

MATERIALS LICENSE

Amendment No. 21

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.

Licensee		In accordance with letter dated April 17, 1996	
1. University of Wisconsin-Madison Safety Department		3. License Number 48-09843-32 is amended in its entirety to read as follows:	
2. 30 North Murray Street Madison, WI 53715		4. Expiration Date August 31, 2001	
		5. Docket or Reference No. 030-15202	
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. Cesium-137	A. Sealed teletherapy sources (AECL Models C-146 or C-151)	A. 10,000 curies per source	
B. Cobalt-60	B. Teletherapy sealed sources (AECL Models C-146 or C-151)	B. 10,000 curies per source	
9. Authorized Use:			
A. For use in Picker Corporation Model 6152 teletherapy unit for the irradiation of animals and materials, excluding explosives and flammable materials, and for calibration of radiation detection instruments and dosimeters, and student instruction.			
B. For use in AECL Model Eldorado 78 teletherapy unit for the irradiation of materials for research, excluding explosives and flammable materials, and for calibration of radiation detection instruments, and student instruction.			

CONDITIONS

10. Licensed material listed in Subitem B. shall be used at the University of Wisconsin-Madison, Medical Sciences Center, Room B460, 1300 University Avenue, Madison, Wisconsin. Licensed material listed in Subitem A. shall be used at the University of Wisconsin-Madison, Medical Sciences Center, Room B480, 1300 University Avenue, Madison, Wisconsin.

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SUPPLEMENTARY SHEET**

License Number

48-09843-32

Docket or Reference Number

030-15202

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11. A. Licensed Material shall be used by, or under the supervision of P. M. DeLuca, F.H. Attix, D. W. Pearson, B. P. Thomadsen, L. A. DeWerd, J. A. Micka, or N. B. Chiu.
- B. Licensed material may also be used by individuals who have completed the licensee's training program, as described in letters dated April 23, 1991, and July 31, 1991 and who have been designated by the licensee's Radiation Safety Officer. The licensee shall maintain records of the individuals who have been designated as authorized users.
- C. Persons who have been designated as authorized users in accordance with Condition 11.B. shall not be permitted to supervise other individuals in the use of the source. At least one individual named in Condition 11.A. shall be physically present at the authorized place of use whenever licensed material is being used by persons other than those authorized in Condition 11.B.
- D. Each person working under the supervision of an individual named in Condition 11.A. shall complete the training program described in letter dated November 22, 1989 prior to use of irradiator. Each person shall be approved by the Radiation Safety Officer. Records of training shall be retained.
12. A. Teletherapy sources shall be tested for leakage at intervals not to exceed 6 months. Records of test results shall be kept in units of microcuries and maintained for inspection by the Commission. In the absence of a certificate from a transferor indicating that a test has been made within 6 months before the transfer, a source received from another person shall not be used until tested for leakage.
- B. The tests shall be sufficiently sensitive to detect 0.05 microcurie of contamination on the test sample.
- C. The test sample shall be taken from selected accessible surfaces of the teletherapy head. The selected accessible surfaces should be those surfaces on which one might expect contamination (if there were to be leakage) to accumulate and shall include the inner surface of the most frequently used treatment cones or beam collimating device. The test sample shall be taken with the source in the "off" position.

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- D. If the test reveals the presence of 0.05 microcurie or more of removable contamination, the licensee shall immediately withdraw the source from use and take action to prevent spread of contamination. 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 III, 801 Warrenville Road, Lisle, Illinois 60532-4351, ATTN: Chief, Nuclear Materials Safety Branch. The report shall specify the source involved, the test results, and corrective action taken.
13. The following shall be performed only by persons specifically licensed by the Commission or an Agreement State to perform such services:
- A. Installation, relocation, or removal of teletherapy units containing sources.
 - B. Source exchange.
 - C. Any maintenance or repair operations on a teletherapy unit involving work on the source drawer, the shutter, or other mechanism that could expose the source, reduce the shielding around the source, or compromise the safety of the unit and result in increased radiation levels.
14. Pursuant to 10 CFR Part 40, "Domestic Licensing of Source Material," the licensee is authorized to possess, use, transfer, and import up to 999 kilograms of uranium contained as shielding material in the teletherapy units authorized by this license.
15. Before initiation of irradiator operations or after reloading of sources in the irradiator and before restart of the irradiator, a radiation survey shall be conducted to determine radiator levels around, above, and below the irradiator with the sources in the shielded position and in the exposed position. The results of the survey shall be sent to the U.S. Nuclear Regulatory Commission, Region III, 801 Warrenville Road, Lisle, Illinois 60532-4351, ATTN: Chief, Materials Licensing Section not more than 30 days after the survey is conducted.
16. After installation of the irradiator and cesium-137 or cobalt-60 source and prior to initiation of the irradiation program, a radiation survey shall be conducted to determine radiation levels around, above, and below the irradiator with the sources in the irradiate position and with the source in the shielded position. The results of the survey shall be sent to the U.S. Nuclear Regulatory Commission, Region III, 801 Warrenville Road, Lisle, Illinois 60532-4351, ATTN: Chief, Materials Licensing Section not more than thirty (30) days following installation of the source.

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17. Written emergency procedures for Co-60 and Cs-137 Teletherapy Units contained in materials attached to letter dated April 23, 1991 shall be followed and a copy of these instructions shall be made available to each individual using or having responsibility for use of licensed material. Any changes in these instructions shall have the prior approval of the U.S. Nuclear Regulatory Commission, Region III, 801 Warrenville Road, Lisle, Illinois 60532-4351, ATTN: Chief, Materials Licensing Branch.
18. A. Access to the teletherapy room shall be controlled by a door at each entrance. Such doors shall be normally closed.
- B. Each entrance to the teletherapy room shall be equipped with an electrical interlock system that will turn the teletherapy machine's primary beam of radiation "off" immediately upon opening of any entrance door. The interlock system shall be connected in such a manner that the teletherapy machine's primary beam of radiation cannot be turned "on" until all treatment room entrance doors are closed and the beam "on-off" control is reset at the control panel.
- C. Electrical interlocks on entrance doors to the teletherapy room shall be tested for proper operation at least once every 6 months. Records of test results shall be maintained for inspection by the Commission. Records may be disposed of following Commission inspection.
- D. In the event of malfunction of any door interlock, the teletherapy machine control shall be locked in the "off" condition and not used, except as may be necessary for repair or replacement of the interlock system, until the interlock system is shown to be functioning properly.
19. The licensee shall maintain records of information important to safe and effective decommissioning at 103 North Lake St., Madison, Wisconsin per the provisions of 10 CFR 30.35(g) until this license is terminated by the Commission.
20. Notwithstanding the requirements of 10 CFR 36.23(a); (b), (c), and (f), the licensee shall maintain access control to the irradiators (teletherapy units), as described in letters dated May 17, 1993 and July 12, 1993.
21. Notwithstanding the requirements of 10 CFR 36.27(a) and (b), the licensee shall maintain fire protection equipment as described in letters dated May 17, 1993 and July 12, 1993.
22. Notwithstanding the requirements of 10 CFR 36.31(a), the licensee shall maintain control of source movement as described in letters dated May 17, 1993 and July 12, 1993.

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23. 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 March 15, 1991 (except attachment 8 Training For Teletherapy Unit Operators Medical Physics Calibration Service); and
- B. Letters dated August 22, 1980, March 9, 1982, July 26, 1982, August 30, 1982, September 28, 1982, November 26, 1984, May 5, 1987 (with attached Survey Report), September 2, 1988, November 22, 1989, October 18, 1990 (with attachments, excluding paragraph number 1 on page 3 of Appendix III (entitled "Training For Irradiator Operators"), February 21, 1991 (with attachments), April 23, 1991 (with attachments), July 31, 1991, September 3, 1991, and September 21, 1992, May 17, 1993, July 12, 1993, March 8, 1994 and August 8, 1994.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date

October 8, 1994

By

Laticia J. LeDuc
Nuclear Materials Licensing Branch, Region III

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BETWEEN:

License Fee Management Branch, ARM
and
Regional Licensing Sections

(FOR LFMS USE)
INFORMATION FROM LTS

Program Code: 03520
Status Code: 0
Fee Category: EX 3G 2B 3P
Exp. Date: 20010831
Fee Comments: 170.11(A)(4)
Decom Fin Assur Req'd: N

Rb
21

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED

Applicant/Licensee: WISCONSIN-MADISON, UNIVERSITY OF
Received Date: 960916
Docket No: 3015202
Control No.: 301833
License No.: 48-09843-32
Action Type: Amendment

2. FEE ATTACHED

Amount: 0
Check No.: 0

3. COMMENTS

Signed D. Hershey
Date 7-12-96

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

1. Fee Category and Amount: EX 3G 2B 3P **EXEMPT**

2. Correct Fee Paid. Application may be processed for:

Amendment ☒
Renewal ☐
License ☐

3. OTHER

Signed AC
Date Sept. 21 1996

1996 SEP 20 AM 11:56

SEP 30 1996

RECEIVED BY LFDCB	
Date	<u>Sept. 20 1996</u>
Log	<u>SEP 8 III</u>
By	<u>AC</u>
Date Completed	<u>9/24/96</u>

UNIVERSITY OF
WISCONSIN
MADISON

A
030-15202
April 17, 1996

U.S. Nuclear Regulatory Commission, Region III
Nuclear Materials Licensing Section
801 Warrenville Road
Lisle, Illinois 60532-4351

RE: Amendment Request, BML 48-09843-32

Our Medical Physics group has budgeted for a replacement source for the Eldorado 78 teletherapy system and requested we to amend our teletherapy license, 48-09843-32 to allow them to implement that plan. This will require that paragraph 8. B. be amended. Currently paragraphs 6, 7, and 8 B read:

Cobalt-60	Teletherapy sealed sources (AECL Models C-146 or C-151)	One source not to exceed 10,000 curies
-----------	---	--

We desire to possess 1 source of approximately 3,500 curies and the cobalt-60 replacement source not to exceed 10,000 curies. Please change paragraph 6, 7, and 8 B to:

Cobalt-60	Teletherapy sealed sources (AECL Models C-146 or C-151)	10,000 curies per source
-----------	---	--------------------------

Paragraph 8 B is exactly the wording used on our other teletherapy license (48-09843-34). If you desire to allow us only one source, we will again amend our license after the source is exchanged and we send in our shielding evaluation as required in paragraphs 15 and 16.

If you have any questions pertaining to this information, please call me at (608) 262-9178 or FAX me at (608) 262-6767.

Sincerely,

Ronald R. Bresell

Ronald R. Bresell
Radiation Safety Officer

170.11(A)(4)
FEE EXEMPT

RECEIVED

SEP 16 1996

REGION III
RECEIVED

APR 22 1996

REGION III

Safety Department

301833

OCT 09 1996

Ronald Bresell
Radiation Safety Officer
University of Wisconsin
Safety Department
30 North Murray Street
Madison, WI 53715

Dear Mr. Bresell:

Enclosed is Amendment No. 21 to your NRC Material License No. 48-09843-32 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.

Sincerely,

Original Signed By
Patricia J. Pelke
Nuclear Materials Licensing Branch

License No.: 48-09843-32
Docket No.: 030-15202

Enclosure: Amendment No. 21

DOCUMENT NAME: M:\03015202.CL6

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								
NAME	PJPELKE:jaw <i>PJP</i>								
DATE	10/08/96								

OFFICIAL RECORD COPY

301833

UNIVERSITY OF
WISCONSIN
M A D I S O N

April 17, 1996

U.S. Nuclear Regulatory Commission, Region III
Nuclear Materials Licensing Section
801 Warrenville Road
Lisle, Illinois 60532-4351

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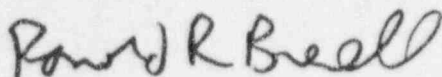
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Sincerely,



Ronald R. Bresell
Radiation Safety Officer

Pm 9/18/96
Safety Department

RECEIVED

SEP 20 1996

REGION III

SEP 20 1996

UNIVERSITY OF
WISCONSIN
MADISON

April 17, 1996

U.S. Nuclear Regulatory Commission, Region III
Nuclear Materials Licensing Section
801 Warrenville Road
Lisle, Illinois 60532-4351

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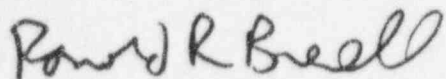
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Sincerely,



Ronald R. Bresell
Radiation Safety Officer

Safety Department

FAX COVER SHEET

UNIVERSITY OF WISCONSIN - MADISON
SAFETY DEPARTMENT
30 NORTH MURRAY STREET
MADISON, WISCONSIN 53715
(608) 262-8769

September 16, 1996

TO: John Madera
Material Licensing Branch
FAX #: (630) 515-1259

WE ARE TRANSMITTING 2 PAGES, INCLUDING THIS SHEET

DIRECT QUESTIONS TO:

NAME: RONALD R. BRESELL
PHONE: (608) 262-8769 FAX # (608) 262-6767

RE: Amendment Request, BML 48-09843-32

Per our phone conversation, I will be resending^{by mail} the amendment request
that is attached.

Regardless of the disposition of the original letter, we would appreciate it if
you could expedite this since we hope to contract for a new source about
1 November.

Sorry to be of bother.

Sincerely

Ronald R. Beel