VOID SHEET

TO: License Fee Management Branch

FROM: PII

SUBJECT: VOIDED APPLICATION

Control Number: 225806

APP Name: Fibertek

Date Received: 9/6/89

Reason for Void: Licensee request.

Signature Date 9/6/89

Distribution:
Record Copy of Action

USE ONLY

Review of VOID Completed:

- Refund Authorized and processed
- ✓ No Refund Due
- Fee Exempt or Fee Not Required

ck # 8463 ($61) dated 9/5/89 returned.

Comments:

Log completed ☑

Processed by: M. Rivera 10/15/89

ML20

1/1

OCT 27 1989

Fibertek, Inc.
ATTN: Dr. Gary Spector
Radiation Safety Officer
510-A Herndon Parkway
Herndon, VA 22070

Gentlemen:

Enclosed is Check No. 8483 ($60) which we are returning to you because the appropriate fee, Check No. 7607 ($60), accompanied your April 26, 1989 request for an amendment to License 45-24886-01.

Although you have requested that this amendment request be voided, the initial fee is not refundable because some licensing action has occurred. Please note Section 170.12(a) of Part 170 of the Commission's regulation, copy enclosed.

Sincerely,

/S/

Maurice Messier
License Fee and Debt Collection Branch
Division of Accounting and Finance
Office of the Controller

Enclosure:
1. Check No. 8483 ($60)
2. Part 170

DISTRIBUTION:
Pending Files
OC DAF R/F
LFDCB R/F (2)
DW/GJ/FIBERTEK

OFFICE:	OC/LFDCB	OC/LFDCB
SURNAME:	MMessier:bg	GJackson
DATE:	10/26/89	10/27/89

CC

JUN 07 1989

9-5-89
Gary Spector requested that this request be voided at this time.
CAC

Fibertek, Inc.
ATTN: Dr. Gary Spector
510-A Herndon Parkway
Herndon, VA 22070

Gentlemen:

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION CONCERNING A MATERIAL LICENSE APPLICATION (REFERENCE: 252802; 030-29682)

This refers to your letter dated May 25, 1989, which was in response to our letter dated May 22, 1989. After review of your response, it has been determined that the following information and clarifications are needed:

1. Film badges provide a record of exposure already received, but they are not considered survey equipment for determining radiation levels in accordance with the requirements of 10 CFR 20.105 (Permissible levels of radiation in unrestricted areas), 20.201 (Surveys-Precautionary Procedures), and 20.203 (Caution signs, labels, signals and controls).

   Although we don't have specification sheets on the Bertholdt survey equipment, I assume that it is primarily used for detecting x-rays and gamma rays. The Am:Be source and the Cf-252 sources do give off x-rays or gamma rays; however, that is only a portion of the exposure from these sources since they principally emit neutrons. If you use the geiger counter to do your surveys, you should know the neutron exposure rate vs. the gamma/x-ray exposure rate for the sources you are working with and take the total exposure rate into consideration. Please provide a description of your method of determining neutron exposure rates. Give the exposure rates at 1 meter from the safe and from each shipping container. Also, if you are using this instrument to perform required surveys, it should be calibrated at intervals not to exceed one (1) year and following servicing. If you calibrate your own instrument, provide your procedures. (Enclosure 2 is Appendix B to our Medical Licensing Guide, which describes Model Procedures for Calibrating Survey Instruments.) If a contractor calibrates your instruments, give the name of the contractor.

2. If the Type B1 film badge is a whole body badge, describe your method for determining extremity exposures. We do not recommend that the Cf-252 sources (or any sources) be removed from the lead pigs by hand. If there is some need to handle these sources directly, please explain why it is necessary and provide an evaluation of the total quarterly dose received by personnel handling and/or using these sources. 10 CFR 20.4 has a table showing neutron flux dose equivalents.

Our review of your application will continue upon receipt of the above information. Please provide two copies of your reply and reference Mail Control Number 252802.

If we do not receive a reply from you within thirty (30) calendar days from the date of this letter, we shall assume that you do not wish to pursue your application.

If you should have any questions, do not hesitate to contact me at (404) 331-2675.

Sincerely,

Carol A. Connell, Radiation Specialist
Nuclear Materials Safety Section

Enclosures:
1. 10 CFR 20
2. Appendix B to Reg. Guide 10.8

RII CC
CConnell
6/06/89

RII CWH
CHosey
6/7/89

Received 5-30-89

FIBERTEK, INC.

510-A HERNDON PARKWAY
HERNDON, VIRGINIA 22070

TELEPHONE: (703) 471-7671
FAX: (703) 471-5806

May 25, 1989

Ms. Carol Connell, Radiation Specialist
United States Nuclear Regulatory Commission, Region II
101 Marietta Street, N.W.
Atlanta, Georgia 30303

Dear Ms. Connell,

This letter is in reference to Mail Control Number 252802, an amendment to Materials License No. 45-24886-01. In response to the questions raised in your letter:

1. The sources will only be used at FIBERTEK's Herndon, Virginia facility. All of our radiation sources are used only in the Fiber Optics Laboratory, which is marked on the building plan attached to our current materials license. During source usage, only those persons working with the source will be allowed in the laboratory, specifically Tom McCollum and myself. A combination cipher lock on the door prevents unauthorized entry to the laboratory. The new source will be stored in the same location as the others, specifically in a locked safe with 0.25" of lead shielding. The 100 μCi ^{252}Cf source is stored in a lead pig with 0.75" thick walls, which is then inserted into a can with 1" thick walls of paraffin. The 10 μCi source of Californium is stored in a 0.75" lead pig. Lead bricks are used for auxiliary shielding when using the source. The ^{241}Am/Be source, which has approximately 4X the neutron emission as a 100 μCi source of ^{252}Cf, will be stored in the lead pig supplied by Amersham, and a container with, at minimum, 6" of paraffin surrounding the source.

2. The primary survey equipment used by FIBERTEK for neutron dose detection are Type B1 film badges, obtained from Landauer, that detect both gamma rays and neutrons. They have a minimum detection threshold of 1o mR, and are evaluated by Landauer on a monthly basis. In addition, we have a Berthold LB 1200 Geiger counter, with a measuring range of 0 - 100 mR/hr. It was last calibrated in 1983. We also have personal dosimeters, Model 06-912, obtained from Nuclear Associates, that are kept in the lab to monitor the presence of radiation in the experimental workspace. These are checked at regular intervals by FIBERTEK personnel.

Finally, a NaI crystal is coupled to a PMT, which permits us to determine the energy spectrum of individual sources or background data.

3. The ^{252}Cf sources are removed from the lead pigs by hand, and mounted in an 8" clamp, which is mounted to a ring stand for experimentation. The Geiger counter is positioned within a meter of the source to alert the users that the source is in use. Lead bricks are used as additional shielding when the source is in use for long periods of time. Users remain at least 1 meter from the source except when unavoidable. Frequency of source usage varies. During periods of maximum usage, experiments are run 5 days a week for several hours each day. During the long data collection runs, the users leave the room, locking the door behind them. An average week finds the sources in use for approximately 5-10 hours. FIBERTEK personnel will not handle the $^{241}Am/Be$ source directly. Rather, a pole will be mounted to the source to lift it from the lead pig to the clamp.

4. FIBERTEK contacted AMERSHAM, the manufacturer of the $^{241}Am/Be$ source, regarding disposal. They work with ADCO Services, 17650 Duvan Dr., Tinley Park, IL, 60477, in the disposal of such sources.

I hope that we have addressed all of the points raised in your letter. All of our sources are leak tested at six month intervals by Health Physics Services, Inc., Rockville, MD. They also act as consultants to us regarding storage and disposal of sources. Please feel free to contact me if you have any further questions.

Sincerely,

Dr. Garry Spector
Radiation Safety Officer