MATERIALS LICENSE

Amendment No. 26

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, 36, 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.

302213

Licensee	
1. Blood Center of Southeastern Wisconsin	In accordance with letter dated January 8, 1997 3. License Number 48-02000-01 is amended in its entirety to read as follows:
2. P.O. Box 2178 Milwaukee, WI 53201-2178	4. Expiration Date November 30, 2001
	5. Docket or Reference No. 030-03424

6. Byproduct, Source, and/or Special Nuclear Material	7. Chemical and/or Physical Form	8. Maximum Amount that Licensee May Possess at Any One Time Under This License
A. Hydrogen-3	A. Any	A. 250 millicuries
B. Carbon-14	B. Any	B. 25 millicuries
C. Phosphorus-32	C. Any	C. 50 millicuries
D. Sulfur-35	D. Any	D. 100 millicuries
E. Calcium-45	E. Any	E. 5 millicuries
F. Chromium-51	F. Any	F. 300 millicuries
G. Iron-59	G. Any	G. 20 millicuries
H. Iodine-125	H. Any	H. 200 millicuries
I. Iodine-131	I. Any	I. 50 millicuries
J. Mercury-203	J. Any	J. 10 millicuries
K. Chromium-51	K. As included in 10 CFR 35.100	K. 300 millicuries

9. Authorized Use:

A. through J. To be used for in vitro studies and research and development as defined in 10 CFR Part 30, Section 30.4.

K. To be used for medical use described in 10 CFR 35.100.

2/1

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230
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PDR ADOCK 03003424
C PDR

COPY

Printed on recycled paper

NRC FORM 374A
(7-94)

U.S. NUCLEAR REGULATORY COMMISSION

License Number
48-02000-01

Docket or Reference Number
030-03424

Amendment No. 26

MATERIALS LICENSE
SUPPLEMENTARY SHEET

CONDITIONS

10. Licensed material shall be used only at the licensee's facilities located at 638 North 18th Street, Milwaukee, Wisconsin and 8727 Watertown Plank Road, Milwaukee, Wisconsin.

11. Licensed material listed in Item 6 above is authorized for use by, or under the supervision of, the following individual(s) for the materials and uses indicated:

Authorized Users	Material and Use
Richard H. Aster, M.D.	All
Therese Wiedmer, Ph.D.	All, except 35.100 material
Robert R. Montgomery, M.D.	All, except 35.100 material
Nancy A. Drzewiecki	All, except 35.100 material
David D. Eckels, Ph.D.	All, except 35.100 material
Jack A. Gorski, Ph.D.	All, except 35.100 material, Iodine-125 and Iodine-131 involving radioiodination
Peter J. Newman, Ph.D.	All, except 35.100 material
John Paul Scott, M.D.	All, except 35.100 material and Phosphorus-32
Nancy J. Schunk	All, except 35.100 material
Debra Endean, Ph.D.	All, except 35.100 material
Joan C. Gill, M.D.	All, except 35.100 material
Daniel B. Bellissimo, Ph.D.	All, except 35.100 material
Janice G. McFarland, M.D.	All, except 35.100 material
Peter J. Sims, M.D., Ph.D.	All, except 35.100 material

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number
48-02000-01

Docket or Reference Number
030-03424

Amendment No. 26

Authorized Users	Material and Use
Gian P. Visentin, M.D.	All except 35.100 material
Philip Kroner, Ph.D.	All, except 35.100 material
James A. Augustine, Ph.D.	All, except 35.100 material
Cheryl A. Hillery, M.D.	All, except 35.100 material
Debra K. Newton-Nash, Ph.D.	All, except 35.100 material

12. The licensee may transport licensed material in accordance with the provisions of 10 CFR Part 71, "Packaging and Transportation of Radioactive Material."

13. The licensee is authorized to hold radioactive material with a physical half-life of less than 65 days for decay-in-storage before disposal in ordinary trash provided:

    A. Radioactive waste to be disposed of in this manner shall be held for decay a minimum of 10 half-lives.

    B. Before disposal as ordinary trash, byproduct material shall be surveyed at the container surface with the appropriate survey meter set on its most sensitive scale and with no interposed shielding to determine that its radioactivity cannot be distinguished from background. All radiation labels shall be removed or obliterated.

    C. A record of each disposal permitted under this License Condition shall be retained for three years. The record must include the date of disposal, the date on which the byproduct material was placed in storage, the radionuclides disposed, the survey instrument used, the background dose rate, the dose rate measured at the surface of each waste container, and the name of the individual who performed the disposal.

14. The Radiation Protection Officer for the activities authorized by this license is Nancy A. Drzewiecki.

15. The licensee shall conduct sampling and analysis of effluents from iodination hoods to demonstrate compliance with the provisions of 10 CFR 20.1301. The effluent sampler filter media shall have a retention efficiency for elemental iodine of greater than 99 percent. Records of evaluations shall be retained for review by the Commission.

License Number
48-02000-01

MATERIALS LICENSE
SUPPLEMENTARY SHEET

Docket or Reference Number
030-03424

Amendment No. 26

16. 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 April 27, 1995; and

    B. Letters dated September 5, 1996, and October 4, 1996.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date 2/5/97

By Kevin G. Null
Nuclear Materials Licensing Branch, Region III

COPY

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BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections

(FOR LFMS USE)
INFORMATION FROM LTS

Program Code: 02410
Status Code: 0
Fee Category: 7C
Exp. Date: 20011130
Fee Comments:
Decom Fin Assur Reqd: N

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED
   Applicant/Licensee: BLOOD CNTR. OF SOUTHEASTERN WI
   Received Date: 970113
   Docket No: 3003424
   Control No.: 302213
   License No.: 48-02000-01
   Action Type: Amendment

2. FEE ATTACHED
   Amount: *
   Check No.:

   * ADDL INFO
   57-398510

3. COMMENTS

Signed D. Hersey
Date 1-15-97

1997 JAN 22 PM 1:49

B. LICENSE FEE MANAGEMENT BRANCH (Check when milestone 03 is entered ✓)

1. Fee Category and Amount: 7C FEE NOT REQUIRED

2. Correct Fee Paid. ✓ Application may be processed for:
   Amendment ✓
   Renewal
   License

3. OTHER

Signed SC
Date 1/22/97

RECEIVED BY LFDCB
Date Jan. 22, 1997
Log Jan. 8 III
By SC
Date Completed 1/22/97

JAN 2 8 1997

The Blood Center
of Southeastern Wisconsin

January 8, 1997

Bill Reichhold
Materials Licensing Section
United States Nuclear Regulatory Commission
Region III
801 Warrenville Road
Lisle, Illinois 60532-4351

Mail Control Number 398510

Dear Mr. Reichhold:

This letter is in response to your letter of November 6, 1996, requesting additional information before the storage area located at 1725 West Wisconsin Avenue, Milwaukee, Wisconsin, can be removed from our NRC Byproduct Material License Number 48-02000-01. Each of your concerns is specifically addressed below.

1. History of Radionuclides Used

The basement of the building at 1725 West Wisconsin Avenue, Milwaukee, Wisconsin, was used to hold radioactive waste with half-lives of less than 65 days for decay in storage in accordance with the requirements established in 10 CFR 35.92. The radionuclides held for decay in storage were ^{32}P, ^{125}I, ^{51}Cr, and ^{111}In. Attachment A is a diagram of the basement where the radioactive material was stored.

No other radioactive materials were stored at this location and radioactive materials were never used at this location.

2. Storage and Leak Testing of Sealed Sources

RECEIVED
JAN 1 3 1997
REGION III

Sealed sources were never used or stored at this location.

3. Survey and Wipe Test Results

The building at 1725 West Wisconsin Avenue, Milwaukee, Wisconsin, was torn down in September, 1993. Close out surveys and wipe testing of the premises were performed by Brian Lawton, the Safety Technologist at The Blood Center in 1993, and reviewed by Nancy Schunk, the Radiation Safety Officer in 1993, before the building was demolished.

Cont'n M 398510
FEE NOT REQUIRED JAN 1 3 1997
302213

638 North 18th Street
P.O. Box 2178
Milwaukee, WI 53201-2178
(414) 933-5000
FAX (414) 937-6332

Unfortunately, records of these surveys cannot be found. Our investigation has concluded that the following factors contributed to the misplacement of these records:

> Construction: The building at 1725 West Wisconsin Avenue, Milwaukee, Wisconsin, was torn down to make way for the expansion of our main facility, formerly located at 1701 West Wisconsin Avenue, Milwaukee, Wisconsin. Although the main facility did not physically move, it nearly doubled in size and was assigned our current address, 638 North 18th Street, Milwaukee, Wisconsin. During the construction, which lasted for almost two years, departments were constantly relocated within the structure. With the constant packing and unpacking of records during these relocations, misplacement of records was possible.

> Personnel Changes: During the two years that followed the demolition of the 1725 West Wisconsin Avenue building, several changes in personnel with radiation safety responsibilities occurred. Brian Lawton resigned from his safety responsibilities in late 1993. His replacement was later terminated in 1995 for non-performance of his duties, which included recordkeeping for the radiation safety program.

To ensure that accurate and complete records are maintained by The Blood Center according to NRC requirements, the following corrective actions have been taken:

> Formation of the Safety Department: The Blood Center created a separate Occupational Health and Safety Department charged with the responsibility of running The Blood Center's safety programs, including its Radiation Safety Program. The department is staffed with a supervisor who is also the current Radiation Safety Officer, Nancy A. Drzewiecki, and a Safety Coordinator, Laura Schloesser, and assisted by designated Radiation Safety staff, Mary L. Pawlak and Nancy Szatkowski, Ph.D., Supervisors of Research Lab Operations.

> Centralization of Recordkeeping: Recordkeeping has been centralized and is now the responsibility of the Occupational Health and Safety Department under the direction of the Radiation Safety Officer. Records maintained by the Occupational Health and Safety Department include, but are not limited to, radioactive waste disposal records, individual monitoring results, calibration records, and radiation safety audit forms. Records maintained by other departments (e.g., wipe test logs, ambient radiation level surveys) are audited quarterly by the Radiation Safety Officer or a member of the Occupational Health and Safety Department.

> Radiation Safety Program: The Blood Center's written Radiation Safety Program has been revised to include a section on recordkeeping to ensure all staff are aware of NRC recordkeeping requirements. All Radiation Safety staff have also received retraining on the importance of recordkeeping.

4. Additional Survey and Wipe Test Information

The standard operating procedures for transferring radioactive waste to the building at 1725 West Wisconsin Avenue for decay in storage did include wipe-testing each container to check for removal contamination. Attachments B and C outline these procedures.

Although records of the surveys performed on the building were not maintained, records for the surveys performed on the waste stored there are available. Radioactive waste stored in the 1725 West Wisconsin Avenue building for decay in storage at the time of decommissioning was transferred to the main facility and later surveyed for landfill disposal in May, 1994. These surveys were all at or below background levels and none of the packages were damaged or leaking. Attachments D through Q are copies of the Radioactive Waste Decay In Storage Program Inventory Forms for these containers and include the survey results. The Geiger Mueller counter used to perform these surveys was a Ludlum Model 3, Serial No. 77776, with a Ludlum Model 44-9 detector, Serial No. PR111029, and had been calibrated by Ludlum Instruments, Inc., on March 1, 1994. Attachment R is a copy of the calibration certificate.

5. Current Survey Results

Since the current headquarters facility was expanded over the site of the former 1725 West Wisconsin Avenue building, the ground floor of the current headquarters facility and the outside parking lot were surveyed with a Geiger Mueller counter on December 24, 1996, by Nancy A. Drzewiecki, Radiation Safety Officer, to ensure that no ambient radiation levels above background could be detected in the area where the former building stood. Attachments S, T, and U are diagrams of the ground floor and the parking lot with the survey results keyed to specific locations. The Geiger Mueller counter used to perform these surveys was a Ludlum Model 3, Serial No. 77776, with a Ludlum Model 44-9 detector, Serial No. PR111029, and was last calibrated by Ludlum Instruments, Inc., on April 22, 1996. Attachment V is a copy of the calibration certificate.

Please contact me at (414) 937-6380 if you have any questions or if additional information is required.

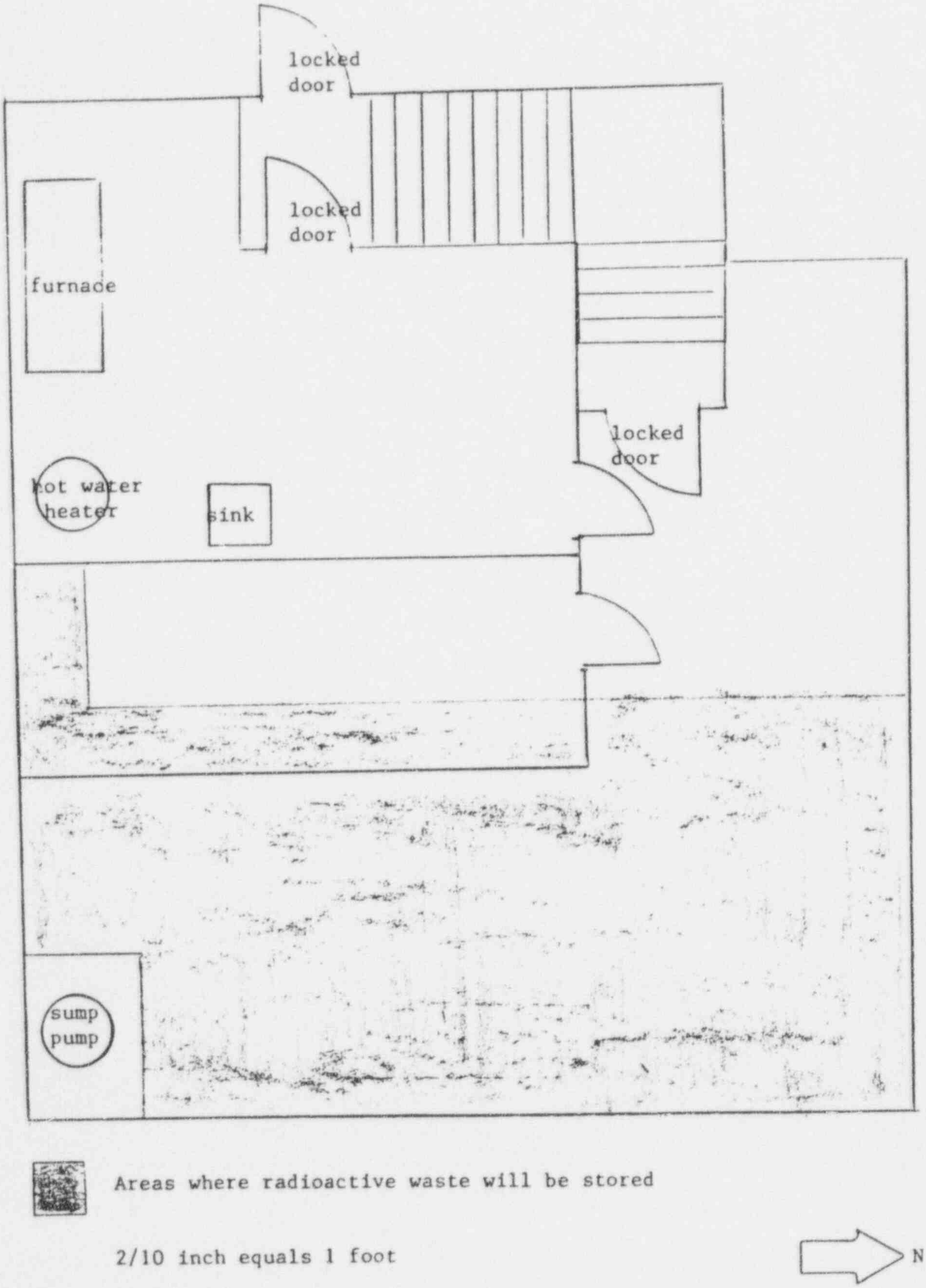
Sincerely,

Nancy A. Drzewiecki

Nancy A. Drzewiecki
Radiation Safety Officer
Supervisor, Occupational Health and Safety

Attachment A

The Blood Center of Southeastern Wisconsin
1725 West Wisconsin Avenue
Basement



Attachment B

NRC License # 48-02000-01
Amendment Request
December 14, 1990

Transfer of Radioactive Waste for Decay-in-Storage
From The Blood Center to the Kopps Building
The Blood Center of Southeastern Wisconsin

1. The RSO or his designee will complete a Maintenance Work Order to notify Maintenance of the number of radioactive waste containers to be transferred to the basement of the Kopps Building located at 1725 West Wisconsin Avenue.

2. Maintenance will contact the RSO or his designee to coordinate a time for the transfer within 5 working days of receiving the work order. The RSO or his designee [illegible] will accompany all transports to oversee safety precautions.

3. The external surfaces of all radioactive waste containers to be transferred will be wipe tested to verify that there is no surface contamination. Any contamination will be cleaned prior to transport.

4. Maintenance personnel handling radioactive waste containers will wear gloves as an additional precaution.

5. Maintenance will use designated hand trucks, stored in the Kopps Building basement, to move the containers.

6. The RSO or his designee will be responsible for providing access to all areas, that is, pushing elevator buttons and unlocking and opening all doors. This is to ensure that those individuals handling the containers are not contacting unrestricted areas with potentially contaminated gloves.

7. Gloves will be disposed of in the appropriate radioactive waste receptacle.

8. All individuals will wash their hands.

9. The RSO or his designee will be responsible for ensuring that the decay-in-storage area is secured.

10. The RSO or his designee will be responsible for updating the inventory to accurately reflect the additional containers.

NRC License # 48-02000-01
Amendment Request
December 14, 1990

Transfer of Radioactive Waste for Decay-in-Storage
From the Research Institute to the Kopps Building
The Blood Center of Southeastern Wisconsin

1. The RSO or his designee will complete a Maintenance Work Order to notify Maintenance of the number and kind of radioactive waste containers to be transferred to the basement of the Kopps Building located at 1725 West Wisconsin Avenue

2. Maintenance will contact the RSO or his designee to coordinate a time for the transfer within 5 working days of receiving the work order. The RSO or his designee will accompany all transports to oversee safety precautions.

3. The RSO or his designee will assure that:
   a) the activity of the radionuclide or mixture of radionuclides in each waste container is within the specifications for limited quantity as defined in 49 CFR 173.421;
   b) each waste container is marked "Radioactive" and a label containing the following information is affixed to each container: "This package conforms to the conditions and limitations specified in 49 CFR 173.421 for excepted radioactive material, limited quantity, n.o.s., UN2910. The Blood Center of Southeastern Wisconsin";
   c) the external surfaces of all radioactive waste containers to be transferred will be wipe tested to verify that there is no surface contamination. Any contamination will be removed prior to transport;
   d) each waste container will be surveyed and the results recorded to verify that external radiation level at any point does not exceed 0.5 millirem per hour.

4. Maintenance will move the radioactive waste containers using designated hand trucks and a utility vehicle.

5. Following the transfer of radioactive waste from the Research Institute to the Kopps Building, all individuals involved in the transfer will wash their hands.

6. The RSO or his designee will survey the vehicle used to transport the waste containers to assure that there is no contamination of the vehicle.

7. The RSO or his designee will be responsible for ensuring that the decay-in-storage area is secured.

8. The RSO or his designee will be responsible for updating the decay-in-storage inventory to accurately reflect the additional containers.

The Blood Center of Southeastern Wisconsin, Inc.

Radioactive Waste Decay In Storage Program
Inventory Form

WASTE TO STORAGE

D-I-S Inventory No. 1 Container Type: ☒ Box ☐ Barrel.

Container Size: 16"x20"x18" Storage Location: GROUND FLOOR LOADING ROOM

Waste Description: ^{51}Cr Dry Waste

Date Sealed: 11-12-92 Date at 10 Half-Lives: 9-12-93

WASTE TO DISPOSAL METER CHECKED 5/10/94 3mR/hr STD

Survey Background: 0.015 mR/hr Survey Surface: 0.015 mR/hr

Date of Survey: 5/10/94 Survey Instrument Used: LUDLUM SM MODEL 3 77776

Signature of Individual Performing Survey: Mary A. Dzejewski

Date of Disposal: 5-11-94 Disposal Comments:

Signature of Individual Performing Disposal: Russell Patterson

The Blood Center of Southeastern Wisconsin, Inc.

Radioactive Waste Decay In Storage Program
Inventory Form

WASTE TO STORAGE

D-I-S Inventory No. 3 Container Type: ☒ Box ☐ Barrel

Container Size: 16"×20"×18" Storage Location: GROUND FLOOR LOADING DOCK AREA

Waste Description: ^{51}Cr Dry Waste

Date Sealed: 6-24-92 Date at 10 Half-Lives: 4-24-93

WASTE TO DISPOSAL METER CHECKED 5/10/94 3mR/hr STD

Survey Background: 0.015 mR/hr Survey Surface: 0.015 mR/hr

Date of Survey: 5/10/94 Survey Instrument Used: LUDLUM 3M MODEL 3 77776

Signature of Individual Performing Survey: Marcy A Dziewecki

Date of Disposal: 5-11-94 Disposal Comments:

Signature of Individual Performing Disposal: Russell Patterson

The Blood Center of Southeastern Wisconsin, Inc.

Radioactive Waste Decay In Storage Program
Inventory Form

WASTE TO STORAGE

D-I-S Inventory No. 4 Container Type: ☒ Box ☐ Barrel

Container Size: 16"×20"×18" Storage Location: Ground Loading Area Room

Waste Description: ^{51}Cr Dry Waste

Date Sealed: 7-15-92 Date at 10 Half-Lives: 5-15-93

WASTE TO DISPOSAL METER CHECKED 5/10/94 3mR/hr STD

Survey Background: 0.015 mR/hr Survey Surface: 0.015 mR/hr

Date of Survey: 5/10/94 Survey Instrument Used: LUDLUM SURVEYMETER MD3 77776

Signature of Individual Performing Survey: Nancy A. Drzewiecki

Date of Disposal: 5-11-94 Disposal Comments: ______

Signature of Individual Performing Disposal: Russell Patterson

The Blood Center of Southeastern Wisconsin, Inc.

Radioactive Waste Decay In Storage Program
Inventory Form

WASTE TO STORAGE

D-I-S Inventory No. 6 Container Type: ☒ Box ☐ Barrel

Container Size: 16" x 20" x 18" Storage Location: Ground Floor Loading Area Room

Waste Description: ^{125}I Dry Waste

Date Sealed: 8-12-92 Date at 10 Half-Lives: 4-12-94

WASTE TO DISPOSAL METER CHECKED 5/10/94 3mR/hr STD

Survey Background: 0.015 mR/hr Survey Surface: 0.015 mR/hr

Date of Survey: 5/10/94 Survey Instrument Used: LUDLUM RM MODEL 3 77776

Signature of Individual Performing Survey: Nancy A. Dzięwecki

Date of Disposal: 5-11-94 Disposal Comments:

Signature of Individual Performing Disposal: Russell Patterson

The Blood Center of Southeastern Wisconsin, Inc.

Radioactive Waste Decay In Storage Program
Inventory Form

WASTE TO STORAGE

D-I-S Inventory No. 7 Container Type: ☒ Box ☐ Barrel

Container Size: 16"×20"×18" Storage Location: GROUND FLOOR LOADING AREA ROOM

Waste Description: ^{125}I Dry Waste

Date Sealed: 7-20-92 Date at 10 Half-Lives: 3-20-94

WASTE TO DISPOSAL METER CHECKED 5/10/94 3mR/hr STD

Survey Background: 0.015 mR/hr Survey Surface: 0.015 mR/hr

Date of Survey: 5/10/94 Survey Instrument Used: LUDLUM MODEL 3SM 77776

Signature of Individual Performing Survey: [signature]

Date of Disposal: 5-11-94 Disposal Comments: ______

Signature of Individual Performing Disposal: [signature]

FEO54 - 2/94

The Blood Center of Southeastern Wisconsin, Inc.

Radioactive Waste Decay In Storage Program
Inventory Form

WASTE TO STORAGE

D-I-S Inventory No. 8 Container Type: ☒ Box ☐ Barrel

Container Size: 16" x 20" x 18" Storage Location: GROUND FLOOR LOADING AREA ROOM

Waste Description: ^{125}I Dry Waste

Date Sealed: 6-15-92 Date at 10 Half-Lives: 2-15-94

WASTE TO DISPOSAL

METER CHECKED 5/10/94 3mR/hr STD

Survey Background: 0.015 mR/hr Survey Surface: 0.010 mR/hr

Date of Survey: 5/10/94 Survey Instrument Used: LUDLUM MODEL 3SM 77776

Signature of Individual Performing Survey: Nancy A. Dzgewski

Date of Disposal: 5-11-94 Disposal Comments:

Signature of Individual Performing Disposal: Russell Patterson

The Blood Center of Southeastern Wisconsin, Inc.

Radioactive Waste Decay In Storage Program
Inventory Form

WASTE TO STORAGE

D-I-S Inventory No. 11 Container Type: [X] Box [ ] Barrel

Container Size: 16" × 20" × 18" Storage Location: GROUNDFLOOR LOADING AREA ROOM

Waste Description: ^{51}Cr Dry Waste

Date Sealed: 9-12-92 Date at 10 Half-Lives: 7-21-93

WASTE TO DISPOSAL

METER CHECKED 5/10/94 3mR/hr STD

Survey Background: 0.015 mR/hr Survey Surface: 0.015 mR/hr

Date of Survey: 5/10/94 Survey Instrument Used: LUDLUM MODEL 3 SN 77776

Signature of Individual Performing Survey: Nancy A. Drzewiecki

Date of Disposal: 5-11-94 Disposal Comments: ______

Signature of Individual Performing Disposal: Russell Patterson

The Blood Center of Southeastern Wisconsin, Inc.

Radioactive Waste Decay In Storage Program
Inventory Form

WASTE TO STORAGE

D-I-S Inventory No. 14   Container Type: ☒ Box ☐ Barrel

Container Size: 16" x 20" x 18"   Storage Location: GROUND FLOOR LOADING ROO

Waste Description: ^{51}Cr & ^{32}P Dry Waste

Date Sealed: 1-25-93   Date at 10 Half-Lives: 11-25-93

WASTE TO DISPOSAL METER CHECKED 5/10/94 3mR/hr Dry Waste

Survey Background: 0.015 mR/hr   Survey Surface: 0.015 mR/hr

Date of Survey: 5/10/94   Survey instrument Used: LUDLUM SM MODEL 3 TT776

Signature of Individual Performing Survey: Nancy A. Drzewiecki

Date of Disposal: 5-11-94   Disposal Comments:

Signature of Individual Performing Disposal: Russell C Patterson

FEO54 - 2/94

The Blood Center of Southeastern Wisconsin, Inc.

Radioactive Waste Decay In Storage Program
Inventory Form

WASTE TO STORAGE

D-I-S Inventory No. 1003 Container Type: ☒ Box ☐ Barrel

Container Size: 16" x 20" x 18" Storage Location: GROUND FLOOR/LOADING AREA ROOM

Waste Description: ^{51}Cr & ^{32}P Dry Waste

Date Sealed: 6-25-93 Date at 10 Half-Lives: 4-25-94

WASTE TO DISPOSAL METER CHECKED 5/10/94 3mR/hr STD

Survey Background: 0.015 mR/hr Survey Surface: 0.015 mR/hr

Date of Survey: 5/10/94 Survey Instrument Used: LUDLUM MODEL 3SM 11176

Signature of Individual Performing Survey: Nancy A. Dzewaski

Date of Disposal: 5-15-94 Disposal Comments:

Signature of Individual Performing Disposal: Russell Patterson

The Blood Center of Southeastern Wisconsin, Inc.

Radioactive Waste Decay In Storage Program
Inventory Form

WASTE TO STORAGE

D-I-S Inventory No. 1009 Container Type: ☒ Box ☐ Barrel

Container Size: 16"×20"×18" Storage Location: 5th floor GROUND FLOOR LOADING AREA ROOM

Waste Description: ^{51}Cr & ^{32}P Dry Waste

Date Sealed: 6-25-93 Date at 10 Half-Lives: 4-25-94

WASTE TO DISPOSAL METER CHECKED 5/10/94 3mR/hr STD

Survey Background: 0.015 mR/hr Survey Surface: 0.015 mR/hr

Date of Survey: 5/10/94 Survey Instrument Used: LUDLUM SM MODEL 3 77776

Signature of Individual Performing Survey: [signature]

Date of Disposal: 5-15-94 Disposal Comments:

Signature of Individual Performing Disposal: Russell Patterson

The Blood Center of Southeastern Wisconsin, Inc.

Radioactive Waste Decay In Storage Program
Inventory Form

WASTE TO STORAGE

D-I-S Inventory No. 1010 Container Type: ☐ Box ☒ Barrel

Container Size: 55 gallons Storage Location: GROUND FLOOR STORAGE ROOM

Waste Description: I^{125}; Cr^{51}; P^{32} VIAL WASTE

Date Sealed: 6/25/93 Date at 10 Half-Lives: 2/25/95

WASTE TO DISPOSAL

Survey Background: 0.010 mR/hr Su vey Surface: 0.010 mR/hr

Date of Survey: 4/11/95 Survey Instrument Used: LUDLUM MODEL 3 54382

Signature of Individual Performing Survey: Nancy A. Dzierzecki

Date of Disposal: 4/11/95 Disposal Comments: PUT IN HQ DUMPSTER

Signature of Individual Performing Disposal: Nancy A. Dzierzecki

Attachment O

The Blood Center of Southeastern Wisconsin, Inc.

Radioactive Waste Decay In Storage Program
Inventory Form

WASTE TO STORAGE

D-I-S Inventory No. 1011 Container Type: ☒ Box ☐ Barrel

Container Size: 16"x20"x18" Storage Location: Ground Floor Loading Area Room

Waste Description: ^{51}Cr & ^{32}P & (^{111}In & ^{131}I (4-22-92)) Dry Waste

Date Sealed: 8-23-92 Date at 10 Half-Lives: 6-23-93

WASTE TO DISPOSAL METER CHECKED 5/10/94 3mR/hr STD

Survey Background: 0.015 mR/hr Survey Surface: 0.010 mR/hr

Date of Survey: 5/10/94 Survey Instrument Used: LUDLUM MODEL 3 77776

Signature of Individual Performing Survey: [signature]

Date of Disposal: 5-15-94 Disposal Comments:

Signature of Individual Performing Disposal: [signature]

FEO54 - 2/94

The Blood Center of Southeastern Wisconsin, Inc.

Radioactive Waste Decay In Storage Program
Inventory Form

WASTE TO STORAGE

D-I-S Inventory No. 1012 Container Type: ☒ Box ☐ Barrel

Container Size: 16" x 20" x 18" Storage Location: GROUND FLOOR, LOADING AREA ROOM

Waste Description: ^{51}Cr & ^{32}P Dry Waste

Date Sealed: 8-23-92 Date at 10 Half-Lives: 6-23-93

WASTE TO DISPOSAL

METER CHECKED 5/10/94 3mR/hr STD

Survey Background: 0.015 mR/hr Survey Surface: 0.015 mR/hr

Date of Survey: 5/10/94 Survey Instrument Used: LUDLUM MODEL SM3 TTT16

Signature of Individual Performing Survey: Nancy A. Dziewicki

Date of Disposal: 5-15-94 Disposal Comments:

Signature of Individual Performing Disposal: Russell Patterson

The Blood Center of Southeastern Wisconsin, Inc.

Radioactive Waste Decay In Storage Program
Inventory Form

WASTE TO STORAGE

D-I-S Inventory No. N/A Container Type: N/A ☐ Box ☐ Barrel

Container Size: 1-36"x24"x1" 2-40"x36"x1" 2-36"x30"x1" Storage Location: GROUND FLOOR LOADING AREA ROOM

*Waste Description: 1-20"x6"x1" (forming) a T-shape / I^{125} PLEXIGLASS SHEETS

*Date Sealed: EARLY 1992 Date at 10 Half-Lives: LATE 1993

WASTE TO DISPOSAL METER CHECKED 5/12/94 3mR/hr STD

Survey Background: 0.010 mR/hr Survey Surface: 0.010 mR/hr

Date of Survey: 5-12-94 Survey Instrument Used: LUDLUM SM MODEL 3 77776

Signature of Individual Performing Survey: Nancy A. Dziewiecki

Date of Disposal: 5-13-94 Disposal Comments:

Signature of Individual Performing Disposal: Gary A. Kolowski

* THESE SHEETS OF PLEXIGLASS WERE LEFT OVER FROM THE I^{125} HOOD WHEN THE RESEARCH LABS MOVED OVER TO THE BRI (COUNTY COMPLEX GROUNDS)

FEO54 - 2/94

Attachment R

Designer and Manufacturer of Scientific and Industrial Instruments

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 915-235-5494
501 OAK STREET FAX NO. 915-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

CERTIFICATE OF CALIBRATION

CUSTOMER BLOOD CTR OF SE WI ORDER NO. 219007

Mfg. Ludlum Measurements, Inc. Model 3 Serial No. 77776

Mfg. Ludlum Measurements, Inc. Model 44-9 Serial No. PR 111029

Cal. Date 04/22/96 Cal Due Date 04/22/97 Cal. Interval 1 Year Meterface 202-330

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec. T. 77 °F RH 43 % Alt 698.8 mm Hg

☐ New Instrument Instrument Received ☑ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☐ Requiring Repair

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☑ F/S Resp. ck ☑ Reset ck. ☐ Window Operation ☑ Geotropism
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) 2.2 VDC

☐ Calibrated in accordance with LMI SOP 14.8 rev 12/05/89. ☑ Calibrated in accordance with LMI SOP 14.9 rev 12/19/89.

Instrument Volt Set 900 V Input Sens. 28 mV Det. Oper. 900 V at 28 mV Threshold Dial Ratio ______ = ______ mV

☐ HV Readout (2 points) Ref./Inst. ______ / ______ V Ref./Inst. ______ / ______ V

COMMENTS:

Cs137≈1μCi S/N 3797 READS ≈ 0.3mR/hr ATX10(3mR/hr) WITH DETECTOR WINDOW AGAINST MOUNTED CK SOURCE WITH DOOR OPEN.44-9

Gamma Calibration: GM detectors positioned perpendicular to source except for M 44-9 in which the ~~front~~ BACK of probe faces source

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
X 100	150 mR/hr	1.55	1.45
X 100	50 mR/hr	0.65	0.55
X 10	15 mR/hr	1.45	1.5
X 10	5 mR/hr	0.55	0.55
X 1	1.5 mR/hr = 3840 cpm	1.5	1.5
X 1	1.0 mR/hr	1.0	1.0
X 0.1	384 cpm	1.4	1.5
X 0.1	128 cpm	0.45	0.5

*Uncertainty within ± 10% C.F. within ± 20% X 0.1 Range(s) Calibrated Electronically

Digital Readout: REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*	Log Scale: REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of MIL-STD-45662A and ANSI N323-1978. State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources:

Cs-137 Gamma S/N ☑ 1162 ☐ G112 ☐ M565 ☐ 5105 ☐ T1008 ☐ T879 ☐ Neutron Am-241 Be S/N T-304

☐ Alpha S/N ______ ☐ Beta S/N ______ ☐ Other ______

☑ m 500 S/N 94940 ☐ Oscilloscope S/N ______ ☑ Multimeter S/N 62840682

Calibrated By: R. Jolson Date 4-22-96

Reviewed By: Debby Gilmore Date 4-22-96

FORM C22A 02/27/96

Attachment S

KEY OF AREAS SURVEYED
December 24, 1996

GROUND FLOOR

Area	Highest Area Reading (mR/hr)
Background Reading	0.03
1	0.03
2	0.02
3	0.02
4	0.02
5	0.01
6	0.02
7	0.02
8	0.02

PARKING LOT:

Background Reading	0.04
1	0.03
2	0.04
3	0.03
4	0.03

Meter Used: Ludlum Model 3

Meter S.N.: #77776
Probe S.N.: #PR111029

Surveys Performed By: [signature]

Date: 12/24/96

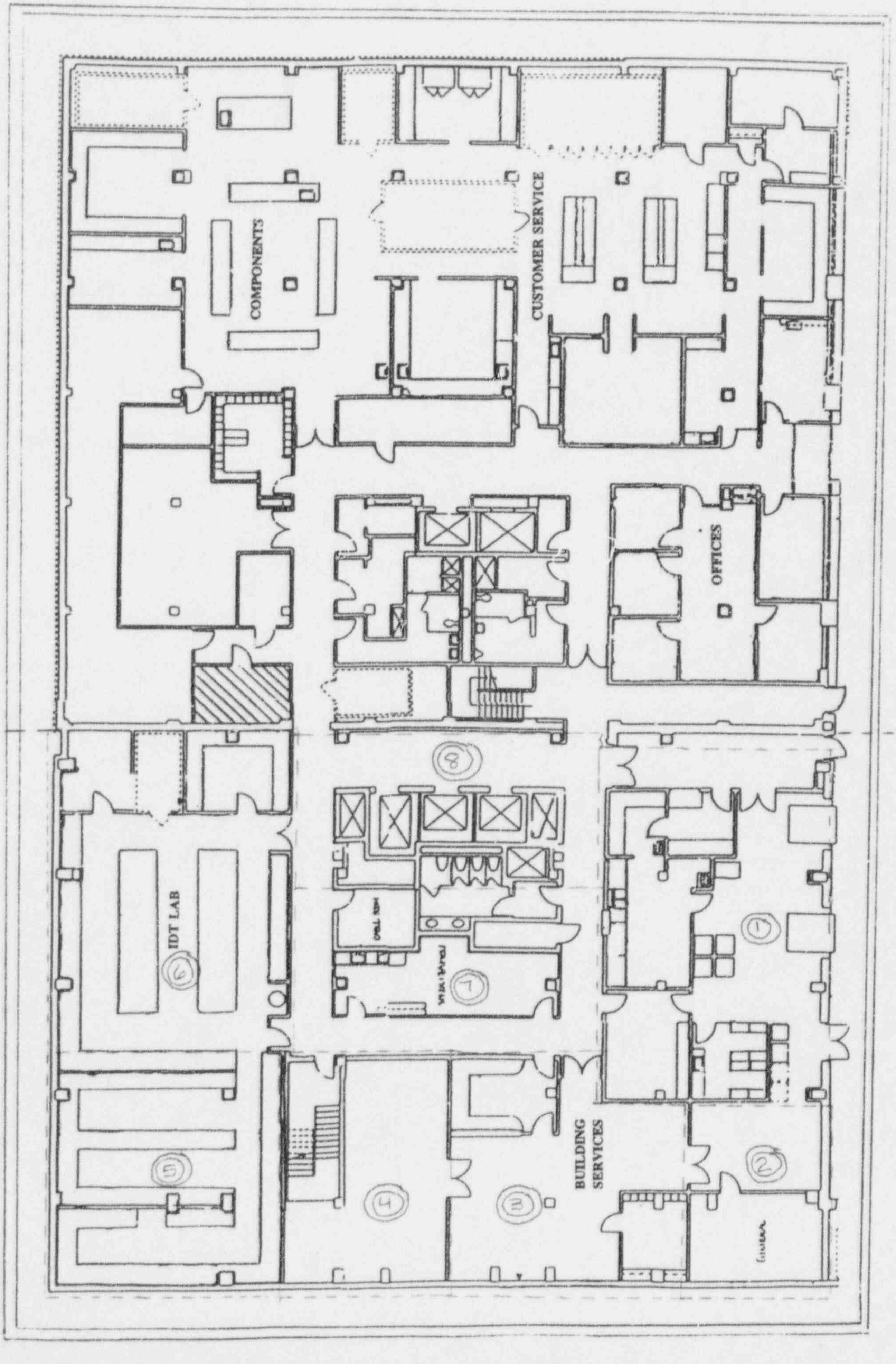
ATTACHMENT T

The Blood Center
of Southeastern Wisconsin

GROUND FLOOR

FORMERLY
1701 WEST
WISCONSIN
AVENUE
BUILDING

ADDITION

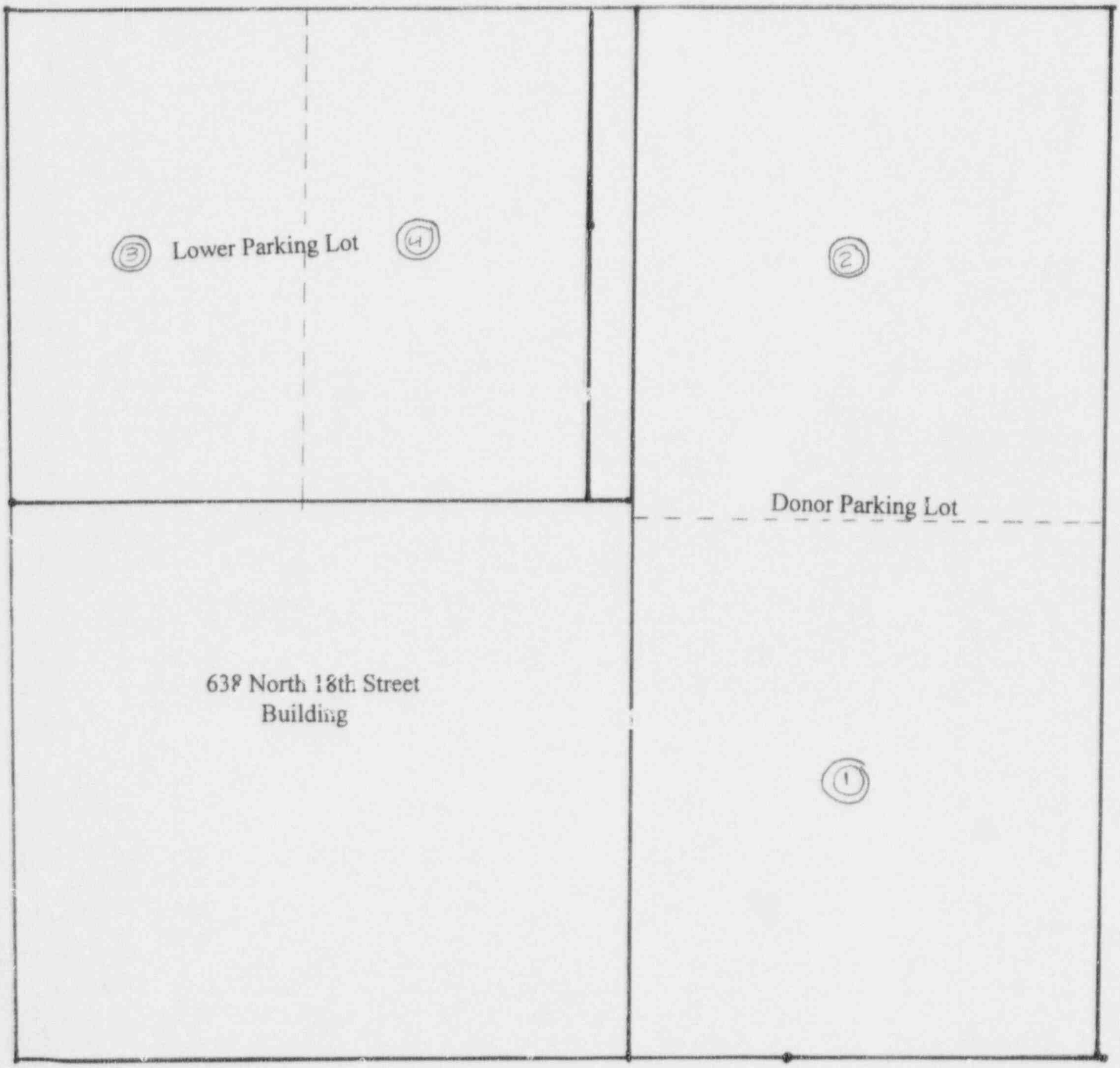


- - - - = AREAS SURVEYED

Attachment U

The Blood Center of Southeastern Wisconsin, Inc

PARKING LOT



NOT IN SCALE

N

- - - - = AREAS SURVEYED

Attachment V

Designer and Manufacturer of Scientific and Industrial Instruments

CERTIFICATE OF CALIBRATION

LUDLUM MEASUREMENTS, INC.
POST OFFICE BOX 810 PH. 915-235-5494
501 OAK STREET FAX NO. 915-235-4672
SWEETWATER, TEXAS 79556, U.S.A.

CUSTOMER THE BLOOD CENTER OF SOUTHEASTERN WIS ORDER NO. 204868

Mfg. Ludlum Measurements, Inc Model 3 Serial No. 77776

Mfg. Ludlum Measurements, Inc Model 44-9 Serial No. PR111029

Cal. Date 03/01/94 Cal Due Date 03/01/95 Cal. Interval 1 Year Meterface 202-330

Check mark ☑ applies to applicable instr. and/or detector IAW mfg. spec T. 74 °F RH 20 % Alt 705.8 mm Hg

☐ New Instrument Instrument Received ☐ Within Toler. +-10% ☐ 10-20% ☐ Out of Tol. ☑ Requiring Repair

☑ Mechanical ck. ☑ Meter Zeroed ☐ Background Subtract ☐ Input Sens. Linearity
☑ F/S Resp. ck ☑ Reset ck. ☐ Window Operation
☑ Audio ck. ☐ Alarm Setting ck. ☑ Batt. ck. (Min. Volt) 2.2 VDC

Instrument Volt Set 900 V Input Sens. 27 mV Det. Oper. 900 V at 27 mV Threshold Dial Ratio ____ = ____ mV

☐ HV Readout (2 points) Ref./Inst. ____ / ____ V Ref./Inst. ____ / ____ V

COMMENTS: Check Source, S/N 3797, Reads 3 mR/HR w/ 44-9

BACK

Gamma Calibration GM detectors positioned perpendicular to source except for M 44-9 in which the ~~front~~ of probe faces source

RANGE/MULTIPLIER	REFERENCE CAL. POINT	INSTRUMENT REC'D "AS FOUND READING"	INSTRUMENT METER READING*
X100	150 mR/hr		1.5
X100	50 mR/hr		.55
X10	15 mR/hr		1.5
X10	5 mR/hr		.55
X1	1.5 mR/hr = 4000 CPM		1.5
X1	1.0 mR/hr		1.0
X0.1	400 CPM		1.5
X0.1	133 CPM		.5

*Uncertainty within ± 10% C.F. within ± 20%

X 0.1 Range(s) Calibrated Electronically

	REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*		REFERENCE CAL. POINT	INSTRUMENT RECEIVED	INSTRUMENT METER READING*
Digital Readout				Log Scale			

Ludlum Measurements, Inc. certifies that the above instrument has been calibrated by standards traceable to the National Institute of Standards and Technology, or to the calibration facilities of other International Standards Organization members, or have been derived from accepted values of natural physical constants or have been derived by the ratio type of calibration techniques. The calibration system conforms to the requirements of MIL-STD-45662A and ANSI N323-1978.
State of Texas Calibration License No. LO-1963

Reference Instruments and/or Sources:

Cs-137 Gamma S/N ☐ 1162 ☑ G112 ☐ M565 ☐ 5105 ☐ T1008 ☐ T879 ☐ Neutron Am-241 Be S/N T-304

☐ Alpha S/N ____ ☐ Beta S/N ____ ☐ Other ____

☑ m 500 S/N 104542 ☐ Oscilloscope S/N ____ ☑ Multimeter S/N 57770263

Calibrated By: Bob Weems Date 3-1-94

Reviewed By: Jimmie Fleming Date 3-2-94

FORM C22A 02/04/94

FEB 06 1997

Nancy Drzewiecki
Radiation Safety Officer
Blood Center of Southeastern
Wisconsin
P.O. Box 2178
Milwaukee, WI 53201-2178

Dear Ms. Drzewiecki:

Enclosed is Amendment No. 26 to your NRC Material License No. 48-02000-01 in accordance with your request.

Please review the enclosed document carefully and be sure that you understand all conditions. If there are any errors or questions, please notify the U.S. Nuclear Regulatory Commission, Region III office at (630) 829-9887 so that we can provide appropriate corrections and answers.

Please note, based upon the information in letter dated January 8, 1997, we have authorized the release of the facilities located at 1725 West Wisconsin Avenue, Milwaukee, Wisconsin for unrestricted use.

Please be advised that your license expires at the end of the day, in the month, and year stated in the license. Unless your license has been terminated, you must conduct your program involving byproduct materials in accordance with the conditions of your NRC license, representations made in your license application, and NRC regulations. In particular, note that you must:

1. Operate in accordance with NRC regulations 10 CFR Part 19, "Notices, Instructions and Reports to Workers; Inspections," 10 CFR Part 20, "Standards for Protection Against Radiation," and other applicable regulations.

2. Notify NRC, in writing, within 30 days:

   a. When the Radiation Safety Officer permanently discontinues performance of duties under the license or has a name change; or

302213

b. When the licensee's mailing address changes (no fee is required if the location of byproduct material remains the same).

3. In accordance with 10 CFR 30.36(b) and/or license condition, notify NRC, promptly, in writing, and request termination of the license when you decide to terminate all activities involving materials authorized under the license.

4. Request and obtain a license amendment before you:

   a. Change Radiation Safety Officers;

   b. Order byproduct material in excess of the amount, or radionuclide, or form different than authorized on the license;

   c. Add or change the areas of use or address or addresses of use identified in the license application or on the license; or

   d. Change ownership of your organization.

5. Submit a complete renewal application with proper fee or termination request at least 30 days before the expiration date of your license. You will receive a reminder notice approximately 90 days before the expiration date. Possession of byproduct material after your license expires is a violation of NRC regulations. A license will not normally be renewed, except on a case-by-case basis, in instances where licensed material has never been possessed or used.

In addition, please note that NRC Form 313 requires the applicant, by his/her signature, to verify that the applicant understands that all statements contained in the application are true and correct to the best of the applicant's knowledge. The signatory for the application should be the licensee or certifying official rather than a consultant.

You will be periodically inspected by NRC. Failure to conduct your program in accordance with NRC regulations, license conditions, and representations made in your license application and supplemental correspondence with NRC will result in enforcement action against you. This could include issuance of a notice of violation, or 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. Since serious consequences to employees and the

public can result from failure to comply with NRC requirements, prompt and vigorous enforcement action will be taken when dealing with licensees who do not achieve the necessary meticulous attention to detail and the high standard of compliance which NRC expects of its licensees.

Sincerely,

Original Signed By
W. P. Reichhold
Nuclear Materials Licensing Branch

License No.: 48-02000-01
Docket No.: 030-03424

Enclosure: Amendment No. 26

DOCUMENT NAME: M:\03003424.CL7

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure "E" = Copy with attachment/enclosure "N" = No copy

OFFICE	DNMS/RIII WR				
NAME	WREICHHOLD:jaw				
DATE	02/4/97				

OFFICIAL RECORD COPY

public can result from failure to comply with NRC requirements, prompt and vigorous enforcement action will be taken when dealing with licensees who do not achieve the necessary meticulous attention to detail and the high standard of compliance which NRC expects of its licensees.

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Original Signed By
W. P. Reichhold
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OFFICE	DNMS/RIII WR				
NAME	WREICHHOLD:jaw				
DATE	02/4/97				

OFFICIAL RECORD COPY

UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
801 WARRENVILLE ROAD
LISLE, ILLINOIS 60532-4351

January 16, 1997

Nancy A. Drzewiecki
Radiation Safety Officer
Blood Center of Southeastern Wisconsin
P. O. Box 2178
Milwaukee, WI 53201-2178

SUBJECT: ACKNOWLEDGEMENT OF CORRESPONDENCE
(Letter Dated 01/08/97)

Dear Licensee:

In response to your request, we have completed the initial processing, which is an administrative review of your application for a(n):

___ New License _X_ Amendment ___ Renewal
___ Termination ___ Auth User (Amendment not required)
___ Other

No administrative deficiencies were identified during this initial review. However, it should be noted that a technical review may identify omissions in the submitted information.

It appears that your request is routine (see 1-3 below, as applicable).

1. New and amendment actions are normally processed within 90 days, unless we find major deficiencies, or policy issues requiring central program office assistance.

2. Renewal actions are normally processed within 180 days, however, under timely filing (before expiration), you may continue to operate under your existing license.

3. Termination actions are normally processed within 90 days, unless confirmatory surveys following decontamination/decommissioning activities are involved.

A copy of your correspondence has been forwarded to our Licensing Fee and Debt Collection Branch (301/415-6097) for approval of the fee category and amount, if required.

If you have a compelling safety or business-related reason for requesting expedited review, please contact the Materials Licensing Branch at (630) 829-9887. We will try to complete your request as soon as practicable. Any correspondence about this request should reference the control number.

Nuclear Materials Support Branch

Mail Control No. 302213
License No. 48-02000-01