MATERIALS LICENSE

Amendment No. 06

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 1, 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.

3021164

Licensee	
1. Quest Diagnostics, Incorporated	In accordance with letter dated December 19, 1996 3. License Number 24-25941-01 is amended in its entirety to read as follows:
2. 2320 Schuetz Road St. Louis, MO 63146	4. Expiration Date February 28, 2004
	5. Docket or Reference No. 030-30697

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. 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, Henry Pfeil, J. David Hoover, Ray Hubbard, Cynthia Dimatatac, Jim Mullen, John Pritchard, Terry Lewis, Marie Shepherd, Diane Deck, Sue Koontz, Karen Catoor, Vicki Richardson and Jane Aldinger.

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.

050112
9702050286 961226
PDR ADOCK 03030697
C PDR

COPY

MATERIALS LICENSE
SUPPLEMENTARY SHEET

License Number
24-25941-01

Docket or Reference Number
030-30697

Amendment No. 06

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 Henry Pfeil.

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 and December 19, 1996.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

Date 12/26/96

By James Mullauer
Nuclear Materials Licensing Branch, Region III

COPY

Printed on recycled paper

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:
Decom Fin Assur Reqd: N

LICENSE FEE TRANSMITTAL

A. REGION

1. APPLICATION ATTACHED
   Applicant/Licensee: QUEST DIAGNOSTICS INCORPORATED
   Received Date: 961220
   Docket No: 3030697
   Control No.: 302164
   License No.: 24-25941-01
   Action Type: Amendment

2. FEE ATTACHED
   Amount: -0-
   Check No.: -0-

3. COMMENTS

Signed D. Hensay
Date 12-30-96

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

1. Fee Category and Amount: 3P A300

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

3. OTHER

Signed SC
Date 1/6/97

JAN 15 1997

Log Jan 2 III
Remitter
Check No. 3888
Amount A300
Fee Category 3P
Type of Fee Amd
Date Check Rec'd 1/3/97
Date Completed 1/6/97
By: SC

97 JAN -3 AM 9:20

Corning Clinical Laboratories
One Malcolm Avenue
Teterboro, NJ 07608-1070
201.393.5380
201.393.5369 Fax

Virginia Sturmfels
Manager, Corporate Medical Services

CORNING Clinical Laboratories

December 19, 1996

James Mullauer
U. S. Nuclear Regulatory Commission, Region III
801 Warrenville Road
Lisle, IL 60532-4351

Dear Mr. Mullauer:

Enclosed please find the signed Change of Ownership Application for St. Louis, MO. The responses are the same as the previous documents that were sent.

Please call if you have any further issues or concerns. Thank you once again for your assistance in these matters.

Sincerely,

Virginia Sturmfels

Virginia Sturmfels

Attachment

RECEIVED
DEC 20 1996
REGION III

30.2164

Pm: 12-19-96

DEC 20

License #24-25941-01

Address: 2320 Schuetz Rd.
St. Louis, MO 63146

Change of Ownership Application

1. The new name of the licensed organization will be Quest Diagnostics Incorporated.

2. The licensee contact will remain the same: Bonnie Butterfield at 314-991-1311 Ext. 3216

3. There has been no change in the personnel having control over licensed activities at the laboratory. The radiation safety officer, as identified on the current license, retains that responsibility.

4. The transferor, Corning Incorporated (parent company), will not require an NRC license for any facility which will now be owned by Quest Diagnostics Incorporated.

5. The legal transaction of change of ownership will occur on December 31, 1996. Corning Incorporated will spin off Corning Clinical Laboratories Inc., its wholly owned subsidiary corporation (CCL) to its shareholders. CCL (now known as Quest Diagnostics Incorporated) will become a completely separate, independent company.

6. There will be no changes in organization, location, facilities, equipment or procedures of licensed activities.

7. There will be no changes in the use, possession, location or storage of the licensed materials.

8. There are no other changes required at this time outside of the notification of change of ownership and name.

9. All surveillance items and records are and will be current at the time of transfer.

10. All records will remain with the Quest Diagnostics laboratory.

11. No contamination of the facility is known at this time.

12. Not Applicable. See Item 11.

13. Quest Diagnostics agrees to abide by all commitments and representations previously made to NRC by Corning Clinical Laboratories Inc.

14. As this request for transfer is the result of a spin off from the parent company, Quest Diagnostics Incorporated is fully aware of the current status of the facility and accepts responsibility for all licensed materials and activities.

15. Quest Diagnostics will abide by all constraints, conditions, requirements, representations, and commitments identified in the existing license.

Transferor: Ken Freeman
President + CEO

Transferee: Patricia Maloney (signature on cover letter)
Director, Corporate Medical Services

Corning Clinical Laboratories
2320 Schuetz Road
St. Louis, MO 63146-3417
T 314 991.1311
T 800 288.7293
F 314 997.7112

CORNING Clinical Laboratories

Dec. 27, 1996

Shirley Crutchfield,

Enclosed is a check for the application fee required for our ownership change application. The information was originally sent Dec. 19, 1996, and a copy is included for your review. Also, I have enclosed a materials license amendment application to update our current license to include other changes not addressed by the ownership change application.

Please call if you have any further issues or concerns.

Sincerely,

Bonnie Butterfield

Bonnie Butterfield

1996 DEC 23 AM 7:58

NRC FORM 577
(1-95)

U.S. NUCLEAR REGULATORY COMMISSION

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: PATRICIA MALONEY
ONE MALCOLM AVENUE
TETERBORO, NJ 07608-1070

TYPE OF ACTION

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

REQUESTED DATE: 11-26-96

LICENSE NUMBER: 34-23405-01/21-20044-01\21-19011-01

CONTROL NUMBER: 302113\302107\302106

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
3P	$	$	$ 300.00
3P	$	$	$ 300.00
	$	$	$
	$	$	$
	$	$	$
	$	$	$
	$	$	$
	$	$	$
	$	$	$

FEE(s) DUE	$ 900.00
PAYMENT RECEIVED	$ 0.00
AMOUNT DUE	$ 900.00

☒ 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.

II. FEE NOT REQUIRED

☐ Enclosed is Check No. _____ which accompanied your request. The fee is not required because:

- ☐ We received your Check No. _____ in payment of the fee.
- ☐ The Licensing staff has informed us that your request is to be considered as a continuation of your request dated _____, Control No. _____.
- ☐ Your request was combined, prior to review, with your _____ request, Control No. _____.

III. CHECK RETURNED

☐ Enclosed is Check No. _____ which was returned to us by the bank for:

- ☐ INSUFFICIENT FUNDS
- ☐ ACCOUNT CLOSED
- ☐ OTHER

MAIL THE REPLACEMENT CHECK TO THE ADDRESS LISTED AT THE TOP OF THIS FORM AND REFERENCE THE ABOVE CONTROL NUMBER.

IV. LICENSE ISSUED WITHOUT THE REQUIRED FEE

☐ License No. _____, Amendment No. _____, issued on _____ was issued without the required fee being collected. The fee required is noted in Section I of this form.

☐ The scope of your licensed program was increased. Therefore, your request is subject to the application fee(s) noted in Section 1 of this form. Refer to Section 170.31 and Footnote 1(d)(2).

☐ Because of the urgency of your request, the license was issued without remittance of the prescribed fee noted in Section 1 of this form.

SIGNATURE – LICENSE FEE ANALYST
Shirley Crutchfield
SHIRLEY CRUTCHFIELD

(LEAVE BLANK)

DATE
Dec. 17 1996

NRC FORM 577 (1-95)

This form was electronically produced by Elite Federal Forms, Inc.

Teterboro, NJ 07608-1070
201.393.5580
201.393.5369 Fax

CORNING Clinical
Laboratories

December 13, 1996

James Mullauer
U. S. Nuclear Regulatory Commission, Region III
801 Warrenville Road
Lisle, IL 60532-4351

Dear Mr. Mullauer:

Enclosed please find the signed Change of Ownership Application for St. Louis, MO. The responses are the same as the previous documents that were sent.

Please call if you have any further issues or concerns. Thank you once again for your assistance in these matters.

Sincerely,

Virginia Sturmfels

Virginia Sturmfels

Copy of previously sent application.

Attachment

12-24- Control # 302164 for this site
as per Debbie Hersey
630-829-9846

License #24-25941-01

Address: 2320 Schuetz Rd.
St. Louis, MO 63146

Change of Ownership Application

1. The new name of the licensed organization will be Quest Diagnostics Incorporated.

2. The licensee contact will remain the same: Bonnie Butterfield at 314-991-1311 Ext. 3216

3. There has been no change in the personnel having control over licensed activities at the laboratory. The radiation safety officer, as identified on the current license, retains that responsibility.

4. The transferor, Corning Incorporated (parent company), will not require an NRC license for any facility which will now be owned by Quest Diagnostics Incorporated.

5. The legal transaction of change of ownership will occur on December 31, 1996. Corning Incorporated will spin off Corning Clinical Laboratories Inc., its wholly owned subsidiary corporation (CCL) to its shareholders. CCL (now known as Quest Diagnostics Incorporated) will become a completely separate, independent company.

6. There will be no changes in organization, location, facilities, equipment or procedures of licensed activities.

7. There will be no changes in the use, possession, location or storage of the licensed materials.

8. There are no other changes required at this time outside of the notification of change of ownership and name.

9. All surveillance items and records are and will be current at the time of transfer.

10. All records will remain with the Quest Diagnostics laboratory.

11. No contamination of the facility is known at this time.

12. Not Applicable. See Item 11.

13. Quest Diagnostics agrees to abide by all commitments and representations previously made to NRC by Corning Clinical Laboratories Inc.

14. As this request for transfer is the result of a spin off from the parent company, Quest Diagnostics Incorporated is fully aware of the current status of the facility and accepts responsibility for all licensed materials and activities.

15. Quest Diagnostics will abide by all constraints, conditions, requirements, representations, and commitments identified in the existing license.

Transferor: Ken Freeman
President + CEO

Transferee: Patricia Maloney (signature on cover letter)
Director, Corporate Medical Services

NRC FORM 313 U. S. NUCLEAR REGULATORY COMMISSION

(7-96)
10 CFR 30, 32, 33
34, 35, 36, 39 and 40

APPLICATION FOR MATERIAL LICENSE

APPROVED BY OMB NO. 3150-0120 EXPIRES: 7/31/99

Estimated burden per response to comply with this information collection request: 7 hours. Submittal of the application is necessary to determine that the applicant is qualified and that adequate procedures exist to protect the public health and safety. Forward comments regarding burden estimate to the information and Records Management Branch (T-6 F33), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, and to the Paperwork Reduction Project (3150-0120), Office of Management and Budget, Washington, DC 20503. NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

INSTRUCTIONS: SEE THE APPROPRIATE LICENSE APPLICATION GUIDE FOR DETAILED INSTRUCTIONS FOR COMPLETING APPLICATION. SEND TWO COPIES OF THE ENTIRE COMPLETED APPLICATION TO THE NRC OFFICE SPECIFIED BELOW.

APPLICATION FOR DISTRIBUTION OF EXEMPT PRODUCTS FILE APPLICATIONS WITH:

DIVISION OF INDUSTRIAL AND MEDICAL NUCLEAR SAFETY
OFFICE OF NUCLEAR MATERIALS SAFETY AND SAFEGUARDS
U.S. NUCLEAR REGULATORY COMMISSION
WASHINGTON, DC 20555-0001

ALL OTHER PERSONS FILE APPLICATIONS AS FOLLOWS:

IF YOU ARE LOCATED IN:

CONNECTICUT, DELAWARE, DISTRICT OF COLUMBIA, MAINE, MARYLAND, MASSACHUSETTS, NEW HAMPSHIRE, NEW JERSEY, NEW YORK, PENNSYLVANIA, RHODE ISLAND, OR VERMONT, SEND APPLICATIONS TO:

LICENSING ASSISTANT SECTION
NUCLEAR MATERIALS SAFETY BRANCH
U.S. NUCLEAR REGULATORY COMMISSION, REGION I
475 ALLENDALE ROAD
KING OF PRUSSIA, PA 19406-1415

ALABAMA, FLORIDA, GEORGIA, KENTUCKY, MISSISSIPPI, NORTH CAROLINA, PUERTO RICO, SOUTH CAROLINA, TENNESSEE, VIRGINIA, VIRGIN ISLANDS, OR WEST VIRGINIA, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION II
101 MARIETTA STREET, NW, SUITE 2900
ATLANTA, GA 30323-0199

IF YOU ARE LOCATED IN:

ILLINOIS, INDIANA, IOWA, MICHIGAN, MINNESOTA, MISSOURI, OHIO, OR WISCONSIN, SEND APPLICATIONS TO:

MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION III
801 WARRENVILLE RD.
LISLE, IL 60532-4351

ALASKA, ARIZONA, ARKANSAS, CALIFORNIA, COLORADO, HAWAII, IDAHO, KANSAS, LOUISIANA, MONTANA, NEBRASKA, NEVADA, NEW MEXICO, NORTH DAKOTA, OKLAHOMA, OREGON, PACIFIC TRUST TERRITORIES, SOUTH DAKOTA, TEXAS, UTAH, WASHINGTON, OR WYOMING, SEND APPLICATIONS TO:

NUCLEAR MATERIALS LICENSING SECTION
U.S. NUCLEAR REGULATORY COMMISSION, REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TX 76011-8064

PERSONS LOCATED IN AGREEMENT STATES SEND APPLICATIONS TO THE U.S. NUCLEAR REGULATORY COMMISSION ONLY IF THEY WISH TO POSSESS AND USE LICENSED MATERIAL IN STATES SUBJECT TO U.S. NUCLEAR REGULATORY COMMISSION JURISDICTIONS.

1. THIS IS AN APPLICATION FOR *(Check appropriate item)*

- [ ] A. NEW LICENSE
- [X] B. AMENDMENT TO LICENSE NUMBER 24-25941-01
- [ ] C. RENEWAL OF LICENSE NUMBER

2. NAME AND MAILING ADDRESS OF APPLICANT *(Include Zip code)*

Quest Diagnostics, Inc.
2320 Schuetz Rd.
St. Louis, Mo. 63146

3. ADDRESS(ES) WHERE LICENSED MATERIAL WILL BE USED OR POSSESSED

(same as #2)

4. NAME OF PERSON TO BE CONTACTED ABOUT THIS APPLICATION

Bonnie Butterfield

TELEPHONE NUMBER
(314)991-1311 x3216

SUBMIT ITEMS 5 THROUGH 11 ON 8-1/2 X 11" PAPER. THE TYPE AND SCOPE OF INFORMATION TO BE PROVIDED IS DESCRIBED IN THE LICENSE APPLICATION GUIDE.

5. RADIOACTIVE MATERIAL
a. Element and mass number, b. chemical and/or physical form, and c. maximum amount which will be possessed at any one time.

6. PURPOSE(S) FOR WHICH LICENSED MATERIAL WILL BE USED.

7. INDIVIDUAL(S) RESPONSIBLE FOR RADIATION SAFETY PROGRAM AND THEIR TRAINING EXPERIENCE.

8. TRAINING FOR INDIVIDUALS WORKING IN OR FREQUENTING RESTRICTED AREAS.

9. FACILITIES AND EQUIPMENT.

10. RADIATION SAFETY PROGRAM.

11. WASTE MANAGEMENT.

12. LICENSEE FEES *(See 10 CFR 170 and Section 170.31)*
FEE CATEGORY 3P
AMOUNT ENCLOSED $ 300.00

13. CERTIFICATION *(Must be completed by applicant)* THE APPLICANT UNDERSTANDS THAT ALL STATEMENTS AND REPRESENTATIONS MADE IN THIS APPLICATION ARE BINDING UPON THE APPLICANT.

THE APPLICANT AND ANY OFFICIAL EXECUTING THIS CERTIFICATION ON BEHALF OF THE APPLICANT, NAMED IN ITEM 2, CERTIFY THAT THIS APPLICATION IS PREPARED IN CONFORMITY WITH TITLE 10, CODE OF FEDERAL REGULATIONS, PARTS 30, 32, 33, 34, 35, 36, 39, AND 40, AND THAT ALL INFORMATION CONTAINED HEREIN IS TRUE AND CORRECT TO THE BEST OF THEIR KNOWLEDGE AND BELIEF.

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.

CERTIFYING OFFICER -- TYPED/PRINTED NAME AND TITLE	SIGNATURE	DATE
Bonnie Butterfield, Director of Quality	Bonnie Butterfield	12-27-96

FOR NRC USE ONLY

TYPE OF FEE	FEE LOG	FEE CATEGORY	AMOUNT RECEIVED	CHECK NUMBER	COMMENTS
			$		
APPROVED BY				DATE	

APPLICATION FOR MATERIAL LICENSE (ADDITIONAL INFORMATION)

#5 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.)

#6 Purpose: In vitro laboratory testing.

#7 Responsible individual: Radiation safety officer is Thomas Heeley. Corporate training provided by Dr. Frank Calascibetta.

#8 Training: Printed material handouts, verbal review of all aspects of the radiation safety program outlined on the enclosed training check list.

#9 Facility and equipment: All licensed material shall be used only at the facility located at 2320 Schuetz Road, St. Louis, Mo.

#10 Radiation safety program: Copy of "Radiation Safety Program" is enclosed for review.

#11 Waste management: Copy of "Hazardous Waste Management" policy enclosed for review.

Additional information changes:

Materials will be used by, or under the supervision of, Linda Butler, Ray Hubbard, Cynthia Dimatatac, John Prichard, Marie Shepherd, Diane Deck, Sue Koontz, Karen Catoor, Bobbie Hanners.

RADIATION PERSONNEL TRAINING PROGRAM
CORNING CLINICAL LAB - ST. LOUIS

In accordance with federal regulations the following training has been discussed with me and I fully understand all of the following:

1. Areas where radioactive materials are used or stored. _____

2. Potential hazards associated with radioactive material. _____

3. Radiological safety procedures appropriate to specific duties including:

-safe handling and proper disposal of materials, _____

-use of monitoring devices. _____

-decontamination of work areas and spills. _____

4. Pertinent NCR regulations and location of lab copy. _____

5. The rules, terms, and location of the license. _____

6. My obligation to report unsafe conditions. _____

7. Appropriate response to emergencies or unsafe conditions._____

8. Right to be informed of my radiation exposure and bioassay results. _____

9. I have read the Radiation Safety Procedures and understand the restrictions and policies in them. _____

Employee Signature_____ Date_____

Facilitator Signature_____ Date_____
(EHS Coordinator or Radiation Safety Officer)

RADIATION SAFETY PROGRAM
CORNING CLINICAL LABS - ST. LOUIS

Contents:

I. Policy

Corning Clinical Labs, St. Louis, operates under a license issued by the Nuclear Regulatory Commission (NRC - License Number 24-25941-01). This license allow the lab to use I-125 in the form of prepackaged diagnostic kits, with the maximum allowable amount in our possession at any one time not tc exceed 10 millicuries.

The safety regulations for RIA contain all the rules pertaining to the safe handling or use of isotope kits along with the procedures for disposal of liquid and solid waste. These regulations also contain the instructions for clean up and decontamination of any spillage.

The Radiation Safety Officer at Corning Clinical Labs, St. Louis is Tom Heeley, and the RIA Supervisor is Linda Butler.

II. Receiving and Storage

1. All radioisotopes received into the lab should be inspected for leaks, broken containers, damaged shipping containers, etc.

2. Kits determined to be undamaged are taken directly to the RIA department where they will be placed in the appropriate storage refrigerator labeled to indicate radioactive material.

3. Specimens that are leaking or broken should be placed in a container that will contain the entire contents of the package. The container will be monitored to reveal if the leakage is the radioactive component of the kit. If any radioactive contamination is present the area of receipt of the kit should be decontaminated with a commercial radioisotope cleaner (ie. Rad-Con or Contrad).

4. Notify the RIA supervisor (Linda Butler) and/or the Radiation Safety Officer (Tom Heeley) if a damaged kit is received for help in the cleaning and decontamination.

III. General Safety

All personal engaged in handling radioactive materials should be familiar with the general concept of radiation safety and the safe handling of radioactive material. These persons will receive annual training to insure they are competent in the procedures and practices and only those trained will be allowed to work with these procedures. A list of the qualified techs can be found in the RIA Dosimetry Log located in the RIA department. In addition, the following general rules must be observed while working with radiation procedures.

1. Maintain radiation exposure at the lowest possible level.

2. Film badges must be worn at all times when working with radioisotopes. These badges are available from the department supervisor and will be issued only to those who are qualified to work with RIA procedures. Testing is done monthly and results are available for employee's review.

3. Protective clothing must be worn whenever contamination is possible. This clothing must not leave the radioactive testing area.

4. Gloves should always be worn and must be worn if there is a break in the skin below the elbow.

5. Use automatic pipetting devices - NEVER PIPET RADIOACTIVE SOLUTIONS BY MOUTH.

6. Keep laboratory work area neat and clean, cover benches with plastic backed absorbent paper for potential spills and to facilitate clean-up.

7. A properly vented hood should be used whenever the escape of volatile radioactive compounds is possible. Most RIA kits do not require this precaution but the practice is encouraged to minimize background counting levels.

8. Smoking, eating, and drinking are prohibited in all areas of the lab. Refrigerators used for radioactive material storage shall not be used for food or drinks.

9. Wash hands and arms thoroughly before leaving the radioactive areas and prior to eating, drinking, or smoking.

10. Segregate all glassware and equipment used for radioactive materials. These items should not be mixed with other glassware and equipment.

11. Transport radioactive materials in such a way as to insure adequate shielding and to minimize spillage or breakage. Whenever feasible, radioactive materials, particularly solutions, should be kept in unbreakable containers. Secondary containers should always be used where storage is in glass.

12. As a general practice, work with radioactive material should be confined to as small an area as possible the lab. This simplifies problems of confinement shielding and aids in limiting the affected area in case of accidental contamination.

IV. Spill Cleanup

Any spillage of radioactive material should be remedied immediately in accordance with established protocol:

A. Contain the spill, preferably by working on plastic backed absorbent paper, or paper towels. Small spills can be wiped up with paper towels followed by cleaning with an acceptable radiation cleaner like Rad-Con or Contrad. Dispose of materials used for decontamination in accordance with the disposal guidelines mentioned below. Monitor the spill area with the Geiger counter to insure no residual radiation remains at the spill site.

B. For larger spills, isolate the spill area. In order to prevent the inadvertent spread of radioactive material, the spill area should be declared off limits until decontamination has been accomplished.

C. To decontaminate the spill area, use paper towels to soak up the spill and place waste in red solid radioactive waste container. Using appropriate PPE and radiation detergent soaked towels wipe the spill area, repeating the process until monitoring reveals sufficient decontamination has taken place.

V. Waste Disposal

A. As a general rule, water soluble wastes may be disposed of into the sewer system via designated sinks followed by copious amounts of water. The total radioactive material disposed of in a one year period should not exceed one curie (or applicable limiting concentration) in the effluent.

B. Solid waste items will be processed through a washing process where radioactivity will be washed from the solid waste and eliminated via the sewer system. Solid tubes and bottles will then be put in normal biohazardous waste. Paper waste produced in the testing process, which does not wash throughly enough, will be collected in the red radioactive waste barrels and stored for decay according to the rules of our license.

C. Liquid or solid items with a short half-life (I-125) may be allowed to decay to acceptable radiation levels (equivalent to the background on survey meter) and then disposed of in an ordinary manner, provided the radiation warning label has been removed.

VI. Contamination Monitoring

To determine if radioactive contamination has occurred at specific sites in the Chemistry area, the lab coat of the techs using radioactive material, the biomedical waste receptacles in the RIA areas, the RIA countertops, and the sink traps of the RIA areas will be surveyed daily with a Geiger Counter (Survey Meter). In addition, the RIA refrigerators and waterbaths will be surveyed weekly for contamination.

Operation of the LUDLUM #3/44-3 Survey Meter:

A. Preliminary tests:

1. Check for proper battery voltage by turning the range switch to BAT. CHK. Replace batteries if the reading is below the range.

2. Using the test source supplied, place the source on top of the meter, over the marking CPM, with the source label up.

3. Set the meter knob to the "x1" setting and record background count on Geiger Counter Survey Log.

B. Survey the following areas for possible radiation contamination after performing procedures at the end of the day and document results on appropriate log sheet.

1. Lab coat worn when performing RIA tests. Immediately discard any labcoat indicating radioactive contamination.

2. Yellow hazardous waste receptacles used for biomedical waste, not for RIA waste. Any reading above acceptable limits indicates contamination. All material in the waste receptacle must be disposed of as radioactive waste.

3. Remove any absorbent paper or paper towels and discard into red radioactive waste receptacle. Clean countertop with Contrad and then scan with Survey Meter. If reading is above limit, repeat cleaning until radiation is eliminated.

4. Sink traps on the sinks in the RIA areas, to ensure no residual radioactive material in the sink after flushing it down with water. If readings are above acceptable limits, the trap should be decontaminated. Pour 1 liter of 10% solution of "Contrad 70" into the sink and let stand for one hour. Flush well with water and retest. Repeat if necessary.

5. RIA refrigerator with door closed to monitor contamination of door and door handles. (Weekly). Counts above acceptable limits require decontamination with Contrad and repeat testing.

6. RIA waterbaths and lid handles to monitor for contamination. (Weekly). If survey indicates contamination on the lid or handle clean with Contrad and retest. If contamination is in the water of the waterbath, drain, refill with a solution of water and Contrad and let stand for 1 hour. Drain, rinse, refill with water and retest. Repeat if necessary.

C. Solid Waste

All solid waste will be surveyed prior to the washing step and again after the processing to ensure the radiation level has dropped to acceptable levels.

Survey these areas with the probe six inches from the site. DO NOT TOUCH the probe to the survey site, this will contaminate the probe.

* The normal room background CPM is 100-400 cpm (345-1380 DPM).

* The acceptable CPM for all of the above sites is 100-400 cpm (345-1380 DPM). Except for the refrigerators which have acceptable levels of 200-1000 cpm (690-3448 DPM).

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* Record CPM for each site surveyed on the Geiger Counter Log.

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 x 0.8 = Radioactive waste

Metered water usage x 750 = gallons/month

$$uCi/Gallon = \frac{uCi/Month}{Gallons/Month}$$ Limit: 4×10^{-5}

VII. Training

In an effort to ensure 100% compliance all employees will have the opportunity to attend at least 3 sessions at times and days convenient for their shift but scheduled by the EHS Coordinator. Employees who do not make an effort to attend one of the sessions will receive written notification either personally or through their manager that increasing disciplinary action will follow in the same fashion as outlined in the "Biosafety-Program Monitoring" section of this procedure manual, if the missing employees do not attend the subsequent training sessions. Training will be offered over a period of several weeks to allow employees who are sick, on vacation, or otherwise not present during initial sessions to attend subsequent sessions.

Radiation materials training shall be provided upon initial assignment and at least annually thereafter for all employees routinely working with radioisotopes. No worker shall engage in any radioactive procedures prior to training. At a minimum the following information will be discussed with the employees:

- Areas where radioactive materials are used or stored.

- Potential hazards associated with radioactive material.

- Radiological safety procedures appropriate to specific duties including:

  -safe handling and proper disposal of materials.

  -use of monitoring devices.

  -decontamination of work areas and spills.

- Pertinent NCR regulations and location of lab copy.

- The rules, terms, and location of the license.

- The employees obligation to report unsafe conditions.

- Appropriate response to emergencies or unsafe conditions.

- The employees right to be informed of their radiation exposure and bioassay results.

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HAZARDOUS WASTE MANAGEMENT
QUEST DIAGNOSTICS - ST. LOUIS

I. Introduction

The following waste disposal program was formulated to assure that minimum harm to people, other organisms, and the environment will result from disposal of laboratory waste. Waste is categorized as Infectious (blood, serum, plasma, and other blood components; microbiological cultures), Pathological (tissue and body fluids), Hazardous (chemical) and Radioactive (RIA waste).

II. Infectious Waste Disposal

1. Collection

Infectious waste will be segregated from non-infectious waste. This portion will be collected in YELLOW waste barrels labeled with the biohazard symbol and is removed by a reputable hazardous waste hauler.

NOTE: Care must be taken not to overfill any container.

2. Transport

Bags of infectious waste from YELLOW barrels will be closed by tying the bag tops and transported to the waste collection room.

3. Disposal

At designated intervals agreed upon with the waste hauler, the boxes or barrels will be removed from the premise and waste manifest with certificate of distruction filed for each load removed. These records are kept in the EHS office.

III. Pathological Waste Disposal

1. Collection

Pathological waste is stored in containers with formalin and is therefore considered treated medical waste. Pathological waste is kept 30 days prior to disposal and is stored in the histology storage area.

2. Disposal

After 30 days the tissue samples are disposed of via biohazard waste.

IV. Radioactive Waste Disposal

Solid Waste

1. Collection

The solid waste from each days testing will be collected in the washing bucket which has been placed in the designated washing sink.

2. Washing

The sink should be filled with water and approx. 500ml. of Contrad 70 added and mixed. The bucket of solid waste should be added and allowed to soak for at least 2 hours (or overnight). After the soaking time rinse several samples of solid waste and scan with the survey meter to insure the level has dropped to acceptable levels. If it has not the washing process must be repeated until it does. Then the waste may be placed in the regular biohazardous waste. The paper products which do not wash well, will be collected in the red barrel and placed into storage for until decayed to acceptable levels, then disposed in regular trash.

3.Liquid Waste

Liquid waste is flushed down the sewer system with copious amounts of water. The flow of water should be equal to the diameter of the faucet (on full force) for at least 2 minutes after disposal of radioactive material.

D. Hazardous Chemical Waste Disposal

1. Minimizing Waste

Keep the amount of hazardous waste generated to a minimum. Accomplish this by:

a. Selecting procedures that use the least hazardous and the safest chemicals.

b. Using the least amount of chemicals possible and purchasing the chemicals in the smallest volume possible.

c. Evaluating the amount and type of chemical waste generated when selecting new equipment and procedures. Communication between the department supervisor and the EHS Coordinator is essential during the selection of new procedures and equipment.

2. Determining Hazardous Waste

Waste is considered hazardous when it meets certain characteristics, including:

a. Ignitibility (EPA: D001)

- It is a liquid other than an aqueous solution containing less than 24 % alcohol, and has a flashpoint of < 60°C.

- It is an oxidizer.

- It is an ignitable compressed gas.

b. Corrosivity (EPA: D002)

- It is aqueous with a pH of less than 2 or greater than 12.5.

c. Reactivity (EPA: D003)

- Normally unstable.

- Reacts violently with water.

- Forms potentially explosive mixtures when mixed with water.

- A cyanide or sulfide waste that when exposed to a pH between 2 and 12.5 generates toxic gases or fumes.

- Capable of destructive or explosive reaction.

- A forbidden explosive as defined in 49 CFR 173.51,.53,.88.

d. Toxicity (EPA: D004-D043)

- Contains concentrations greater than the following list.

Maximum Concentrations of Contaminants for Toxicity Characteristics

EPA HW1 #	Contaminant	Regulatory Level (mg/l)
D004	Arsenic	5.0
D005	Barium	100.0
D006	Cadmium	1.0
D007	Chromium	5.0
D008	Lead	5.0
D009	Mercury	0.2
D010	Selenium	1.0
D011	Silver	5.0
D012	Endin	0.02
D013	Lindane	0.4
D014	Methoxychlor	10.0
D015	Toxaphene	0.5
D016	2,4-D	10.0
D017	2,4,5-SP (Silvex)	1.0
D018	Benzene	0.5
D019	Carbon teterachloride	0.5
D020	Chlordane	0.03
D021	Chlorobenzene	100.0
D022	Chloroform	5.0
D023	o-Cresol	200.0
D024	m-Cresol	200.0
D025	p-Cresol	200.0
D026	Cresol	200.0
D027	1,4-Dichlorobenzene	70.5
D028	1,2-Dichlorobenzene	0.5
D029	1,1-Dichlorobenzene	0.7
D030	2,4-Dinitrotoluene	0.13
D031	Heptachlor	0.008
D032	Hexachlorobenzene	0.13

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St, Louis

D033	Hexachloro-1,3-Butadiene	0.5
D034	Hexachloroethane	3.0
D035	Methyl ethyl ketone	200.0
D036	Nitrobenzene	2.0
D037	Pentachlorophenyl	100.0
D038	Pyridine	5.0
D039	Tetrachloroethylene	0.7
D040	Trichloroethylene	0.5
D041	2,3,5-Trichlorophenol	400.0
D042	2,4,6-Trichlorophenol	2.0
D043	Vinyl chloride	0.2

NOTE: Additional information in determining which chemicals are hazardous can be found in the MSDS's.

3. Disposal Procedures

a. Discard nonhazardous waste into the sanitary sewer system or in a sanitary landfill.

b. Only those chemicals which are reasonably soluble in water are suitable for drain disposal. A compound is considered soluble if it dissolves to the extent of at least 3% (See MSDS). These compounds are flushed with at least 100 volumes of excess water. Some exceptions should be noted:

-Those organics with a boiling point of less than 50°C.

-Those hydrocarbons, halogenated hydrocarbons, nitro compounds, mercaptens, and most oxygenated compounds that contain more than 5 carbon atoms (e.g. Freon).

-Those organics that are explosives such as azides and peroxides.

-Concentrated acids and bases.

-Highly toxic malodorous or lachrymatory substances.

c. Small volumes of hazardous waste.

-Laboratories generating less than 100 kilograms (220 pounds) of hazardous waste classified as "U" waste per month, or less than 1 kilogram (20 pounds) of acutely hazardous waste classified as "P" waste per month need not obtain a generators license from the EPA.

-Small volumes of acids and bases can be neutralized and flushed into a sanitary sewer with large amounts of water.

-Small volumes of flammable liquids can be diluted with water and flushed into the sanitary sewer system.

d. Large volumes of hazardous waste.

-A Hazardous Waste Generators License must be obtained from the EPA if monthly volumes exceed 1000 kilograms of hazardous waste classified as "U" waste per month or 1 kilogram of acutely hazardous waste classified as "P" waste per month. A Small Quantity Generators License must be obtained if volumes are between 100 and 1000 kilograms.

-Recoverable hazardous waste must be handled through a licensed disposal firm.

-Hazardous waste must be analyzed prior to arranging for disposal.

-Select the most environmentally safe disposal method that is economically feasible.

-Flammable liquids should be recycled for reuse and energy recovery when feasible.

4. Storage and Shipment of Hazardous Waste.

a. Hazardous waste for disposal must be in dated labeled containers and are stored in a designated area.

b. Hazardous waste quantities between 100 and 1000 Kg. may be stored for 270 days from the date of generation if shipped greater than 200 miles. Once 1000 Kg. are accumulated, the waste must be shipped within 90 days.

5. Important Hazardous Waste Phone Numbers:

Missouri Dept.of Natural Resources	573-751-3176
Safety Clean	314-441-0104
Maryland Heights Police and Fire Dept.	911

V. Sharps and Glass Disposal

1. Infectious Waste:

a. Needles, glass pipet tips or other sharps are disposed of in puncture resistant plastic needle boxes which are found throughout the laboratory.

b. When needle boxes are full they are sealed and removed with other biohazardous waste by waste carrier.

c. Broken specimen tubes or small pieces of glass may also be put into sharps boxes for safe and proper disposal.

2. Non-infectious Waste:

a. Glass bottles from acids, bases, and solvents, when emptied, should be rinse out with water and place in the normal trash.

b. Glass bottles that contained hazardous substances may have to be disposed of as hazardous waste.

3. Broken Glass:

a. Broken glass must be handled and discarded with caution.

b. Dispose of broken glass in specially marked puncture resistant containers. (Disposal of glass with paper and trash is a hazard to other staff.)

JAN 13 1997

Patricia Maloney
Director Corporate Medical Services
Quest Diagnostics, Inc.
One Malcolm Avenue
Teterboro, NJ 07608-1070

Dear Ms. Maloney:

This refers to your letter dated December 19, 1996, signed by Virginia Sturmfels requesting NRC consent to the proposed change of ownership and name change of Metropolitan Reference Laboratories of Missouri, Inc. to Quest Diagnostics, Incorporated, NRC License No. 24-25941-01. Based upon the information submitted in your letter dated December 19, 1996, the NRC consents to the change of ownership.

Enclosed is Amendment No. 06 to your NRC Material License No. 22-01376-04. We have amended Item 1. (name) to reflect the new name of your institution in accordance with your request.

Please also note that the expiration date on your NRC license was extended 5 years in accordance with 10 CFR 30.36(2).

If you have any questions or require clarification on any of the information stated above, you may contact us at (630) 829-9500.

Sincerely,

Original Signed By
James R. Mullauer, M.H.S.
Health Physicist
Nuclear Materials Licensing Branch

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

Enclosure: Amendment No. 06

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