FORM AEC-374
(12-57)

U. S. ATOMIC ENERGY COMMISSION

BYPRODUCT MATERIAL LICENSE NO. 4-4292-1, AMENDMENT NO. 6 (K62)

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Part 30, Licensing of Byproduct Material, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, own, possess, transfer and import byproduct material listed below, and to use such byproduct material for the purpose(s) and at the place(s) designated below. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, and is subject to all applicable rules, regulations, and orders of the Atomic Energy Commission now or hereafter in effect and to any conditions specified below.

Licensee	
1. Name: Rocketdyne, A Division of North American Aviation, Inc.	In accordance with application dated June 16, 1961,
2. Address: 6633 Canoga Avenue, Canoga Park, California	3. License number 4-4292-1 is amended in its entirety to read as follows:
	4. Expiration date: November 30, 1962
	5. Reference No.

6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may posses at any one time
A. Strontium 90	A. Sealed source (Nuclear-Chicago Model RG-33)	A. One source of 10 millicuries
(See Page 2)	(See Page 2)	(See Page 2)

9. Authorized use

A. For use in Cenco Beta-Ray H/C meter (No. 27625) to determine hydrogen-carbon ratio in hydrocarbons.

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CONDITIONS

10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.

11. Byproduct material described in Items 7A through 7E of this license may only be used at North American Aviation, Inc., Rocketdyne Division, Propulsion Field Laboratory and Chemistry Laboratory, Santa Susana, California. Byproduct material described in Item 7F may also be exhibited at temporary locations throughout the United States. Byproduct material described in Item 7G may also be used at North American Aviation, Inc., Propulsion Field Laboratory, Santa Susana, California.

12. The licensee shall comply with the provisions of Title 10, Part 20, Code of Federal Regulations, Chapter 1, "Standards for Protection Against Radiation".

13. Byproduct material licensed under Items 6A, 7A, 8A, and 9A shall be used by, or under the supervision of, E. F. Cain.

14. Byproduct material licensed under Items 6B, 7B, 8B, and 9B shall be used by, or under the supervision of, Robert B. Kimball.

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AMENDMENT NO. 6

6. Byproduct material (element and mass number)	7. Chemical and/or physical form	8. Maximum amount of radioactivity which licensee may possess at any one time
B. Strontium 90	B. Sealed source (Industrial Nucleonics Model BB-0010)	B. One source of 300 millicuries
C. Cobalt 60	C. Sealed sources (U. S. Nuclear Corp. Type 3142 or Isotopes Specialties Co. Type 38)	C. 20 millicuries (No single source to exceed 5 millicuries)
D. Iron 55	D. Sealed source (U. S. Nuclear Corp. Type 3112)	D. One source of 1 millicurie
E. Carbon 14	E. Sealed source (U. S. Nuclear Corp. Type 3111)	E. One source of 1 millicurie
F. Cobalt 60	F. Neutron activated nickel metal sample	F. 2 millicuries
G. Strontium 90	G. Sealed sources (Jordan Electronics Co. Model BB-1010A, BB-4500A, BB-4100A, BB-7502A, BB-4501A, or BB-5072A)	G. 30 microcuries (No single source to exceed 15 microcuries)

9. Authorized use

B. For use in Industrial Nucleonics Model DH-3 gauge to measure the density of a chemical mixture.
C. To be used in shielded source holders for the measurement of liquid levels in closed vessels.
D. & E. To be used in the development of liquid level measuring systems.
F. Exhibition of sealed display.
G. To be used as internal calibration sources in Jordan Electronics Company radiation detection instruments.

CONDITIONS

15. Byproduct material licensed under Items 6C, D, and E, 7C, D, and E, 8C, D, and E, and 9C, D, and E shall be used by, or under the supervision of, James T. Dicus.

16. Byproduct material licensed under Items 6G, 7G, 8G, and 9G shall be used by, or under the supervision of, Rex B. Gordon.

17. Byproduct material as sealed sources shall not be opened or removed from the H/C meter or the DH-3 gauge by the licensee.

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AMENDMENT NO. 6

CONDITIONS

18. Except as provided otherwise by this license, the licensee shall possess and use byproduct material described in Items 6, 7, and 8 of this license in accordance with statements, representations, and procedures contained in the following documents:

A. Application dated August 27, 1959.
B. Application received December 11, 1959.
C. Letter dated October 29, 1958, from J. N. Shropshire.
D. Letter dated February 2, 1960, from F. H. Milham.
E. Telegram dated March 26, 1961, from N. R. Lake.
F. Application dated June 16, 1961.

19. A. Each sealed source containing Strontium 90, Cobalt 60, Iron 55, or Carbon 14 shall be tested for leakage and/or contamination at intervals not to exceed six months. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, the sealed source shall not be put into use until tested.

B. The test shall be capable of detecting the presence of 0.005 microcuries of contamination on the test sample. The test sample shall be taken from the sealed source or from appropriate accessible surfaces of the device in which the sealed source is permanently or semipermanently mounted or stored. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.

C. If the test reveals the presence of 0.005 microcuries or more of removable contamination, the licensee shall immediately withdraw the sealed source from use and shall cause it to be decontaminated and repaired or to be disposed of in accordance with Commission regulations. A report shall be filed within five days of the test with the Director, Division of Licensing and Regulation, U. S. Atomic Energy Commission, Washington 25, D. C., describing the equipment involved, the test results and the corrective action taken. A copy of such report shall be sent to the manager of the nearest AEC operations office listed in Appendix D of Title 10, Code of Federal Regulations, Part 20.

D. Tests for leakage and/or contamination shall be performed by the Health Physics Group, Atomics International, by the procedure described in letter dated October 29, 1958, from J. N. Shropshire, or by other persons specifically licensed by the Commission to perform such tests.

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CONDITIONS

20. Byproduct material licensed under Items 6F, 7F, 8F, and 9F shall be exhibited by or under the supervision of, personnel designated by R. B. Gordon, Radiation Protection Officer.

For the U. S. Atomic Energy Commission
Original Signed By
James R. Mason

Date July 25, 1961

by Chief, Isotopes Branch
Division of Licensing and Regulation
Washington 25, D. C.

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