

## MATERIALS LICENSE

Amendment No. 04

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 and 70, 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 byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). 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

1. Fischer Technology, Incorporated

2. 750 Marshall Phelps Road  
Windsor, Connecticut 06095In accordance with letter dated  
July 31, 1992,3. License number 06-19165-01 is amended in  
its entirety to read as follows:

4. Expiration date October 31, 1996

5. Docket or  
Reference No 030-170736. Byproduct, source, and/or  
special nuclear material7. Chemical and/or physical  
form8. Maximum amount that licensee  
may possess at any one time  
under this license

A. Strontium 90

A. Sealed sources (Fisher  
Model C7.1.4 or Isotope  
Products Model TCB-1)A. Not to exceed 25  
microcuries per source  
and 1.25 millicuries  
total

B. Ruthenium 106

B. Sealed sources (Fisher  
Model C7.1.5 or Isotope  
Products Model TCB-1)B. Not to exceed 20  
microcuries per source  
and 2 millicuries total

C. Cadmium 109

C. Sealed sources (Fisher  
Model C7.1.0 or Isotope  
Products Model TCB-1)C. Not to exceed 600  
microcuries per source  
and 60 millicuries total

D. Promethium 147

D. Sealed sources (Fisher  
Model C7.1.1 or Isotope  
Products Model TCB-1)D. 900 microcuries per  
source and not to exceed  
90 millicuries total

E. Thallium 204

E. Sealed sources (Fisher  
Model C7.1.2 or Isotope  
Products Model TCB-1)E. Not to exceed 150  
microcuries per source  
and 15 millicuries total

F. Bismuth 210

F. Sealed sources (Fisher  
Model C7.1.3 or Isotope  
Products Model TCB-1)F. Not to exceed 150  
microcuries per source  
and 15 millicuries total

## 9. Authorized use

- 250022
- A. through F. (1) Installation, assembly, manufacture, repair or storage of Fischer Technology gauging devices.  
(2) Instruction and training of individuals in the use of Fischer Technology devices.  
(3) Demonstration of backscatter measurement techniques.  
(4) Collection of samples for leak testing and/or analysis for leakage or contamination of customer's sealed sources.  
(5) Distribution of Fischer Technology devices to persons authorized to receive the licensed material pursuant to the terms and conditions of a specific license issued by the Nuclear Regulatory Commission or an Agreement State.

MATERIALS LICENSE  
SUPPLEMENTARY SHEET

License number

06-19165-01

Docket or Reference number

030-17073

Amendment No. 04

(Continued)

CONDITIONS

10. Licensed material may be used at the licensee's facilities located at 750 Marshall Phelps Road, Windsor, Connecticut, and at temporary job sites of the licensee anywhere in the United States where the U.S. Nuclear Regulatory Commission maintains jurisdiction for regulating the use of licensed material.
11. A. Licensed material shall be used by, or under the supervision of, Helmut Fischer, Robert Christensen or Andrew Soncha.  
B. The Radiation Safety Officer for this license is Andrew Soncha.
12. A. Sealed sources and detector cells shall be tested for leakage and/or contamination at intervals not to exceed 6 months or at such other intervals as are specified by the certificate of registration referred to in 10 CFR 32.210, not to exceed 3 years.  
B. Notwithstanding Paragraph A of this Condition, sealed sources designed to emit alpha particles shall be tested for leakage and/or contamination at intervals not to exceed 3 months.  
C. In the absence of a certificate from a transferor indicating that a test has been made within six months prior to the transfer, a sealed source or detector cell received from another person shall not be put into use until tested.  
D. Each sealed source fabricated by the licensee shall be inspected and tested for construction defects, leakage, and contamination prior to any use or transfer as a sealed source.  
E. Sealed sources and detector cells need not be leak tested if:
  - (i) they contain only hydrogen 3; or
  - (ii) they contain only a gas; or
  - (iii) the half-life of the isotope is 30 days or less; or
  - (iv) they contain not more than 100 microcuries of beta and/or gamma emitting material or not more than 10 microcuries of alpha emitting material; or
  - (v) they are not designed to emit alpha particles, are in storage, and are not being used. However, when they are removed from storage for use or transfer to another person, and have not been tested within the required leak test interval, they shall be tested before use or transfer. No sealed source or detector cell shall be stored for a period of more than 10 years without being tested for leakage and/or contamination.

MATERIALS LICENSE  
SUPPLEMENTARY SHEET

License number

06-19165-01

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030-17073

Amendment No. 04

(12. Continued)

CONDITIONS

- F. The test shall be capable of detecting the presence of 0.005 microcurie of radioactive material on the test sample. Records of leak test results shall be kept in units of microcuries and shall be maintained for inspection by the Commission. If the test reveals the presence of 0.005 microcurie or more of removable contamination, a report shall be filed with the U.S. Nuclear Regulatory Commission and the source shall be removed from service and decontaminated, repaired, or disposed of in accordance with Commission regulations. The report shall be filed within 5 days of the date the leak test result is known with the U.S. Nuclear Regulatory Commission, Region I, ATTN: Chief, Nuclear Materials Safety Branch, 475 Allendale Road, King of Prussia, Pennsylvania 19406. The report shall specify the source involved, the test results, and corrective action taken.
- G. The licensee is authorized to collect leak test samples for analysis by the licensee. Alternatively, tests for leakage and/or contamination may be performed by persons specifically licensed by the Commission or an Agreement State to perform such services.
13. Sealed sources or detector cells containing licensed material shall not be opened or sources removed from source holders or detector cells by the licensee.
14. The licensee shall conduct a physical inventory every 6 months to account for all sources and/or devices received and possessed under the license. Records of inventories shall be maintained for 5 years from the date of each inventory.
15. This license does not authorize commercial distribution of licensed material to persons generally licensed pursuant to 10 CFR 31 or to persons exempt from licensing pursuant to 10 CFR 30.18.
16. Radioactive waste generated under this license shall be stored in accordance with the statements, representations, and procedures included with the licensee's waste storage plan described in the licensee's letters dated July 31, 1992 and October 5, 1992.

MATERIALS LICENSE  
SUPPLEMENTARY SHEET

License number

06-19165-01

Docket or Reference number

030-17073

Amendment No. 04

(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. Application dated August 8, 1990
- B. Letter dated September 4, 1991
- C. Letter dated July 31, 1992
- D. Letter dated October 5, 1992



For the U.S. Nuclear Regulatory Commission

Original Signed By:

Elizabeth Ullrich

Sy

Nuclear Materials Safety Branch  
Region I

King of Prussia, Pennsylvania 19406

Date

OCT 20 1992

OCT 20 1992

License No. 06-19165-01  
Docket No. 030-17073  
Control No. 116954

Fischer Technology, Incorporated  
ATTN: Andrew R. Soncha  
Director of Manufacturing  
750 Marshall Phelps Road  
Windsor, Connecticut 06095

Dear Mr. Soncha:

Please find enclosed an amendment to your NRC Material License.

Please review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or questions, please notify the Region I Material Licensing Section, (215) 337-5093, so that we can provide appropriate corrections and answers.

Please be advised that you must conduct your program involving licensed radioactive materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, please note the items in the enclosed, "Requirements for Materials Licensees."

Since serious consequences to employees and the public can result from failure to comply with NRC requirements, the NRC expects licensees to pay meticulous attention to detail and to achieve the high standard of compliance which the NRC expects of its licensees.

You will be periodically inspected by NRC. A fee may be charged for inspections in accordance with 10 CFR Part 170. Failure to conduct your program safely and in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in prompt and vigorous enforcement action against you. This could include issuance of a notice of violation, or in case of serious violations, an imposition of a civil penalty or an order suspending, modifying or revoking your license as specified in the General Policy and Procedures for NRC Enforcement Actions, 10 CFR Part 2, Appendix C.



Fischer Technology, Inc.

-2-

We wish you success in operating a safe and effective licensed program.

Sincerely,

Original Signed By:  
Elizabeth Ullrich

*for* John D. Kinneman, Chief  
Research, Development  
and Decommissioning Section  
Division of Radiation Safety  
and Safeguards

Enclosures:

1. Amendment No. 04
2. Requirements for Materials Licensees

DRSS:RI  
Arredondo/gc

*ST*  
10/16/92

DRSS:RI  
*for* Kinneman

10/16/92

MS 16  
K-6

October 5, 1992

U.S. Nuclear Regulatory Commission, Region I  
Nuclear Materials Safety Section B  
475 Allendale Road  
King of Prussia, Pa. 19406  
Atten: Ms. Sheri Arredondo MC 116954

RE: Amendment to License Number 06-19165-01  
Additional Information

Dear Ms. Arredondo,

Per our telephone conversation, I am submitting the additional information requested. The paragraph references correspond to those used in the original submittal.

In regards to paragraphs

- 1e. There are no additional permits necessary at this time.
- 3f. For fire protection, we utilize smoke detectors throughout our facility. These detectors are connected to our central alarm system which is monitored 24 hours a day by our central station alarm company.
- 4a. The only recordable radiation once the waste material is enclosed in our canisters is background radiation.
- 5a. All of our radioactive material is kept within our leak testing lab (see par.4b). The area is clearly posted in accordance with 10 CFR Section 20.203.
- 5d. Each of our isotopes is serialized. This serial number is used to track the movement of the isotope after sale to customers and during periodic leak testing. A log of these serial numbers is maintained by the leak testing technician.

I hope that I have answered all of your questions to your satisfaction. If there are any further questions, please contact me at 203-683-0781.

Sincerely,  
*Andrew R. Soncha*  
Andrew R. Soncha  
Director of Manufacturing

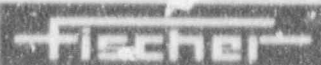
OFFICIAL RECORD COPY ML 10

116954

OCT 07 1992

NRC FORM 218 (4-78) NRCM 0240		U.S. NUCLEAR REGULATORY COMMISSION		DATE <u>9/25/92</u>	
TELEPHONE OR VERBAL CONVERSATION RECORD				TIME <u>1:00</u> <input type="checkbox"/> A.M. <input checked="" type="checkbox"/> P.M.	
<input type="checkbox"/> INCOMING CALL		<input type="checkbox"/> OUTGOING CALL		<input type="checkbox"/> VISIT	
PERSON CALLING		OFFICE/ADDRESS		PHONE NUMBER	EXTENSION
<u>Sheri</u>					
PERSON CALLED		OFFICE/ADDRESS		PHONE NUMBER	EXTENSION
<u>Andy Sandra</u>		<u>Fischer Techn.</u>			
CONVERSATION					
SUBJECT <u>Waste storage</u>					
SUMMARY					
<u>need 1e, 3f, 4a (level),</u> <u>5a, 5d</u>					
REFERRED TO:				<input type="checkbox"/> ADVISE ME OF ACTION TAKEN.	
ACTION REQUESTED				INITIALS	
				DATE	
ACTION TAKEN				INITIALS	
				DATE	
OFFICIAL RECORD COPY ML 10 <div style="text-align: right;"><u>116954</u></div>					





FISCHER TECHNOLOGY, INC., 750 Marshall Phelps Road • Windsor, Ct 06095 • Tel (203) 683-0781, Telex 6435 83, Watts 800-243-8417, Fax 203-688-8496

030-17073

July 31, 1992

U.S. Nuclear Regulatory Commission, Region I  
Nuclear Materials Safety Section B  
475 Allendale Road  
King of Prussia, Pa. 19406

RE: Amendment to License Number 06-19165-01

To Whom It May Concern,

Attached is Fischer Technology's application for license amendment. This request for amendment is being made so that Fischer Technology can store its LLW onsite until a disposal site for the state of Connecticut is available.

The accompanying application follows the format outlined in NRC Information Notice NO. 90-09 Attachment 1 (copy enclosed).

If there are any questions concerning this application, please contact me or Robert Christensen at 203-683-0781.

Sincerely,

*Andrew R. Soncha*

Andrew R. Soncha  
Director of Manufacturing

Log	Aug 13
Reminder	
Check No	8/28
Amount	\$500
Fee Category	3A 3W
Type of Fee	AMD
Date Check Recd	8/18/92
Date Completed	
By	RBmr

92 AUG 14 09:05  
U.S. NUCLEAR REGULATORY COMMISSION

05 WRE -2 6322

116954

AUG 05 1992

Application for License Amendment

License No: 06-1916-01 Amendment 03

Applicant: Fischer Technology, Inc  
750 Marshall Phelps Road  
Windsor, CT. 06095

1. Identification of Waste to be Stored

- 1a. The possession limits need to be increased to the limits indicated below for the purposes of extended interim storage.

<u>Radionuclide</u>	<u>Activity</u>
Strontium 90	1.25 millicuries
Ruthenium 106	2 millicuries
Cadmium 109	60 millicuries
Promethium 147	90 millicuries
Thallium 204	15 millicuries
Bismuth 210	15 millicuries

- 1b. The estimated maximum amount of LLW to be stored is as follows:

<u>Radionuclide</u>	<u>Volume</u>	<u>Activity</u>
Strontium 90	2 cu.in.	1 millicurie
Ruthenium 106	2 cu.in.	1.8 millicuries
Cadmium 109	1 cu.in.	50 millicuries
Promethium 147	3 cu.in.	80 millicuries
Thallium 204	3 cu.in.	10 millicuries
Bismuth 210	.5 cu.in.	2 millicuries

- 1c. (1) Volume of waste = 12 cu.in. of Class A  
(2) Physical form = solid  
(3) No waste processing  
(4) There are no additional non-radiological properties of the LLW which would cause it to be classed as hazardous waste.

- 1d. The type of LLW currently being stored is as noted in 1b. and the current yearly amount is approximately one-tenth (1/10 th) the levels listed in 1b.

- 1e. We presently hold a sit permit of the Richland, Washington site.

2. Plans for Final Disposal

- 2a. Disposal capacity will no longer be available and onsite storage will begin January 1, 1993.

2b. The Connecticut disposal facility will be used for disposal of our LLW. The projected date for operation of this facility is 1996. This is a very tentative date since the site selection process is being redone pending legislative approval.

2c. We will ship our LLW to the disposal facility within 6 months of its opening. We will be able to move our storage inventory out in one shipment.

### 3. Physical Description of Storage Area

3a. The storage area for our LLW will be within the Leak Testing Lab (see attached floor plan). The storage inventory will be kept in a locked cabinet within this area.

3b. The maximum volume of LLW that can be stored in the proposed waste storage area is 1 cubic foot which is 12 times the expected annual volume.

3c. The storage area is in a concrete block and steel building. The building is our regular place of business and is thermostatically heated and cooled.

3d. The storage area is within our leak testing lab and has a lockable entrance door with access keys in the possession of our leak testing technician.

3e, 3f, 3g, 3h. See 3c.

### 4. Packaging and Container Integrity

4a. The storage containers are shielding canisters. These are the same canisters used to store and ship new isotopes to our customers. These are metal canisters and have virtually an unlimited storage life.

4b. Inspections are made continually in the testing lab since leak testing is an ongoing activity. Since all our radioactive material is kept in the same location, these inspections will include the LLW.

4c. Not applicable

### 5. Radiation Protection

5a. All our LLW is handled by a trained leak test technician. The storage canisters referred to in 4a have been specifically designed by our company to provide total protection from radiation exposure.

5b. No changes in monitoring are necessary nor is there a need for shielding for reasons noted in 5a.

5c. Our local fire marshall has been provided with a building floor plan to assist fire personnel in locating and identifying all hazardous material storage locations including the LLW storage area.

6. Training

6a. As outlined in our original license application

7. Financial Assurance

7a. Not applicable

8. Emergency Preparedness

8a. Our maximum possession limits will not exceed those specified in Subsections 30.32 (i)(1), 40.31 (j)(1), or 70.22 (i)(3).

INFORMATION NEEDED IN AN AMENDMENT REQUEST TO AUTHORIZE  
EXTENDED INTERIM STORAGE OF LOW-LEVEL RADIOACTIVE WASTE

The following paragraphs identify the information which NRC considers necessary in an amendment request from a materials or fuel cycle licensee to authorize extended interim storage of low-level radioactive waste (LLW).

1. Identification of Waste to be Stored

- a. Specify any possession limit increases needed for extended interim storage of LLW.
- b. Identify the estimated maximum amount of LLW to be stored, both in terms of volume and activity, by radionuclide.
- c. Characterize the LLW to be stored:
  - (1) Volume of waste by Class (A, B, or C)
  - (2) Physical form of the waste: solid, liquid or gas
  - (3) Waste processing: volume reduction, solidification or other treatment.
  - (4) Additional non-radiological properties of LLW (if any): hazardous, biologic/pathogenic, corrosive, flammable, etc.
- d. Describe the amount and type of LLW currently being stored or processed.
- e. Identify any additional permits or approvals necessary for storage (i.e., EPA hazardous waste permit, State or local approvals, etc.) and the status of each required approval.

2. Plans for Final Disposal

- a. Specify when disposal capacity will no longer be available to you and onsite storage will begin.
- b. Specify the State/Regional disposal facility to be used for ultimate disposal of your LLW and when that facility is scheduled to begin accepting LLW. Your Regional Compact or State LLW authority should be able to provide this information if you do not have it.
- c. Specify when you will begin shipping LLW to that facility and how long it will take for your estimated storage inventory to be moved out.



3. Physical Description of Storage Area

- a. Identify the location and provide a diagram of the LLW storage area which demonstrates where packages will be stored and how packages will be accessible for inspection purposes. Include the locations of waste processing equipment (if applicable), air sampling stations, effluent filters and any sources of flammable or explosive material.
- b. Specify the maximum volume of LLW that can be stored in the proposed waste storage area and relate this to annual volume of waste generated.
- c. Specify the type of building/structure in which the waste will be stored and demonstrate that the waste will be protected from weather at all times.
- d. Describe the measures to control access to the LLW storage area and thereby ensure security of the waste.
- e. Describe the ventilation system and how it will assure adequate ventilation of the storage area.
- f. Describe the fire protection and suppression system to minimize the likelihood and extent of fire.
- g. Describe how the adverse effects of extremes of temperature and humidity on waste and waste containers will be avoided.
- h. Describe vulnerability to other hazards such as tornado, hurricane, flood, industrial accident, etc.

4. Packaging and Container Integrity

- a. Describe the packages or containers to be used for storage of LLW, any hazards the waste may pose to their integrity, and the projected storage life of the packages or containers.
- b. Describe your program for periodic inspections of LLW packages to ensure that they retain their integrity and containment of LLW.
- c. Describe your program and equipment (if applicable) for remote handling and/or repackaging damaged or leaking waste containers.

5. Radiation Protection

- a. Describe your program for safe placement and inspection of waste in storage and maintaining occupational exposures as low as is reasonably achievable (ALARA). This program should include periodic radiation and contamination surveys of individual packages and the storage area in general, as well as posting the storage area in accordance with 10 CFR Section 20.203.

- b. Describe projected exposure rates, needs for shielding (if any) and any changes in personnel monitoring which will be required as a result of waste storage.
- c. Describe your procedures for responding to emergencies, including notification of and coordination with local fire, police and medical departments.
- d. Describe your system for maintaining accurate records of waste in storage (including any waste receipts or transfers from or to other licensees) to assure accountability.

6. Training

- a. Describe your program for training personnel in procedures for packaging, handling, placement, inspection, surveying and emergency response for LLW storage.

7. Financial Assurance

- a. Review the relevant sections of Parts 30, 40 and 70 regarding financial assurance for decommissioning. If your proposed maximum possession limits exceed the limits specified in Sections 30.35, 40.36 or 70.25, submit with your amendment request a decommissioning funding plan or certification of financial assurance, as appropriate. In either case, this submittal should demonstrate that financial resources are or will be in place not only to decommission the licensed operation, but also to provide for the estimated costs of handling, transport and ultimate disposal of all LLW stored onsite.

8. Emergency Preparedness

- a. Review the relevant sections of Parts 30, 40 and 70 regarding emergency preparedness. If your proposed maximum possession limits exceed the limits specified in Subsections 30.32 (i)(1), 40.31(j)(1) or 70.22 (i)(3), you will be required to either demonstrate that an emergency plan is not needed or to develop and maintain a plan that meets the requirements of the aforementioned sections.

10 14 18 22 26 30 34 38 42 46 50 54 58 62 66 70 74 78 82 86 90 94 98 102 106 110 114 118 122 126 130 134 138 142 146 150 154 158 162 166 170 174 178 182 186 190 194 198 202 206 210 214 218 222 226 230 234 238 242 246 250 254 258 262 266 270 274 278 282 286 290 294 298 302 306 310 314 318 322 326 330 334 338 342 346 350 354 358 362 366 370 374 378 382 386 390 394 398 402 406 410 414 418 422 426 430 434 438 442 446 450 454 458 462 466 470 474 478 482 486 490 494 498 502 506 510 514 518 522 526 530 534 538 542 546 550 554 558 562 566 570 574 578 582 586 590 594 598 602 606 610 614 618 622 626 630 634 638 642 646 650 654 658 662 666 670 674 678 682 686 690 694 698 702 706 710 714 718 722 726 730 734 738 742 746 750 754 758 762 766 770 774 778 782 786 790 794 798 802 806 810 814 818 822 826 830 834 838 842 846 850 854 858 862 866 870 874 878 882 886 890 894 898 902 906 910 914 918 922 926 930 934 938 942 946 950 954 958 962 966 970 974 978 982 986 990 994 998 1000

LICENSE FEE MANAGEMENT BRANCH, ARM  
AND  
REGIONAL LICENSING SECTIONS

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PROGRAM CODE: 03212
STATUS CODE: 0
FEE CATEGORY: 3B 3N
EXP. DATE: 19961031
FEE COMMENTS: 3B & SERV & LT 7/2/90
DECOM FIN ASSUR REQ: N

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#### A. REGION

I

- APPLICANT/LICENSEE: FISCHER TECHNOLOGY, INC.  
RECEIVED DATE: 920805  
DOCKET NO: 3017073  
CONTROL NO.: 116954  
LICENSE NO.: 06-19185-01  
ACTION TYPE: AMENDMENT

- AMOUNT: \$550.00  
CHECK NO.: 8128

- SIGNED  
DATE

M. A. Reshina  
260622

1. FEE CATEGORY AND AMOUNT: (36) 3N 570

2. CORRECT FEE PAID. APPLICATION MAY BE PROCESSED FOR:  
AMENDMENT -----  
RENEWAL -----  
LICENSE -----

3. OTHER

SIGNED  
DATE

B. Brown  
8/18/92