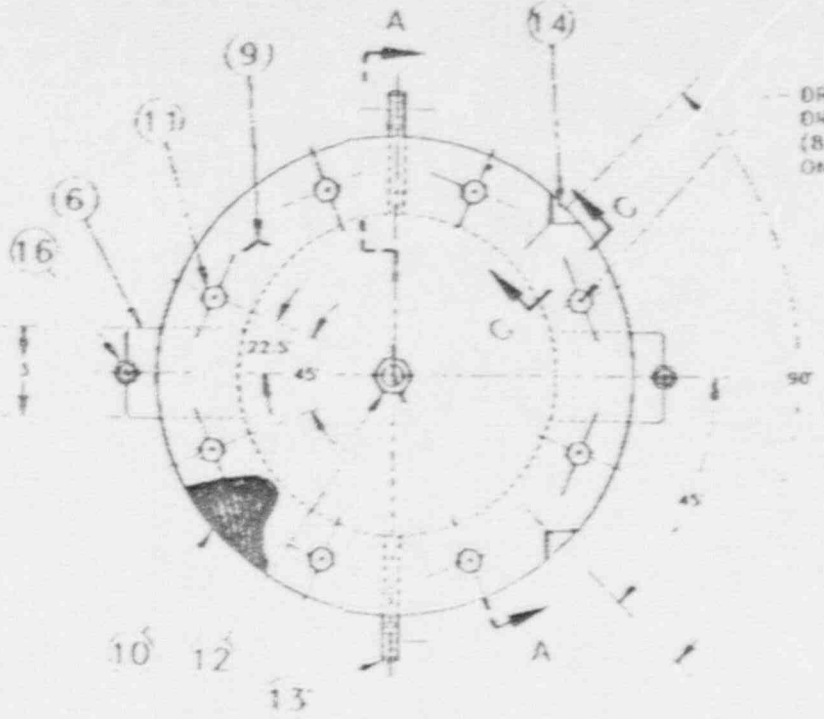
11.1 All daily log sheets, dewatering records, cask handling check-off sheet, etc. shall be forwarded to the Project Manager, Fuel Pool Services, at the completion of the project.

PLAN VIEW



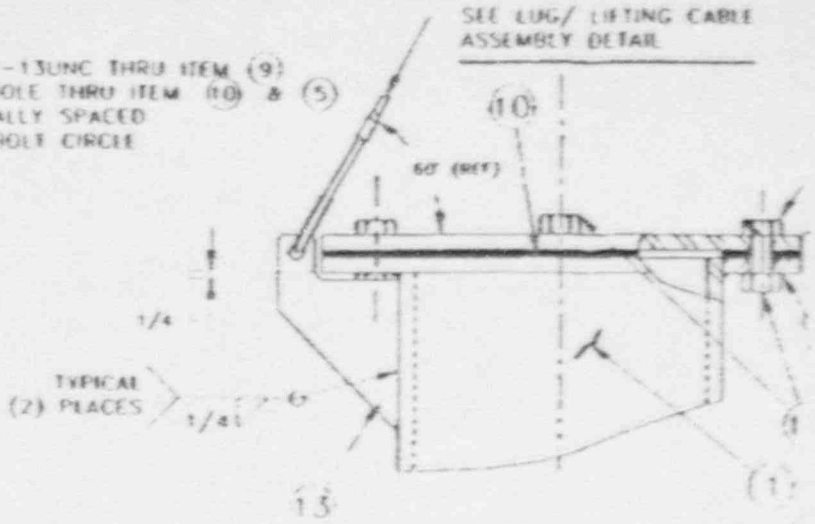
ELEVATION VIEW

SECTION B

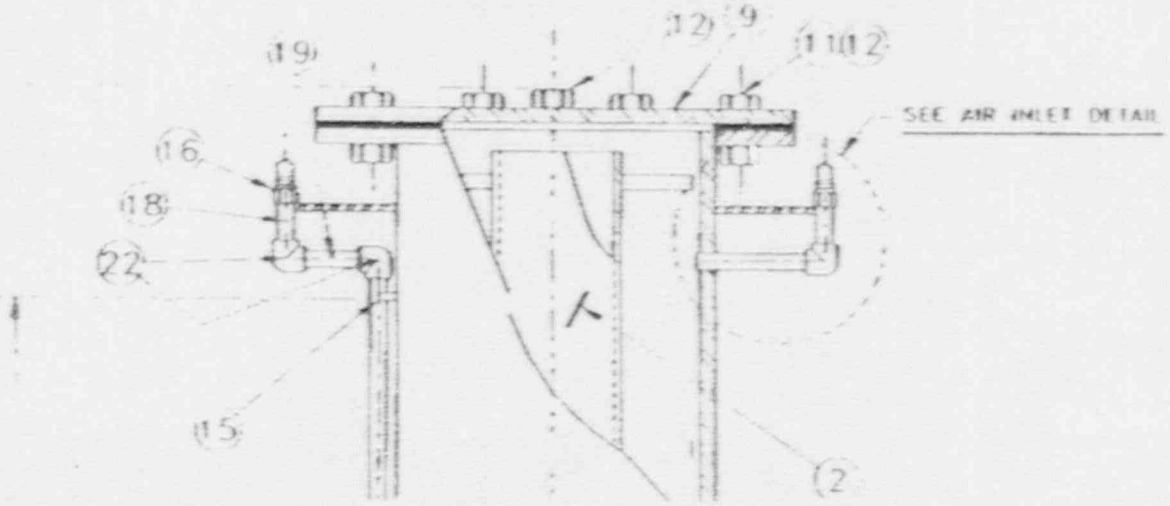


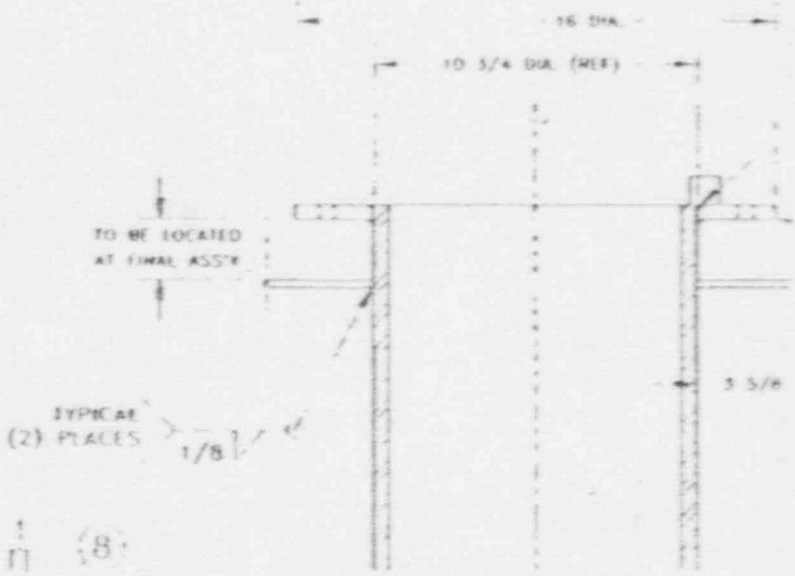
DRILL & TAP 1/2-13UNC THRU ITEM (9)
DRILL 5/8 DIA HOLE THRU ITEM (10) & (5)
(8) PLACES, EQUALLY SPACED
ON 13 3/8 DIA BOLT CIRCLE

PLAN VIEW

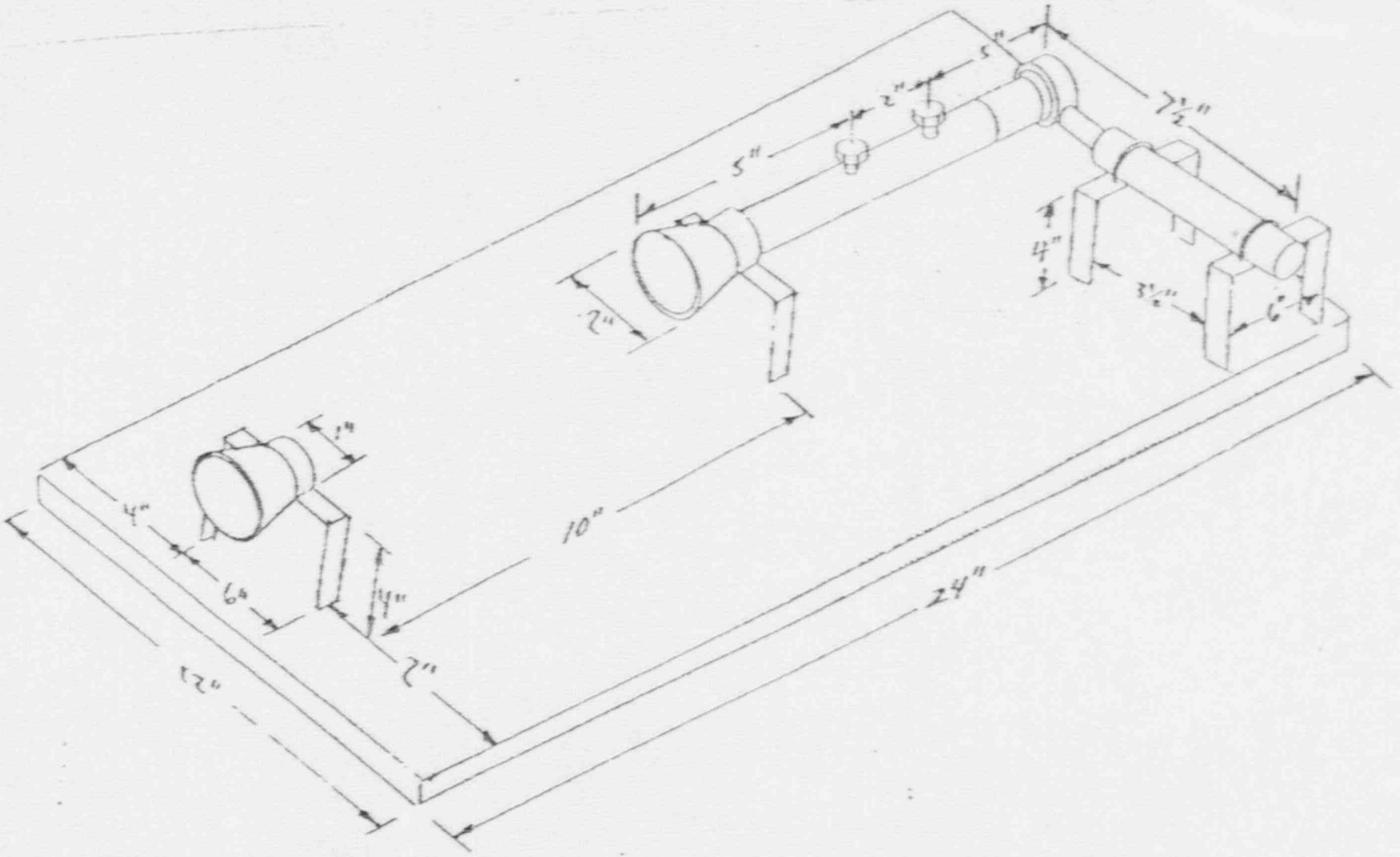


VIEW A – A





SKETCH NO.	PURCHASE ORDER SKETCH	PREPARED BY:
SKETCH TITLE		ENGINEER:
SON FOR SKETCH		QUALITY ASSURANCE:
		APPROVED:



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Subsidiary of RTI Inc.

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(201) 625-8400 • FAX: (201) 625-7820

FAX TRANSMISSION FAX NO. (201) 625-7820

DATE: 2 - 9

FROM: [illegible] Cook

TO: Mr. Muller

LOCATION: U.S.

[illegible] PA

215-337-5269

DOCUMENT: Letter

MESSAGE:

This following message will consist of 1 pages, excluding this cover sheet. If any of the pages should be garbled during transmission, please contact us at once.

B/54

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

NOV 22 1989

Process Technology North Jersey
ATTN: John Schlecht
108 Lake Denmark Road
Rockaway, NJ 07866

REFUND OF APPLICATION FEE

1. BACKGROUND:

Check Received — November 20, 1989

Application Dated — November 6, 1989

Check Number — 309

Check Amount — $240

2. REFUND:

Amount — $10

This refund is now being processed by the Financial Operations Branch and will be sent as soon as possible.

3. REASON FOR REFUND:

Overpayment of amendment fee for application dated November 6, 1989 for License 29-13613-02 as specified in fee Category 3G ($230) of Section 170.31, 10 CFR 170.

NOTE: THE ENCLOSED 10 CFR 170 CONTAINS THE COMMISSION'S CURRENT SCHEDULE OF MATERIALS LICENSE FEES. IF YOU HAVE ANY QUESTIONS CONCERNING THE FEES TO BE SUBMITTED WITH FUTURE APPLICATIONS, PLEASE CONTACT US AT 301-492-4650.

MM 11/22/89

Maurice Messier
License Fee and Debt Collection Branch
Division of Accounting and Finance
Office of the Controller

Enclosure: 10 CFR 170

B/51

$240.00
309

3G 3P $230

S. Kimberly
11-25-59

B/52