



**STEEL**

an LTV company

Andrew A. Mammarella, Jr.  
Manager Industrial Health Engineering

RECEIVED BY LFMB

Date: JAN 18 1980

Leg: Jay P G 16 Amend.

By: Brown

Org: J&L Steel

Action: 1/18/80

January 14, 1980

1980 JAN 16 PM 2 51

RECEIVED

Mr. Paul R. Guinn,  
Licensing Management Branch  
Division of Fuel Cycle & Material Safety  
Office of Nuclear Safety & Safeguards  
U. S. Nuclear Regulatory Commission  
Washington, D. C. - 20555

Dear Mr. Guinn:

RE: JONES & LAUGHLIN STEEL CORPORATION  
ALIQUIPPA WORKS  
BYPRODUCT LICENSE NO. 37-02567-06

Jones & Laughlin Steel Corporation is currently conducting a total reline of the A - 2 Blast Furnace at their Aliquippa Works facility, Aliquippa, Pa. Recently, because of past experiences with refractory materials, an engineering decision was made to try to conduct a refractory wear study in this Blast Furnace, using Co-60 sources implanted in the new silicon carbide refractory in the mantle area of this furnace.

Texas Nuclear, Austin, Texas, having previously been contracted to install sources in refractories for refractory wear studies at several other Jones & Laughlin Steel Corporation facilities in the past, have again agreed to be totally responsible for this installation of Co-60 sources, including supplying and installing the sources, all Health Physics support, radiation surveying and monitoring, posting, etc. in accord with all regulatory requirements.

Jones & Laughlin Steel Corporation will provide adequate, secure storage facilities for all the sources until permanently installed in the refractories inside the furnace as well as assist in any necessary control of personnel access, posting, etc. during the time of installation.

Enclosed are drawings to show the proposed locations of the Co-60 sources; i.e., J&L AA-10037, J&L AA-10043.

All refractories will be pre-drilled prior to placing in the furnace in order to minimize the time spent in installing the sources.

No single sealed source is to exceed 15 millicuries.

9812140149 981208  
PDR FOIA  
MACDONALD 99-6 PDR

Applicant: J 118493

Check No. #40(3)

Amount/Paid To: Amendment

Date: JAN 18 1980

Received by: Brown

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INSPECTION AND ENFORCEMENT

02484

9812140149

Mr. Paul R. Guinn

January 14, 1980

- Page 2 -

Unfortunately, due to the schedule of refractory installation for this furnace, the only time when these sources can be installed is the week of January 21, 1980. Therefore, due to this brief time interval, Jones & Laughlin Steel Corporation would like to submit a request for amendment to its current Byproduct License 37-02567-06 in two parts. By separating the amendment application this way, it is felt that there would be less burdensome to review, and we would have five to six weeks to accomplish Part II.

PART I -- Amend Byproduct License No. 37-02567-06 to authorize "possession" of Co-60 sources permanently mounted on A-2 Blast Furnace lining with no single sealed source to exceed 15 millicuries each.

Upon completion of the installation of the sources in the refractory, Texas Nuclear personnel will leave the site, and all these sources will be totally inaccessible, having been implanted in the brick lining of the furnace. No individual could have access to the sources short of destroying the newly installed refractory.

No work is anticipated in the immediate vicinity of the sources after installation.

No radiation exposures are anticipated due to the presence of these sources between the time they are implanted and the time the furnace is ready to go on line.

Radiation levels inside and outside the furnace due to the presence of these sources will be documented as furnished by Texas Nuclear.

Personnel responsible are those currently listed in our license -- J. H. Anderson and J. M. Detrick.

PART II - Amendment will be requested to authorize distribution of steel containing less than .0005 uci/gm Co-60, and for radiation safety program after startup of A-2 Blast Furnace.

Procedures will be described concerning radiation surveys, emergency procedures, training, and accountability procedures.

✓ Part II is now in preparation.

Texas Nuclear informs us that they will be in Washington within this time frame and will discuss this matter with you in detail, as necessary.

We apologize for the extremely late submission of this license amendment request, and appreciate the burden it places on your already busy schedule. If there is anything you can do to expedite this necessary amendment, we shall greatly appreciate it.

Mr. Paul R. Guinn

January 14, 1980

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If you have any questions, please do not hesitate to call me.

Enclosed also is the check for \$40.00 amendment fee.

Thank you for your assistance.

Yours very truly,

JONES & LAUGHLIN STEEL CORPORATION

*A. A. Mammarelli, Jr.*

A. A. Mammarelli, Jr., Manager -  
Industrial Health Engineering

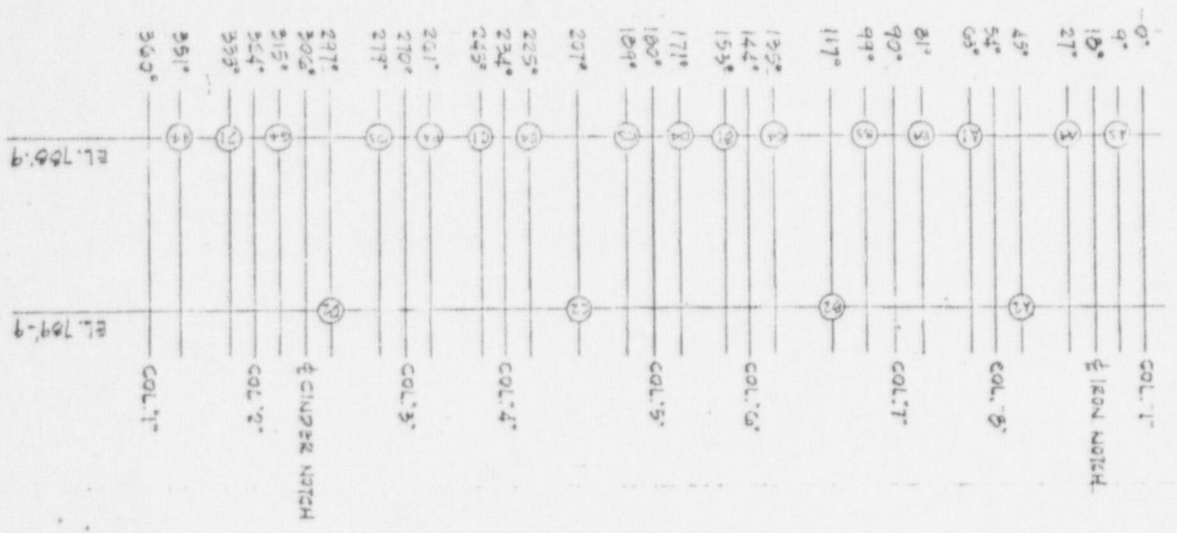
Enc.

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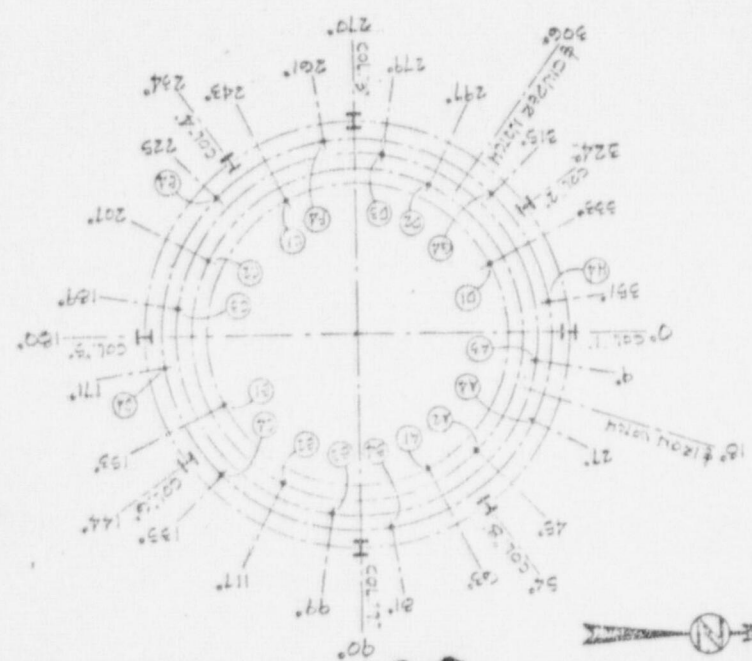
AA 7320	AA 7320
AA 7340	AA 7340
AA 7360	AA 7360
AA 7380	AA 7380
AA 7400	AA 7400
AA 7420	AA 7420
AA 7440	AA 7440
AA 7460	AA 7460
AA 7480	AA 7480
AA 7500	AA 7500

DEVELOPED INSIDE SURFACE LAYOUT  
NOT TO SCALE



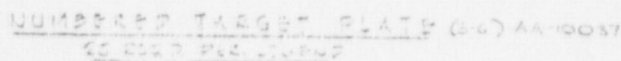
152' A + THRU  
102' A - 3  
41'

PLAN - 150 TOP ARRANGEMENT  
NOT TO SCALE



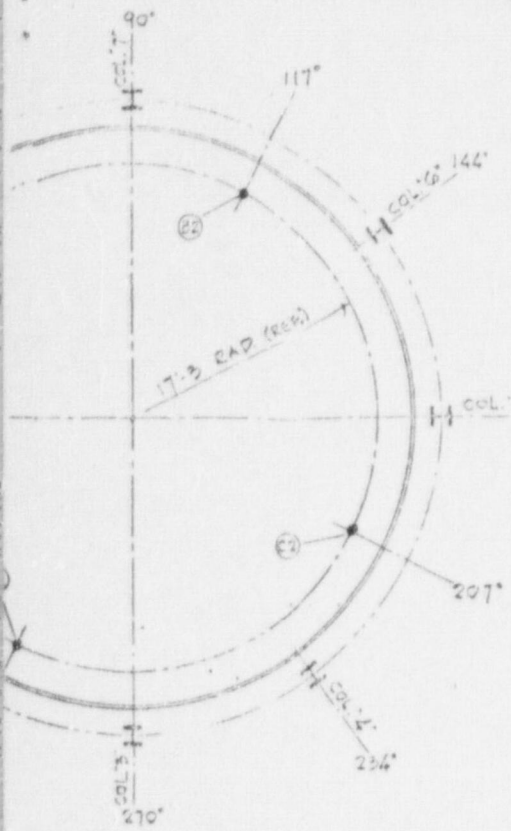
POUCH DESIGN  
NUMBERS TALL

POSITION	150 TOP LOCATION FROM PLAN AND SURFACE
1	152
2	102
3	0
4	42
5	152
6	102
7	0
8	42
9	152
10	102
11	0
12	42
13	152
14	102
15	0
16	42
17	152
18	102
19	0
20	42
21	152
22	102
23	0
24	42
25	152
26	102
27	0
28	42
29	152
30	102
31	0
32	42
33	152
34	102
35	0
36	42
37	152
38	102
39	0
40	42
41	152
42	102
43	0
44	42
45	152
46	102
47	0
48	42
49	152
50	102
51	0
52	42
53	152
54	102
55	0
56	42
57	152
58	102
59	0
60	42
61	152
62	102
63	0
64	42
65	152
66	102
67	0
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69	152
70	102
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84	42
85	152
86	102
87	0
88	42
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92	42
93	152
94	102
95	0
96	42
97	152
98	102
99	0
100	42

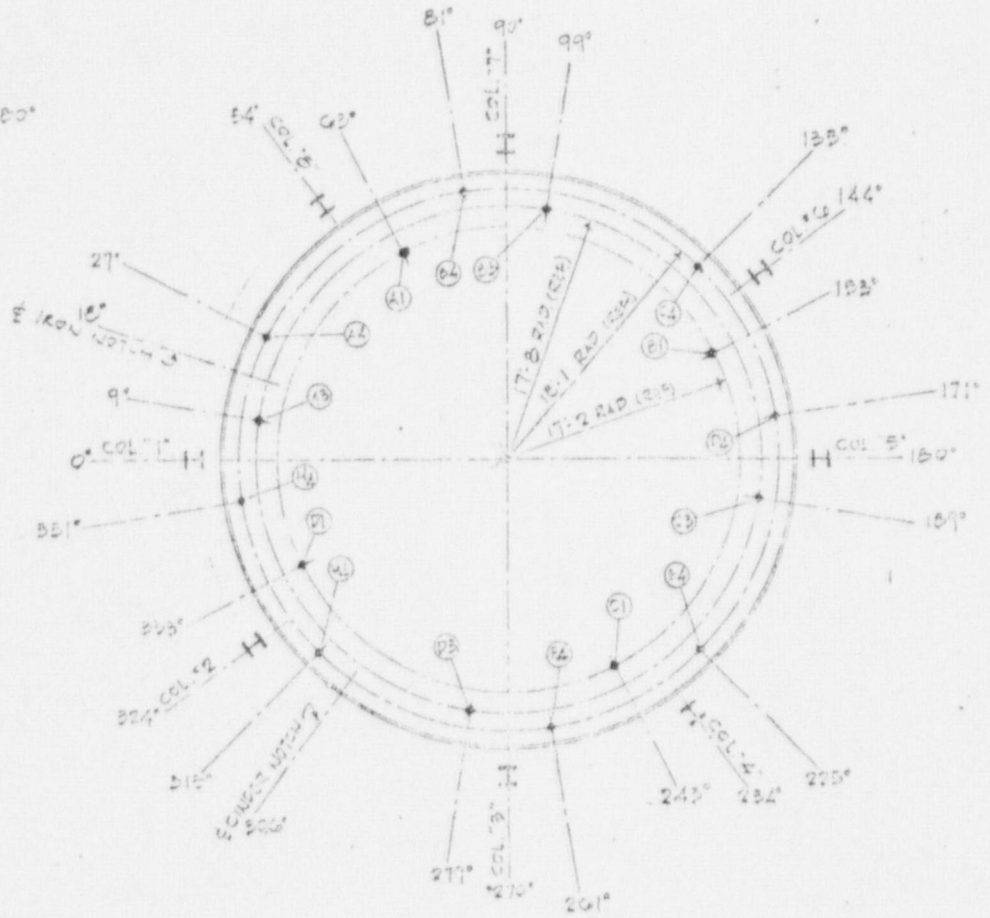


REDACTED FOR COMBINATION  
DESIGN ELEMENTS ONLY.

RECEIVED  
UNCLASSIFIED  
AUG - 5 1979  
COMMUNICATIONS  
SECTION



PLAN SECTION A-A' (4 G) -- ISOTOPE ARRANGEMENT  
NOT TO SCALE



PLAN SECTION B-B' (4 G) -- ISOTOPE ARRANGEMENT  
NOT TO SCALE

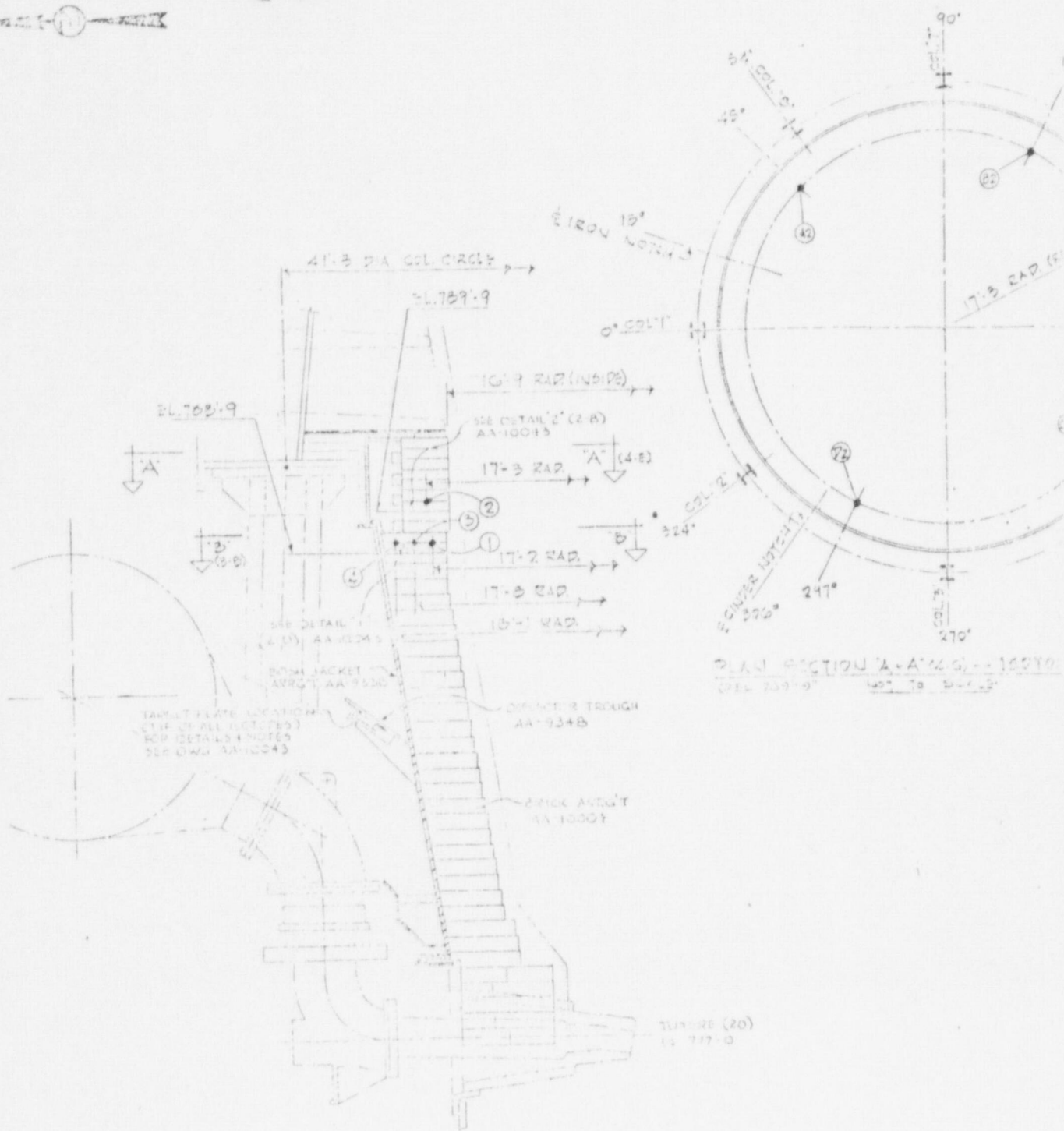
FORWARDED FOR CONSIDERATION  
1957 FEBRUARY 13

WORK THIS DWG WITH AA 10040

DATE	BY	CHECKED	APPROVED
JONES & LAUGHLIN STEEL COMPANY			
2201 E. 10th St. Omaha, Neb. 68102			
AA-10037			

NAME	POSITION	DATE





PLAN SECTION A-A (2-B) - 10043  
DWG. 759-9

TYPICAL SECTION THROUGH TANK MAINT.  
ISOTOPE ARRANGEMENT  
NOT TO SCALE

DATE	
BY	
CHKD	
APP'D	

STATE OF CALIFORNIA  
DEPARTMENT OF HEALTH

Page 1 of 5 pages

**RADIOACTIVE MATERIAL LICENSE**

Pursuant to the California Administrative Code, Title 17, Chapter 5, Subchapter 4, Group 2, Licensing of Radioactive Material, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, use, possess, transfer or dispose of radioactive material listed below; and to use such radioactive material for the purpose(s) and at the place(s) designated below. This license is subject to all applicable rules, regulations and orders of the Department of Health now or hereafter in effect and to any conditions specified in this license.

1. Licensee Thomas Gray and Associates	3. License No. 2105-30 is amended in its entirety Amendment No. 20
2. Address 1205 West Barkley Orange, CA 92668	4. Expiration date November 18, 1984
Attention: Thomas A. Gray Radiation Safety Officer	5. Inspection agency Division of Occupational Safety & Health-S

6. Nuclide	7. Form	8. Possession limit
A. Any	A. Sealed source not used for medical purposes.	A. As per customer's license.
B. Any except: (1) source material; and (2) Special Nuclear Material.	B. Waste packaged in accordance with DOT regulations.	B. 100 curies.
C. Source material	C. Waste packaged in accordance with DOT regulations.	C. 5,000 pounds.
D. Special Nuclear Material	D. Waste packaged in accordance with DOT regulations.	D. See Condition 23

9. Authorized use

- A. To be used incidental to testing for leakage or contamination, as a customer service
- B. To be used for receipt, transportation, storage and transfer to authorized recipient
- C. To be used for receipt, transportation, storage and transfer to authorized recipient
- D. To be used for receipt, transportation, storage and transfer to authorized recipient

10. Radioactive material may be used only at the licensee's facilities at 1205 West Barkley, Orange, California and 815 North Main Street, Orange, California

(a) Radioactive material described in Subitem A of this license may also be used at customers' sites in areas not under exclusive Federal jurisdiction throughout the State of California.

(b) The licensee is authorized to transport, as intrastate transportation, radioactive material possessed under this license in areas not under exclusive

(cont'd)

FILE (4)



STATE OF CALIFORNIA  
DEPARTMENT OF HEALTH SERVICES

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RADIOACTIVE MATERIAL LICENSE

License Number 2105-30

Supplementary Sheet

Amendment Number 20

continued

13. (continued)

- (k) letter dated June 7, 1978 signed by Thomas A. Gray.
- (l) letter dated May 23, 1979 signed by Thomas A. Gray.
- (m) letter dated August 1, 1979 signed by Thomas A. Gray.
- (n) letter dated March 28, 1980 signed by Thomas A. Gray.
- (o) letter dated June 19, 1980 signed by Thomas A. Gray and attachments thereto.
- (p) letter dated September 30, 1980 signed by Thomas A. Gray and attachments thereto.

14. (a) The radiation safety officer in this program shall be Thomas A. Gray.

- (b) The alternate radiation safety officer shall be Jeffery S. Mellon.

15. In emergencies concerning damaged devices and/or sources, when personnel of the California Department of Health Services or the Department of Occupational Safety and Health cannot be contacted, the licensee is authorized to remove gauge systems to engage persons with "hot cell" facilities to service such gauge systems. Each time the licensee has a gauge system serviced pursuant to this condition of the license, he shall so notify the California Department of Health Services, in writing seven days.

16. In connection with tests for leakage and/or contamination as a customer service, the licensee is authorized to perform the following services for sealed sources containing radioactive material, except sealed sources used for medical purposes containing Radium 226:

- (a) Collection of wipe test samples.

- ✓(b) Furnishing leak test kits Model TGA-76, and any approved commercial leak test kit which may be used for this function, to persons authorized to use such kits for wipe testing of sealed sources.

- (c) Analysis of wipe test samples collected by the licensee as stated in (a) above and returned by customers from leak test kits as stated in (b) above for amount of radioactivity. Each analysis shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. Reports to customers of analyses shall be in microcuries.

17. Vehicles leased by the licensee and used for transporting radioactive material shall be surveyed before release to the lessor. The licensee shall comply with all requirements of the Code of Federal Regulations, Title 49, Section 173.397(h) and the licensee shall advise the lessor in writing that his vehicle meets DOT cleanliness specifications per that section. The licensee shall maintain

(cont'd)

STATE OF CALIFORNIA  
DEPARTMENT OF HEALTH SERVICES  
**RADIOACTIVE MATERIAL LICENSE**  
Supplementary Sheet

Page 4 of 5 page  
License Number 2105-30  
Amendment Number 20

continued

17. (continued)
- available for inspection records of all these surveys and copies of all letters certifying cleanliness required by this condition.
18. The external surface of radioactive material containers shall bear a durable, clearly visible label. Also, the Radioactive Shipment Record, from each customer, shall be on file describing:
- (a) Total activity in millicuries, or weight of source material or special nuclear material.
  - (b) Principal radioisotopes.
  - (c) Maximum radiation level at the surface, and at three feet from the surface of the container.
  - (d) Name and address of the person or organization from which the container was received.
  - (e) Form of the radioactive material, specifically whether absorbed liquid, dry solid, animal carcasses or scintillation vials.
  - (f) Cataloging system (numbering or lettering) to be used for the accountability, and tracing of the radioactive material through the available paperwork pertaining to the specifics of each container.
19. The maximum period the licensee is authorized to store radioactive waste material is as follows:
- (a) For solid material in non-combustible containers, 24 months.
  - (b) For solid material in combustible containers, 6 months.
  - (c) For absorbed liquid material, 90 days.
20. The volume of radioactive waste material possessed under this license at any one time shall not exceed 3,000 cubic feet.
21. The licensee shall maintain available for inspection complete records of receipt, use and transfer of radioactive material.
22. The licensee is not authorized to open containers of radioactive waste received from other persons.

(cont'd)

## RADIOACTIVE MATERIAL LICENSE

License Number 2105-36

continued

Supplementary Sheet

Amendment Number 2

23. The possession limit for special nuclear material at any one time shall not exceed the quantity specified in the following formula:

$$\begin{array}{rcl} \frac{\text{Uranium 235 (grams)}}{350 \text{ (grams)}} & + & \frac{\text{Uranium 233 (grams)}}{200 \text{ (grams)}} \\ & & \\ & + & \frac{\text{Plutonium (grams)}}{200 \text{ (grams)}} \end{array} \leq /$$

24. The licensee shall, with respect to all radioactive waste collected and packaged for disposal at licensed land burial sites, establish and maintain a training program, written operating and radiation safety procedures and quality assurance inspection and testing procedures which assure that:

- (a) all waste is properly segregated and identified with respect to those classes of waste being accepted for burial at the intended burial sites.
- (b) waste is properly packed to conform to DOT regulations and specific packaging instructions for the class of waste being packed which are supplied by the broker or intended burial site operator and which are particular to the intended burial site.
- (c) all containers are properly closed, meet DOT specifications and are acceptable at the burial site for the class of waste contained.
- (d) all containers are free of surface contamination per DOT regulations.
- (e) radiation levels conform to DOT limits.
- (f) all containers are properly labelled per DOT regulations and in addition, are labelled as to nuclides and class of waste contained.
- (g) all records, shipping papers and certificates are complete and accurate.
- (h) all steel drums are tipped to the horizontal position to test against free liquid.
- (i) Pel-E-Cel shall not be used for packaging scintillation vials, diatomaceous earth or other absorbent specifically approved by the burial site operator shall be used.

For the State Department of Health Services

Date October 28, 1980by [Signature]