

January 21, 1997

ARCTECH, Inc.  
ATTN: Dr. Daman Walia  
President  
14100 Park Meadow Drive  
Suite 210  
Chantilly, VA 22021

SUBJECT: TRANSMITTAL AND EXPLANATION OF A MATERIALS LICENSE AMENDMENT  
(REFERENCE: 257226; 030-31885)

Dear Dr. Walia:

Enclosed is Amendment No. 3 to License No. 45-25116-01 issued in response to your letter dated September 26, 1996, and your application for renewal dated January 19, 1996.

Based on the information provided in your correspondence, I was unable to verify that either Mr. Stashick or Dr. Srivastava have the necessary training and experience in radiation safety to qualify as Radiation Safety Officer (RSO) and alternate for a research program of the scope currently authorized by your license (i.e. laboratory tracer studies involving millicurie quantities of carbon-14, sulfur-35 and hydrogen-3).

However, from telephone conversations with Mr. Stashick (November 27, 1996 and January 9, 1997), I understand that no research involving carbon-14, sulfur-35, or hydrogen-3 is being conducted and that you currently possess only microcurie quantities of these radioisotopes.

Accordingly, I have modified your license to authorize the possession of these materials as low-level waste, for storage only, pending disposal. The license continues to authorize the use of nickel-63 for use in gas chromatographs for sample analysis. Under these conditions, Mr. Stashick is deemed qualified to be named as RSO and authorized user.

Prior to resuming laboratory tracer studies with carbon-14, sulfur-35, and hydrogen-3, you must provide the following additional information for our review and approval:

1. A description of the radiation safety training and experience of Mr. Stashick and Dr. Srivastava and related experience using licensed radioactive material of the type and quantities to be authorized on your license. This should include:
  - a. Dates and duration of training, name and address of instructor, topics covered in the training, and method used by the course instructor to verify trainee understanding of material presented in the course (for example written test). (Note: If you are

unable to provide documentation of this training, please provide the Name, address and telephone number of the training organization's representative who can verify the training.)

- b. Specific information about their on-the-job training and experience in the safe use of licensed material to include:
  - (1) List of isotopes and maximum activity used, duration of use, type of use.
  - (2) Name, address and license number of the organization where isotopes were used
  - (3) Documentation to verify completed experience or the name and telephone number of the licensee's representative who can verify the information provided.
- 2. A list of the duties and responsibilities of the Radiation Safety Officer and an organizational chart showing his chain of command and authority to conduct your radiation safety program.
- 3. A description of the scope of use of licensed material planned for your organization during the current term of your license. This should include the type of research activities to be conducted and the expected annual usage of each of the isotopes listed on your license.

Thank you for your cooperation in this matter. If you have questions, please call me at 404/331-5617 or my supervisor, Mr. Charles Hosey, at 404/331-5614.

When replying, please refer to Mail Control No. 257226 and provide two copies of your response.

Sincerely,

/s/

EARL G. WRIGHT,  
Senior License Reviewer,  
Division of Nuclear Materials Safety

- Enclosures: 1. Amendment No. 3
- 2. License No. 45-25116-01

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# OFFICIAL RECORD COPY MATERIALS LICENSE

Amendment No. 3

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974, Public Law 93-438, and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 39, 40, 41, 42, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer by product, source, and special nuclear material designated below, to use such material for the purposes and at the places designated below, to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Parts. This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

Licensee

In accordance with letter dated September 26, 1996

1 **ARCTECH, Inc.**  
2 **14100 Park Avenue**  
**Suite 210**  
**Chantilly, Virginia 22021**

3 License Number **45-25116-01**

is amended in its entirety to read as follows:

4 Expiration Date **February 28, 2001 (Extended)**

5 Docket or Reference No. **030-31885**

6 Byproduct, Source, and/or Special Nuclear Material

Chemical and/or Physical Form

8 Maximum Amount that Licensee May Possess at Any One Time Under This License

|               |  |   |
|---------------|--|---|
| A. Carbon 14  | A. Any   | A. 80 millicuries   |
| B. Sulphur 35 | B. Any   | B. 20 millicuries   |
| C. Hydrogen 3 | C. Any   | C. 10 millicuries   |
| D. Nickel 63  | D. Foils or plated sources in Varian Model 01-001028-01 or Hewlett-Packard Model 19303A detector cells | D. 3 sources; not to exceed 15 millicuries per foil or source |

9 Authorized Use:

A through C For storage, incident to disposal.

D For use in gas chromatographs for sample analysis

## 200117

### CONDITIONS

10 Licensed material shall be used only at the licensee's facility located at 14100 Park Meadow Drive, Suite 210, Chantilly, Virginia.

11 The Radiation Safety Officer (RSO) for this license is Joseph J. Stashuck or in his absence, Kailash Srivastava, Ph.D., alternate, RSO.

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*JK*

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number 45-251

Docket or Reference Number 050-31885

Amendment No. 3

(continued)

**CONDITIONS**

12. **Licensed material shall be used by, or under the supervision of, Joseph J. Stashick.**
  
13.
  - A. **The source(s) specified in Item 7.D. shall be tested for leakage and/or contamination at intervals not to exceed 6 months. Any source received from another person which is not accompanied by a certificate indicating that a test was performed within 6 months before the transfer shall not be put into use until tested.**
  
  - B. **Any source in storage and not being used need not be tested. When the source is removed from storage for use or transfer to another person, it shall be tested before use or transfer.**
  
  - C. **The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. If the test reveals the presence of 0.005 microcurie or more of removable contamination, the source shall be removed from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. A report shall be filed within 5 days of the date the leak test result is known with the U. S. Nuclear Regulatory Commission, Region II, Division of Radiation Safety and Safeguards, Nuclear Material Safety Section, 101 Marietta Street, Suite 2900, Atlanta, Georgia 30323. The report shall specify the source involved, the test results, and corrective action taken. Records of leak test results shall be kept in units of microcuries and shall be maintained for inspection by the Commission. Records may be disposed of following Commission inspection.**
  
  - D. **Tests for leakage and/or contamination shall be performed by the licensee or by other persons specifically licensed by the Commission or an Agreement State to perform such services.**
  
14. **Detector cells containing licensed material shall not be opened or the sources removed from the detector cell by the licensee.**
  
15. **The licensee shall conduct a physical inventory every 6 months to account for all sources and/or devices received and possessed under this license.**
  
16. **The licensee shall maintain records of information important to safe and effective decommissioning at 5390 Cherokee Avenue, Alexandria, Virginia, in accordance with the provisions of 10 CFR 30.35(g) until this license is terminated by the Commission.**

License Number 45-25116-01

Docket or Reference Number 750-31885

Amendment No. 3

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

(continued)

**CONDITIONS**

17. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents including any enclosures, listed below. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations.
- A. Letter with attachments dated August 17, 1990
  - B. Letter with attachments dated November 8, 1990
  - C. Letter with attachments dated February 13, 1991
  - D. Letter dated February 18, 1991
  - E. Letter with attachments dated December 5, 1991
  - F. Letter with attachments dated July 22, 1992
  - G. Application dated January 19, 1996 [Renewal application/adds new RSO and alternate RSO]
  - H. NRC letter dated March 1, 1996 extends license expiration date pursuant to 10 CFR 30.36.
  - I. FAX dated January 17, 1996 [Change authorized use for Item 9A.-C. to storage only incident to disposal (see also letter dated March 29, 1995 -inventory of unsealed licensed material possessed.)]

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

EARL G. WRIGHT

By *Earl G. Wright*

Region II, Division of Nuclear Materials Safety  
101 Marietta Street, N.W., Suite 2900  
Atlanta, Georgia 30323

Date JAN 21 1997

*[Handwritten signature]*  
*11-21-97*

NRC LICENSE 45-25116-A03