



JONES & LAUGHLIN STEEL CORPORATION

ALIQUIPPA WORKS DIVISION

ALIQUIPPA, PA.

GENERAL OFFICES
3 GATEWAY CENTER
PITTSBURGH 30, PA.

January 19, 1966

U. S. Atomic Energy Commission
Division of Materials Licensing
Isotopes Branch
Washington, D. C. 20545

Attention: Mr. Robert E. Brinkman

Gentlemen:

Enclosed is our application for ammendment to our current license 37-2567-2 (F67) dated June 17, 1965.

Due to a change in the manufacturer's design, an Americium 241 - Beryllium neutron source is now available instead of a Pu-Be source for the Nuclear-Chicago Qualicon Moisture Gage. Since no source material has been received as of this date, as well as to enhance administrative control, in accord with 10CFR 30.38 it is requested that our current byproduct license be ammended to include Americium 241 in addition to the Cesium 137 source as stated in the enclosed ammendment application.

Statements, representations, and procedures contained in previous license application attachments dated May 21, 1965 are hereby referred for further details with the following exception:

1. Wherein "Cesium 137" is presented, replace with Americium 241.
2. Item 14 - paragraph A, paragraph 1, replace "Model 506" gauge with "Model 507" gauge.
3. Item 13 - delete last sentence beginning, "Enclosed drawings.....".

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JONES & LAUGHLIN STEEL CORPORATION

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The Qualicon 5072 Bulk Moisture Gauge is still to be obtained from Nuclear-Chicago Corporation, initially on a rental-purchase agreement. No radioactive sources have been received as yet.

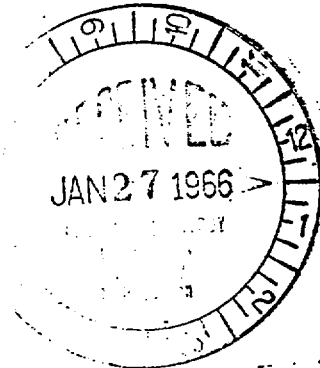
If further information is desired, please address your reply to:

Gerald L. Owens, General Foreman
Blast Furnace Department
Jones & Laughlin Steel Corporation
Aliquippa Works Div.
Aliquippa, Pa.
Telephone: ~~761-8000~~, extension 4706
375-5551

Yours very truly,

T. B. Duckworth

T. B. Duckworth
Superintendent
Blast Furnace Department



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| Form AEC-313 (5-58) | | ATOMIC ENERGY COMMISSION APPLICATION FOR BYPRODUCT MATERIAL LICENSE | Form approved. Budget Bureau No. 38-R027.4.1 |
|--|--|--|---|
| INSTRUCTIONS. —Complete Items 1 through 16 if this is an initial application. If application is for renewal of a license, complete only Items 1 through 7 and indicate new information or changes in the program as requested in Items 8 through 15. Use supplemental sheets where necessary. Item 16 must be completed on all applications. Mail three copies to: U. S. Atomic Energy Commission, Washington 25, D. C. Attention: Isotopes Branch, Division of Licensing and Regulation. Upon approval of this application, the applicant will receive an AEC Byproduct Material License. An AEC Byproduct Material License is issued in accordance with the general requirements contained in Title 10, Code of Federal Regulations, Part 30 and the Licensee is subject to Title 10, Code of Federal Regulations, Part 20. | | | |
| 1. (a) NAME AND STREET ADDRESS OF APPLICANT. (Institution, firm, hospital, person, etc.) Jones & Laughlin Steel Corp. Aliquippa Works Div. Aliquippa, Pa. 15001 | | (b) STREET ADDRESS(ES) AT WHICH BYPRODUCT MATERIAL WILL BE USED. (If different from 1 (a).) (not applicable) | |
| 2. DEPARTMENT TO USE BYPRODUCT MATERIAL Blast Furnace Dept. | | 3. PREVIOUS LICENSE NUMBER(S). (If this is an application for renewal of a license, please indicate and give number.) Amendment for 37-2567-2 (F67) | |
| 4. INDIVIDUAL USER(S). (Name and title of individual(s) who will use or directly supervise use of byproduct material. Give training and experience in Items 8 and 9.) Gerald L. Owens, General Foreman Blast Furnace Dept. -and- G. G. Aromatorio, Asst. Supt. Blast Furnace Dept. | | 5. RADIATION PROTECTION OFFICER (Name of person designated as radiation protection officer if other than individual user. Attach resume of his training and experience as in Items 8 and 9.) Gerald L. Owens, General Foreman Blast Furnace Dept. | |
| 6. (a) BYPRODUCT MATERIAL. (Elements and mass number of each.) Americium 241-Beryllium | | (b) CHEMICAL AND/OR PHYSICAL FORM AND MAXIMUM NUMBER OF MILLICURIES OF EACH CHEMICAL AND/OR PHYSICAL FORM THAT YOU WILL POSSESS AT ANY ONE TIME. (If sealed source(s), also state name of manufacturer, model number, number of sources and maximum activity per source.) 1 - Sealed Source - 20 curies 0.407 grams Americium 241, stainless steel encapsulated as one 2.0 curie AM-Be neutron source. (Monsanto Chemical Corp. NS 22-NC) | |
| 7. DESCRIBE PURPOSE FOR WHICH BYPRODUCT MATERIAL WILL BE USED. (If byproduct material is for "human use," supplement A (Form AEC-313a) must be completed in lieu of this item. If byproduct material is in the form of a sealed source, include the make and model number of the storage container and/or device in which the source will be stored and/or used.) To be used in Nuclear-Chicago Corp. Qualicon 5072 Bulk Moisture Gage to measure moisture content of coke by reflection, inconjunction with Model 506 containing 2 curie Cs 137 to measure bulk density of coke. To be specifically contained within Nuclear-Chicago Model 507 housing, type 5155 or 5156. | | | |

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TRAINING AND EXPERIENCE OF EACH INDIVIDUAL NAMED IN ITEM 4 (Use supplemental sheets if necessary)

| 8. TYPE OF TRAINING | WHERE TRAINED | DURATION OF TRAINING | ON THE JOB (Circle answer) | FORMAL COURSE (Circle answer) |
|--|---|----------------------|---|---|
| a. Principles and practices of radiation protection | As provided by Nuclear-Chicago Corporation personnel at time of installation) | 2-3 days | Yes <input checked="" type="radio"/> No <input type="radio"/> | Yes <input type="radio"/> No <input checked="" type="radio"/> |
| b. Radioactivity measurement standardization and monitoring techniques and instruments | | 2-3 days | Yes <input checked="" type="radio"/> No <input type="radio"/> | Yes <input type="radio"/> No <input checked="" type="radio"/> |
| c. Mathematics and calculations basic to the use and measurement of radioactivity | | 2-3 days | Yes <input checked="" type="radio"/> No <input type="radio"/> | Yes <input type="radio"/> No <input checked="" type="radio"/> |
| d. Biological effects of radiation | | 2-3 days | Yes <input checked="" type="radio"/> No <input type="radio"/> | Yes <input type="radio"/> No <input checked="" type="radio"/> |

9. EXPERIENCE WITH RADIATION. (Actual use of radioisotopes or equivalent experience.)

| ISOTOPE | MAXIMUM AMOUNT | WHERE EXPERIENCE WAS GAINED | DURATION OF EXPERIENCE | TYPE OF USE |
|---------|----------------|--|------------------------|-------------|
| | | Instruction on operations of gauge, leak test procedures on source, and testing procedures for proper operation of shutter on-off mechanism by Nuclear-Chicago Corporation personnel at time of installation of gauge. | | |

10. RADIATION DETECTION INSTRUMENTS. (Use supplemental sheets if necessary.)

| TYPE OF INSTRUMENTS (Include make and model number of each) | NUMBER AVAILABLE | RADIATION DETECTED | SENSITIVITY RANGE (mr/hr) | WINDOW THICKNESS (mg/cm ²) | USE (Monitoring, surveying, measuring) |
|--|------------------|--------------------|------------------------------|---|---|
| None required. | | | | | |

11. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE.

None required.

12. FILM BADGES, DOSIMETERS, AND BIO-ASSAY PROCEDURES USED. (For film badges, specify method of calibrating and processing, or name of supplier.)

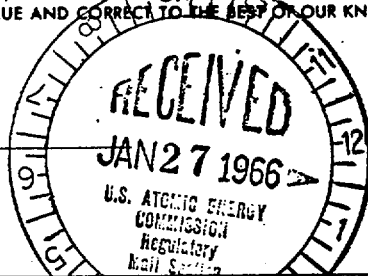
None required.

INFORMATION TO BE SUBMITTED ON ADDITIONAL SHEETS

| | |
|---|--|
| 13. FACILITIES AND EQUIPMENT. Describe laboratory facilities and remote handling equipment, storage containers, shielding, fume hoods, etc. Explanatory sketch of facility is attached. (Circle answer) | Yes <input checked="" type="radio"/> No <input type="radio"/> <i>see PREVIOUS Application dtd MAY 21, 1965</i> |
| 14. RADIATION PROTECTION PROGRAM. Describe the radiation protection program including control measures. If application covers sealed sources, submit leak testing procedures where applicable, name, training, and experience of person to perform leak tests, and arrangements for performing initial radiation survey, servicing, maintenance and repair of the source. | <i>See Attached Sheets</i> |
| 15. WASTE DISPOSAL. If a commercial waste disposal service is employed, specify name of company. Otherwise, submit detailed description of methods which will be used for disposing of radioactive wastes and estimates of the type and amount of activity involved. | <i>see Attached Sheets</i> |

CERTIFICATE (This item must be completed by applicant)

16. 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.

Date January 19, 1966

JONES & LAUGHLIN STEEL CORP.

Applicant named in item 1

T. B. Duckworth

T. B. Duckworth

Superintendent of Blast Furnace Dept.

Title of certifying official

Aliquippa, Pa.

WARNING.—18 U. S. C., Section 1001; Act of June 25, 1948, 60 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.