

BYPRODUCT MATERIAL LICENSE NO. 4-4292-1, AMENDMENT NO. 2  
(R60)

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		In accordance with application received December 11, 1959, 4-4292-1 is amended in its entirety to read as follows:	
1. Name	<b>Rocketdyne, A Division of North American Aviation, Inc.</b>	3. License number	<b>4-4292-1</b>
2. Address	<b>6633 Canoga Avenue Canoga Park, California</b>	4. Expiration date	<b>November 30, 1960</b>
		5. Reference No.	
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>A. Strontium 90 (See Page 2)</b>	<b>A. Sealed Source (Nuclear-Chicago Model RC-33) (See Page 2)</b>	<b>A. 10 millicuries (See Page 2)</b>	
9. Authorized use			
<b>A. For use in Cenco Beta-Ray H/C meter (No. 27625) to determine hydrogen-carbon ratio in hydrocarbons. (See Page 2)</b>			

## CONDITIONS

10. Unless otherwise specified, the authorized place of use is the licensee's address stated in Item 2 above.
11. Byproduct material may only be used at North American Aviation, Inc., Rocketdyne Division, Propulsion Field Laboratory and Chemistry Laboratory, Santa Susanna, 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 direct supervision of, E. F. Cain.
14. Byproduct material licensed under Items 6B, 7B, 8B and 9B shall be used by, or under the direct supervision of, Robert E. Kimball.
15. Byproduct material licensed under Items 6C, D and E, 7C, D and E, 8C, D and E, and 9C, D and E above shall be used by, or under the direct supervision of, James T. Picus. *MP*

A/S

Supplementary Sheet

4-4292-1

(K60)

License Number

AMENDMENT NO. 2

## CONTINUED:

- |   |  |   |
|---|--|---|
| 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 EE-0010)   | B. 300 millicuries  |
| C. Cobalt 60                                    | C. Sealed Sources (U. S. Nuclear Corporation Type 3142 or Isotopes Specialties Co., Inc., Type 38) | C. 20 millicuries (No single source to exceed 5 millicuries)                  |
| D. Iron 55                                      | D. Sealed Source (U. S. Nuclear Corporation Type 3112)   | D. 100 microcuries  |
| E. Carbon 14                                    | E. Sealed Source (U. S. Nuclear Corporation Type 3111)   | E. 100 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. and E.: To be used in the development of liquid level measuring systems.

## CONDITIONS

16. Byproduct material as sealed sources shall not be opened or removed from the H/C meter or the DH-3 gauge.
- J. W. [Signature]*

U. S. ATOMIC ENERGY COMMISSION  
BYPRODUCT MATERIAL LICENSE

Supplementary Sheet

4-4292-1

License Number (K60)

**AMENDMENT NO. 2**

**CONTINUED:**

**CONDITIONS**

- 17. 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 his application dated August 27, 1959, application received December 11, 1959, and in his letters dated October 29, 1958, and February 2, 1960, from J. N. Shropshire and P. H. Milham, respectively.
- 18. Sealed sources containing Strontium 90, Iron 55 or Carbon 14 shall be tested for leakage and contamination at intervals of not more than six (6) months and records of test results shall be maintained by the licensee. The leak testing shall be performed by the Health Physics Group, Atomica 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 services.

For the U. S. Atomic Energy Commission

Date February 9, 1960

Original Signed By  
James R. Mason  
**Chief, Isotopes Branch**

Division of Licensing and Regulation  
Washington 25, D. C.

**DUPLICATE**  
FOR *DM*

*4-154-60-1*  
*9ms*

*REB 2/10/60*

*1-154-60-1*

*JMS*