FORM NRC-313 I (6-78) 10 CFR 30

U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

APPLICATION FOR: (Check and/or complete as appropriate)

- [X] a. NEW LICENSE
- [ ] b. AMENDMENT TO: LICENSE NUMBER
- [ ] c. RENEWAL OF: LICENSE NUMBER Lw4w 19173

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.

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

Howmet ALUMINUM Corp.

TELEPHONE NUMBER: AREA CODE – NUMBER EXTENSION

(717) 393-9641 Ext 540

3. NAME OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION

John J Campbell Jr. 30-17087

TELEPHONE NUMBER: AREA CODE – NUMBER EXTENSION

(717) 393-9641 Ext 540

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

Howmet ALUMINUM
Mill Products Division
Box 3167, Lancaster, PA 17604

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

1480 Manheim Pike
17604

(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 J Campbell Jr.	Senior Electronic Technician
b.		
c.		

7. RADIATION PROTECTION OFFICER — *Attach a resume of person's training and experience as outlined in Items 16 and 17 and describe his responsibilities under Item 15.*

8. LICENSED MATERIAL

LINE NO.	A ELEMENT AND MASS NUMBER	B CHEMICAL AND/OR PHYSICAL FORM	C NAME OF MANUFACTURER AND MODEL NUMBER (If Sealed Source)	D MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME
(1)	Cesium-137	sealed Source	see sep. sheet	1 unit 100 mCi
(2)				
(3)				
(4)				

	E DESCRIBE USE OF LICENSED MATERIAL
(1)	Aluminum sheet detector
(2)	
(3)	
(4)	

RECEIVED BY LIC. BR. Date SEP 5 1979 Log Application N.L. By Brown Orig. To Action Comp. 10/23/79

Applicant 44190 Check No. 4110134 Amount, Fee Category Type of Fee Application Date Check Rec'd OCT 1 1979 Received By Brown

FORM NRC 313 I (6-78)

01111

8508290211 850807
REG1 LIC30
37-19173-02 PDR

COPIES SENT TO OFF. OF INSPECTION AND ENFORCEMENT

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 housing	Kay-Ray Inc	7700 A [redacted] 7062
(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)						
(2)						
(3)						
(4)						

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

☐ a. CALIBRATED BY SERVICE COMPANY
NAME, ADDRESS, AND FREQUENCY

☐ b. CALIBRATED BY APPLICANT
Attach a separate sheet describing method, frequency and standards used for calibrating instruments.

12. PERSONNEL MONITORING DEVICES

TYPE (Check and/or complete as appropriate.) A	SUPPLIER (Service Company) B	EXCHANGE FREQUENCY C
☐ (1) FILM BADGE ☐ (2) THERMOLUMINESCENCE DOSIMETER (TLD) ☐ (3) OTHER (Specify): _____	Personnel Monitoring Devices not necessary for supporting documentation see attached response to Item 15	☐ MONTHLY ☐ QUARTERLY ☐ OTHER (Specify): _____

13. FACILITIES AND EQUIPMENT (Check were 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.

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 disposal

FORM NRC-313 I(6-78)

INFORMATION REQUIRED FOR ITEMS 15, 16 AND 17

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)* John J Campbell
	c. NAME *(Type or print)* John J Campbell Jr
(1) LICENSE FEE CATEGORY: 3.L.	d. TITLE Senior Electronic technician
(2) LICENSE FEE ENCLOSED: $ $110.00	e. DATE 8/27/79

FORM NRC-313 I (6-78)

Name of manufacturers and model number:

New England Nuclear - Model NER 570 or,
Gamma Industries - Model VD or,
General Radioisotope Products - Model 850233 or,
General Radioisotope Products - Model 850233 or,
3M - Model 4P6M
Amersham Searle - Model X.8, X.9 or X.19 or other
N.R.C. authorized equivalent

HOWMET

HOWMET ALUMINUM CORPO.. ATION

A MEMBER OF THE PECHINEY UGINE KUHLMANN GROUP

JOHN J. CAMPBELL, JR.
Electrical Maintenance
Senior Electronic Technician
MILL PRODUCTS DIVISION

Box 3167, Lancaster, PA 17604 • (717) 393-9641

Item 15

I. The enclosed sketch gives the specifics of the installation. All equipment will be located and mounted in accordance with the recommendations of the manufacturer.

II. Initial radiation survey, servicing, maintenance, relocation and repair of the source holder will be performed by Kay-Ray. The initial radiation survey will be used to confirm the calculation shown in section VI of this Item.

III. If maintenance is required on the table conveyor no special precautions are needed because of the tightly collimated beam of the Kay-Ray source. A SIGN will be located on both sides of the tables prohibiting maintenance in the vicinity of the device without first contacting the radiation protection officer. The radiation officer will possess the key to open the source head. The radiation officer will lock out the source head when maintenance is performed within one foot either side of the source head.

IV. Kay-Ray will perform the leak testing on the source holder. The leak test kit used by Kay-Ray is either the general Radioisotope products WT-4 Kit or Kay-Ray, Inc. Model A Kit which have been approved by the N.R.C. for use in the source wiping of Kay-Ray source holders.

We wish to have our license worded to allow a 3 year source wipe interval on the device listed above. An extension has recently been granted to Kay-Ray allowing a three year interval for source wiping and we wish to have our license reflect this extended test period.

V. The following procedure will be followed in the event of damage to the source housing.

Emergency procedure to be followed after damage to Kay-Ray source holders:

1. This procedure applies to all instances where damage is incurred by the source holder due to such action as fire, etc.

2. Immediately rope off the area around the source holder to a minimum of 15 feet in diameter.

3. Inform plant radiation protection officer or person responsible for for the use of the source as to the situation.

4. Inform by phone or telegram the proper regional N.R.C. office of the accident: 631 Park Avenue, King of Prussia, Pa. 19406

5. Notify Kay-Ray at (312)259-5600 if their assistance is desired.

6. Limit access to the source head until a radiation survey and source wipe can be performed by qualified personnel or a representative of Kay-Ray.

Item 15

VI. The attached calculation indicates a worst case operation exposure of 8 MR/yr. This exposure is based on the nearest operator location to the source housing and is less than 500 MR/yr. which is well below the limits set in 10CFR20 for personnel monitoring equipment. The calculated radiation exposure rate one will receive at the detector is approximately .5 MR/hr. 12" from the strip detector. These low levels drop off according to the square law and result in negligible operator exposure a few feet from the detector. These radiation exposures will be verified at the time of start up. This will include the effects of radiation scattering along the vessel wall if applicable. These provisions will be taken to verify that no one will receive a worst case exposure of 500 MR/yr. at the detector side of the strip detector.

Item 16

The individual names in Items 6 and 7 do not have formal training in the use of radioactive material. At the time of start up a representative of the manufacturer will provide any specific training necessary for safe operation of the system. Radiation protection procedures have previously been devised and submitted in support of Item 15. As the scope of this license application does not include handling of the device containing radioactive material further formal training is not indicated.

Item 17

The individual named in Items 6 and 7 does not have prior experience with radioactive material.

WORST CASE CALCULATIONS

S = 100 MC

D = 34.2' (chart limit is 20') so D = 20'

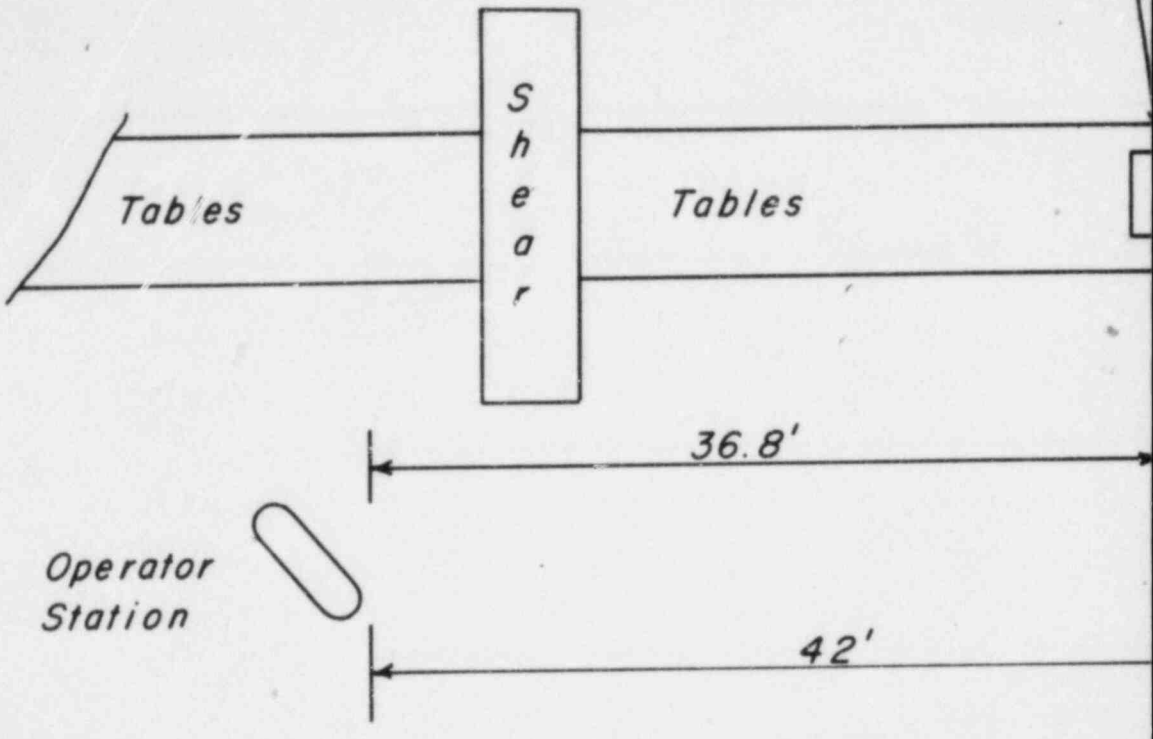
T = 8 hours

Using a 7062 Gamma Source head K = .04 at 20'

Worst case exposure = K x S x T x .25

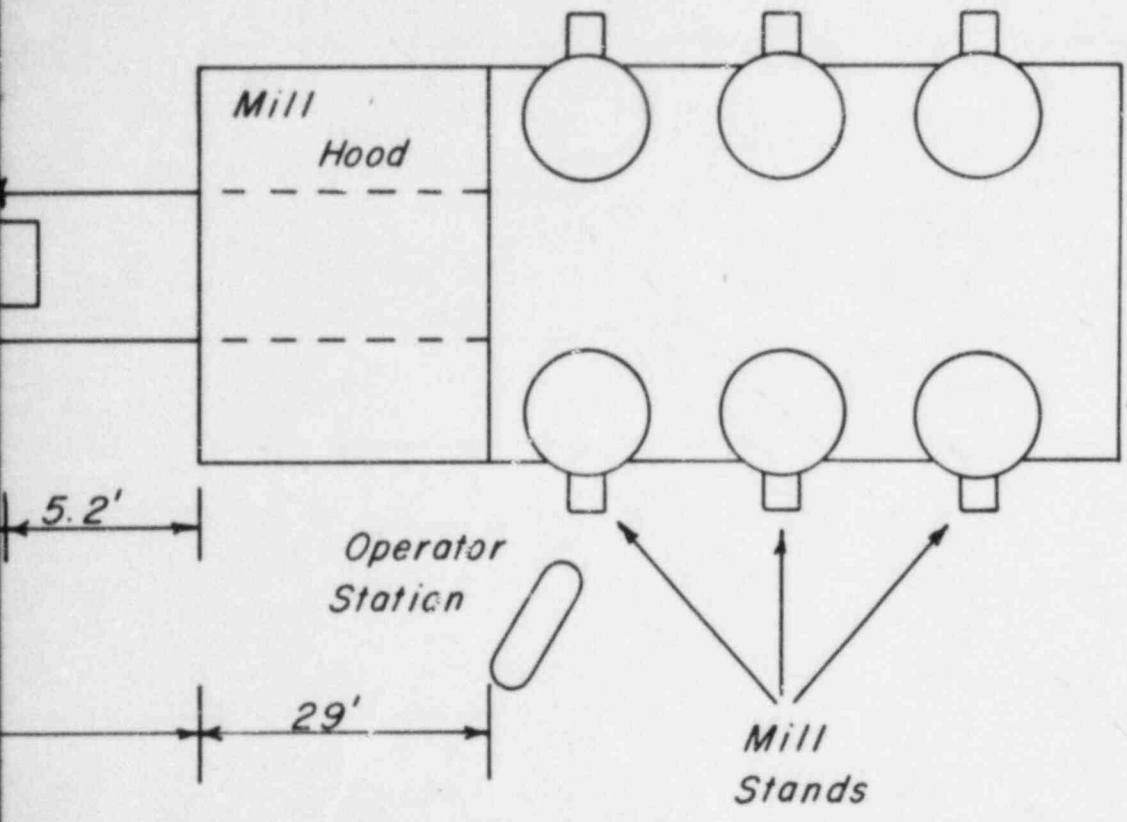
" " " = .04 x 100 x 8 x .25

" " " = 8 MR/yr.



NO.	REVISION	BY	DATE
4			
3			
2			
1			

York Blue Print Co., Inc. 19 1252-2554



8508290211 -01

TOLERANCE UNLESS OTHERWISE NOTED	HOWMET ALUMINUM CORPORATION MILL PRODUCTS DIVISION LANCASTER, PENNSYLVANIA 17604	
MACHINE FRACTION ± 1/64 DECIMAL ± .005 ANGLE ± 1°/2 STRUCTURAL FRACTION ± 1/16 ANGLE ± 1°	RADIATION QUENCH CONTROL	
	DRAWN T.C.C. DATE 8-27-79	SCALE NONE
	APPROVED DATE	MACHINE NO.
	HOWMET NO.	SHT. 1 OF 1

DRAWING NO. B-4052