

Form NRC-313R
(7-77)
10 CFR 34

U.S. NUCLEAR REGULATORY COMMISSION
APPLICATION FOR BYPRODUCT MATERIAL LICENSE—
USE OF SEALED SOURCES IN RADIOGRAPHY

Approved by GAO
B-180255(R0335)

(SEE ATTACHED FORM NRC-313R INSTRUCTIONS AND NRC REGULATORY GUIDE 10.6—USE SUPPLEMENTAL SHEET WHERE NECESSARY) BE SURE ALL ITEMS ARE COMPLETED AND THAT ALL NECESSARY ATTACHMENTS ARE FURNISHED. IF ANY PORTION OF THE APPLICATION IS NOT APPLICABLE SPECIFICALLY SO STATE. DEFICIENT OR INCOMPLETE APPLICATIONS MAY BE RETURNED WITHOUT CONSIDERATION. LICENSE FEE REQUIRED, SEE ITEM 7 OF INSTRUCTIONS.

1(a) NAME AND ADDRESS OF APPLICANT AND TELEPHONE NUMBER Globe X-Ray 8441 S Union St Tulsa, Ok 74132		2 THIS IS AN APPLICATION FOR: (Check appropriate item) A. <input type="checkbox"/> NEW LICENSE B. <input checked="" type="checkbox"/> AMENDMENT TO LICENSE NO. 35-15194-01 C. <input type="checkbox"/> RENEWAL OF LICENSE NO.	
1(b) TELEPHONE NO. Area Code ()		3. LOCATION(S) WHERE SEALED SOURCES WILL BE USED AND/OR STORED. (If use will be made in states other than named in 1(a), they should be listed here.) Gea Rainey Smithco 5202 W Channel Rd 602 W 41st Port of Catoosa Tulsa, Ok Oklahoma	
1(c) APPLICANT IS: An individual <input type="checkbox"/> A partnership <input type="checkbox"/> A Corporation <input checked="" type="checkbox"/> An Unincorporated Association <input type="checkbox"/> Other <input type="checkbox"/> If applicant is other than an individual, the applicable section on the reverse side must be completed.			

4. SEALED SOURCES TO BE USED IN RADIOGRAPHY (Attach supplementary pages, if necessary)				
BYPRODUCT MATERIAL (Element and Mass No.)	SOURCE MODEL NUMBER	NAME OF MANUFACTURER	MAXIMUM ACTIVITY PER SOURCE	NUMBER OF SOURCES
A.	A.	A.	A.	A.
B. IRD 192	B. 68309	B. Tech/Op	B. 100 curies	B. One
C.	C. Sealed source	C. Burlington Mass		C. source

5(a) RADIOGRAPHIC EXPOSURE DEVICES (Attach supplementary pages, if necessary)	
MODEL NUMBER	NAME OF MANUFACTURER (Include description if custom made)
A.	A.
B. 683	B. Tech/Op Burlington, Mass
C.	C.

5(b) RADIOGRAPHIC SOURCE CHANGERS (Attach supplementary pages, if necessary)	
MODEL NUMBER	NAME OF MANUFACTURER (Include description if custom made)
A.	A.
B.	B.
C.	C.

6. THE FOLLOWING INFORMATION IS ATTACHED AS A PART OF THIS APPLICATION: (Check appropriate blocks and attach information called for in the instructions with this form.)			
	Not Applicable	Attached	Previously Submitted
(a) Description of radiographic facilities (Instruction 6-a)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> on (DATE)
(b) Description of radiation detection instruments to be used (Instruction 6-b)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> on (DATE) 2-16-85
(c) Instrument calibration procedures (Instruction 6-c)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> on (DATE) 2-16-85
(d) Personnel monitoring equipment (Instruction 6-d)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> on (DATE)
(e) Operating and emergency procedures (Instruction 6-e)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> on (DATE) 2-16-85
(f) Training program (Instruction 6-f)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> on (DATE) 2-16-85
(g) Internal inspection system or other management control (Instruction 6-g)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> on (DATE) 2-16-85
(h) Overall organizational structure (Instruction 6-h)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> on (DATE) 2-16-85
(i) Leak testing procedures (Instruction 6-i)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> on (DATE)

CERTIFICATE (This item must be completed by applicant)

7. THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATE ON BEHALF OF THE APPLICANT NAMED IN ITEM 1, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PART 30, AND THAT ALL INFORMATION CONTAINED HEREIN, INCLUDING ANY SUPPLEMENTS ATTACHED HERETO, IS TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF.

LICENSE FEE ENCLOSED \$ 40.00

BY

R.V. Ozmun
(Signature)

R.V. OZMUN

(Type or print name of certifying official)

RSO

(Title of certifying official)

DATE

2-20-85

WARNING.—18 U.S.C., Section 1001, Act of June 25, 1948, 62 Stat. 749, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

8508290455 850626
REG4 LIC30
35-15194-01

PDR

460553

LEGAL STRUCTURE OF APPLICANT

If applicant is a corporation, complete Items 8 through 11; if applicant is a partnership, complete Items 12 through 14; if applicant is an unincorporated association or a legal entity other than a partnership or corporation, complete Items 15 and 16. Attach separate sheets where space provided proves inadequate.

CORPORATION

8. STOCK OF APPLICANT CORPORATION

NO. OF SHARES AUTHORIZED	NO. OF SHARES ISSUED	NO. OF SHARES SUBSCRIBED	TOTAL NUMBER OF	
			(a) Stockholders	(b) Subscribers
167	167		R V Ozmun	
166	166		Beverly Ozmun	
166	266		Tony Ozmun	

9. Is applicant corporation directly or indirectly controlled by another corporation or other legal entity? YES ☐ NO ☐
- If answer is "YES" give name and address of other corporation or other legal entity and describe how such control exists and the extent thereof.

10. (a) Identify by name and address any individual, corporation, or other legal entity (1) owning 10 percent or more of the stock of applicant corporation issued and outstanding or (2) subscribing to 10 percent or more of the authorized but unissued stock of the corporation.

(b) Identify by name and address all officers and directors of the corporation.

A. President
R V Ozmun
8441 S Union St
Tulsa, Ok 74132

B. Secretary & Treas
Beverly Ozmun
8441 S Union St
Tulsa, OK 74132

C. Vice President
Tony Ozmun
3318 W 64th Pl
Tulsa, Ok 74132

11. Identify the State, District, Territory, or possession under the laws of which the applicant is incorporated.

Incorporated under the law of the state of Oklahoma

PARTNERSHIP

12. Name and address of each individual or legal entity owning a partnership interest in the applicant.

13. State the percent of ownership of the applicant partnership held by each of the individuals or legal entities listed in Item 12.

14. Identify the State, District, Territory, or possession under the laws of which the applicant partnership is organized.

OTHER

15. Describe the nature of the applicant and identify the State, District, Territory, or possession under the laws of which it is organized.

16. State the total number of members or persons holding an ownership in the applicant, identify each by name and address, and indicate the ownership interest thereof.

SECTION VI

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Section VI Permanent Radiographic Installations

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Division V Smithco Tulsa, Oklahoma facility

OPERATING PROCEDURES
Permanent Job Site

TO: All Radiographic Personnel

This document is compiled in accordance with the Rules and Regulations that have been established by the United States Nuclear Regulatory Commission (N.R.C.)

The purpose of this document is to provide you and other individuals working under this license with a clear and specific set of instructions you are to follow when performing industrial radiography with sealed sources. It is your duty and responsibility to comply with all aspects of these operating procedures.

Section VI

Division 1 - Operating Procedures

Operating Procedures for Permanent Job Sites

Part 1 Initial Check Out and Survey of Permanent Facility

1. Check out your film badge and attach it securely to your clothing.
2. Check out your pocket dosimeter, zero it, and attach it securely to your clothing.
3. Check out the survey meter that has been assigned to you, being sure that batteries test correctly and that it is within calibration.
4. Survey the storage container, at the permanent job site. If the radiation levels are in excess of 2 mr/hr at 18" from the surface of the facility, or if there are any indications of unauthorized entry, NOTIFY the Radiation Safety Officer immediately.
5. Check to make sure that access door to the storage facility, at permanent job side, is posted with a sign reading "Caution, Radioactive Material."
6. A Copy of the NRC License, the Operating & Emergency Procedures and a copy of NRC Regulations Parts 19, 20, & 34.

SECTION VI

Division 1 Operating Procedures

Operating Procedures for Permanent Job Sites

Part 2 Preparation for initial radiographic exposure.

1. First, visually inspect the item to be radiographed and establish in your own mind a procedure for making the exposure.
2. Remove exposure device from storage container, survey the exposure device on all sides. The radiation level should be less than 50 mr/hr at a distance of six inches from the surface of the device. If an excessive radiation level is noted, contact the Radiation Safety Officer immediately.
3. Perform daily equipment inspection as follows:
 - a. Inspect the locking mechanism.
 - b. Inspect the storage plug, being sure it works properly and the entire unit is free of dirt.
 - c. Inspect the source tube, be sure that snout is secure to the housing, as well as the connectors. Be sure the connector device is working properly and is free of dirt.
 - d. Check all hardware and control tube fittings, that the daily inspection has been performed.
 - e. Do not operate the exposure device if it is damaged or if there are signs of excessive wear that might affect it's operation. Notify the Radiation Safety Officer immediately.
4. Position the exposure device where the source will be in the predetermined position when the source will be exposed.
5. Inspect "Caution Radiation Area" signs along outside vault walls, be sure each wall has at least one or more signs. Inspect access door to "High Radiation Area" or "Caution Radiation Area" signs and inspect lock on door. Be sure lock on door does not hamper anyone from leaving radiation area.

SECTION VI

Division 1 Operating Procedures

Operating Procedures for Permanent Job Sites

Part 2 Preparation for initial radiographic exposure Cont'd

6. Position no less than two "Caution-High Radiation Area", signs at the calculated 100 mr/hr.
7. Position source tube for exposure. Position the control cable as straight as possible away from the exposure site. Check assembly crank to insure that it is in the full retract position.
8. Position film in appropriate place.
9. Unlock storage plug.
10. Disconnect the storage plug from the source tube connector and place in the storage plug adaptor located on the projector.
11. Connect the source guide tube to the source tube connector.

SECTION VI

Division 1 - Operating Procedures

Operating Procedures for Permanent Job Sites.

Part 3 Perform the following in making an exposure:

1. Lock door to High Radiation Area.
2. With survey meter in hand, move to the control unit.
3. Place survey meter at your side, making sure that it is in the "On" position. Visually and audibly check the area to insure that no one has moved into the restricted (2mr/hr) area.
4. Rapidly rotate the crank in the "Exposed" direction to move the source out of the projector and into the guide tube to the complete exposed position.
5. With survey meter in hand, monitor all sides of the vault. Make sure all areas outside vault are within the 2mr/hr limit including any backscatter from the roof.
6. Maintain a continual visual and audible surveillance over the area during the exposure to make sure no one enters the restricted area.
7. Check visual alarm, for flashing red lights, while source is exposed. Open and close access door of vault to activate audible alarm. Inspect and note on Daily Radiation Report.
8. After completion of the required exposure, with meter in hand, return to the crank assembly.
9. Rapidly turn the crank in the "Retract" direction until the source is in stored position.
10. Survey the area, the exposure device and the source guide tube to make sure the source has returned to the safe storage position.
11. Remove the source tube and replace storage plug in the source tube connector, and lock in place.

SECTION VI

Division 1 - Operating Procedures

Operating Procedures for Permanent Job Sites.

Part 4 When finished with radiographic operation.

1. Survey the exposure device by rotating the survey meter around the exposure device at 6" from the surface. Record the results of this survey on the Daily Report Form.
2. Return the exposure device to storage container, at Permanent Job Site, and secure it.
3. Lock the storage container, at Permanent Job Site.
4. Read your pocket dosimeter and record the reading in the Daily Report Form.

SECTION VI

Division 1 - Operating Procedures

Operating Procedures for Permanent Job Sites.

Part 5 Post on Darkroom Door.

Part A

COMMENTS AND INSTRUCTION TO PLANT SAFETY COORDINATOR AND SECURITY GUARD:

Approval has been granted by your plant management to temporarily house radioactive sources within the on-site darkroom provided by Globe X-Ray Services, Inc. These radioactive sources are used in routine industrial radiography conducted on your plant premises. The radioactive source is locked in a well shielded exposure device which is secured in a locked steel box within the darkroom facility. The darkroom should be locked when a Globe Radiographer is not on-site. The storage boxes for the radioactive source have been designed such that radiation exposure levels outside of the darkroom are extremely low (Less than 0.5 mr/hr). Your employees may conduct normal activities at the plant without consideration of excessive exposure to radiation caused by storage of this source.

In case of emergency, immediately notify each of the following person:

Globe X-Ray Services
R. V. Ozmun RSO
8441 S Union St
Tulsa, Ok 74132

918 446-1696 Office
918 446-1696 Home
918 865-2801 Weekends

Or
Tony Ozmun
Assistant Radiation Safety Officer

SECTION VI

Division 1 - Operating Procedures

Operating Procedures for Permanent Job Sites.

Part 5 Post on Darkroom Door.

Part B

(to be posted on door of darkroom)

IN CASE OF EMERGENCY, IMMEDIATELY NOTIFY THE FOLLOWING:
PERSON.

Globe X-Ray
R. V. Ozmun RSO
8441 S Union St
Tulsa, Ok 74132

918 446-1696 Office
918 446-1696 Home
918 865-2801 Weekends

Or

Tony Ozmun Assistant RSO
918 446-3015

In case of fire, fire fighters should be informed that they may conduct fire fighting activities in a normal fashion. They should be informed that active entry into the temporary darkroom should not be initiated except for life saving procedures. If the temporary darkroom is damaged by fire, no one shall be allowed to entrance until approval is given by Mr. R. V. Ozmun, Radiation Safety Officer.

In case of theft, or attempted theft, call R. V. Ozmun immediately.

Globe X-Ray
R. V. Ozmun
8441 S Union
Tulsa, OK 74132

918 446-1696 Office
918 446-1696 Home
918 865-2801 Weekends

or

Tony Ozmun ARSO
918 446-3015

SECTION VI

Division 1 - Operating Procedures

Operating Procedures for Permanent Job Sites

Part 5 POST ON DARKROOM DOOR

Part C

(to be posted in trucks)

In case of emergency, immediately notify R. V. Ozmun

R. V. Ozmun
Globe X-Ray Services
8441 S Union St
Tulsa, Ok 74132

918 446-1696 Office
918 446-1696 Home
918 865-2801 Weekends

Or

Tony Ozmun Ass RSO
918 446-1696

SECTION VI

Division II Emergency Procedures

Operating Procedures for Permanent Job Sites

Part 1 Emergency conditions shall be deemed to exist in the following circumstances:

1. The source is in a position where it cannot be retracted to the shielded position of the projector.
2. An accident where in the radiographic crew becomes unable to maintain surveillance of the source.
3. Theft or loss of radiographic sources.
4. Exposure of the whole body of any individual to 5 rems of radiation; exposure of the skin of the whole body of any individual of 20 rems or more of radiation, or exposure of the feet, ankles, hands or forearms of any individual to 75 rems or more of radiation.
5. Damage to property in excess of \$1,000.00.

Part 2 Malfunctions of equipment

1. Several conditions or accidents can occur that may prevent the source from being retracted to the shielded position of the exposure device. These include:
 - a. A source has become detached or disconnected from the drive cable.
 - b. A source guide tube and/or control cables have become severed or severely crimped while the source was in a exposed position.
 - c. An equipment failure in the cranking mechanism.
 - d. An improperly connected source guide tube.

SECTION VI

Division II - Emergency Procedures

Operating Procedures for Permanent Job Sites

Part 2 Malfunctions of equipment Cont'd

2. The following steps are to be taken when a source cannot be returned to its shielded position:
 - a. Immediately clear the area of any individuals who may be within an estimated restricted area (2 mr/hr).
 - b. Survey the restricted area (2mr/hr)
 - c. Barricade the boundries of the restricted area and post "Caution Radiation Area" signs along the boundry.
 - d. Maintain continuous surveillance and control over the area until the situation is corrected.
 - e. If additional personnel are present at the job site, request their assistance in preventing unauthorized entry to the restricted area.
 - f. Once the restricted area is barricaded and controlled, contact the Radiation Safety Officer by telephone.

R. V. Ozmun

918 446-1696 Office
918 446-1696 Home
918 865-2801 Weekends

Or

Tony Ozmun ASST RSO
918 446-3015

- g. The radiation Safety Officer will make all necessary arrangements for the recovery of the source.

SECTION VI

Division II - Emergency Procedures

Operating Procedures for Permanent Job Sites

Part 2 Malfunctions of equipment cont'd

WARNING

DO NOT ATTEMPT TO RECOVER A SOURCE THAT CANNOT BE RETURNED TO THE EXPOSURE DEVICE THROUGH NORMAL AND SAFE OPERATION OF THE EQUIPMENT.

DO NOT PANIC - MAINTAIN SURVEILLANCE OVER THE AREA EVEN IF YOU HAVE TO WAIT ON THE ARRIVAL OF OUTSIDE PERSONNEL BEFORE NOTIFICATION OF THE RADIATION SAFETY OFFICER CAN BE MADE.

Part 3 Vehicle accident: Transporting source to and from job site

If a vehicle carrying a source is involved in a accident, you must assure that the radiation source has not been jarred loose from the exposure device.

1. Perform a survey of the vehicle, the storage container and the exposure device to make sure that source is in the stored position.
2. If the accident appears to have caused any radiation hazard, follow the procedures listed in Part B "Malfunctions of Equipment" in this section.
3. Should the survey meter be damaged or inoperable, keep all persons as far away from the accident as possible until a replacement survey meter can be obtained.
4. Always notify the Radiation Safety Officer on any vehicular accident, even if there is no apparent damaged to the exposure device.

SECTION VI

Division II - Emergency Procedures

Operating Procedures for Permanent Job Sites

Part 4 Theft or Loss of Radiographic source: Over-Exposure or Property Damage

1. Notify the Radiation Safety Officer immediately upon notice of any loss or theft of the radiographic source, or exposure device containing the source.
2. Notify the Radiation Safety Officer immediately of any over-exposure, or suspected over-exposure, or damage to property.

SECTION VI

Division III - Radiation Detection Instruments Operating Procedures for Permanent Job Sites

Part 1 Radiation Detection Instruments

SURVEY METERS

<u>Manufacturer</u>	<u>Model Number</u>	<u>Instrument Range mr/hr</u>
Eberline Instrument Corp Santa Fe, New Mexico	E-120G	0-1000
Eberline Instrument Corp Santa Fe, New Mexico	E-130G	0-1000
Victoreen Instrument Div Cleveland, Ohio	492	0-1000
Victoreen Instrument Div Cleveland, Ohio	592B	0-1000
G E Smith & Assoc Houston, Texas	GS-1000A	0-1000
International Test Equipment Tulsa, Ok	G-100	0-1000

ALARMS ON VAULTS

Nuclear Associates, Inc. - primalarm - Flashing light activated by radiation. Alarm activated when exposed to 4 or more miliroentgens.

Archer - Burglar Alarm - Is connected to primalarm. When more than 4 mr is present in vault and the door is opened the alarm will sound.

SECTION VI

Division IV Gea Rainey Port-of-Catoosa Facility

Operating Procedures for Permanent Job Sites

Part 1 Radiation Levels

Three strategic areas were monitored for radiation at
GEA RAINEY: 1) Roof 2) Offices 3) Surrounding areas
around vault.

ROOF was not accessible to obtain a reading. The roof
was 60 feet high and no practical way to obtain a reading
other than a lift by a crain.

OFFICES are 10 feet away from vault and are the same
height as the roof. When checking for radiation, the
top floor of the offices were of concern. After
investigation it was found that back scatter was the
problem (5mr at top floor near vault). So Globe has
lead lined the wall of the offices that was of concern
(lead is 1/8" thick), and a lead lined roof that covers
½ the top of the vault was built. These precautions
eliminated the radiation problem. The offices , now
registered no more than 2 mr.

SURROUNDING AREA AROUND VAULT was surveyed and registered
no more than 2 mr.

Please note: that all surveys were made with 80 curies in
one inch metal surrounding source or in a collimator.
All exposures will be made in this manner.

SECTION VI

Division IV GEA RAINEY Port-of-Catoose Facility

Operating Procedures for Permanent Job Sites

Part 2 Visible and Audible Alarms on Vault

The vault of GEA Rainey is equiped with two flashing lights. One light by the door of the vault and one inside the vault. Both lights also make a buzzing noise when the lights flash on and off.

Attached to the door is a bell that is activated when the door is open while the source is exposed. For type and make of alarm see division III. Radiation detection equipment.

Part 3 Amounts of Radiation

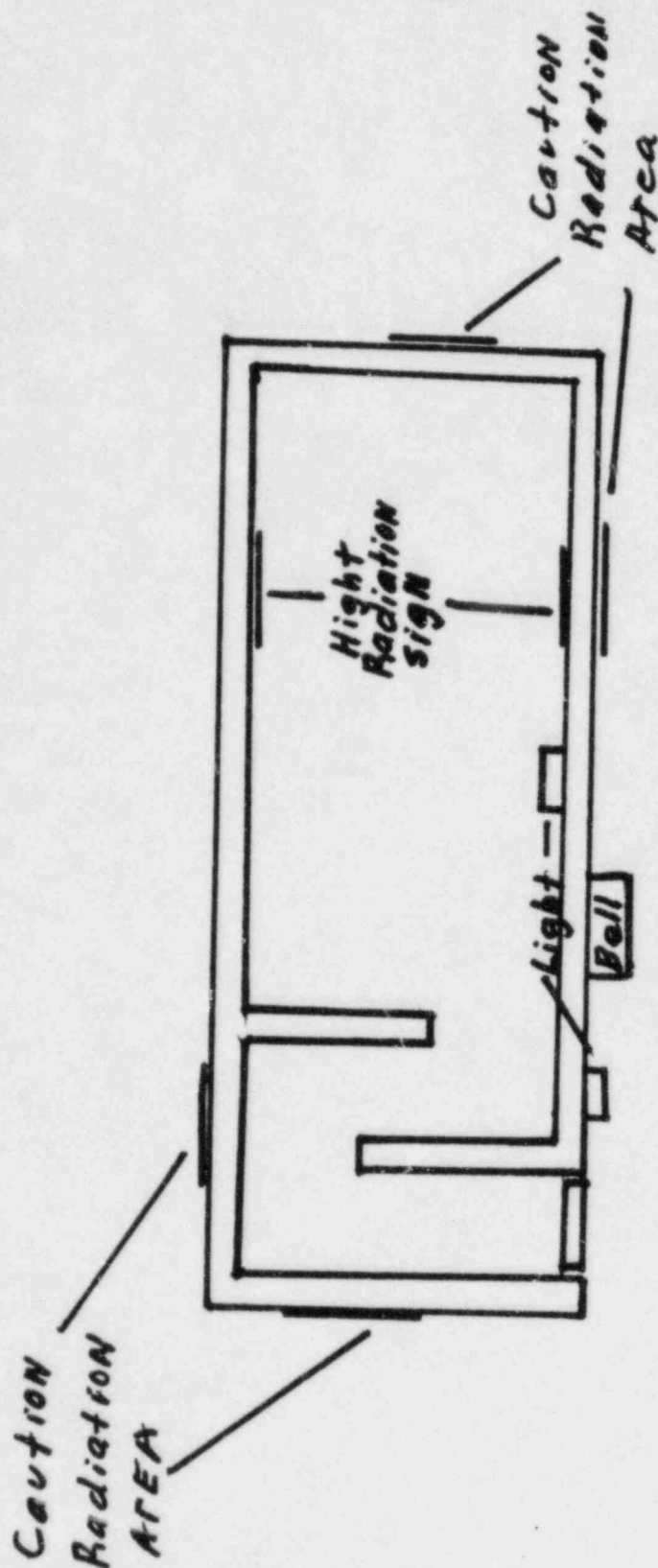
Amounts of radiation to be used at GEA Rainey facility shall be one Tech/Op 683 camera with no more than 100 curies of Iridium 192. Please note that at no time will a source be stored at this facility.

420553

NORTH

West

G.E.A. Rainey



Highth of west WALL- Highth of East WALL-

All Vault Walls are 23" Thick Width of Vault is 8' 6"
Length of Vault is 24' 8" 10' from Vault to Offices

SECTION VI

Division V Smithco Tulsa Facility

Operating Procedures for Permanent Job Sites

Part 1 Radiation levels on all four sides of the vault were less than 2 mr. Nearest worker is 24' away.

Roof is only sheet metal, if anyone was to walk on roof they would fall through.

Please note that all surveys were made with 80 curies in $\frac{1}{2}$ " metal surrounding source. All exposures will be made in this manner.

Part 2 Visiable and Audible Alarms on Vault the vault at Smithco is equiped with two flashing lights. One light by the door of vault and one light inside the vault. Both lights also make a buzzing noise when the lights flash on and off.

Attached to the door is a bell that is actuvated when the door is opened while the source is exposed. For type and make of alarm see Division III Radiation Detection Equipment.

Part 3 Amounts of Radiation to be used at Smithco shall be one Tech/Op 683 camera with no more than 100 curies of Iridium 192.

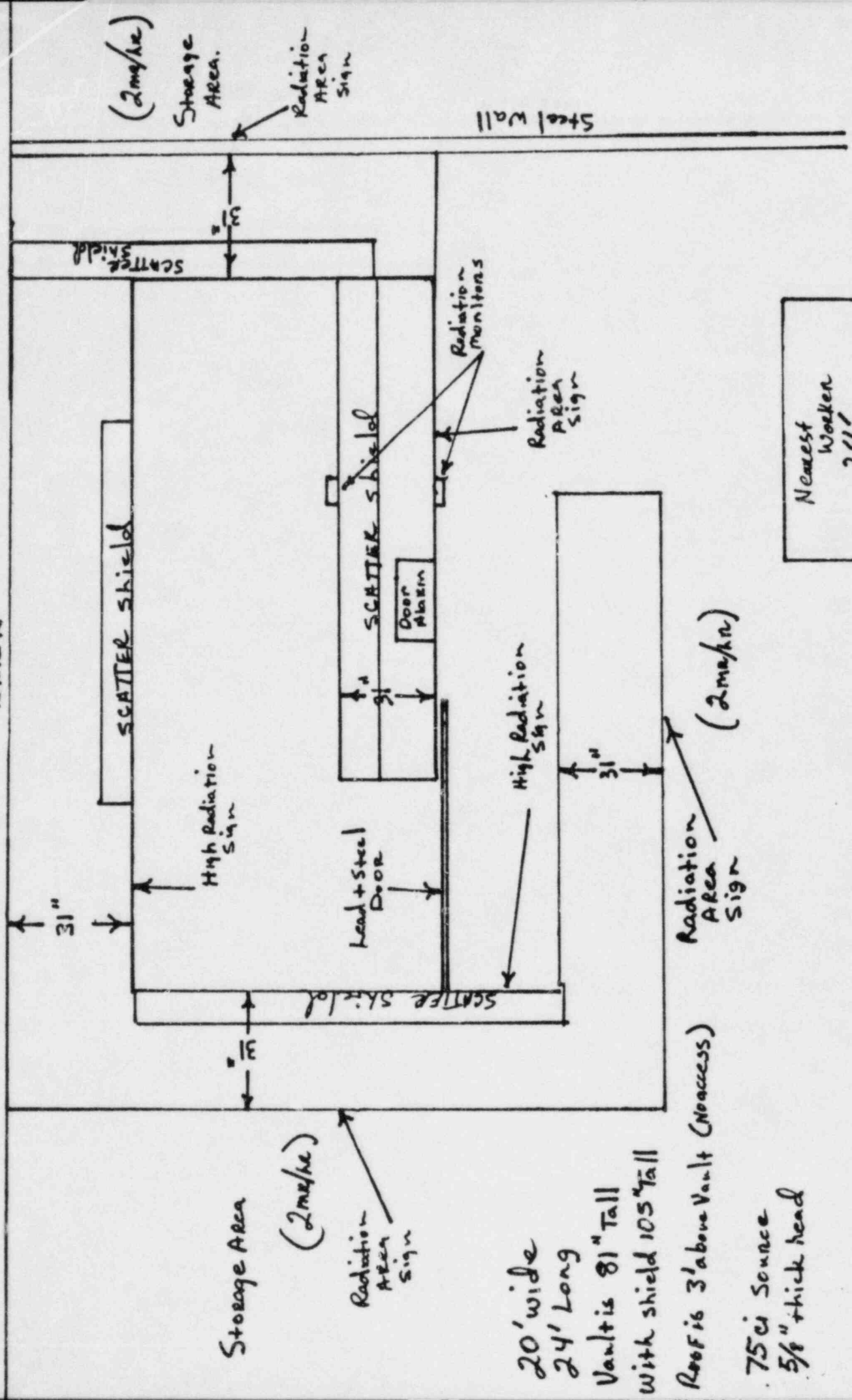
NEAREST BUILDING 18 mile ↑

460553

Radiation Area Sign

(2m/hr)

OUTSIDE WALL
Brick



Storage Area

(2m/hr)

Radiation Area Sign

20' wide
24' Long
Vault is 81" Tall
With shield 105" Tall

Roof is 3' above Vault (Nonaccess)

75ci Source
5/8" thick lead

Radiation Monitors

Radiation Area Sign

Radiation Area Sign

(2m/hr)

Nearest Worker
24'