

## MATERIALS LICENSE

Amendment No. 08

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		301595	
1. Bio-Technical Resources, L. P.		In accordance with letters dated July 12, 1996, and September 30, 1996	
2. 1035 South 7th Street Manitowoc, WI 54220		3. License Number 48-00673-04 is amended in its entirety to read as follows:	
		4. Expiration Date April 30, 2005	
		5. Docket or Reference No. 030-14747	
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. 10 millicuries	
B. Carbon-14	B. Any	B. 10 millicuries	
C. Phosphorus-32	C. Any	C. 10 millicuries	
D. Sulfur-35	D. Any	D. 10 millicuries	
E. Phosphorus-33	E. Any	E. 20 millicuries	
9. Authorized Use:			
A. through E. To be used for research and development as defined in 10 CFR 30.4, excluding animal studies.			

CONDITIONS

10. Licensed material shall be used only at the licensee's facilities located at 1035 South 7th Street, Manitowoc, Wisconsin.
11. Radiation Safety Officer: Reinhardt A. Rosson, Ph.D.
12. A. Licensed material may be used by, or under the supervision of, Reinhardt A. Rosson, Ph.D., Richard P. Burlingame, Ph.D., or Alan D. Grund, Ph.D.  
B. Licensed material listed in Subitems B, C, D, and E of Item 6 may be used by Julie Maurina-Brunker.
13. Licensed material shall not be used in or on human beings.

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**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License Number

48-00673-04

Docket or Reference Number

030-14747

Amendment No. 08

14. The licensee shall not use licensed material in field applications where activity is released except as provided otherwise by specific condition of this license.
15. 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.
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 U.S. 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. Applications dated July 28, 1989 and October 24, 1994 (with attachments); and
  - B. Letters dated May, 1, 1991, October 21, 1994, July 12, 1996 and September 30, 1996.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date

10/5/96

By

*Kevin G. Pull*

Nuclear Materials Licensing Branch, Region III

**COPY**

BETWEEN:

LICENSE FEE MANAGEMENT BRANCH, ARM  
AND  
REGIONAL LICENSING SECTIONS

(FOR LFMS USE)  
INFORMATION FROM LTS

PROGRAM CODE: 03620  
STATUS CODE: 0  
FEE CATEGORY: 3M  
EXP. DATE: 20050430  
FEE COMMENTS:  
DECOM FIN ASSUR REQDT N

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED

APPLICANT/LICENSEE: BIO-TECNICAL RESOURCES  
RECEIVED DATE: 960715  
DOCKET NO: 3014747  
CONTROL NO.: 301595  
LICENSE NO.: 48-00673-04  
ACTION TYPE: AMENDMENT

2. FEE ATTACHED

AMOUNT: 610.00  
CHECK NO.: 22589

3. COMMENTS

SIGNED  
DATE

B. LICENSE FEE MANAGEMENT BRANCH (CHECK WHEN MILESTONE 03 IS ENTERED /\_/\_/)

1. FEE CATEGORY AND AMOUNT: 3M 610

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

3. OTHER

SIGNED  
DATE

RECEIVED

JUL 29 1996

REGION III

Log	Jul 13 III
Finmitter	
Check No.	22589
Amount	610
Fee Category	3M
Type of Fee	AMD
Date Check Rec'd	7/22/96
Date Completed	7/23/96
By:	SC

1996 JUL 22 PM 1:43



BIO-TECHNICAL RESOURCES L.P.

Since 1962

1035 South Seventh Street • Manitowoc, Wisconsin 54220  
Telephone 414/684-5518 • FAX 414/684-5519

July 12, 1996

Region III  
U.S. Nuclear Regulatory Commission  
Attention: Mr. Bill Reichhold  
801 Warrenville Road  
Lisle, IL 60532-4351

RE: License Number 48-00673-04  
RE: Amendment to Letter Dated July 9, 1996

Dear Mr. Reichhold

A letter dated July 9, 1996, was sent to you earlier this week. In that letter, we inadvertently failed to request adding Dr. Alan Berry to our license as an individual user. The July 9 letter included a check for \$610 and the experience profiles of Dr. Rosson and Ms. Maurina-Brunker. Attached to this letter is the experience profile of Dr. Berry.

Please consider this letter in addition to the previous one as one amendment request. Following is the text of the first letter, to which we have added Dr. Berry as part of request number 3. All attachments belong with this letter.

Bio-Technical Resources requests an amendment to the above referenced license. Enclosed is a check in the amount of \$610 to cover the fee for this requested amendment.

We wish to 1) designate a new Radiation Safety Officer, 2) delete two individual users, 3) add two new individual users, and 4) add an additional monitoring unit and change our calibration contractor, as follows:

- 1) We wish to designate Reinhardt A. Rosson, Ph.D. as Bio-Technical Resources' Radiation Safety Officer. We have attached Dr. Rosson's training and experience profile. We believe Dr. Rosson is fully qualified to take this position. Dr. Rosson will have sufficient time to devote to his duties as Radiation Safety Officer in addition to his other duties. Dr. Rosson will not devote full time to these specific duties, but we believe the scope of our license does not require that.
- 2) We wish to delete Ronald J. Huss, Ph.D. both as Radiation Safety Officer and as a user, and we wish to delete Bruce J. Morton as a user. Neither are presently in the employ of Bio-Technical Resources.
- 3) We wish to add Julie Maurina-Brunker and Alan Berry, Ph.D., as individual users. Both training and experience profiles are attached.

**RECEIVED**

JUL 15 1996

REGION III 1996

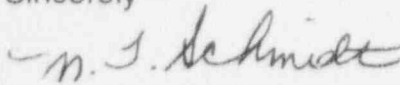
pm; 7-12-96

- 4) We wish to add a Ludlum brand unit as an additional survey instrument, to be used as appropriate. Also, we wish to change the designated place of calibration for all our survey instruments to:

Compliance Management Associates, LLC  
2800 S. Fish Hatchery Road  
Madison, WI 53711  
NRC License #48-24598-04

If you have any questions or need further information, please call me at the number listed above at any time. We look forward to receiving the amendment to our license. Thank you for your help.

Sincerely



Michele T. Schmidt  
Administrative Manager

Enc.



# TRAINING AND EXPERIENCE OF EACH INDIVIDUAL NAMED IN ITEM 4

Page 1 of 2

## 8. TYPE OF TRAINING

	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB (Circle answer)	FORMAL COURSE (Circle answer)
a. Principles and practices of radiation protection	Eastman Kodak Univ. Illinois / General Int'l.	3 1/2 yrs 2 days / 1 day	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No
b. Radioactivity measurement standardization and monitoring techniques and instruments			<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
c. Mathematics and calculations basic to the use and measurement of radioactivity			<input type="radio"/> Yes <input type="radio"/> No	<input type="radio"/> Yes <input type="radio"/> No
d. Biological effects of radiation	State Univ NY - Binghamton		<input type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No

## 9. EXPERIENCE WITH RADIATION (Actual use of radioisotopes or equivalent experience.)

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
32P SH	1 mCi	Univ. Illinois St Univ NY - Binghamton	3 yrs 1 yr	Molecular Biology Biochemical Assays

## 10. RADIATION DETECTION INSTRUMENTS (Use supplemental sheets if necessary.)

TYPE OF INSTRUMENTS (Include make and model number of each)	NUMBER AVAILABLE	RADIATION DETECTED	SENSITIVITY RANGE (mr/hr)	WINDOW THICKNESS (mg/cm <sup>2</sup> )	USE (Monitoring, surveying, measuring)
Geiger Counter Scintillation Counter					

## 11. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE.

## 12. FILM BADGES, DOSIMETERS, AND BIOASSAY PROCEDURES USED. (For film badges, specify method of calibrating and processing, or name of supplier.)

## INFORMATION TO BE SUBMITTED ON ADDITIONAL SHEETS IN DUPLICATE

13. FACILITIES AND EQUIPMENT. Describe laboratory facilities and remote handling equipment, storage containers, shielding, fume hoods, etc. (Explanatory sketch of facility is attached. (Circle answer) Yes No)
14. RADIATION PROTECTION PROGRAM. Describe the radiation protection program including control measures. If application covers sealed source, submit leak testing procedures where applicable, leak testing, and experience of person to perform leak tests, and arrangements for performing initial radiation survey scanning, maintenance and repair of the source.
15. WASTE DISPOSAL. If a commercial waste disposal service is employed, specify name of company. Otherwise, submit detailed description of methods which will be used for shipping of radioactive wastes and estimates of the type and amount of activity involved.

## CERTIFICATE (This item must be completed by applicant)

16. THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATE ON BEHALF OF THE APPLICANT NAMED IN ITEM 1, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PART 30, AND THAT ALL INFORMATION CONTAINED HEREIN, INCLUDING ANY SUPPLEMENTS ATTACHED HERETO, IS TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF.

Date

7/11/96

Applicant (used in item 1)

*Ala. Bay*

Title of certifying official:

WARNING — 18 U. S. C., Section 1001; Act of June 23, 1948, 62 Stat. 749; makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.



Since 1962

BIO-TECHNICAL RESOURCES L.P.

1035 South Seventh Street • Manitowoc, Wisconsin 54220  
Telephone 414/684-5518 • FAX 414/684-5519

July 9, 1996

Region III  
U.S. Nuclear Regulatory Commission  
Attention: Mr. Bill Reichhold  
801 Warrenville Road  
Lisle, IL 60532-4351

RE: License Number 48-00673-04

Dear Mr. Reichhold

Bio-Technical Resources requests an amendment to the above referenced license. Enclosed is a check in the amount of \$610 to cover the fee for this requested amendment.

We wish to 1) designate a new Radiation Safety Officer, 2) delete two individual users, 3) add a new individual user, and 4) add an additional monitoring unit and change our calibration contractor, as follows:

- 1) We wish to designate Reinhardt A. Rosson, Ph.D. as Bio-Technical Resources' Radiation Safety Officer. We have attached Dr. Rosson's training and experience profile. We believe Dr. Rosson is fully qualified to take this position. Dr. Rosson will have sufficient time to devote to his duties as Radiation Safety Officer in addition to his other duties. Dr. Rosson will not devote full time to these specific duties, but we believe the scope of our license does not require that.
- 2) We wish to delete Ronald J. Huss, Ph.D. both as Radiation Safety Officer and as a user, and we wish to delete Bruce J. Morton as a user. Neither are presently in the employ of Bio-Technical Resources.
- 3) We wish to add Julie Maurina-Brunker as an individual user. Ms. Maurina-Brunker's training and experience profile is attached.
- 4) We wish to add a Ludlum brand unit as an additional survey instrument, to be used as appropriate. Also, we wish to change the designated place of calibration for all our survey instruments to:

Compliance Management Associates, LLC  
2800 S. Fish Hatchery Road  
Madison, WI 53711  
NRC License #48-24598-01

Pm: 7-10-96

JUL 12 1996

301595

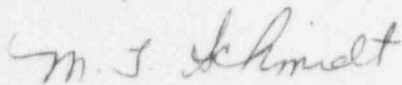
U.S. Nuclear Regulatory Commission

July 9, 1996

Page 2

If you have any questions or need further information, please call me at the number listed above at any time. We look forward to receiving the amendment to our license.

Sincerely

A handwritten signature in cursive script, appearing to read "M. T. Schmidt".

Michele T. Schmidt  
Administrative Manager

Enc.



# TRAINING AND EXPERIENCE OF EACH INDIVIDUAL NAMED IN ITEM 4 (Use supplemental sheets if necessary)

TYPE OF TRAINING	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB (Circle answer)	FORMAL COURSE (Circle answer)
<b>REINHARDT A. ROSSON, Ph.D.</b>				
a. Principles and practices of radiation protection	RAD. SAFETY OFFICER COURSE, MADISON, WI (65) Univ. Calif., Los Angeles (UCLA) Scripps Inst. Oceanography (SIO)	40 hrs 6 yr 3 yr	Yes No	Yes No
b. Radioactivity measurement standardization and monitoring techniques and instruments	R50 course UCLA SIO	40 hrs 6 yr 3 yr	Yes No	Yes No
c. Mathematics and calculations basic to the use and measurement of radioactivity	R50 course UCLA SIO	40 hrs 6 yr 3 yr	Yes No	Yes No
d. Biological effects of radiation	R50 course UCLA SIO	40 hrs 6 yr 3 yr	Yes No	Yes No

## 9. EXPERIENCE WITH RADIATION (Actual use of radioisotopes or equivalent experience)

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
— SEE ATTACHED EXPERIENCE PROFILE —				

## 10. RADIATION DETECTION INSTRUMENTS (Use supplemental sheets if necessary)

TYPE OF INSTRUMENTS (Include make and model number of each)	NUMBER AVAILABLE	RADIATION DETECTED	SENSITIVITY RANGE (mr/hr)	WINDOW THICKNESS (mg/cm <sup>2</sup> )	USE (Monitoring, surveying, measuring)

## 11. METHOD, FREQUENCY, AND STANDARDS USED IN CALIBRATING INSTRUMENTS LISTED ABOVE

## 12. FILM BADGES, DOSIMETERS, AND BIO-ASSAY PROCEDURES USED. (For film badges, specify method of calibrating and processing, or name of supplier)

## INFORMATION TO BE SUBMITTED ON ADDITIONAL SHEETS IN DUPLICATE

13. FACILITIES AND EQUIPMENT Describe laboratory facilities and remote handling equipment, storage containers, shielding, fume hoods, etc. Explanatory sketch of facility is attached. (Circle answer) Yes No	
14. RADIATION PROTECTION PROGRAM Describe the radiation protection program including control measures. If application covers sealed sources, submit leak testing procedures where applicable, name, training, and experience of person to perform leak tests, and arrangements for performing initial radiation survey, servicing, maintenance and repair of the source.	
15. WASTE DISPOSAL If a commercial waste disposal service is employed, specify name of company. Otherwise, submit detailed description of methods which will be used for disposing of radioactive wastes and estimates of the type and amount of activity involved.	

## CERTIFICATE (This item must be completed by applicant)

16. THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATE ON BEHALF OF THE APPLICANT NAMED IN ITEM 1, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PART 30, AND THAT ALL INFORMATION CONTAINED HEREIN, INCLUDING ANY SUPPLEMENTS ATTACHED HERETO, IS TRUE AND CORRECT TO THE BEST OF OUR KNOWLEDGE AND BELIEF.

Date 10 July 1996

Bio-Technical Resources, Inc.  
Applicant named in item 1  
By Reinhardt A. Rossion

Title of certifying official

**WARNING.**—18 U. S. C., Section 1001, Act of June 25, 1948, 62 Stat. 749, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

**EXPERIENCE WITH RADIONUCLIDES**  
**REINHARDT A. ROSSON, PH.D.**  
550-88-6745

**Formal course training:**

Radiation Safety Officer Training Course May 6-10, 1996, Madison, WI.  
Training course (40 hours) by Engelhardt & Associates, attended and completed

**On-the-job training:**

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
<sup>32</sup> P	1.0 mCi	Bio-Technical Resources L.P.	1 Apr '91 – present	Probe hybridization
<sup>33</sup> P	1.0 mCi	"	"	DNA sequencing
<sup>35</sup> S	1.0 mCi	"	"	"
<sup>14</sup> C	1.0 mCi	Great Lakes Research Facility, The University of Wisconsin- Milwaukee	1 Jan '86 – 31 Mar '91	Metabolic, growth and respiration studies
<sup>3</sup> H	1.0 mCi	"	"	Metabolic, growth and respiration studies
<sup>54</sup> Mn	1.0 mCi	"	"	Mn oxidation and reduction studies— laboratory and field experiments
<sup>32</sup> P	1.0 mCi	"	"	RNA & DNA sequencing and probe hybridization analyses
<sup>35</sup> S	1.0 mCi	"	"	RNA sequencing studies
<sup>35</sup> S	0.25 mCi	Indiana University	2 months – 1987	Direct whole-cell probing/identification
<sup>14</sup> C	1.0 mCi	Marine Science Institute, University of Texas at Austin	1981 – 1986	Laboratory & field heterotrophic uptake and growth experiments
<sup>3</sup> H	1.0 mCi	"	"	Laboratory & field heterotrophic uptake and growth experiments
<sup>54</sup> Mn	1.0 mCi	"	"	Mn oxidation studies
<sup>35</sup> S	1.0 mCi	"	"	SO <sub>4</sub> reduction rate studies
<sup>59</sup> Fe	0.1 mCi	"	"	Iron oxidation rate studies & Mn co-precipitation studies
<sup>14</sup> C	1.0 mCi	Scripps Institution of Oceanography	1978 – 1981	Metabolic, growth and respiration studies
<sup>3</sup> H	1.0 mCi	"	"	Metabolic, growth and respiration studies
<sup>54</sup> Mn	1.0 mCi	"	"	Mn oxidation studies
<sup>59</sup> Fe	0.1 mCi	"	"	Iron oxidation rate studies & Mn co-precipitation studies
<sup>109</sup> Cd	0.25 mCi	"	"	Mn co-precipitation studies

$^{57}\text{Co}$	0.25 mCi	Scripps Institution of Oceanography	1978 - 1981	Mn co-precipitation studies
$^{63}\text{Ni}$	0.5 mCi	"	"	Mn co-precipitation studies
$^{14}\text{C}$	1.0 mCi	Department of Bacteriology, University of California, Los Angeles	1971 - 1978	Metabolic, growth and respiration studies
$^3\text{H}$	1.0 mCi	"	"	Metabolic, growth and respiration studies

# TRAINING AND EXPERIENCE EACH INDIVIDUAL NAMED IN ITEM 4 (Use supplemental sheets if necessary)

## 8. TYPE OF TRAINING

	WHERE TRAINED	DURATION OF TRAINING	ON THE JOB (Circle answer)	FORMAL COURSE (Circle answer)
Julie Maurina-Brunker				
a. Principles and practices of radiation protection	Bacteriol Physiology, Radiation Safety Section, Univ. of Medicine, Wash. - 1985 Bio-Technical Resources (BTR)	8 hrs. 5 yr.	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No
b. Radioactivity measurement standardization and monitoring techniques and instruments	UW-Madison BTR	8 hrs. 5 yr.	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No
c. Mathematics and calculations basic to the use and measurement of radioactivity	UW-Madison BTR UW-Madison	8 hrs. 5 yr. 8 hrs.	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No
d. Biological effects of radiation	BTR	5 yr.	<input checked="" type="radio"/> Yes <input type="radio"/> No	<input checked="" type="radio"/> Yes <input type="radio"/> No

## 9. EXPERIENCE WITH RADIATION (Actual use of radioisotopes or equivalent experience)

ISOTOPE	MAXIMUM AMOUNT	WHERE EXPERIENCE WAS GAINED	DURATION OF EXPERIENCE	TYPE OF USE
<sup>35</sup> S	1 mCi	BTR	1998 - present	DNA Sequencing
<sup>33</sup> P	1 mCi	BTR	1992 - present	DNA Sequencing
<sup>32</sup> P	1 mCi	BTR	1998 - present	DNA Hybridization / Southern

## 10. RADIATION DETECTION INSTRUMENTS (Use supplemental sheets if necessary)

TYPE OF INSTRUMENTS (Include make and model number of each)	NUMBER AVAILABLE	RADIATION DETECTED	SENSITIVITY RANGE (mr/hr)	WINDOW THICKNESS (mg/cm <sup>2</sup> )	USE (Monitoring, surveying, measuring)

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14. RADIATION PROTECTION PROGRAM. Describe the radiation protection program including control measures. If application covers sealed sources, submit leak testing procedures where applicable, name, training, and experience of person to perform leak tests, and arrangements for performing initial radiation survey, servicing, maintenance and repair of the source.
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Bio-Technical Resources, L.P.

Applicant named in item 1

Date 10 July 1996

By Julie Maurina-Brunker

Title of certifying official

**WARNING.**—18 U. S. C., Section 1001, Act of June 25, 1948, 62 Stat. 749, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

OCT 09 1996

Michele T. Schmidt  
Administrative Manager  
Bio-Technical Resources, L.P.  
1035 South 7th Street  
Manitowoc, WI 54220

Dear Ms. Schmidt:

Enclosed is Amendment No. 08 to your NRC Material License No. 48-00673-04 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 we have extended the expiration date of the license for five years in accordance with the regulations (10 CFR 30.36).

Also note, as we discussed on October 1, 1996, we have not authorized Dr. Alan Barry as a user at this time, because we need additional information concerning the classroom training and hands-on-experience Dr. Barry has had with radionuclides. We need evidence of at least 40 hours of training and experience in the safe handling of radioactive materials and in the characteristics of ionizing radiation, units of radiation dose and quantities, radiation detection instrumentation, and biological hazards of exposure to radiation appropriate to the type and forms of radionuclides to be used. In addition, we have not authorized Julie Maurina-Bruner to use hydrogen-3, because we need additional information concerning Ms. Maurina-Bruner's training and hands-on-experience using hydrogen-3.

If you wish to pursue this matter, please resubmit your request as additional information to mail control 301595 to avoid an additional fee.

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:

301595



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
  - 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

M. Schmidt

-3-

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.: 48-00673-04  
Docket No.: 030-14747

Enclosure: Amendment No. 08

DOCUMENT NAME: M:\03014747.CL6

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OFFICE	DNMS/RIII <i>WPR</i>								
NAME	WREICHHOLD:jaw								
DATE	10/4/96								

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## BIO-TECHNICAL RESOURCES L.P.

September 30, 1996

1035 South Seventh Street • Manitowoc, Wisconsin 54220  
Telephone 414/684-5518 • FAX 414/684-5519

Mr. Bill Reichhold  
U.S. Nuclear Regulatory Commission  
Region 3  
801 Warrenville Road  
Lisle, IL 60532-4351

Mail Control Number 301595

Dear Mr. Reichhold

In response to your letter of September 4, 1996, following are the answers to your questions.

1. We wish Dr. Berry and Ms. Maurina-Brunker to be authorized on all radionuclides. Neither Dr. Berry nor Ms. Maurina-Brunker are fully trained on all radionuclides as yet. Bio-Technical Resources would like to put a "hold" on their full authorization. Both will be fully trained by Dr. Rosson, RSO, personally, before they handle any radionuclides on which they have not yet been trained. The training will be done by October 31, 1996.
2. Dr. Berry has recently moved from California to Wisconsin. He is still in the process of unpacking and organizing his office files, and has not found the course material. Again, by October 31, 1996, we will provide details of Dr. Berry's classroom training and hands-on experience.
3. The Ludlum survey meter we purchased and wish added to our license is:
  - a. Ludlum Model 12 General Purpose Survey Meter
  - b. Alpha, Beta and Gamma detection
  - c. Ludlum Model 44-9 Pancake G-M Detector
  - d. 0-660 cpm, 0-0.2 mR/hr; multipliers x1, x10, x100, x1000
  - e. 1.7 + or - 0.3 mg/cm<sup>2</sup> window area is 15 cm<sup>2</sup> active and 12 cm<sup>2</sup> open

Please note, an additional Ludlum Model 44-9 has been purchased for our existing survey meter, as we believe it will provide more accurate readings.

If you need further information, please call at any time. Otherwise, we will write you by October 31, 1996 confirming that items 1 and 2 have been fulfilled. Thank you for your help.

Sincerely

Michele T. Schmidt  
Administrative Manager

OCT 04 1996

## FAX TRANSMITTAL

# of pages ▶ 1

To: *MICHELE SCHMIDT* From: *BILL REICHHOLD*  
Phone: *30-829-9839*

UNITED STATES NUCLEAR REGULATORY COMMISSION  
REGION 3  
801 WARRENVILLE ROAD  
LISLE, ILLINOIS 60532-4351

PHONE CONVERSATION RECORD

4 September 1996  
Michele Schmidt  
Administrative Manager  
Bio-Technical Resources  
Maintowoc, WI

Dear Ms. Schmidt,

The following additional information is needed to complete the review of your amendment request.

1. Please state which radionuclides you want Drs. Alan Barry and Maurina-Brunker authorized to use.
2. Please expand on the class room training and hands-on-experience Dr. Barry has had with radionuclides (such as radioactivity measurements, standardization, and monitoring techniques and instruments, and mathematics and calculations basic to the use and measurement of radioactivity).
3. Please send the following additional information about the Ludlum survey meter.
  - a. Specify the model number of the instrument.
  - b. Specify the type of radiation the meter can detect (such as alpha, beta, gamma).
  - c. Specify the type of radiation detector probe (such as pancake g-m, sodium iodide crystal).
  - d. Specify the range(s) of the instrument (such as 0 to 100 mr/hr).
  - e. Specify the thickness of the detector's window.

Please respond within 15 days to the above and refer to mail control 301595. Please call me at 630-829-9839 if you have any questions.

Sincerely,  
*Bill Reichhold*  
Bill Reichhold



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION III  
801 WARRENVILLE ROAD  
LISLE, ILLINOIS 60532-4351

July 16, 1996

Michele T. Schmidt  
Administrative Manager  
Bio-Technical Resources  
1035 South 7th Street  
Manitowoc, WI 54220

SUBJECT: ACKNOWLEDGEMENT OF CORRESPONDENCE  
(☒ Letter ☒ Dated July 12, 1996)

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      ☒ Amendment      ☐ Renewal  
☐ Termination      ☐ Auth User (Amendment not required)      ☐ QMP Revision  
☐ 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, technical issues that require additional information, or policy/technical issues that require coordination with headquarters or other NRC regional offices.

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

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 you have a compelling safety or business-related reason for requesting expedited review, please contact the Materials Licensing Branch at (708) 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. 301595  
License No. 48-00673-04