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Isotopes 3
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JUL 29 1971

Chairman Seaborg
 Commissioner Ramey
 Commissioner Johnson
 Commissioner Larson

THRU: General Manager Howard C. Brown, Jr. for

ANNOUNCEMENT ON ANNIVERSARY OF FIRST COMMERCIAL ISOTOPE SHIPMENT

Enclosed for your information is a public announcement on the 25th Anniversary of the first commercial shipment of radioisotopes, planned for release on the anniversary date, August 2. The announcement has the approval of the Office of the General Manager, the Assistant General Manager for Development and Production, and the Division of Isotopes Development.

Special Agent in Charge

John A. Harris, Director
 Division of Public Information

Enclosure:
 Public Announcement, "Isotopes at 25 Year Milestone"

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DATE ▶	7/27/71	9/27/71				

ISOTOPES AT 25-YEAR MILESTONE

Private industry has established more than 100 firms for the production and processing of radioisotopes since the government made the first commercial shipment exactly 25 years ago, Dr. Glenn T. Seaborg, Chairman of the Atomic Energy Commission, reported today. He termed radioisotopes "the first peacetime product of atomic energy."

The nation's first "civilian" shipment of reactor produced radioisotopes -- one millicurie of carbon-14 destined for cancer research -- went from the government's Clinton Laboratories in Oak Ridge, Tennessee, to Barnard Free Skin and Cancer Hospital in St. Louis on August 2, 1946.

The St. Louis shipment was the first to be cleared among a backlog of orders for radioisotopes for such early research projects as absorption of soil nutrients by plants, vulcanization and polymerization of rubber and utilization of foods by animals.

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Applications have broadened in the past quarter century to numerous uses in the fields of agriculture, industry, medicine, environment-ecology and space technology. A plutonium radioisotope was used to fuel heaters placed on the moon by Apollo 11 astronauts during the initial moon landing to protect scientific instruments from ultra cold temperatures of the lunar night, and in Apollo flights since to fuel atomic batteries (radioisotope thermoelectric generators) which power experiments left on the moon and which are still sending data to earth. Plutonium has also been selected to fuel a totally implantable artificial heart now under study by AEC.

Synthesis of composites of plastics and solid waste materials such as

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glass, paper and furnace ash by irradiation with cobalt to produce a durable new building material is under study. The technology was developed earlier with wood-plastic and concrete-plastic combinations.

Nuclear reactors, established for defense needs during World War II, made it possible to have radioisotopes in abundance and at comparatively small cost when hostilities ceased, Chairman Seaborg said. The St. Louis shipment weighed only about three milligrams but represented nearly 1,000 times as much as previously available for research in any single order of cyclotron-produced carbon-14. Current production capacity is millions of times greater.

"The efforts of industry, the medical profession, scientists and Government laboratories to develop new nuclear techniques have indeed been substantial," Dr. Seaborg said. "Applications have increased until today they are almost commonplace in hospitals, industrial plants and research establishments around the world."

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Some 5,000 U. S. hospitals now use radioisotopes and about 2,500 physicians are licensed to use radioisotopes in private clinics. The annual market for nuclear medicine and associated equipment totals close to \$70 million. In the U. S. alone, radioisotopes are used in approximately eight million individual diagnostic and therapeutic treatments a year.

Sales by the 100 isotope-producing firms organized since 1946 now total about \$86 million a year Dr. Seaborg said. In addition, about 45 firms produce equipment employing radiation sources.

The Atomic Energy Commission, initially the sole supplier, has now turned over to private industry the production and distribution of 65

different radioisotopes, including 28 items last month. AEC policy requires withdrawal from production as soon as private industry demonstrates it can serve the market on a competitive basis. Compared to its virtual monopoly at the end of World War II, AEC now distributes only about 50 radioisotopes.

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