

APPLICATION FOR BYPRODUCT MATERIAL LICENSE  
INDUSTRIAL

See attached instructions for details.

Completed applications are filed in duplicate with the Division of Fuel Cycle and Material Safety, Office of Nuclear Material Safety, and Safeguards, U.S. Nuclear Regulatory Commission, Washington, DC 20555 or applications may be filed in person at the Commission's office at 1717 H Street, NW, Washington, D. C. or 7915 Eastern Avenue, Silver Spring, Maryland.

X a. NEW LICENSE  
b. AMENDMENT TO:  
LICENSE NUMBER  
c. RENEWAL OF:  
LICENSE NUMBER

2. APPLICANT'S NAME (Institution, firm, person, etc.)

INTERLAKE, INC.

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION  
(312) 933-5000

3. NAME OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION

JOHN R. LEE

TELEPHONE NUMBER: AREA CODE - NUMBER EXTENSION  
(312) 933-5000 Ext. 5100

4. APPLICANT'S MAILING ADDRESS (Include Zip Code)

10730 Burley Avenue  
Chicago, Illinois 60617

5. STREET ADDRESS WHERE LICENSED MATERIAL WILL BE USED  
(Include Zip Code)

11236 Torrence Avenue  
Chicago, Illinois 60617

(IF MORE SPACE IS NEEDED FOR ANY ITEM, USE ADDITIONAL PROPERLY KEYED PAGES.)

6. INDIVIDUAL(S) WHO WILL USE OR DIRECTLY SUPERVISE THE USE OF LICENSED MATERIAL

(See Items 16 and 17 for required training and experience of each individual named below)

FULL NAME

TITLE

a. John R. Lee

Coke Plant Superintendent

b.

c.

7. RADIATION PROTECTION OFFICER

Robert J. Oblon

Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15.

Radiation Protection Officer

8. LICENSED MATERIAL

L I N E  NO.	ELEMENT AND MASS NUMBER  A	CHEMICAL AND/OR PHYSICAL FORM  B	NAME OF MANUFACTURER AND MODEL NUMBER (If Sealed Source)  C	MAXIMUM NUMBER OF MILLCURIES AND/OR SEALED SOURCES AND MAXIMUM ACTI- VITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME  D
(1)	Cesium - 137	Sealed Source	Texas Nuclear Model 570-57157C	1 x 500 millicuries
(2)				
(3)				
(4)				

DESCRIBE USE OF LICENSED MATERIAL  
E

(1) Coal Bulk Density Measurement

(2)

(3)

(4)

8006030293

## 9. STORAGE OF SEALED SOURCES

LINE NO.	CONTAINER AND/OR DEVICE IN WHICH EACH SEALED SOURCE WILL BE STORED OR USED. A.	NAME OF MANUFACTURER B.	MODEL NUMBER C.
(1)	Source Holder (1)	Texas Nuclear	5191
(2)			
(3)			
(4)			

## 10. RADIATION DETECTION INSTRUMENTS

LINE NO.	TYPE OF INSTRUMENT A	MANUFACTURER'S NAME B	MODEL NUMBER C	NUMBER AVAILABLE D	RADIATION DETECTED (alpha, beta, gamma, neutron) E	SENSITIVITY RANGE (milliroentgens/hour or counts/minute) F
(1)	G. M. Tube Survey	Victoreen	491	(2)	BETA, GAMMA	0-100 MR/HR
(2)						
(3)						
(4)						

## 11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

☒ a. CALIBRATED BY SERVICE COMPANY 6 month  
NAME, ADDRESS, AND FREQUENCY Interval

Victoreen, Inc.  
10101 Woodland Avenue  
Cleveland, Ohio 44104

☐ b. CALIBRATED BY APPLICANT

Attach a separate sheet describing method, frequency and standards used for calibrating instruments.

N/A

## 12. PERSONNEL MONITORING DEVICES

TYPE (Check and/or complete as appropriate.) A	SUPPLIER (Service Company) B	EXCHANGE FREQUENCY C
<input type="checkbox"/> (1) FILM BADGE  <input type="checkbox"/> (2) THERMOLUMINESCENCE DOSIMETER (TLD)  <input type="checkbox"/> (3) OTHER (Specify): _____ _____ _____	Personnel Monitoring Devices not required See attached response to Item 15-VI	<input type="checkbox"/> MONTHLY  <input type="checkbox"/> QUARTERLY  <input type="checkbox"/> OTHER (Specify): _____ _____ _____

## 13. FACILITIES AND EQUIPMENT (Check where appropriate and attach annotated sketch(es) and description(s).)

- ☐ a. LABORATORY FACILITIES, PLANT FACILITIES, FUME HOODS (Include filtration, if any), ETC.  
☐ b. STORAGE FACILITIES, CONTAINERS, SPECIAL SHIELDING (fixed and/or temporary), ETC.  
☐ c. REMOTE HANDLING TOOLS OR EQUIPMENT, ETC.  
☐ d. RESPIRATORY PROTECTIVE EQUIPMENT, ETC.

N/A

## 14. WASTE DISPOSAL

a. NAME OF COMMERCIAL WASTE DISPOSAL SERVICE EMPLOYED

b. IF COMMERCIAL WASTE DISPOSAL SERVICE IS NOT EMPLOYED, SUBMIT A DETAILED DESCRIPTION OF METHODS WHICH WILL BE USED FOR DISPOSING OF RADIOACTIVE WASTES AND ESTIMATES OF THE TYPE AND AMOUNT OF ACTIVITY INVOLVED. IF THE APPLICATION IS FOR SEALED SOURCES AND DEVICES AND THEY WILL BE RETURNED TO THE MANUFACTURER, SO STATE. Sealed sources and devices will be returned to manufacturer for any disposal.

Describe in detail the information required for items 15, 16 and 17. Begin each item on a separate page and key to the application as follows:

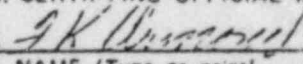
15. RADIATION PROTECTION PROGRAM. Describe the radiation protection program as appropriate for the material to be used including the duties and responsibilities of the Radiation Protection Officer, control measures, bioassay procedures (if needed), day-to-day general safety instruction to be followed, etc. If the application is for sealed source's also submit leak testing procedures, or if leak testing will be performed using a leak test kit, specify manufacturer and model number of the leak test kit.
16. FORMAL TRAINING IN RADIATION SAFETY. Attach a resume for each individual named in Items 6 and 7. Describe individual's formal training in the following areas where applicable. Include the name of person or institution providing the training, duration of training, when training was received, etc.
  - a. Principles and practices of radiation protection.
  - b. Radioactivity measurement standardization and monitoring techniques and instruments.
  - c. Mathematics and calculations basic to the use and measurement of radioactivity.
  - d. Biological effects of radiation.
17. EXPERIENCE. Attach a resume for each individual named in Items 6 and 7. Describe individual's work experience with radiation, including where experience was obtained. Work experience or on-the-job training should be commensurate with the proposed use. Include list of radioisotopes and maximum activity of each used.

## 18. CERTIFICATE

(This item must be completed by applicant)

*The applicant and any official executing this certificate on behalf of the applicant named in Item 2, 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.*

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.

a. LICENSE FEE REQUIRED (See Section 170.31, 10 CFR 170)  \$110.00	b. CERTIFYING OFFICIAL (Signature) 
(1) LICENSE FEE CATEGORY: 3.L	c. NAME (Type or print) F. K. Armour  d. TITLE Vice President - Engineering & Research
(2) LICENSE FEE ENCLOSED: \$ 110.00	e. DATE February 8, 1980

- 15 This addendum describes the procedure to be followed as part of our radiation safety program.
- 15-I This enclosed sketch gives the specifics of the installation. All equipment will be located and mounted in accordance with the recommendations of the manufacturer.
- 15-II Initial radiation survey and leak test, installation, relocation and repair of the source holder will be performed by Texas Nuclear. The initial radiation survey will be used to assure the radiation levels around the device are within manufacturers specifications.
- 15-III If maintenance is required on the belts no special precautions are needed because of the tightly collimated beam of the source. A steel cage will be erected within 2 feet around the device to limit personnel proximity. If maintenance is required on the belt system within two feet of the device a lockout procedure will be employed to assure that the source head controls are locked in the store position at the time the cage is unlocked. The radiation protection officer will hold the lockout keys to the source head controls and cage system. The source head controls will not be returned to the measure position until maintenance is complete.
- 15-IV Texas Nuclear will perform the leak testing on the source holder. Leak testing will be performed by Texas Nuclear procedure QT/IK. The source holder will be tested for source integrity at least once every three years. There are no severe environmental conditions that can affect the integrity of the source and shielding. All environmental factors have been presented to the manufacturer for evaluation prior to specifying this device.
- 15-V The following procedure will be implemented in the event of damage to the source housing:
1. Immediately evacuate the room containing the bulk density gauging system.
  2. Inform the radiation protection officer.
  3. Notify Texas Nuclear (512-836-0801).
  4. Inform by phone or telegram the regional NRC office of the accident.
  5. Limit access to source head until a radiation survey and source wipe can be performed by qualified personnel or a representative of Texas Nuclear.



15-VI No additional personnel monitoring devices need be utilized due to the presence of these gauging devices. The source holder is designed such that radiation levels will be less than 5 millirems per hour one foot from any accessible surface at the maximum source loading for the device. The device will not be attended regularly. Based on working conditions and physical accessibility we estimate that 3 persons would be within 3 feet of this device less than 8 hours each week. The average proximity of personnel to this device would be much greater than 3 feet in any work week. Radiation exposures will be verified at the time of start-up. This will include the effects of radiation scattering if applicable.

15-VII Employees authorized to work within the steel cage surrounding this device will be instructed in the following:

1. The location of the source head.
2. The gauge source head lockout procedure.
3. The emergency procedures in the event of source head damage.
4. Not to perform work on or damage the source head.

16-I The individual named in items 6 has had no formal training in the use of radioactive materials. At the time of start-up a representative of the manufacturer will provide any specific training necessary for safe operation of the system. As the scope of this license application does not include handling of the device containing radioactive materials further formal training is not indicated.

16-II The individual named in item 7 has had the following formal training in the use of radioactive materials:

1. Indiana University  
B. A. Physics - 1971  
Purdue University - 1978  
Nuclear Reactor Engineering  
Total of 10 Credit Hours

Course training in ionizing radiation and radioactivity control including:

- A. Radioactive decay
- B. Attenuation of particle and photon radiation.
- C. Methods of detection of Beta and Gamma radiation (including energy dependence).
- D. Mathematic and calculations basic to use and measurement of radioactivity.

2. American Iron and Steel Institute  
Basic Radiation Safety in the Steel Industry  
Pittsburgh, Pennsylvania - 1978  
20 Classroom Hours

Course training including:

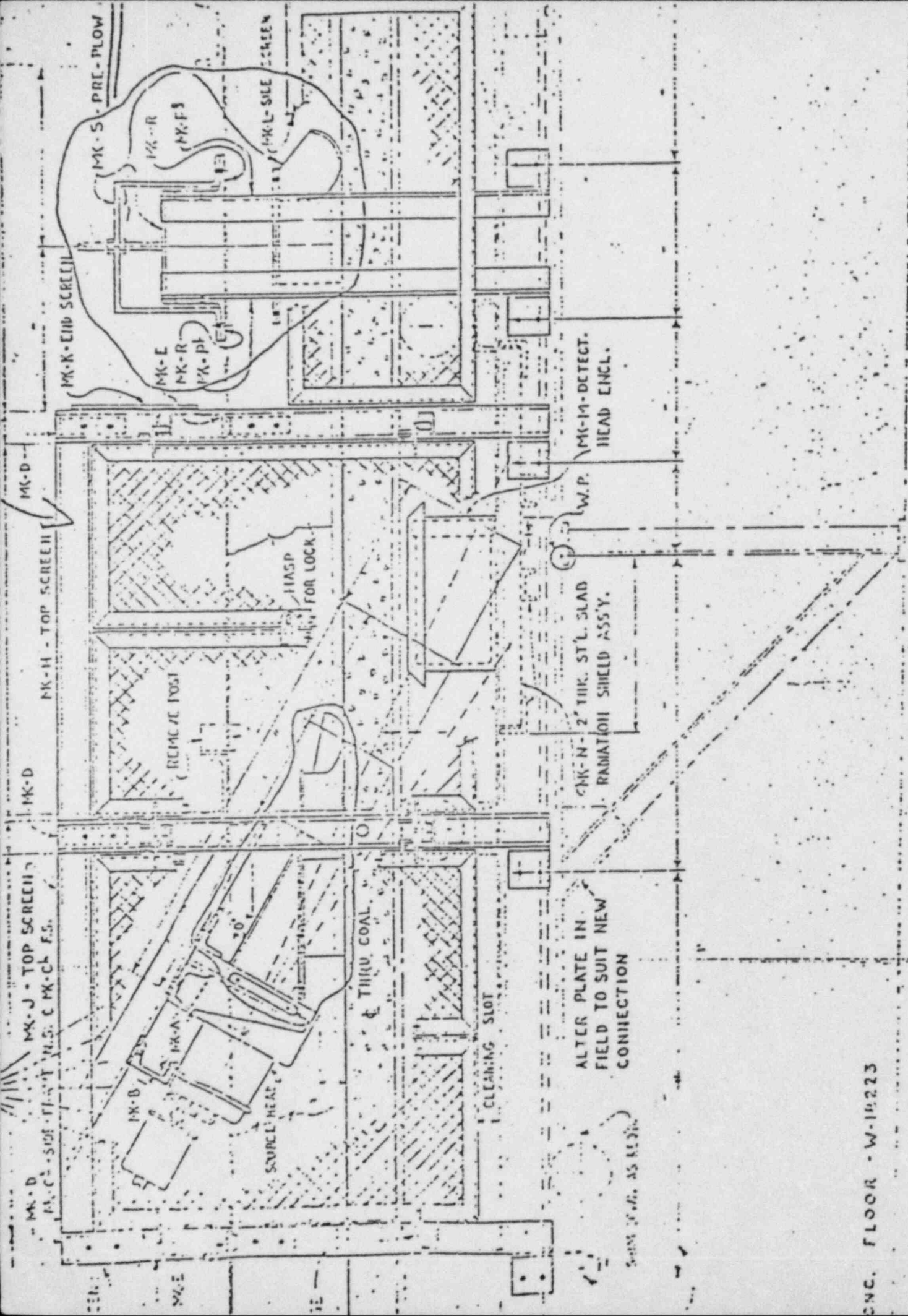
- A. Physics of Radiation
- B. Shielding Methods
- C. Attenuation of Radiation
- D. Radiation Detection Devices and Methods  
(including energy dependence)
- E. Leak Test Methods
- F. Radiation Survey Techniques
- G. Mathematics and Calculations Basic to Use and  
Measurement of Radioactivity
- H. Biological Effect of Ionizing Radiation

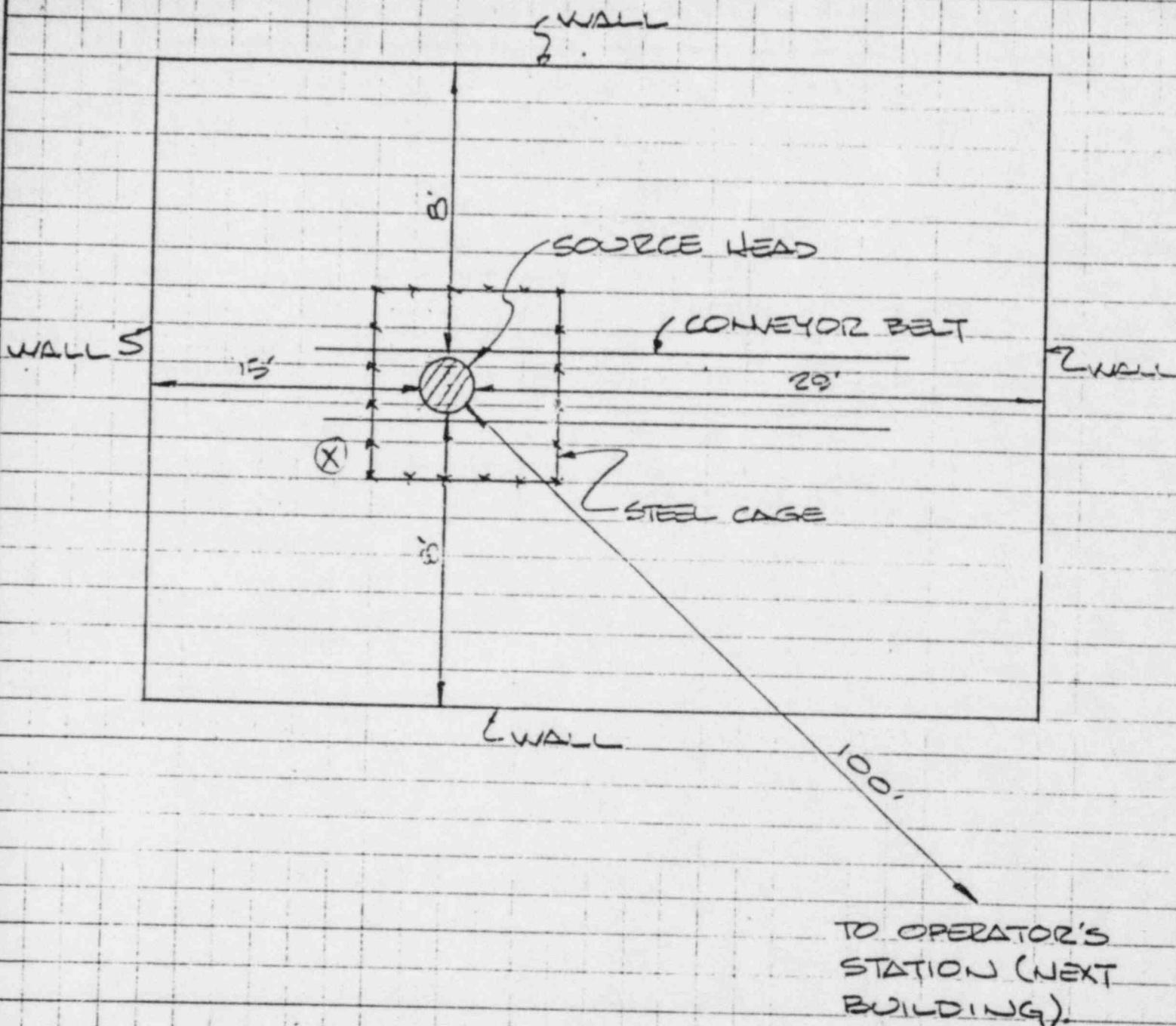
17-I The individual named in item 6 has had no prior experience with radioactive materials.

17-II The individual named in item 7 has been responsible for the radiation protection program at Interlake, Inc. since June of 1976. He has been responsible for radiation safety in the use of sealed source thickness gauges containing the following by-product material.

- 1) Cesium - 137
- 2) Americium - 241
- 3) Strontium - 90

As well as X-Ray thickness gauges.





- 1.) No occupiable space above or below room containing gauge.
- 2.) Nearest regularly stationed employee located at operator's station.
- 3.) (X) Employee occasionally checks gauging device. Each employee is within 3 feet of gauge less than 2 hours 40 minutes per week per employee (1 employee per shift, 3 shifts per day).

DESCRIPTION	DATE	INTERLAKE, INC.	
	DR.		
	APP.		LOCATION
	CHARGE SYMBOLS		SKETCH NO.



# Interlake, Inc.

July 9, 1982

Dr. Bruce Mallett  
Regional Licensing Branch  
Nuclear Regulatory Commission  
799 Roosevelt Road  
Glen Ellyn, Illinois 60137

Dear Dr. Mallett:

This letter is to inform you of our request for authorization to perform source housing leak tests as required under by-product material licenses issued to Interlake, Inc. The source wipes will be performed only on equipment which Interlake is licensed to possess and use as follows:

Equipment:

1. Kay-Ray coke moisture gauge  
License No. 12-16147-03  
See attachment for licensed equipment information.
2. Texas Nuclear coal bulk density gauge  
License No. 12-16147-02  
See attachment for licensed equipment information.
3. Accuray thickness gauging system 510  
Accuray Corporation  
650 Ackerman Road  
Columbus, Ohio  
A total of seven (7) sealed sources.  
Generally licensed gauges.  
See attachment for specifications of Accuray equipment

All above gauges are located at 135th Street and  
Perry Avenue, Riverdale, Illinois 60627

CONTROL NO. 7 928 7

July 9, 1982

Technique:

The leak tests will be performed using a sealed source leak test kit (SIT-1) provided by Suntrac Services, Inc., P. O. Box 57722, Webster, Texas. Suntrac will also provide the analysis of the wipe. The procedure for each leak test will follow the instructions provided with each kit. A sample kit, along with a copy of the use instructions and Suntrac's authorizing license is included. We currently possess the necessary survey equipment to assure that the source wipe mailing envelope surface radiation level does not exceed applicable standards.

Training:

I have had the following formal training in the use of radioactive materials:

1. Indiana University  
B.S. Physics - 1971

Purdue University - 1978  
Nuclear Reactor Engineering

Total of 10 credit hours

Course training in ionizing radiation and radioactivity control including:

- a. Radioactive decay
- b. Attenuation of particle and photon radiation
- c. Methods of detection of Beta, Gamma, X-Ray and neutron radiation (including energy dependence)
- d. Mathematics and calculations basic to use and measurement of radioactivity.

2. American Iron and Steel Institute  
Basic Radiation Safety in the Steel Industry  
Pittsburgh, Pennsylvania - 1978  
20 classroom hours

Course training including:

- a. Physics of radiation
- b. Shielding methods

Training (continued)

- c. Attenuation of radiation
  - d. Radiation detection devices and methods (including energy dependence)
  - e. Leak test methods
  - f. Radiation survey techniques
  - g. Mathematics and calculations basic to use and measurement of radioactivity
  - h. Biological effect of ionizing radiation
3. I have also been responsible for the radiation protection program at Interlake, Inc. since June of 1976. This includes responsibility for radiation safety in the use of not only sealed source thickness gauges, moisture gauges and density measuring devices containing the following by-product materials
- a. Cesium - 137
  - b. Americium - 241
  - c. Strontium - 90,

but also X-ray thickness gauges.

I am presently listed as user and radiation control officer on various Interlake by-product material licenses

I have also observed leak tests being performed by the manufacturer.

Frequency:

The leak tests will be performed at intervals not to exceed that required by Interlake's applicable licenses:

- a. Seven (7) Accuray gauges -  
One (1) leak test every six (6) months per source.
- b. Kay Ray moisture gauge and Texas Nuclear bulk density gauge -  
One (1) leak test in a period of time not to exceed three (3) years per source.

Dr. Bruce Mallett

- 4 -

July 9, 1982

Frequency (continued):

The possibility of performing leak tests at increased frequencies will be enhanced through the resultant cost savings per test if authorization is granted.

If you have any questions do not hesitate to contact me at: 312/849-2500, ext. 2193.

Very truly yours,

INTERLAKE, INC.

*Robert C. Oblon*  
R. Oblon

Iron and Steel Division  
Radiation Control Officer

blc  
attachment

CONTROL NO. 7 928 7

**interlake, inc.**





TEXAS DEPARTMENT OF HEALTH  
RADIOACTIVE MATERIAL LICENSE

Pursuant to the Texas Radiation Control Act and Texas Department of Health regulations on radiation, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess and transfer radioactive material listed below; and to use such radioactive material for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations and orders of the Texas Department of Health now or hereafter in effect and to any conditions specified below.

LICENSEE

1. Name Suntrac Services, Inc.  
ATTN: C. E. Winters, Jr.  
2. Address P.O. Box 57722  
Webster, Texas 77598

This license issued pursuant to and in accordance with

☒ APPLICATION ☐ LETTER ☐

Dated: July 2, 1981

Signed By: C. E. Winters, Jr.

3. License Number

Amendment Number

11-3062

N/A

PREVIOUS AMENDMENTS ARE VOID

4. Expiration Date

August 31, 1986

RADIOACTIVE MATERIAL AUTHORIZED

5. Radioisotope

6. Form of Material

7. Maximum Activity\*

8. Authorized Use

A. Any radioactive material except special nuclear material

A. Leak test samples

A. As obtained in performing tests for leakage and/or contamination.

A. The licensee is authorized to perform tests for leakage and/or contamination upon sealed sources and upon devices containing sealed sources of radiation.

☐ CONTINUED ON PAGE 2, IF CHECKED.

CONDITIONS

9. Radioactive material shall be stored only at Todd Research & Technical Division, Pelican Island in Galveston and at the Suntrac Services facility at 314 Forest Lake Drive in Seabrook, Texas.
10. The authorized place of use includes temporary job sites throughout Texas.
11. The licensee shall comply with the provisions of Parts 11, 21, 22 and 41 of the Texas Regulations for Control of Radiation.
12. The individual designated to perform the functions of Radiation Safety Officer for activities covered by this license is C. E. Winters, Jr.

\* Ci-Curies

mCi-Millicuries

μCi-Microcuries

CONDITIONS CONTINUED ON PAGE

2



TEXAS DEPARTMENT OF HEALTH  
RADIOACTIVE MATERIAL LICENSE

Page 2 of 2 Pages

Supplementary Sheet

LICENSE NUMBER	AMENDMENT NUMBER
11-3062	N/A

CONDITIONS CONTINUED:

13. Radioactive material shall be used by C. E. Winters, Jr.
14. Sealed sources of radioactive material, Nickel 63 foil, and/or plated alpha emitting sources shall be tested for leakage and/or contamination in accordance with the provision of Section 11.7 (c) of the Texas Regulations for Control of Radiation.
15. The licensee is authorized to distribute Suntrac's Model SIT-1 Leak Test Kit for use in testing sealed sources for leakage and/or contamination.
16. Tests for leakage and/or contamination shall be capable of detecting 0.005 microcuries of contamination on the test sample. The test sample shall be taken from the sealed source or from appropriate accessible surfaces of the device in which the sealed source is permanently or semi-permanently mounted or stored. The customer shall be furnished a report of leak test results in terms of microcuries.
17. The licensee shall maintain, for inspection by the Agency, appropriate records for verification of reported leak test results and instrument calibrations.
18. Except as specifically provided otherwise by this license, the licensee shall possess and use the radioactive material authorized by this license in accordance with statements, representations, and procedures contained in application dated July 2, 1981, letter dated August 13, 1981 and all correspondence amending the application which results in an amendment to the license.

RH:kjn

FOR THE TEXAS DEPARTMENT OF HEALTH

Date Aug. 27, 1981

*Edward M. Hunter, acting*  
Chief of Licensing  
Radiation Control Branch

Send all kits and requests to:

SUNTRAC SERVICES, INC.

P. O. Box 57722

Webster, Texas 77598

Phone - 713 - 334-2346

ATTN: SIT-KIT

CAUTION: Conduct a survey of the outside of each package placed in the U.S. Mails.  
Any reading over 0.5 mr/hr at contact with envelope or package shall not  
be mailed.

LEAK TEST INVENTORY/REPORT FORM

Company Name \_\_\_\_\_

Address \_\_\_\_\_ City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

ISOTOPE \_\_\_\_\_ ACTIVITY \_\_\_\_\_

IDENT./SERIAL NO. \_\_\_\_\_ LEAK TEST DATE \_\_\_\_\_

SMEAR TAKEN BY \_\_\_\_\_

DO NOT WRITE BELOW THIS LINE

This is to certify that the above described smear has been assayed at our facilities for  
indication of source leakage.

Our findings show the leakage to be

ALPHA	BETA-GAMMA

uCi. (Wet)

Certified by \_\_\_\_\_ Date \_\_\_\_\_  
(Suntrac Services, Inc. Representative)

SSI-02  
Rev. 0  
6/23/81

CONTROL NO. 7 928 7

SUNTRAC SERVICES, INC.  
SEALED SOURCE INTEGRITY TEST SERVICES

The Suntrac Services, Inc. SIT-1 Kit is designed for use with alpha or beta-gamma emitting sources or for low level gamma sources. It may also be used for testing large radiography gamma sources, where due to the potential radiation hazard, a smear is taken of the inside surface of the source housing, cable, etc., rather than the source capsule itself.

In special cases where a source is permanently fixed into a system, the closest and most accessible surface such as conical port, source housings, etc., may be taken as the smear area. The kit consists of one piece of filter cloth in a plastic zip-lip envelope, wet with our decontamination solution.

For license approval of our service, please refer to "Suntrac Services, Inc. SIT-1 Kit" in your application to State of Texas, Division of Licensing, or the NRC Division of Licensing.

C A U T I O N

1. Portable survey instruments should be used during all smear testing.
2. Rubber gloves should be worn, especially when handling beta sources.
3. Always use tweezers, tongs, forceps or handles to keep all sources at least one foot away; work with your arms extended.
4. Conduct a dry-run on all beta sources in excess of 1 mCi, gamma sources on  $^{60}\text{Co}$  up to 40 mCi and  $^{137}\text{Cs}$  up to 150 mCi, to assure that shielding is sufficient to limit the exposure of personnel doing the test.
5. If the "wet" patch dries out, it should be moistened by adding 1/2 cc of water, which renews its effectiveness for testing.

TO PERFORM TEST

1. Remove the source from its container and place it in a shielded area. (In those cases where it is impractical to remove a permanently fixed source from a special container, it is acceptable to make the smear on an accessible area adjacent to the source; for example, inside a conical beaming port. The source should be kept shielded while smearing the area.)
2. Remove the wet filter cloth from its envelope (by using the zip-lip opening) and thoroughly smear the source or the area of the source container which contacts the source.
3. Replace this smear in the plastic envelope provided and reseal the zip-lip opening.
4. Place the plastic envelope, along with the "Leak Test Request and Report Form", S.S.I.-02, in the supplied, self-addressed envelope and mail to Suntrac Services, Inc.
5. Upon receipt of your completed data sheet and smears from your test, Suntrac Services, Inc. will perform the necessary assay and evaluation and will issue a certification of the results. The certificate should be retained for review by the Texas State Compliance Division or your licensing authority upon request.



U. S. NUCLEAR REGULATORY COMMISSION  
MATERIALS LICENSE

Page 1 of 3 Pages

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-439), and Title 10, Code of Federal Regulations, Chapter 1, Parts 30, 31, 32, 33, 34, 35, 36, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s); and to import such byproduct and source material. This license shall be deemed to contain the conditions specified in Section 153 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee		
1. Interlake, Incorporated		3. License number 12-16147-03
2. 10730 Burley Avenue Chicago, Illinois 60617		4. Expiration date July 31, 1985
		5. Docket or Reference No.
6. Byproduct, source, and/or special nuclear material	7. Chemical and/or physical form	8. Maximum amount that licensee may possess at any one time under this license
A. Cesium-137	A. Sealed sources (General Radioisotope Products Model No. 850233 or 6082, Gamma Industries Model No. VD or NEN Model No. NER-570)	A. 2 sources not to exceed 1000 millicuries each
B. Americium-241	B. Sealed sources (Monsanto Research Corporation Model No. MRC-N-SS-W-Ambe, General Radioisotopes Products Model No. 7022 or NEN Model No. NER-550)	B. 2 sources not to exceed 500 millicuries each
9. Authorized use		
A. To be used in Kay-Ray, Inc. Model 7051 source holders for material density measurement.		
B. To be used in Kay-Ray, Inc. Model 7100 source holders for measurement of moisture in coke.		

CONDITIONS

10. Licensed material shall be used only at the licensee's facilities at 10730 Burley Avenue, Chicago, Illinois.

U. S. NUCLEAR REGULATORY COMMISSION  
MATERIALS LICENSE

Page 1 of 3 Pages

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter 1, Parts 30, 31, 32, 33, 34, 35, 36, 40 and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s); and to import such byproduct and source material. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

## Licensee

1. Interlake, Incorporated

2. 10730 Burley Avenue  
Chicago, Illinois 60617

3. License number 12-16147-02

4. Expiration date March 31, 1985

5. Docket or  
Reference No.6. Byproduct, source, and/or  
special nuclear material7. Chemical and/or physical  
form8. Maximum amount that licensee  
may possess at any one time  
under this license

A. Cesium-137

A. Sealed Source (Texas  
Nuclear Model No.  
570-57157C)A. 1 source not to exceed  
500 millicuries

## 9. Authorized use

A. To be used in Texas Nuclear Model 5191 source holder for density measurement.

## CONDITIONS

10. Licensed material shall be used only at 11236 Torrence Avenue, Chicago, Illinois.

11. The licensee shall comply with the provisions of Title 10, Chapter 1, Code of Federal Regulations, Part 19, "Notices, Instructions and Reports to Workers; Inspections" and Part 20, "Standards for Protection Against Radiation."

12. Licensed material shall be used by, or under the supervision of, Robert J. Oblon.