

ATTACHMENT - FORM AEC 313 (8-69)

Jones & Laughlin Steel Corporation  
Aliquippa Works  
P. O. Box 490  
Aliquippa, Pa. - 15001

ITEM #13 - FACILITIES AND EQUIPMENT

Enclosed are the following drawings which describe the specific installation of the Kay-Ray, Inc. Granular Solids, Moisture Gauge Systems, Mod. 2500 C in accord with manufacturers recommendations:

- No. AA-5103 - A-2 Blast Furnace Stock House, Coke Bins, Screens, Coke Weigh Hoppers
- No. AA-5105 - A-2 Blast Furnace Stockhouse, Skip Pit
- No. AA-5108 - A-2 Blast Furnace Department, General Arrangement
- No. AA-8220 - A-2 Blast Furnace Department, General Arrangement, Coke Moisture Detection System
- No. AA-8240 - A-2 Blast Furnace Department, Details, Coke Moisture Detection System.

B/11

## ITEM #14 - RADIATION PROTECTION PROGRAM

### A. Initial Installation and Surveys

The Granular Solids Moisture Gauge Systems will be installed initially by Jones & Laughlin Steel Corporation authorized personnel in accordance with the manufacturers recommendations and under the supervision of qualified Kay-Ray, Inc. personnel.

Kay-Ray, Inc. personnel will be in attendance at the time of uncrating, installation, and start-up of the System.

Initial radiation surveys will be conducted by Kay-Ray, Inc. personnel.

#### Access into the Coke Weigh Hoppers

Personnel access into the interior of the Coke Weigh Hoppers will be restricted to authorized personnel and only for necessary inspections and maintenance. All accesses will be locked and under the control of the Radiation Safety Officer or his authorized representatives.

When entry into the coke weigh hopper is required, all source devices will be placed into the locked "stored" position prior to unlocking any access entrance. The Radiation Protection Officer, or his authorized representatives, will verify that the sources are in the "stored" position prior to permitted entry of personnel into the weigh hoppers.

All source devices will remain in the locked "stored" position until it has been verified by the Radiation Protection Officer, or his authorized representative, that no personnel have remained inside the weigh hopper(s) and all access entrances have been locked.

### B. Operating Procedures

Operations of the Granular Solids. Moisture Gauge Systems will be in accord with the manufacturer's recommendations contained in the instruction manuals supplied.

### C. Maintenance and Repair

Source replacement, and maintenance and repair of source holders containing by-product materials shall be performed by Kay-Ray, Inc. or other persons specifically authorized by the Commission or an Agreement State to perform such services.

Relocation, removal, and reinstallation of source devices will be performed by authorized Jones & Laughlin Steel Corporation personnel under the supervision of the Radiation Protection officer at such times as necessary for maintenance or repair of the coke weigh hoppers.

ITEM #14 - RADIATION PROTECTION PROGRAM - CONTINUED

C. Maintenance and Repair - Continued

- All source holders will be placed in the locked "stored" position prior to the removal of the source holder from its mounting, and remain in this locked "stored" position until re-installed on the coke weigh hoppers.

D. Leak Test Procedures

Initial leak testing of all sealed sources and testing for proper operation of the on-off mechanisms will be performed by Kay-Ray, Inc. personnel.

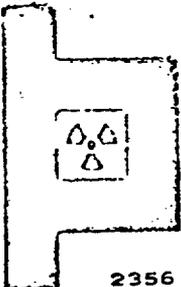
Leak testing and testing for proper operation of the on-off mechanisms will be performed at six-month intervals by Kay-Ray, Inc. personnel or authorized Jones & Laughlin Steel Corporation personnel using Health Physics Associates, Ltd., Highland Park, Illinois, leak test kits. (See enclosed instructions).

E. Emergency Procedure

In the event of an emergency involving the sealed sources or source holders, such as physical damage, fire, oil leaks, etc., the source holders will be placed in the locked "stored" position, if possible. The Director of the appropriate AEC Compliance Office shall be notified in accord with 10 CFR 20. Corporate Industrial Health Engineering personnel will be notified to provide health physics assistance, and Kay-Ray, Inc. will be notified to provide assistance as deemed necessary.

ITEM #15 - WASTE DISPOSAL

No waste disposal is involved. In the event of damage to the sealed sources or source holders, they will be returned to Kay-Ray, Inc. or other persons specifically authorized by the Commission for repair or disposal as required.



HEALTH PHYSICS ASSOCIATES LTD. CONS. AMES

2356 SKOKIE VALLEY ROAD / HIGHLAND PARK, ILL 60035 / PHONE: AREA (312) 433-3330

LEAK TEST INSTRUCTIONS FOR XAY-RAY MODEL 2500 GAUGES CONTAINING 241-AMERICIUM SOURCES

These instructions are dependent upon the leak testing to be performed in two stages. The first stage is done in the field by the user with the kit furnished and the second analysis stage, in the laboratory of HEALTH PHYSICS ASSOCIATES. The attached information sheet should be completed in duplicate and returned with the wipes.

Materials:

- 1 - Pair disposable plastic gloves.
- 3 - Filter papers in flat metal tins.
- 1 - Leak test instructions.
- 2 - Duplicate report forms.

Station Safety Precautions:

Operator should wear the disposable gloves provided while taking the wipes. They are removed, after the wipes are placed into the tins, by a sterile technique (by grasping inner surface at wrist). The gloves are placed in the bag provided and returned to HEALTH PHYSICS ASSOCIATES. Wash hands when through. Always ascertain the source is in "store" position before beginning tests.

Leak Test Procedures:

1. Wet filter paper from tin #1 with 1-2 drops of water. Using moderate pressure without tearing the paper, wipe around interface of source head and hopper.
2. Wet filter paper from tin #2 with 1-2 drops of water. Using moderate pressure, wipe around the "O" ring seal of the source actuating handle shaft protruding from source head.
3. Wet filter paper #3 as above, using moderate pressure, wipe area on source head or hopper where activity may be present.
4. Insert completed information sheets (in duplicate; gloves, bag and tins into shipping box, apply enclosed label stamp and mail to HEALTH PHYSICS ASSOCIATES.

HEALTH PHYSICS ASSOCIATES LTD. CONSULTANTS IN RADIATION SAFETY

2356 SKOKIE VALLEY ROAD / HIGHLAND PARK, ILL. 60035 / PHONE: AREA (312) 433-3330

LEAK TEST INSTRUCTIONS FOR KAY-RAY MODEL 5701 GAUGES CONTAINING 137 CESIUM SOURCES

Materials:

Three swab sticks in tubes.  
Vial with wetting agent.  
Plastic gloves in bag.  
Set of wipe test instructions.  
Information sheet.

Radiation Safety Precautions:

Operator should wear the disposable gloves provided while taking the wipes. They are removed, after the wipes are placed into the tins, by a sterile technique (by grasping inner surface at wrist). The gloves are placed in the bag provided and returned to HEALTH PHYSICS ASSOCIATES. Wash hands when through. Always ascertain the source is in "store" position before beginning tests. Handle swab stick by cap only. Do not handle stick or cotton tip.

Leak Testing Procedures:

1. Add water to test tube containing wetting agent until it is approximately half full. It will be used to wet swab sticks before making wipes.
2. Wet swab stick #1 in wetting agent furnished and wipe interface of source head and mounting surface, i.e., Hopper, Pipe, etc..
3. Wet swab stick #2 in wetting agent furnished and wipe around shaft of source actuating handle, that protrudes through source head.
4. Wet swab stick #3 in wetting agent furnished and wipe around bolt holes protruding through source head base plate.
5. Place all swab stick tubes in returnable mailing container, remove gloves per instructions above and place in bag provided for return to HEALTH PHYSICS ASSOCIATES.
6. Set survey meter to its most sensitive range in a low background area. Bring container with swabs to meter and note maximum deflection of meter above background.
7. If meter indication is 0.4 mR/hr or less, above background, place the return label provided on container and return to HEALTH PHYSICS ASSOCIATES, with completed information sheet enclosed.
8. If available survey meter is not a geiger counter type (e. g. ion chamber) and cannot read down to 0.4 mR/hr, determine that reading is less than 2.0 mR/hr on contact. Return container to HEALTH PHYSICS ASSOCIATES via REA express. Do not ship if indicated surface activity is greater than 2.0 mR/hr, and call HEALTH PHYSICS ASSOCIATES for further instructions.



Plant ALIQUIPPA WORKS

(See Reverse Side for Instructions)

Address Aliquippa, Pa. - 15001

TRAINING AND EXPERIENCE WITH IONIZING RADIATION OF PERSONNEL OF IRON PRODUCING DEPARTMENT  
(Department) *efl*

Name A.S. Hurbanek Job Title Practice Soc. Sec. No. [REDACTED] Date 4-8-74

IONIZING RADIATION TRAINING

TYPE OF TRAINING	WHERE TRAINED	DURATION OF TRAINING			
		ON JOB	TIME	FORMAL COURSE	TIME
1. Principles and Practices of Radiation Protection.	Kay-Ray, Inc.	-	-----	4 Hours	Feb. (1974)
	J&L Steel Corporation - Aliquippa Works	Yes	4 hours (1966)	None	--
2. Radioactivity (Radiation) measurements, standardization, and monitoring techniques and instrumentation.	Kay-Ray, Inc.	-	-	4 Hours	Feb. (1974)
	J&L Steel Corporation Aliquippa Works	Yes	4 Hours (1966)	None	--
3. Mathematics and calculations basic to use and measurement of radioactivity (radiation).	Kay-Ray, Inc.	-	-	4 Hours	Feb. (1974)
	J&L Steel Corporation Aliquippa Works	Yes	4 Hours (1966)	None	--
4. Biological effects of radiation.	J&L Steel Corporation Aliquippa Works	Yes	2 Hours (1966)	None	--
	J&L Steel Corp. Aliquippa Works	Yes	6 Mos. (1966-67)	None	--
5. In actual use of ionizing radiation Describe source: <u>AM 241 - 2 curies</u> <u>Cs 137 - 2 curies</u>					

IONIZING RADIATION EXPERIENCE

TYPE OF IONIZING RADIATION	SIZE OR RATING OR MAX. QUANTITY	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	USE OF IONIZING RADIATION SOURCE
<i>241</i> AM - 241 - BE	2 curies	J&L Steel Corporation --Graham Research --Aliquippa Works	1966- Present	Determination of coke moisture (Nuclear Chicago Corp., Qualicon 5072)
<i>137</i> - 137	2 curies	--Aliquippa Works	1966-67	Bulk Moisture Gauge

## INSTRUCTIONS

1. DEPARTMENT Administrative Division of Plant or Facility under which personnel received supervision regarding use of ionizing radiation source.
2. IONIZING RADIATION Any device or material capable of producing ionizing radiation.
3. TRAINING:
  - A. TYPE OF TRAINING As categorized in the 5 listed groups.
  - B. WHERE TRAINED Organization under which training was received (i.e. university, civil defense, research laboratories, industrial plant, etc.)
  - C. DURATION OF
    - (1) On Job — training received while working with ionizing radiation source(s) under supervision of experienced personnel.  
  
Time — time spent in On Job training, days, weeks, months (i.e. 6 mos. - July 1954 - Dec. 1954).
    - (2) Formal — organized training session or course provided by, or under, supervision of a qualified person(s).  
Course  
  
Time — same as above.
4. EXPERIENCE
  - A. EXPERIENCE To include actual working with ionizing radiation sources (as defined above), other than training period(s).
  - B. TYPE OF IONIZING RADIATION To include ALL types of ionizing radiation source(s) as defined above.
  - C. SIZE OR RATING MAX. QUANTITY In terms of max. KVP and MA in the case of radiation producing equipment.  
In terms of amounts of radioactive materials (i.e.) millicuries of radioactive isotopes or pounds of natural radioactive materials.
  - D. WHERE EXPERIENCE GAINED Administrative organization under which individual received experience.
  - E. DURATION OF Total time of ACTUAL work with ionizing radiation source, exclusive of training.
  - F. USE OF Actual purpose or use of ionizing radiation source during time experience was gained.



## JONES &amp; LAUGHLIN STEEL CORPORATION



Plant ALIQUIPPA WORKS

(See Reverse Side for Instructions)

Address ALIQUIPPA, PA. - 15001

TRAINING AND EXPERIENCE WITH IONIZING RADIATION OF PERSONNEL OF IRON PRODUCING DEPARTMENT (Department) *EPL*

Name N. G. SMITH Job Title GENERAL FOREMAN Soc. Sec. No. [REDACTED] Date 4-8-74

## IONIZING RADIATION TRAINING

TYPE OF TRAINING	WHERE TRAINED	DURATION OF TRAINING			
		ON JOB	TIME	FORMAL COURSE	TIME
1. Principles and Practices of Radiation Protection.	Jones & Laughlin Steel Corp. Aliquippa Works	Yes	1 Hour (1965)	None	--
2. Radioactivity (Radiation) measurements, standardization, and monitoring techniques and instrumentation.	Jones & Laughlin Steel Corp. Aliquippa Works	Yes	1 Hour (1965)	None	--
3. Mathematics and calculations basic to use and measurement of radioactivity (radiation).	Jones & Laughlin Steel Corp. Aliquippa Works	Yes	1 Hour (1965)	None	--
4. Biological effects of radiation.	Jones & Laughlin Steel Corporation Aliquippa Works	Yes	1 Hour (1965)	None	--
5. In actual use of ionizing radiation Describe source: AM-241 - 2 curies Cs-137 - 2 curies	Jones & Laughlin Steel Corporation Aliquippa Works	Yes	2 weeks (1965)	None	--

## IONIZING RADIATION EXPERIENCE

TYPE OF IONIZING RADIATION	SIZE OR RATING OR MAX. QUANTITY	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	USE OF IONIZING RADIATION SOURCE
AM-241-Be	2 curies	J&L Steel Corp. Aliquippa Works	1966 - Present	Determination of 6KE Moisture (Nuclear Chicago Corp., Qualicon 5072, Bulk Moisture Gauge)
Cs - 137	2 curies	J&L Steel Corp. Aliquippa Works	1966 - 67	

## INSTRUCTIONS

1. DEPARTMENT Administrative Division of Plant or Facility under which personnel received supervision regarding use of ionizing radiation source.
2. IONIZING RADIATION Any device or material capable of producing ionizing radiation.
3. TRAINING:
  - A. TYPE OF TRAINING As categorized in the 5 listed groups.
  - B. WHERE TRAINED Organization under which training was received (i.e. university, civil defense, research laboratories, industrial plant, etc.)
  - C. DURATION OF
    - (1) On Job — training received while working with ionizing radiation source(s) under supervision of experienced personnel.  
Time — time spent in On Job training, days, weeks, months (i.e. 6 mos. - July 1954 - Dec. 1954).
    - (2) Formal — organized training session or course provided by, or under, supervision of a qualified person(s).  
Course  
Time — same as above.
4. EXPERIENCE
  - A. EXPERIENCE To include actual working with ionizing radiation sources (as defined above), other than training period(s).
  - B. TYPE OF IONIZING RADIATION To include ALL types of ionizing radiation source(s) as defined above.
  - C. SIZE OR RATING MAX. QUANTITY In terms of max. KVP and MA in the case of radiation producing equipment.  
In terms of amounts of radioactive materials (i.e.) millicuries of radioactive isotopes or pounds of natural radioactive materials.
  - D. WHERE EXPERIENCE GAINED Administrative organization under which individual received experience.
  - E. DURATION OF Total time of ACTUAL work with ionizing radiation source, exclusive of training.
  - F. USE OF Actual purpose or use of ionizing radiation source during time experience was gained.

RECEIVED  
S. A. T. E. R. E. T. T. Y. C. O. M. M.  
F. I. L. E. D.  
M. A. Y. 11 1954

MAY 11 PM 1 30

RECEIVED