FORM NRC-313 I (3-80) 10 CFR 30

U.S. NUCLEAR REGULATORY COMMISSION

APPLICATION FOR BYPRODUCT MATERIAL LICENSE
INDUSTRIAL

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

30 - 19480

X a. NEW LICENSE 03120

b. AMENDMENT TO: LICENSE NUMBER

c. RENEWAL OF: LICENSE NUMBER L04954

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.)*

Lynchburg Foundry Company
A Division of the Mead Corporation

TELEPHONE NUMBER: AREA CODE – NUMBER EXTENSION
804-528-8200

3. NAME AND TITLE OF PERSON TO BE CONTACTED REGARDING THIS APPLICATION

Russell H. Moore

TELEPHONE NUMBER: AREA CODE – NUMBER EXTENSION
804-528-8326

4. APPLICANT'S MAILING ADDRESS *(Include Zip Code) (Address to which NRC correspondence, notices, bulletins, etc., should be sent.)*

Drawer 411
Lynchburg, VA 24505

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

Garnet St. and Concord Rd.
Lynchburg, VA 24505

(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.	Garland Bradley	Manager of Melting
b.	Roy Staples	Maintenance Superintendent
c.	Jimmy Childress	Safety Engineer

7. RADIATION PROTECTION OFFICER

Jimmy Childress - Safety Engineer

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.	ELEMENT AND MASS NUMBER (A)	CHEMICAL AND/OR PHYSICAL FORM (B)	NAME OF MANUFACTURER AND MODEL NUMBER (If Sealed Source) (C)	MAXIMUM NUMBER OF MILLICURIES AND/OR SEALED SOURCES AND MAXIMUM ACTIVITY PER SOURCE WHICH WILL BE POSSESSED AT ANY ONE TIME (D)
(1)	Cs - 137	Sealed	2 x 1000 mCi, Texas Nuclear Model 570-57157C	
(2)				
(3)				
(4)				

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REG2 LIC30
45-17464-02 PDR

DESCRIBE USE OF LICENSED MATERIAL (E)

LINE NO.	
(1)	See Attached Sheet
(2)	
(3)	
(4)	

Applicant ...
Check No. 006973
Amount Fee A110/3L
Type of Fee Application
Date Check Recd 10/28/81
Received By Thom

RECEIVED BY LFMB
Date 10/28/81
Log Oct. 1031 D.L.
By Thom
Action Compl. 10/29/81

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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)	2 Each Source Holders	Texas Nuclear	5193
(2)			
(3)	The source holders are a complete storage container for the source, both prior		
(4)	and subsequent to installation of the gauge.		

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)	No radiation	detection instrumentation	is necessary	to safely possess and		
(2)	utilize these devices.					
(3)						
(4)						

11. CALIBRATION OF INSTRUMENTS LISTED IN ITEM 10

☐ a. CALIBRATED BY SERVICE COMPANY

NAME, ADDRESS, AND FREQUENCY

None Required

☐ 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		☐ MONTHLY
☐ (2) THERMOLUMINESCENCE DOSIMETER *(TLD)*		☐ QUARTERLY
☐ (3) OTHER *(Specify)*: None Required		☐ 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. Not Applicable

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.

No waste disposal is involved. In the event that the gauge is damaged or its use discontinued, we shall notify Texas Nuclear for removal and return the gauge for repair or disposal of the source material.

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.

See Attached Sheet

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.

See Attached Sheet

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.

See Detail Presented In #16 Above.

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)*	b. CERTIFYING OFFICIAL *(Signature)* Russell H. Moore
$110.00	c. NAME *(Type or print)* Russell H. Moore
(1) LICENSE FEE CATEGORY: New License	d. TITLE Project Engineer
(2) LICENSE FEE ENCLOSED: $**110.00--	e. DATE 10/22/81

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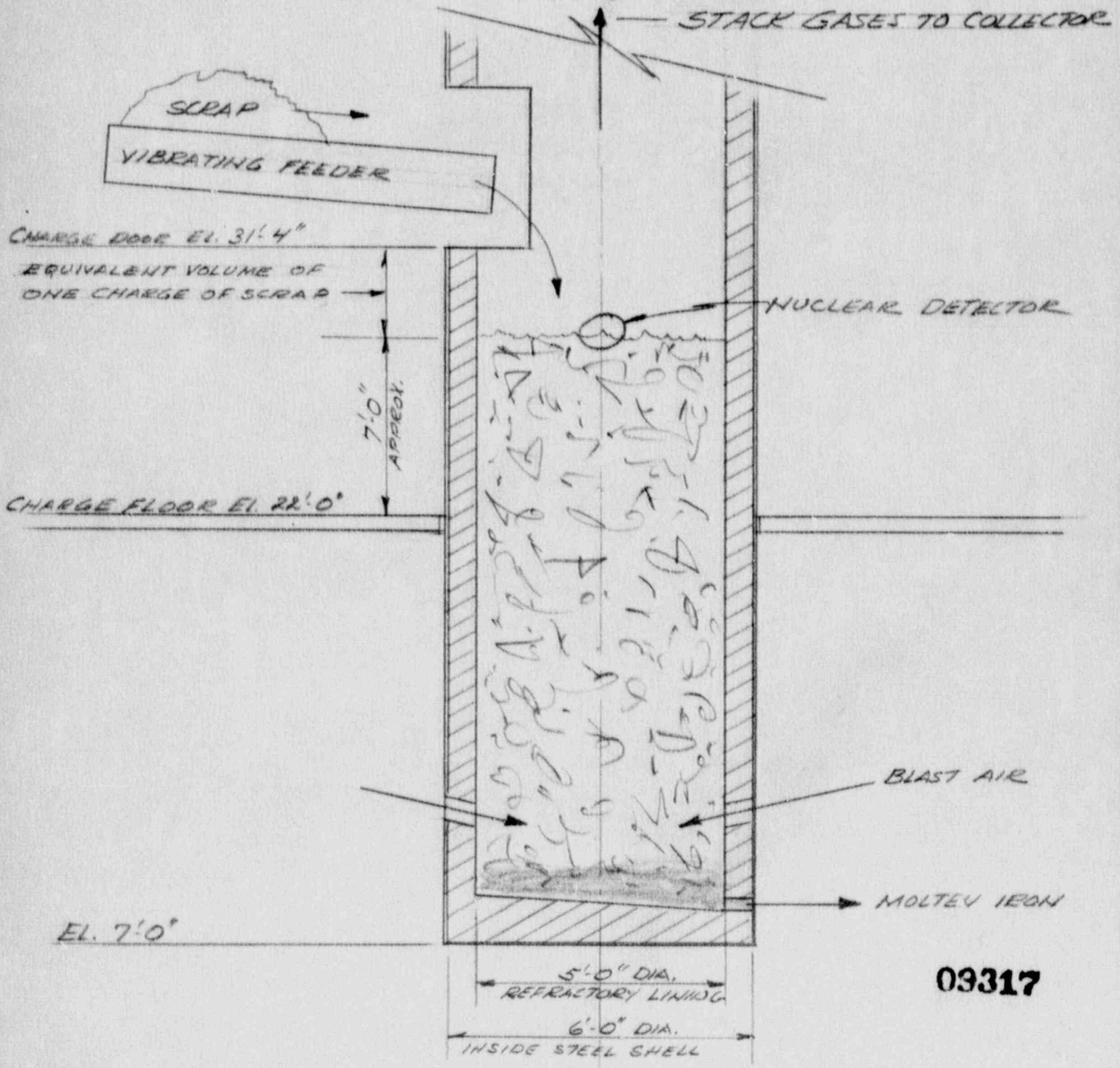
8E - The nuclear sources will be used to detect the charge level of scrap iron, steel, and coke in cupolas so that as a predetermined level is reached during the melting operation, additional scrap can be added automatically without overfilling.

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 these devices.



03317

CROSS SECTION OF CUPOLA

15 - RADIATION PROTECTION

a.) Based upon working conditions and physical accessibility, no persons would routinely be within three feet of any of these devices.

Our personnel will be instructed as to the size and location of the beam, the radiation levels in the beam, and will be cautioned that unless the shutter is CLOSED these radiation levels are significant. These devices have the capability of producing high level radiation between the source holder and the detector. However, the combination of:

i. during normal operation no individual has access to the vessel. The contained material and operating parameters preclude the access of any major portion of the body to the radiation field. Only authorized personnel are allowed to change the operating parameters and/or authorize access;

ii. personnel are instructed to CLOSE the gauge shutter when the operation is stopped and/or work must be done in any vessel being monitored;

iii. if the operation is to be shut down for any extended period of time or extensive work is to be done on the vessel, the radiation safety officer will be notified to insure that the shutter is locked in the CLOSED position and remains locked during this period of time;

iv. signs displaying "Caution Radiation" and the standard symbol stating that the shutter must be CLOSED and the radiation safety officer notified prior to entering the vessel being monitored will be posted at installation;

v. the general inaccessibility of these devices;

should be sufficient to prevent unauthorized entry to the radiation beam and preclude any unintentional radiation exposure.

15 - RADIATION PROTECTION (CONTINUED)

b.) Texas Nuclear personnel will perform the initial radiation survey and leak testing at the time of installation. Additionally, our personnel will receive specific training at the time of installation. This training will include construction features of the device, source integrity, beam geometry and intensity, and operating details of the device. Any precautionary steps like the addition of shielding, signs, or precautions to be taken will be covered at the time in accordance with Texas Nuclear installation procedures and training.

c.) The source holder(s) will be tested for source integrity:
Model(s) 5193 at least once every three years.
Leak testing will be performed by Texas Nuclear Procedure QT/1K.

d.) i. In the event some catastrophic emergency occurs and these device(s) may be involved, we will notify Texas Nuclear and await further instructions.

ii. Any repair, relocation, or removal of the source holder(s) will be done by Texas Nuclear personnel.

16 - FORMAL TRAINING IN RADIATION SAFETY

The manufacturer will furnish us with detailed instructions on the proper precautions to be taken in utilizing these devices. Specific items of design detail, shutter operation, beam geometry, radiation levels and regulatory compliance will be presented by trained personnel of Texas Nuclear at the time these devices are installed.

17 - EXPERIENCE

See detail presented in above item 16.