

THE STATE UNIVERSITY OF NEW JERSEY
RUTGERS

Rutgers Environmental Health and Safety
Building 4086 • Livingston Campus
Rutgers, The State University of New Jersey
27 Road 1 • Piscataway • New Jersey 08854-8036
732/445-2550 • FAX: 732/445-3109

NMSSB 2

January 29, 2007

U.S. Nuclear Regulatory Commission
Region I
Attn: Licensing Assistance Team
475 Allendale Road
King of Prussia, PA 19406

03000883

2007 JAN 31 AM 10:42

RECEIVED
REGION I

Re: License Renewal for Rutgers University, License number 29-05218-28

To Whom It May Concern:

Enclosed, please find Rutgers, The State University of New Jersey's broad scope license renewal. Our license number is 29-05218-28. The original, signed by Philip Furmanski, Ph.D., Executive Vice President for Academic Affairs and one copy are enclosed.

Items of Significance:

Rutgers University has requested a change in our Radiation Safety Officer (RSO) from Michael C. Quinlan, CIH to Patrick J. McDermott, CHP. Please see Attachment # 7 for a summary of my qualifications and the RSO delegation of authority. } 140223

Rutgers University requests the ability to make minor programmatic changes without the need for a license amendment from the Commission. These changes, if made will not contradict current Commission regulations or specific license conditions. The Radiation Safety Committee (RSC), with advice and information provided by the RSO, will critically debate and discuss these potential changes. This process will be documented in the minutes of the RSC meetings and the results of any votes recorded.

Throughout this application, excerpts from the Rutgers University Radiation Safety Guide (RSG) have been provided to give the Commission a current view of the Radiation Safety Program. These excerpts have been clearly noted as such. Our RSG is periodically revised to reflect the current state of the program and to insure it remains an accurate reference guide for our users of licensed materials. As such, it is necessarily a living document. The excerpts provided are for informational purposes.

Rutgers has removed a number of license line items that appear on our license that expires on February 28, 2007. Some materials have been disposed of to properly licensed facilities or have been transferred to another licensee.

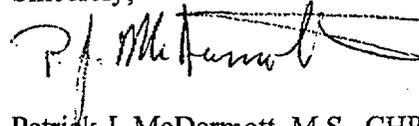
140223

NMSS/RGN1 MATERIALS-002

SEPARATED OUT OF
140034 3/15/2007

Should you have questions or concerns regarding this renewal, do not hesitate to contact me at 732-445-2550 or mcdermot@rehs.rutgers.edu.

Sincerely,

A handwritten signature in black ink, appearing to read "P. J. McDermott", with a long horizontal flourish extending to the right.

Patrick J. McDermott, M.S., CHP
University Health Physicist

PM.mpmcdlic

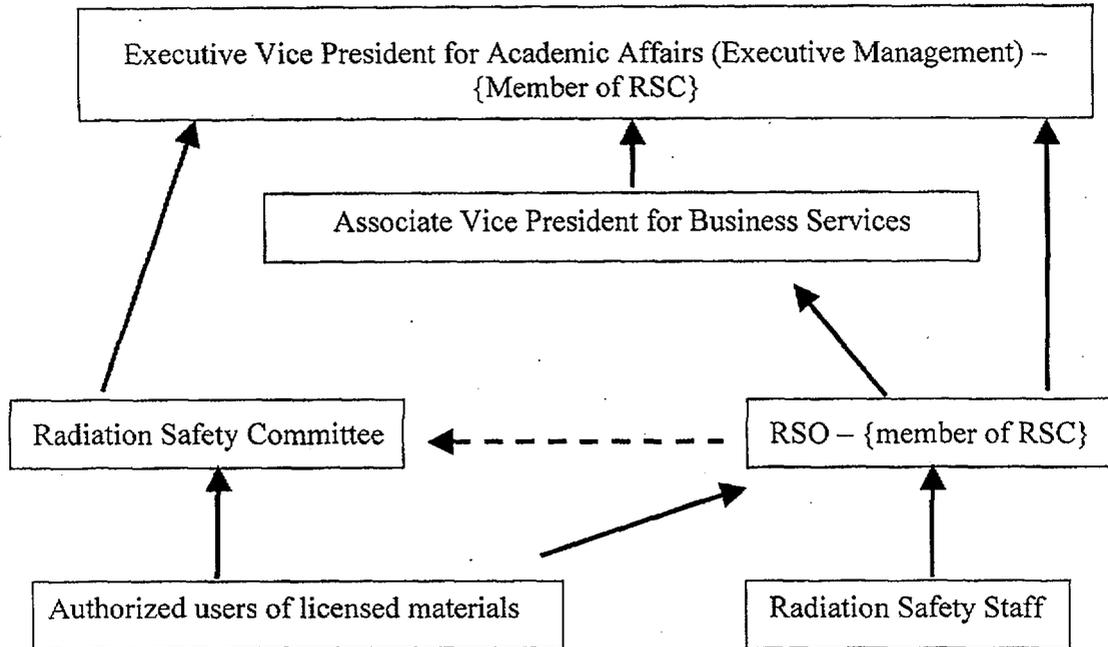
Cc: Michael C. Quinlan

File: RU License File

Attachment # 7

Individuals Responsible for the Radiation Safety Program

The following is an organizational chart describing the management structure and flow of authority between executive management, the RSC and the RSO.



Executive Management and Radiation Safety Committee:

Philip Furmanski, the Executive Vice President for Academic Affairs of Rutgers University is the licensee's representative of executive management. This individual appoints the RSO, Chairperson and members of the Radiation Safety Committee (RSC), participates as a member of the RSC and reviews and/or participates in the annual audits of the radiation safety program.

RU reserves the right to change the Chairperson of the RSC without formal amendment to our license. The Chairperson will meet the following minimum requirements:

- Be a tenured faculty member of Rutgers University
- Shall be approved by the RSC as an authorized user of radioactive materials
- Shall have adequate knowledge and experience within the University to serve as Chairperson
- Shall have prior experience as a member of the RSC, and
- Shall be provided with adequate time to fulfill the duties of the Chairperson.

Enclosed in this attachment please find excerpts from our radiation safety guide describing our program management, RSC, and authorization process.

Radiation Safety Officer:

Patrick J. McDermott, M.S., CHP has been nominated as the Radiation Safety Officer (RSO) for the Rutgers University license of broad scope, license number 29-05218-28.

Mr. McDermott's training and experience qualifying him as the RSO for the Rutgers license are summarized below:

- Mr. McDermott has been a full time employee of Rutgers Environmental Health and Safety for nearly 14 years. During that time, he has contributed to and been involved in all aspects of the radiation safety program.
- For the past six and a half years, Mr. McDermott has been the University Health Physicist (UHP). In this capacity, he has directly supervised the day-to-day operations of our radiation safety program and reported directly to our current RSO, Mr. Michael C. Quinlan, CIH.
- Mr. McDermott has a B.S. in Environmental Sciences (1995) Cook College, Rutgers University.
- Mr. McDermott has a M.S. in Environmental Sciences – Radiation Science (2002) Graduate School-New Brunswick, Rutgers University.
- Mr. McDermott is a Board Certified Health Physicist, certified by the American Board of Health Physics in 2006.

Should the commission require more information on Mr. McDermott's qualifications, he may be contacted at 732-445-2550 or mcdermot@rehs.rutgers.edu.

The RSO performs audits of all areas of use and individuals who are authorized to use byproduct material to ensure work is done in accordance with the license, regulations and user permit conditions. Specific duties and responsibilities of the RSO include:

- Monitoring and surveys of all areas in which radioactive material is used
- Oversight of ordering, receipt, surveys, and delivery of byproduct material
- Packaging, labeling, surveys, etc., of all shipments of byproduct material leaving the institution.
- Personnel monitoring program, including determining the need for and evaluating bioassays, monitoring personnel exposure records, and developing corrective actions for those exposures approaching maximum permissible limits
- Training of all personnel
- Waste disposal program
- Inventory and leak tests of sealed sources
- Decontamination
- Investigating any incidents and responding to any emergencies
- Maintaining all required records.

See attachment 7a for a copy of the RSO Delegation of Authority.

Excerpts from the Radiation Safety Guide, 9th Edition, May 2004:

PROGRAM MANAGEMENT

A. Radiation Safety Committee

The Radiation Safety Committee (RSC) along with University Administration and the Radiation Safety Officer (RSO) share responsibility for the University's radiation safety program. The RSC is critical for licenses of broad scope such as Rutgers and allows the University relative autonomy in making decisions regarding the radiation safety program and its management. In line with the high level of standards and integrity set by our administration, a proactive, involved and informed RSC is essential.

The RSC is formally appointed by the University Administration, typically, the Executive Vice President for Academic Affairs. RSC membership is comprised of a member of the Administration, the RSO and faculty representing the major areas of radionuclide use and radiation producing machines. Whenever practical the various campuses and geographical areas of the University are represented.

A quorum of the RSC members must be present in order for the RSC to officially transact business. A quorum consists of:

1. The Chair (or his/her designee)
2. The Representative of Administration (or his/her designee)
3. The Radiation Safety Officer
4. At least two other faculty members

The RSC is charged with the following duties:

1. Review and approve the policies for the radiation safety program, including the Radiation Safety Guide to:
 - Promote the practice of the ALARA philosophy for all members of the University community and the general public;
 - Insure compliance with all applicable regulations;
 - Promote the sound and environmentally responsible disposal of waste materials.
2. Approve in advance all authorized uses of licensed materials. This includes new procedures under the RSO's authorization.
3. Audit and/or approve the audit of the radiation safety program and the

radiation safety office on an annual basis. This audit shall be thorough and include, but may not be limited to: the policies and procedures for controlling and maintaining inventories, possession limits, the procurement and transfer of licensed materials, emergency response, training of users, security, and dosimetry.

4. Approve revisions to the Radiation Safety Guide, as well as other documents and procedures without prior notification to the Nuclear Regulatory Commission (NRC) as long as these changes are not in conflict with specific license conditions or specific NRC regulatory requirements.
5. Adjudicate any differences between authorized users and REHS.

The RSC typically meets at least four times per year. Students, faculty, staff and members of the general public are encouraged to contact any member of the Committee to discuss issues of concern regarding any aspect of our radiation safety program. A listing of the current RSC members is available on the REHS website or may be obtained by contacting REHS directly.

B. Radiation Safety Officer Responsibilities

The responsibilities of the RSO and University Health Physicist (UHP) are as follows:

1. Provide consultation to authorized users on good radiation safety practices, experimental design, adequate facilities, selection of monitoring equipment, etc.
2. Oversee the receipt, delivery and shipment of radioactive materials.
3. Establish criteria for compliance with state, federal and local regulations, license conditions and the permit conditions authorized by the Radiation Safety Committee.
4. Inspect authorized users and their labs to insure compliance with the criteria defined above.
5. Immediately terminate any activity that is found to be a threat to public health and safety, property or the environment.
6. Provide radiation protection information to personnel pursuant to 10 CFR 19.12 and 10 CFR 20.
7. Periodically meet with and report to University Administration and the Radiation Safety Committee.

- The University Community is encouraged to contact REHS with any questions or concerns regarding the use of ionizing radiation. Email addresses of the radiation safety staff are available on the website.

AUTHORIZATION TO USE RADIOACTIVE MATERIALS

A. Minimum Requirements, Application and Approval

The use of radioactive materials at the University is restricted to personnel authorized by the Committee. Faculty and staff meeting the minimum criteria outlined below shall complete and submit an application package to the RSO or University Health Physicist (UHP).

Minimum criteria:

1. Hold a faculty or staff position with at least the rank of Instructor, Research Associate, or its equivalent.
2. Possess a graduate degree in a Physical Science, Life Science, Engineering, or Medicine; and have at least one year of experience working with radionuclides of similar characteristics and activity. Required experience for radiation producing machine authorizations will be handled on a case-by-case basis by the RSC.
3. Have the use of adequate facilities and equipment to contain and detect the radionuclides requested. This may include but is not limited to, a laboratory with impervious floor and bench surfaces, a chemical fume hood for volatile materials, appropriate shielding and portable survey instruments capable of detecting the requested radionuclides, and access to a liquid scintillation counter for conducting wipe tests.
4. Must have attended Initial Radiation Safety Training

The RSO/UHP will review the application, conduct an interview and submit their findings to the RSC for consideration. If authorization to use is granted, a Radioactive Material Permit will be issued by the RSO/UHP on behalf of the RSC and will be valid for a period of two years. The permit specifies the name of the Authoree, the room(s) in which radioactive materials may be used, the nuclide(s) to be used, and the maximum quantity of each nuclide permitted.

The "Application to Use Radioactive Materials" can be found in the Appendices and on the REHS web page.

B. Authoree Responsibilities

The Authoree is responsible for the safe use of all radioactive materials obtained

under their permit and for ensuring that all radiation workers under their permit are working in accordance with applicable regulations and University policies at all times.

The Authoree shall:

1. Attend radiation safety training at the required frequency
2. Ensure that all radiation workers attend radiation safety training at the required frequency
3. Ensure that all radiation workers receive in-lab training specific to the procedures and experiments authorized in the permit
4. Ensure that radioactive materials are used only in approved locations listed on the permit
5. Inform all non-radiation workers of the potential health hazards and the safeguards that are established to ensure a safe workplace
6. Administer and enforce the radiation safety rules and regulations as outlined in this guide and other University policies
7. Notify the RSO/UHP of any prolonged absences or sabbaticals (in excess of four consecutive weeks) so an alternate Authoree may be identified
8. Ensure laboratory surveys for radioactive contamination are performed and documented at the appropriate frequency and that any follow-up action taken is documented (decontamination, use of shielding) such that any contamination remains below specified limits.
9. Notify RSO/UHP of fixed contamination (i.e., contamination that persists despite decontamination efforts)
10. Procure, dispose and maintain an inventory of all radioactive materials in accordance with University policy
11. Maintain security of radioactive materials to prevent the unauthorized removal in accordance with University policy
12. Notify RSO/UHP prior to acquiring:
 - Equipment containing radioactive sealed sources such as:
 - Analytical balances,
 - Liquid scintillation counters
 - Electron capture detectors (ECDs) for gas chromatographs
 - Lead paint analyzers
 - Moisture density gauges
 - Irradiators
 - Equipment capable of producing ionizing radiation such as:
 - Analytical x-ray units
 - Diagnostic x-ray machines
 - Veterinary x-ray units
 - Electron Microscopes
 - Particle Accelerators
13. Immediately report spills (major incidents) and/or contamination of laboratory personnel to REHS directly. After normal working hours contact the Campus

Police.

14. Loss or improper disposal of radioactive materials must be reported immediately to REHS.

Failure to comply with the requirements specified in this guide and other University policies may result in enforcement action.

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Office: 732/932-7821 • FAX: 732/932-5532
Email: furmanski@oldqueens.rutgers.edu

January 24, 2007

To: All Radioactive Material Users

From: Philip Furmanski
Executive Vice President for Academic Affairs

Re: Delegation of Authority for Radiation Safety Officer



Mr. Patrick J. McDermott has been appointed Radiation Safety Officer and is responsible for ensuring the safe use of byproduct material. The Radiation Safety Officer is responsible for managing the radiation safety program; identifying radiation safety problems; initiating, recommending, or providing corrective actions; verifying implementation of corrective actions; and ensuring compliance with regulations for the use of byproduct material. The Radiation Safety Officer is hereby delegated the authority necessary to meet these responsibilities.

The Radiation Safety Officer has the authority to immediately stop any operations involving the use of byproduct material in which health and safety may be compromised or may result in non-compliance with NRC requirements.