

## MATERIALS LICENSE

Amendment No. 07

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.

302230

## Licensee

1. Quest Diagnostics, Incorporated

2. 2320 Schuetz Road  
St. Louis, MO 63146In accordance with letter dated  
January 13, 19973. License Number 24-25941-01 is amended in  
its entirety to read as follows:

4. Expiration Date February 28, 2004

5. Docket or  
Reference No. 030-306976. Byproduct, Source, and/or  
Special Nuclear Material7. Chemical and/or Physical  
Form8. Maximum Amount that Licensee  
May Possess at Any One Time  
Under This License

A. Iodine-125

A. Prepackaged kits

A. 10 millicuries

9. Authorized Use:

A. In vitro laboratory testing.

## CONDITIONS

10. Licensed material shall be used only at the licensee's facilities located at 2320 Schuetz Road, St. Louis, Missouri.
11. Licensed material shall be used by, or under the supervision of, Linda Butler, Ray Hubbard, Cynthia Dimatatac, John Pritchard, Marie Shepherd, Diane Deck, Sue Koontz, Karen Catoor, Vicki Richardson and Bobbie Hanners.
12. Licensed material shall not be used in or on human beings.
13. This license does not authorize commercial distribution of licensed material.
14. The licensee shall survey radioactive material storage and waste storage areas monthly.
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.

230027

9706230111 970610  
PDR ADOCK 03030697  
C PDR

COPY

MATERIALS LICENSE  
SUPPLEMENTARY SHEET

License Number

24-25941-01

Docket or Reference Number

030-30697

Amendment No. 07

- 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. Radioactive waste that will not be held for decay-in-storage for a period of at least 10 half-lives shall be monitored with appropriate detection instrumentation to insure background levels before disposal in regular trash. The instrument must have sufficient sensitivity to detect the radionuclides being monitored. All radiation labels shall be removed or obliterated.
17. The Radiation Safety Officer for this license is Thomas Heeley.
18. 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 12, 1988 and August 5, 1993; and
- B. Letters dated August 25, 1988 (with attachments), May 3, 1990, December 19, 1996, and January 13, 1997.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date JUN 10 1997By Deborah A. Roberts  
Nuclear Materials Licensing Branch, Region III

COPY

55

BETWEEN:

License Fee Management Branch, ARM  
and  
Regional Licensing Sections

(FOR LFMS USE)  
INFORMATION FROM LTS

Program Code: 02410  
Status Code: 0  
Fee Category: 3P  
Exp. Date: 20040228  
Fee Comments:  
Decon Fin Assur Req'd: N

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED

Applicant/Licensee: QUEST DIAGNOSTICS INCORPORATED  
Received Date: 970121  
Docket No: 3030697  
Control No.: 302230  
License No.: 24-25941-01  
Action Type: Amendment

2. FEE ATTACHED

Amount: \_\_\_\_\_  
Check No.: \_\_\_\_\_

3. COMMENTS

Signed \_\_\_\_\_  
Date \_\_\_\_\_

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

1. Fee Category and Amount: 3P \$300

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

Amendment \_\_\_\_\_  
Renewal \_\_\_\_\_  
License \_\_\_\_\_

3. OTHER

Signed \_\_\_\_\_  
Date 2/18/97

MAR 03 1997

|                  |           |
|------------------|-----------|
| Log              | Jan 9 III |
| Remitter         |           |
| Check No.        | 697810    |
| Amount           | \$300     |
| Fee Category     | 3P        |
| Type of Fee      | Am        |
| Date Check Rec'd |           |
| Date Completed   | 2/18/97   |
| By:              | CC        |

2320 Schuetz Road  
St. Louis, Missouri 63146  
314.991.1311  
800.288.7293  
FAX 314.997.7112



January 13, 1997

Materials Licensing Section  
U.S. Nuclear Regulatory Commission,  
Region III  
801 Warrensville Rd.  
Lisle, IL 60532-4351

re: License amendment

Gentlemen:

Quest Diagnostics, Inc. is requesting several changes to the currently held NRC license number 24-25941-01. The changes in the following items or conditions of the license are as follows:

Item #5, 6, and 7 Radioactive material:

| Element       | Form               | Amount                 |
|---------------|--------------------|------------------------|
| a. Iodine-125 | Prepackaged kits   | 5 millicuries (Max.)   |
| b. Cobalt-57  | Prepackaged liquid | 0.5 microcuries (Max.) |
| c. Tritium-3  | Prepackaged liquid | 20 microcuries (Max.)  |

Condition #11 Delete the following employees from the list of material users:

Henry Pfeil  
David Hoover  
Jim Mullen  
Terry Lewis  
Vicki Richardson  
Jane Aldinger

Add the following employees to the list of material users:

Linda Butler  
Bobbie Hanners

Qualifications of the additional persons from the previous license:

Linda Butler: MLT/MT (HEW), 30 years in lab as bench tech and supervisor of immunology, serology, esoteric chemistry. One month training in RIA from Ray Hubbard, previous RIA supervisor.

RECEIVED

JAN 21 1997

REGION III

pm: 1-14-97

JAN 21 1997

302230



Bobbie Hanners: Registered medical technician, 20 years in lab as immunology, serology, chemistry, RIA technician. Three years direct work with radioisotopes under the supervision of Ray Hubbard, previous RIA supervisor.

Condition #17 Responsible individual: Radiation safety officer is Thomas Heeley.

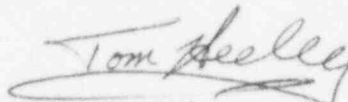
Thomas Heeley: MLT/B.S. Biology, 17 years in lab as bench tech and supervisor of microbiology. Became Environmental, Health, and Safety Coordinator in August 1996. Had 3 hours of RIA safety training provided by Corning Clinical Labs Corporate Safety Office in October 1996. Responsible for annual review of corporate radiation safety policies and updates with the RIA technicians.

Additional change:

Disposition of materials: Solid waste will be washed in radiation neutralizing detergent and liquid portion flushed into sanitary sewer system. Cleaned solid material will be surveyed to confirm appropriate reduction in radiation and only then placed in biohazardous waste for removal from the facility. Paper products which do not wash well enough with the neutralizing detergent will be held for decay according to the conditions of our current license.

If I can be of further assistance, please do not hesitate to call myself or Bonnie Butterfield at (314) 991-1311. 3244

Thank you,

  
Tom Heeley

## LICENSE FEE REQUIREMENTS

LICENSE FEE AND DEBT COLLECTION BRANCH  
DIVISION OF ACCOUNTING AND FINANCE  
OFFICE OF THE CONTROLLER  
U.S. NUCLEAR REGULATORY COMMISSION  
WASHINGTON, DC 20555-0001

QUEST DIAGNOSTICS, INC.  
ATTN: TOM HEELEY  
2320 SCHUETZ ROAD  
ST. LOUIS, MO 63146

## TYPE OF ACTION

- ☐ NEW LICENSE  
☐ RENEWAL OF LICENSE  
☒ AMENDMENT TO LICENSE

REQUESTED DATE

1-13-97

LICENSE NUMBER

24-25941-01

CONTROL NUMBER

302230

## I. APPLICATION FEE DUE

Your request for a licensing action is subject to the fee(s) in the category(ies) noted below in accordance with Section 170.31 of the enclosed Federal Register notice. Payment of the fee is required prior to the issuance of the license, renewal, or amendment.

| FEE CATEGORY | APPLICATION | RENEWAL | AMENDMENT |
|--------------|-------------|---------|-----------|
| 3P           | \$          | \$      | \$ 300.00 |
|              | \$          | \$      | \$        |
|              | \$          | \$      | \$        |
|              | \$          | \$      | \$        |
|              | \$          | \$      | \$        |
|              | \$          | \$      | \$        |
|              | \$          | \$      | \$        |
|              | \$          | \$      | \$        |
|              | \$          | \$      | \$        |
|              | \$          | \$      | \$        |

|                  |    |        |
|------------------|----|--------|
| FEE(s) DUE       | \$ | 300.00 |
| PAYMENT RECEIVED | \$ | 0.00   |
| AMOUNT DUE       | \$ | 300.00 |

☒ Your request was received without the prescribed application fee.

☐ We received your Check No. \_\_\_\_\_ in the amount of \$ \_\_\_\_\_. Payment of the additional fee noted above is required.

☐ Your request will increase the scope of your license program. Therefore, your request is subject to the application fee(s) noted above. Refer to Section 170.31 and Footnote 1(d)(2).

☐ Your license expired prior to the receipt of your application for renewal. Therefore, your request is subject to the application fee(s) noted above. Refer to Section 170.31 and Footnote 1(a).

MAKE PAYMENT OF THE FEE(S) TO THE U.S. NUCLEAR REGULATORY COMMISSION AND MAIL THE PAYMENT TO THE ADDRESS LISTED AT THE TOP OF THIS FORM. IF WE DO NOT RECEIVE A REPLY FROM YOU WITHIN 30 CALENDAR DAYS FROM THE DATE LISTED BELOW, WE SHALL ASSUME THAT YOU DO NOT WISH TO PURSUE YOUR APPLICATION AND WILL VOID THIS ACTION.

SIGNATURE - LICENSE FEE ANALYST

LFDCB

LFDCB

SHIRLEY CRUTCHFIELD

1/31/97

Distribution:

Pending Fee File

LFARB R/F (2)

OC/DAF/RF  
OC/DAF/SF(LF-3.2.7)  
Region 2

DATE

JAN 31 1997

JUN 10 1997

Thomas Heeley  
Radiation Safety Officer  
Quest Diagnostics Incorporated  
2320 Schuetz Road  
St. Louis, MO 63146

Dear Mr. Heeley:

Enclosed is Amendment No. 07 to your NRC Material License No. 24-25941-01 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 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
  - b. When the mailing address listed on the license 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 a decision is made to terminate all activities involving materials authorized under the license.
4. Request and obtain a license amendment before you:
  - a. Change Radiation Safety Officers;

302230

T. Heeley

-2-

- 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 Statement of Policy and Procedure 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  
Deborah A. Piskura  
Nuclear Materials Licensing Branch

License No.: 24-25941-01  
Docket No.: 030-30697

Enclosure: Amendment No. 07

DOCUMENT NAME: M:\03030697.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    |  |  |  |  |  |  |  |  |
| NAME   | DPISKURA:jaw |  |  |  |  |  |  |  |  |
| DATE   | 06/10/97     |  |  |  |  |  |  |  |  |

OFFICIAL RECORD COPY



QUEST DIAGNOSTICS  
2320 SCHUETZ ROAD  
ST. LOUIS, MO 63146

# FAX

Date: 6-5-97Number of pages including cover sheet: 5

To:

DEBBIE PISKURANRCPhone: 630-824-9867Fax phone: 630-515-1254

CC:

From:

Tom HerleyEHS COORDINATORPhone: (314) 991-1311 X3244Fax phone: (314) 997-7112

REMARKS:

☐ Urgent☒ For your review☐ Reply ASAP☐ Please comment

*From RIA Safety Manual. Section VI part D.*

#### D. Monthly Audit

All radioactive material received into the lab is stored in designated refrigerators (see lab map following this procedure).

The refrigerator used for storage of isotope material must be audited for actual on site levels. This figure is calculated with our monthly water bill to figure monthly ratio of radioactive waste per gallon of water.

To calculate the uCi radioactive waste versus water used to flush:

1. Assume that in a 30 day period into the drain is 80% of the average daily inventory.
2. Because of the constant daily usage and resupply, assume that any given day an audit to be taken would be constant during that month.

For example: The monthly water bill is read in hundreds of cubic feet. (100 cubic feet = 750 gallons of water)

Audit total  $\times$  0.8 (percent used) = Radioactive waste

Metered water usage  $\times$  750 = gallons/month

$$\text{uCi/Gallon} = \frac{\text{uCi/Waste}}{\text{Gallons/Month}}$$

$$\text{uCi/ml} = \frac{\text{uCi/Gallon}}{3920 \text{ ml./Gal}}$$

Limit for I-125 is  $2 \times 10^{-2}$  uCi/ml.

## RADIOACTIVE MATERIAL AUDIT

MONTH April 1997

| PRODUCT                    | NUMBER OF VIALS | TOTAL (uCi)  |
|----------------------------|-----------------|--------------|
| TOTAL ESTROGEN <u>6</u>    | <u>6 @ 3.3</u>  | <u>19.8</u>  |
| FREE TESTOSTERONE <u>5</u> | <u>14 @ 4.0</u> | <u>56.0</u>  |
| DHEA <u>5</u>              | <u>10 @ 4.0</u> | <u>40.0</u>  |
| ESTRADIOL <u>6</u>         | <u>6 @ 6.0</u>  | <u>36.0</u>  |
| C-PTH                      | <u>0</u>        | <u>0</u>     |
| IN-PTH <u>1</u>            | <u>2 @ 20.0</u> | <u>40.0</u>  |
| ANTI-DNA <u>15</u>         | <u>30 @ 4.0</u> | <u>120.0</u> |
| CA-125 <u>10</u>           | <u>20 @ 1.3</u> | <u>26.0</u>  |
| SMILLINGS                  | <u>1 @ 0.01</u> | <u>0.01</u>  |

MONTH

TOTAL: 337.81AUDIT TOTAL 337.8 X 0.8 = 270.2 uCi/WASTEWATER USAGE (HUNDREDS CU.FT.) 318 X 750 = 238500 GAL/MONTH
$$\frac{\text{uCi/WASTE}}{\text{GALLONS/MONTH}} = \frac{1.4 \times 10^{-3}}{3920} = 3.6 \times 10^{-7} \text{ uCi/ml}$$
DATE 4/2/97TECH hSUPV. REVIEW MB - TH4.497

## RADIOACTIVE MATERIAL AUDIT

MONTH

May

1997

| PRODUCT           | NUMBER OF VIALS | TOTAL (uCi) |
|-------------------|-----------------|-------------|
| TOTAL ESTROGEN    |                 |             |
| 5                 | 5 @ 3.3         | 16.5        |
| FREE TESTOSTERONE |                 |             |
| 3                 | 6 @ 4.0         | 24.0        |
| DHEA              |                 |             |
| 2                 | 4 @ 4.0         | 16.0        |
| ESTRADIOL         |                 |             |
| 3                 | 6 @ 3.0         | 18.0        |
| C-PTH             |                 |             |
| 4                 | 10 @ 5.0        | 50.0        |
| IN-PTH            |                 |             |
| 3                 | 6 @ 10.0        | 60.0        |
| ANTI-DNA          |                 |             |
| 6                 | 12 @ 2.0        | 24.0        |
| CA-125            |                 |             |
| 9                 | 16 @ 1.5        | 23.4        |
| SHILLINGS         |                 |             |
| 2                 | 2 @ 0.01        | 0.02        |

MONTH

TOTAL: 231.92

AUDIT TOTAL 232 X 0.8 = 185 uCi/WASTE

WATER USAGE (HUNDREDS CU FT.) 318 X 750 = 239,000 GAL/MONTH

$$\frac{\text{uCi/WASTE}}{\text{GALLONS/MONTH}} = \frac{185 \times 10^{-4}}{3920} = 4.7 \times 10^{-7} \text{ uCi/nd}$$

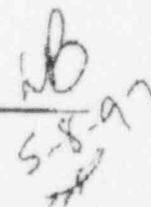
DATE

5/7/97

TECH



SUPERV. REVIEW





## RADIOACTIVE MATERIAL AUDIT

MONTH June 1997

| PRODUCT           | NUMBER OF VIALS | TOTAL (uCi) |
|-------------------|-----------------|-------------|
| TOTAL ESTROGEN    | 5 @ 3.3         | 16.5        |
| FREE TESTOSTERONE | 8 @ 4.0         | 32.0        |
| DHEA              | 6 @ 4.0         | 24.0        |
| ESTRADIOL         | 8 @ 3.0         | 24.0        |
| C-PTH             | 3 @ 5.0         | 15.0        |
| IN-PTH            | 6 @ 10.0        | 60.0        |
| ANTI-DNA          | 18 @ 2.0        | 36.0        |
| CA-125            | 11 @ 13.0       | 143.0       |
| SHILLINGS         | 2 @ 0.01        | 0.02        |

MONTH

TOTAL: 350.52

AUDIT TOTAL 350.52 X 0.8 = 280.4 uCi/WASTE

WATER USAGE (HUNDREDS CU. FT.) 274 X 750 = 205750 GAL/MONTH
$$\frac{\text{uCi/WASTE}}{\text{GALLONS/MONTH}} = \frac{1.36 \times 10^{-3}}{205750} \div 3920 = 3.5 \times 10^{-7} \text{ uCi/ml.}$$
DATE 6/5/97TECH h

SUPV. REVIEW

LB  
4-5-97  
TAP



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION III  
801 WARRENVILLE ROAD  
LISLE, ILLINOIS 60532-4351

January 23, 1997

Thomas Heeley  
Radiation Safety Officer  
Quest Diagnostics Incorporated  
2320 Schuetz Road  
St. Louis, MO 63146

SUBJECT: ACKNOWLEDGEMENT OF CORRESPONDENCE (Letter Dated 01/13/97)

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      ☒ Amendment      ☐ Renewal

Administrative deficiencies were identified during this initial review as outlined below. However, it should be noted that a technical review may identify additional omissions in the submitted information.

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

Incomplete information is as follows: In order for us to complete your amendment request to change RSO's, the appropriate fee is required. Please contact our License Fee & Debt Collection Branch, as referenced below, to obtain the correct fee amount.

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. 302230  
License No. 24-25941-01