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Radioisotope Distribution Program Progress Report for February 1977

E. Lamb



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OPERATIONS DIVISION

RADIOISOTOPE DISTRIBUTION PROGRAM
PROGRESS REPORT FOR FEBRUARY 1977

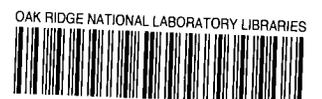
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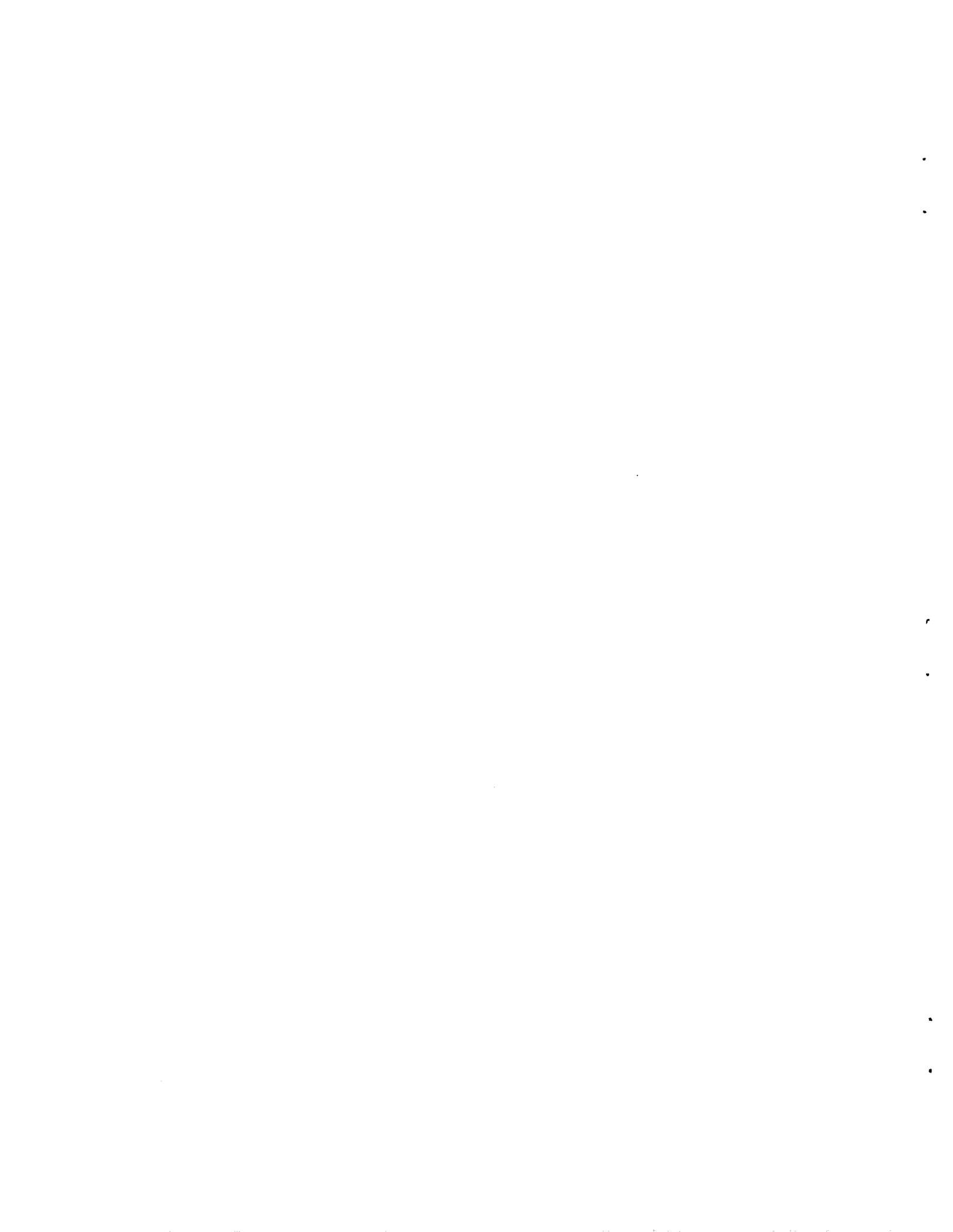
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RADIOISOTOPE DISTRIBUTION PROGRAM
PROGRESS REPORT FOR FEBRUARY 1977

E. Lamb

SUMMARY

Information is reported on new production,
inventory status, operational problems,
and radioisotope sales.

RADIOISOTOPE PRODUCTION AND MATERIALS DEVELOPMENT

REACTOR-PRODUCED RADIOISOTOPES

Reactor Products Pilot Production (*R. W. Schleich*)
(Production and Inventory Accounts)

<u>Processed Units</u>	
<u>Radioisotope</u>	<u>Amount (mCi)</u>
Calcium-47	17

ACCELERATOR-PRODUCED ISOTOPES

Cyclotron Products Pilot Production (*M. R. Skidmore*)
(Production and Inventory Accounts)

The ORNL 86-Inch Cyclotron was shut down during the entire month of February 1977 for repairs and maintenance.

FISSION PRODUCTS

Krypton-85 Enrichment Facility (*R. W. Schleich*)

The ⁸⁵Kr enrichment columns operated satisfactorily during the month of February. A maintenance program was initiated in January to upgrade the operational safety of the system and maintenance was completed in February on 50% of the columns. The remaining sections were unloaded in February and the operational safety maintenance will be completed on the system in March. Preliminary analysis on the initial sections unloaded showed 220 curies of ⁸⁵Kr enriched to 11.1%.

Cesium-137 Pilot Production (*R. W. Schleich*)
(Production and Inventory Accounts)

1. Process Status

Process equipment is in standby status.

2. Operational Summary

Product Inventory

(Decay calculated through August 31, 1976)

<u>Inventory Material</u>	<u>Amount (Ci)</u>
Cesium-137 chloride powder	34,900
<u>Total Inventory Material</u>	<u>34,900</u>
<u>Non-Inventory Material</u>	<u>Amount (Ci)</u>
Special Form cans	4,500
Material returned or stored for customer	
New England Nuclear Corporation	3,300
Puerto Rico sources	8,100
Lockheed	20,100
AECL powder	73,200
Radiation Resources	19,700
Minn. Mining & Mfg. Company	6,600
Gamma Industries	<u>8,600</u>
<u>Total Non-Inventory Material</u>	<u>144,100</u>
TOTAL INVENTORY AND NON-INVENTORY MATERIAL	179,000

Fabrication Summary

	<u>Feb. 1977</u>		<u>CY 1977</u>		<u>FY 1977</u>	
	<u>No.</u>	<u>Ci</u>	<u>No.</u>	<u>Ci</u>	<u>No.</u>	<u>Ci</u>
Sources						
Fabricated	0	0	5	15,846	22	16,146
Shipped	0	0	5	15,846	64	30,786
Special Form Cans						
Fabricated	0	0	0	0	0	0
Shipped	1	100	3	2,000	3	2,000

3. Current Orders

All orders on hand have been completed and the material placed into storage awaiting receipt of release for the material.

Strontium-90 Pilot Production (*R. W. Schleich*)
(Production and Inventory Accounts)

1. Process Status

The 20,000 curie ^{90}Sr heat source that was fabricated in November, 1976 for SNAM Progetti, Italy was shipped during February, 1977.

Product Inventory

(Decay calculated through August 31, 1976)

<u>Inventory Material</u>	<u>Amount (Ci)</u>
^{90}Sr titanate powder ($\pm 5\%$)	77,000
Sources in fabrication	0
RCA source	57,300
^{90}Sr silicate powder (est.)	28,000
Stock powder cans	<u>3,780</u>
<u>Total Inventory Material</u>	<u>166,080</u>
<u>Non-Inventory Material</u>	<u>Amount (Ci)</u>
Calorimeter Standards	4,900
FPDL recovery material	19,700
Quehanna recovery material	44,000
Weather Bureau source	11,700
SNAP-7B	160,200
SNAP-7C	25,200
SNAP-7D	146,600
SNAP material purchase ^a	<u>254,500</u>
<u>Total Non-Inventory Material</u>	<u>666,800</u>
<u>TOTAL INVENTORY AND NON-INVENTORY MATERIAL</u>	<u>832,880</u>

^aStrontium-90 purchased under DRRD program.

Fabrication Summary

	<u>Feb. 1977</u>		<u>CY 1977</u>		<u>FY 1977</u>	
	<u>No.</u>	<u>Ci</u>	<u>No.</u>	<u>Ci</u>	<u>No.</u>	<u>Ci</u>
Sources						
Fabricated	0	0	0	0	0	0
Shipped	1	20,000	1	20,000	1	20,000
Special Form Cans						
Fabricated	0	0	0	0	0	0
Shipped	1	10	1	10	1	10

Short-Lived Fission Production (*R. W. Schaiach*)
(Production and Inventory Accounts)

<u>Isotope</u>	<u>Number of Batches</u>	<u>Amount (Ci)</u>
Xenon-133	3	2500
Iodine-131	1	50
Barium-140	1	4
Yttrium-91	1	16

RADIOISOTOPE SALES

J. E. Ratledge

Shipments made during the month that may be of interest are listed below:

<u>Customer</u>	<u>Isotope</u>	<u>Amount</u>
<u>Large Quantities</u>		
New England Nuclear Corporation	Tritium	9,000 Ci
Schwarz/Mann	Tritium	1,500 Ci
Self-Powered Lighting	Tritium	2,000 Ci
U. S. Radium Corporation	Tritium	10,000 Ci
American Atomics	Tritium	6,000 Ci

Withdrawn Items

Westinghouse-Bettis	Iodine-131	5 mCi
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Items Used in Cooperative Programs

University of Southern California	Platinum-195m	26 mCi
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The radioisotope sales and shipments for October 1975 through February 1976 and the first five months of fiscal year 1977 are given in Table 2.

Table 2. Radioisotope Sales and Shipments

<u>Item</u>	<u>10-1-75 thru 2-29-76</u>	<u>10-1-76 thru 2-28-77</u>
Inventory items	\$ 129,537	\$ 138,807
Major products	20,427	45,670
Radioisotope services	33,239	29,534
Cyclotron irradiations	64,927	168,536
Miscellaneous processed materials	23,097	76,755
Packing and Shipping	43,970	78,059
Total	\$ 315,197	\$ 527,361
Number of shipments	922	988

PUBLICATIONS

REPORTS

E. Lamb, *Radioisotope Distribution Program Progress Report for January 1977*, ORNL/TM-5845, Oak Ridge National Laboratory (February 1977).



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