

UNITED STATES ATOMIC ENERGY COMMISSION  
DIVISION OF COMPLIANCE

INSPECTION FINDINGS AND LICENSEE ACKNOWLEDGMENT

1. LICENSEE <b>JONES &amp; LAUGHLIN STEEL CORP.</b> <b>Aliquippa Works Division</b> <b>Aliquippa, Pennsylvania 15001</b>	2. REGIONAL OFFICE <b>U. S. Atomic Energy Commission</b> <b>Region I, Division of Compliance</b> <b>376 Hudson Street</b> <b>New York, New York 10014</b>
3. LICENSE NUMBER(S) <b>37-02567-02</b>	4. DATE OF INSPECTION <b>May 18, 1966</b> (Initial)
5. INSPECTION FINDINGS <input checked="" type="checkbox"/> A. No item of noncompliance was found. <input type="checkbox"/> B. Rooms or areas were not properly posted to indicate the presence of a RADIATION AREA. 10 CFR 20.203(b) or 34.42 <input type="checkbox"/> C. Rooms or areas were not properly posted to indicate the presence of a HIGH RADIATION AREA. 10 CFR 20.203(c) (1) or 34.42 <input type="checkbox"/> D. Rooms or areas were not properly posted to indicate the presence of an AIRBORNE RADIOACTIVITY AREA. 10 CFR 20.203(d) <input type="checkbox"/> E. Rooms or areas were not properly posted to indicate the presence of RADIOACTIVE MATERIAL. 10 CFR 20.203(e) <input type="checkbox"/> F. Containers were not properly labeled to indicate the presence of RADIOACTIVE MATERIAL. 10 CFR 20.203(f) (1) or (f) (2) <input type="checkbox"/> G. Storage containers were not properly labeled to show the quantity, date of measurement, or kind of radioactive material in the containers. 10 CFR 20.203(f) (4) <input type="checkbox"/> H. A current copy of 10 CFR 20, a copy of the license, or a copy of the operating procedures was not properly posted or made available. 10 CFR 20.206(b) <input type="checkbox"/> I. Form AEC-3 was not properly posted. 10 CFR 20.206(c) <input type="checkbox"/> J. Records of the radiation exposure of individuals were not properly maintained. 10 CFR 20.401(a) or 34.33(b) <input type="checkbox"/> K. Records of surveys or disposals were not properly maintained. 10 CFR 20.401(b) or 34.43(d) <input type="checkbox"/> L. Records of receipt, transfer, disposal, export or inventory of licensed material were not properly maintained. 10 CFR 30.51, 40.61 or 70.51 <input type="checkbox"/> M. Records of leak tests were not maintained as prescribed in your license, or 10 CFR 34.25(c) <input type="checkbox"/> N. Records of inventories were not maintained. 10 CFR 34.26 <input type="checkbox"/> O. Utilization logs were not maintained. 10 CFR 34.27	
<div style="text-align: right;"> <b>Alfred W. Grella</b> (AEC Compliance Inspector)</div>	
6. LICENSEE'S ACKNOWLEDGMENT The AEC Compliance Inspector has explained and I understand the items of noncompliance listed above. The items of noncompliance will be corrected within the next 30 days. <div style="display: flex; align-items: center;"><div style="border: 1px solid black; border-radius: 50%; width: 40px; height: 40px; margin-right: 10px; display: flex; align-items: center; justify-content: center;"></div><div style="flex-grow: 1; border-bottom: 1px solid black; position: relative;"><div style="position: absolute; left: 0; bottom: -10px;">(Date)</div></div></div>	

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# INSPECTION NOTES

Notes Reviewed By AKK 1/1/66  
Inspector A. W. Grella

Jones and Laughlin Steel Corp.  
Aliquippa Works Division  
Blast Furnace Dept.  
Aliquippa, Pa. 15001

LICENSEE: Aliquippa, Pa. 15001

Lic. No. 37-02567-02

Type Inspection: (I) (RI) (Announced) (Unannounced) Date 5/18/66

## I. GENERAL INFORMATION

A. Inspection on: 10 CFR (20) (30) (31) (40) (70)

B. Persons Accompanying:

Name

Position/Organization

1. None, State of Pa. notified

2. \_\_\_\_\_

C. Persons Contacted: (inc. name, title, rad duties, reports to)

1. A. A. Mammarelli, Ind. Hyg. Eng., J&L Steel, Ind. Hyg. Dept., reports

Experience: to J. Janous, Supv., Ind. Hyg. for J&L Steel. Ind. Hyg. De

is responsible for all radiation safety and Ind. Hyg. ac-  
tivities with the corp. Mammarelli with J&L 2 yrs. former  
an Ind. Hyg. with Pa. State Health Dept.

~~XX~~

2. ~~XXXXXXXXXX~~ Mr. T. B. Duckworth, Supt., Blast Furnace Dept.

3. G. L. Owens, Gen. Foreman, Blast Furnace Dept. reports to  
Duckworth.

4. A. T. Sadler, Asst. Works Mgr., Aliquippa Works, J&L Steel

5. G. G. Aromatorio, Asst. Supt. Blast Furnace Dept.

Experience: \_\_\_\_\_

For person(s) acting as RSO summarize authority: Owens acts as RSO for  
uses of licensed material, obtaining advise and assistance on radia-  
tion safety from the Corporate Industrial Hygiene Dept.

D. Radiation Safety Comm. (Yes) (No). Meetings \_\_\_\_\_ Minutes \_\_\_\_\_

Members, 1. \_\_\_\_\_

Position & \_\_\_\_\_

Who report 2. \_\_\_\_\_

to \_\_\_\_\_

3. \_\_\_\_\_

Scope & \_\_\_\_\_

Authority \_\_\_\_\_

of \_\_\_\_\_

Committee \_\_\_\_\_

## NONCOMPLIANCE NOTED

None, Mgmt. Summation with Mamarelli, Duckworth,  
and Sadler, Clear 591 issued in field

Item	See Page, Para	Item	See Page, Para
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

E. Organization and Administration:

1. Summary of O&A and Program (as pertains to lic. materials)

The Aliquippa Works Division is the largest of several major steel mill factories of J&L Steel Corp. located in the Pittsburgh area. At this facility which is approx. 6 miles long and 1/2 mile wide, complete facilities for steel making and fabrication of intermediate steel mill products are located. Approx. 13,500 persons are employed. The uses of byproduct material under this license are within the Blast Furnace Dept. which employed approx. 1000 persons. Mr. Duckworth is Supt. of the Blast Furnace Dept. and Mr. Aromatorio, an authorized user the Asst. Supt. Mr. Owens, Gen. foreman of the Blast Furnace Dept is the primary user and designated RSO, reporting to Aromatorio. The total number of persons involved with licensed activity in any capacity is less than 30 being supv. personnel, several mill workers whose operating positions occasions occupancy near the gage, and approx. 25 maintenance workers.

2. Affiliations:

F. Facilities & Uses of Byproduct/Source/Special Nuclear Material

1. Isotopes:

<u>Material/Form</u>	<u>Lic. Limit</u>	<u>Qty on Hand</u>	<u>Qty/Assay</u>	<u>Supplier</u>	<u>Use/rate/quantity</u>
A. Cs-137 as Nuc. Chic. #850233 sealed source in a Nucl. Chic. Qualicon Model 506 density gage	1 source not to exceed 2C	1	2C	Nuc. Chic.	On line continuously installed on coke hopper for measurement of bulk density of coke in conj. with Qualicon 5072 Bulk rate moisture gage

(See attached page for B)

(over for add'l info)

2. Persons using Material(s): (inc.: name, title, duties, training, experience)

(a) G. G. Owens, Blast Furnace Dept. foreman

(b) G. G. Aromatorio, Asst. Supt., Blast Furnace Dept.

Training to Owens, Aromatorio, plus maintenance and production

X(XX) workers involved was given by A. A. Mammarelli during two training sessions on 4/12/66 and 4/22/66. This training covered Radiological safety considerations in the use and possession of the Bulk Moisture and density gages containing the licensed material.



F. 3. Facilities:

Licensee uses: ( ) Lab ( ) Counting room ( ) Fume Hood ( ) Dry Box  
( ) Table/bench ( ) remote hand. equip. ( ) protective clothing  
(X) Other \_\_\_\_\_

Describe checked items: <sup>the</sup> Bulk density and bulk moisture gages are installed on the side walls of a coke hopper which is located at the end of a tall coke chute, through which coke is fed from exterior bulk loading power operated crane buckets. The area of the coke hopper is one of very low personnel occupancy, the nearest employee being the "skip operator" who is positioned approx. 8' away from the hopper for most of the 8 hour shift, as a "Larry car" operator, (coke receptacles <sup>under</sup> ~~from~~ hopper) who is approx. 3-4 feet ~~xxxxx~~ away for less than 4hrs/day.

4. Restricted Area Established No Describe \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. Summary of Handling Procedures/Operations:

Original installation <sup>of</sup> ~~was~~ gages was supervised by a Nuclear Chicago field engineer on 5/1/66. In accordance with License Condition 16, subsequent maintenance had been by J&L Blast Furnace Dept. maintenance personnel on portions of the gage other than the source holder.

6. Instrumentation & Calibration Procedures:

No assigned instruments are available at the Blast Furnace Dept., however, the Ind. Hygiene Dept. possesses various survey instruments as does the Tin Plate Dept. at the Aliquippa Works, for use in another license program (J7-2567-1)

7. Other Notes: e.g. for radiographer usage rate, exposure times, time spent in high radiation areas  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



H. Procurement Procedures & Control

1. Person ordering/responsible & method: Owens, <sup>with</sup> prior approvals by Duckworth and Industrial Hygiene Dept.

2. Person insuring limits not exceeded: Owens

3. Supplier: Nuclear Chicago

4. Summary of procurement & receipt method: (records) \_\_\_\_\_

5. ( ) Preassayed: \_\_\_\_\_

( ) Sterilized: \_\_\_\_\_

( ) Leak Tested: \_\_\_\_\_

I. Storage & Security of Material

(Un)restricted Area (Un)locked space Summary: Gage units permanently mounted to exterior sides of coke hopper. Keys to on-off control mechanisms and access <sup>door</sup> to hopper <sup>in</sup> exterior held only by Owens and Aromatorio.

J. Waste Disposal (method & quantities involved, records & dates)

1. Sanitary sewer \_\_\_\_\_

2. Burial \_\_\_\_\_

3. Transfer \_\_\_\_\_

4. Incineration \_\_\_\_\_

K. ( ) Posting of Areas CRA CHRA CRM CARA  
(x) Labeling Containers ( ) Tagging Sources  
( ) AEC-3 posted & where: \_\_\_\_\_

Summary: Each gage noted to contain metal tags reading as follows:

Bulk Moisture Gage  
"Nuclear Chicago Qualicon

No. 507  
Type 5156 S/N 37

AM-BE

Caution Radioactive Material

(Rad. symbol)

2000 mc 9/6/65

Do not remove this tag"

Bulk Density Gage  
"Nuclear Chicago Qualicon

No. 506  
Type 5176 S/N 337

CS-137 2000 mc

2/30/64

Caution Radioactive Material

(Rad. symbol)

Do not remove this label"

LIFT UP FOR PAGE 6



L. Personnel Monitoring Program (Yes) (No) - ( ) AEC-4 ( ) AEC-5

1. Film Badge: supplier \_\_\_\_\_  
frequency \_\_\_\_\_  
review of records: (persons & readings) \_\_\_\_\_

\_\_\_\_\_  
No personnel monitoring performed. Licensee stated intention to  
\_\_\_\_\_  
carry out a limited monitoring program shortly for several months  
\_\_\_\_\_  
to establish and document their conclusion that monitoring will not be  
\_\_\_\_\_  
required.

2. Wrist badge: supplier \_\_\_\_\_ Frequency \_\_\_\_\_  
Records: \_\_\_\_\_

3. Dosimeters: Supplier: \_\_\_\_\_ Read by: \_\_\_\_\_  
Records (persons & readings) \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Surveys: ( ) Bioassay ( ) Breath Anal. ( ) other  
Describe: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

5. Further information on AEC-4, -5, other related to personnel program:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
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\_\_\_\_\_

AEC CONTRACTS ( ): \_\_\_\_\_  
\_\_\_\_\_

M. For Radiographers:

1. Leak tests: (31.105)
  - (a) performed by: \_\_\_\_\_
  - (b) persons lic. to perform: \_\_\_\_\_
  - (c) description of method: \_\_\_\_\_
2. Instrument & Calibration Procedures (31.104)  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
3. Quarterly Inventory (31.106)                      if  
\_\_\_\_\_  
\_\_\_\_\_
4. Utilization Logs: description - identity - site (31.107)  
\_\_\_\_\_  
\_\_\_\_\_
5. Securing of sources & container-records (31.303)  
\_\_\_\_\_  
\_\_\_\_\_
6. Dosimeter & film badge records (31.203)  
\_\_\_\_\_  
\_\_\_\_\_
7. License Conditions:
  8. Per 31.102, 103 - Devices/containers properly locked & stored.
  9. Status & compliance with operating & emergency procedures (31.202)  
\_\_\_\_\_  
\_\_\_\_\_
10. Per 31.201 Limitations on radiographers & assistant rad. followed.
11. Security and surveillance during rad. operations (31.301).
12. Radiation levels on devices & containers (31.101) - (inspector's survey readings)

Note: Describe noncompliance items on back & reference applicable section of Part I.



N. 10 CFR 31 - Radiographic operations

---	---	---	101	Limit of rad. level for devices & containers
---	---	---	102	Locking requirements for devices & containers
---	---	---	103	Storage precautions
---	---	---	104	Instruments, calibration & calib. record
---	---	---	105(a)	Auth, personnel handle etc. sealed source
---	---	---	105(b)	Leak test - 6 mo. interval
---	---	---	105(c)	Detectable level .005 uc - record of tests
---	---	---	105(d)	Level greater than .005 uc-withdraw & report
---	---	---	105(e)	Tag for loose sealed source (i.e. not in/fastened)
---	---	---	106	Quarterly Inventory
---	---	---	107	Utilization Logs (description/person/site)
---	---	---	201(a)	Qualifications for radiographer
---	---	---	201(b)	Qualifications for asst. radiographer
---	---	---	202	Licensee's operating & emergency procedures
---	---	---	203(a)	Film badge & dosimeter requirements for rad.
---	---	---	203(b)	Badge & dosimeter records
---	---	---	301	Security of high rad. areas
---	---	---	302	Posting radiographic areas
---	---	---	303(a)	Calibrated & Operable instr. at exposure site
---	---	---	303(b)	Survey of device after each exposure
---	---	---	303(c)	Survey when securing device & also contain.
---	---	---	303(d)	Records of surveys conducted per 303(c)

Note: Explain SLR's meaning of an adequate instrument calibration procedure. Check sources not adequate

II. Compliance with 10 CFR

A. 10 CFR 20:

N/C	OK	NA	Paragraph	Topic
---	---	✓	101(a)	Exposure limits in Restr. Area
---	---	✓	101(b)	Exposure exceptions - AEC-4
---	---	✓	102(b)	Determ. Acc. Dose & AEC-4
---	---	✓	102(c)	Records & Prep. of AEC-4
---	---	✓	103	Exp. to Conc. in Restr. Area
---	---	✓	104(a)(b)	Exposure of Minors - Material/Airborne
---	✓	---	105(a)(b)	Levels in Unrestricted Areas - Except 2 mr/hr, 100 mr
---	---	✓	106	Effluents in Unrestricted Areas
---	---	✓	108	Orders Requiring Bioassays
---	✓	✓	201(b)	Surveys - 201(a) describes
---	✓	✓	202(a)	Personnel Monitoring Requirements
---	---	✓	203(b)	Posting Rad. Areas w/CRA
---	---	✓	203(c)	Posting High Rad. Areas w/CHRA
---	---	✓	203(d)	Posting Airborne Areas w/CARA
---	✓	✓	203(e)	Posting Require. Rooms/Areas w/CRM
---	---	X	203(f)	Labeling Containers (ref. Append. C) CRM
---	---	X	204	Lists posting exceptions - sealed/hospitals/ 8 hour limit
---	---	X	205	Exceptions for RM shipments
---	✓	---	206(a)	Instruction of Personnel in Restr. Area
---	✓	---	206(b)	Procedures, Regulations, License Available
---	---	✓	206(c)	AEC-3 posted in/near Restr. Area
---	✓	---	207	Storage Security of Licensed Material
---	---	✓	301	Gen. Waste Disposal Requirements
---	---	X	302	Methods of obtaining approval for waste disposals
---	---	✓	303(b)	Disposal to Sanit. Sewer - daily limits
---	---	✓	303(c)(d)	Disposal to Sanit. Sewer - monthly/yearly limits
---	---	✓	304	Disposal by burial - limits in (a)(b)(c)
---	---	✓	305	Disposal by incineration-must be licensed
---	✓	---	401(a)	Records-AEC-5 for persons req. per 202
---	✓	---	401(b)	Survey records per 20.201(b)
---	---	✓	401(b)	Disposal records per 302, 303, or 304
---	---	✓	402	Reports of theft or loss
---	---	✓	403(a)(b)	Notification of incidents (a)(b)
---	---	✓	404	Report to former employees of exposure
---	---	✓	405	Report of overexposure/excessive levels
---	---	✓	406	Employees request for annual exposure

B. 10 CFR 30:

N/C	OK	NA	Paragraph	Topic
---	✓	---	3	License requirements - use as lic. stipulates
---	---	✓	9	Exempt concentrations per 30.73
---	---	✓	23	Reg. for issuance of specific lic. - general
---	---	✓	24	Reg. for issuance of specific lic. - specific i.e. human use by inst. & phys. rad. etc.
---	✓	---	41(a)	Records - receipt, transfer, export, disposal

C. License Conditions: (refer by 'no.)

License Conditions # 10-16 Compliance with all listed conditions established

D. Previous N/C, status, & discussed with:



<u>Material/Form</u>	<u>License Limit</u>	<u>Quantity On Hand</u>	<u>Quantity/ Assay</u>	<u>Supplier</u>	<u>Use/Rate/Qty</u>
B. Am-241 as Am-Be sealed source, Monsanto Type NS- 23-NC in a Nucl. Chic. Model 5072 Bulk moisture gage.	1 source not to ex- ceed 2 C	1	2C	Nucl. Chic.	On line contin- uously installed on coke hopper for meas. of bu moisture of cok in conjunction with Qualicon Model 506 Bulk density gage

Both of the above units used together to measure bulk moisture content of coke in a  
a range of 3-16% moisture in coke prior to bulk transfer to the Blast furnaces used  
there to make steel.