FORM AEC-374
(1-66)
10 CFR 30

U. S. ATOMIC ENERGY COMMISSION
BYPRODUCT MATERIAL LICENSE

License No. 12-00140-04
Page 1 of 4 Pages
Amendment No. 14

Pursuant to the Atomic Energy Act of 1954 and Title 10, Code of Federal Regulations, Chapter 1, Parts 30, 32, 33, 34, and 35, 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: Atlantic Richfield Company
2. Address: 400 East Sibley Boulevard
Harvey, Illinois 60426

In accordance with letter dated November 25, 1969,

3. License number: 12-00140-04 is amended in its entirety to read as follows:
4. Expiration date: July 31, 1972
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
A. Hydrogen 3	A. Any	A. 100 curies
B. Any byproduct material with Atomic Nos. between 3 and 83, inclusive	B. Any	B. 1 curie of each byproduct material with Atomic Nos. between 3 and 83, inclusive, except as below:
		Cobalt 60 — 25 curies
		Iridium 192 — 25 curies
		Strontium 90 — 100 millicuries
		Krypton 85 — 20 curies
		Promethium 147 — 10 curies
		Total — 150 curies

9. Authorized use

A. and B. Research and development as defined in Section 30.4(q) of Title 10, Chapter 1, Code of Federal Regulations, Part 30, "Rules of General Applicability to Licensing of Byproduct Material."

A/60

CONDITIONS

10. Byproduct material shall only be used at facilites owned or leased by subsidiaries of the licensee throughout the United States except in Agreement States as defined in Section 30.4(c) of Title 10, Code of Federal Regulations, Part 30.

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

12. Byproduct material shall be used by, or under the supervision of, individuals designated by the local isotope committee, Dr. Adolph I. Snow, Chairman.

13. A. Each sealed source acquired from another person and containing byproduct material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for contamination and/or leakage prior to use. 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. Each sealed source fabricated by the licensee shall be tested for contamination and/or leakage immediately after fabrication. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the licensee shall repair and/or decontaminate and retest the source. Sealed sources fabricated for distribution and containing byproduct material (with the exception of byproduct material with a half-life not exceeding thirty days, byproduct material in the form of gas, and Iridium 192) shall, in addition to an initial test upon fabrication, be stored for a period of seven days and retested prior to transfer to another person or as otherwise specifically provided for in this license.

C. Each sealed source containing byproduct material, other than Hydrogen 3, with a half-life greater than thirty days and in any form other than gas shall be tested for leakage and/or contamination at intervals not to exceed six months except that each source designed for the purpose of emitting alpha particles shall be tested at intervals not to exceed three months.

BYPRODUCT MATERIAL LICENSE

Supplementary Sheet

License Number 12-00140-04

CONDITIONS

Amendment No. 14

13. continued

D. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. The test sample shall be taken from the sealed source or from the surfaces of the device in which the sealed source is permanently or semipermanently mounted or stored on which one might expect contamination to accumulate. Records of leak test results shall be kept in units of microcuries and maintained for inspection by the Commission.

E. If the test required by Subsection A. or C. of this condition reveals the presence of 0.005 microcurie 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 5 days of the test with the Director, Division of Materials Licensing, U. S. Atomic Energy Commission, Washington, D. C., 20545, describing the equipment involved, the test results, and the corrective action taken. A copy of such report shall also be sent to the Director, Region III, Division of Compliance, USAEC, 799 Roosevelt Road, Glen Ellyn, Illinois, 60137.

14. Pursuant to Section 20.302 of Title 10, Code of Federal Regulations, Part 20, the licensee may incinerate the following amounts and types of byproduct material wastes per year, provided the concentrations in the incinerator effluent do not exceed the limits specified for air in Appendix B, Table II of 10 CFR 20: 500 millicuries of Hydrogen 3, 5 millicuries of Carbon 14, 2 millicuries of Cobalt 60, 12 millicuries of Iron 55, and 4 microcuries of Iron 59.

15. Pursuant to Section 32.11 of Title 10, Code of Federal Regulations, Part 32, the licensee is authorized to transfer possession and control of gasoline containing Carbon 14 at a concentration not to exceed 3.3×10^{-7} microcuries per milliliter as a product containing an exempt concentration of byproduct material. The concentration of byproduct material in the product shall be controlled in accordance with application dated September 18, 1959. The licensee shall report such transfers in accordance with Section 32.12, 10 CFR 32.

BYPRODUCT MATERIAL LICENSE

Supplementary Sheet

License Number 12-00140-04
Amendment No. 14

CONDITIONS

(Continued)

16. Pursuant to Section 32.11 of Title 10, Code of Federal Regulations, Part 32, the licensee is authorized to transfer possession and control of gasoline containing Hydrogen 3 at a concentration not to exceed 8 X 10^{-5} microcuries per milliliter as a product containing an exempt concentration of byproduct material. The concentration of byproduct material in the product shall be controlled in accordance with letter from Dr. A. I. Snow dated July 5, 1960. The licensee shall report such transfers in accordance with Section 32.12, 10 CFR 32.

17. Except as specifically 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 applications dated May 16, 1957, September 18, 1959, and June 14, 1963; and letters dated August 5, 1959, July 5, 1960, September 8, 1960, and November 25, 1969, from A. I. Snow.

18. Pursuant to Section 32.11 of Title 10, Code of Federal Regulations, Part 32, the licensee is authorized to transfer possession and control of hydrocarbon gasses containing Krypton 85 at a concentration not to exceed 3 X 10^{-5} microcurie per milliliter as a product containing an exempt concentration of byproduct material. The concentration of byproduct material in the product shall be controlled in accordance with letter dated April 17, 1964, from A. I. Snow. The licensee shall report such transfers in accordance with Section 32.12, 10 CFR 32.

For the U. S. Atomic Energy Commission
Original Signed By
Robert E. Brinkman
by Isotopes Branch
Division of Materials Licensing
Washington, D.C. 20545

Date DEC 12 1969