

Radiation Safety Office
106 Carrigan Drive, 004 Rowell Building
Burlington, Vermont 05405
(802) 656-2570
FAX: (802) 656-8876
radsafe@uvm.edu
www.uvm.edu/radsafe



The
UNIVERSITY
of VERMONT

44-00728-13

RLS

Ref License No.: ~~44-00727-13~~
Expiration Date: 9/30/2014

September 11, 2006

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2006 SEP 25 PM 1:34

RECEIVED
REGION 1

Licensing Assistant Section
Nuclear Regulatory Safety Branch
U.S. Nuclear Regulatory Commission, Region I
475 Allendale Road
King of Prussia, PA 19406-1415

To Whom It May Concern:

03013022
44-00728-13

RLS

This is a letter requesting the amendment to the NRC License Number ~~44-00729-13~~ for the University of Vermont.

The new Radiation Safety Officer (RSO) for this license is Keddy G. Bharathan.

Enclosed are the following;

- 1) Training and Experience of the RSO
- 2) Duties and Responsibilities of the RSO
- 3) Radiation Safety Officer Delegation of Authority
- 4) Organizational Chart for the Radiation Safety Office at the University of Vermont
- 5) Training and Experience of the Radiation Safety Office personnel
- 6) Current Radiation Safety Committee membership list

Please call me if you have any questions.

Thank you,

Keddy G. Bharathan
Director, Radiation Safety Office

139454

Keddy G Bharathan

OFFICE:

004 Rowell
Radiation Safety Office
University of Vermont
Burlington, VT 05405-0068
802-656-2570
keddy.bharathan@uvm.edu

EDUCATION: **M.S. (Radiological Health) 1973**
Temple University, Philadelphia, Pennsylvania
M.Sc. (Chemistry) 1967
University of Bombay, Bombay, India
B.Sc. (Chemistry) 1959
University of Madras, Madras, India

CERTIFICATES: Radiation Safety Officer's Course 1983
University of Texas Health Center, San Antonio, Texas
Basic Radiological Health & Safety 1972
Temple University, Philadelphia, Pennsylvania
Fundamentals of non-ionizing radiation protection 1971
U.S.D.H.E.W., P.H.S., Bureau of Radiological Health
Philadelphia, Pennsylvania
International Advance Training Course in Bio-Assay Methods 1967
International Atomic Energy Agency, Vienna, Austria
Radioisotope Course for Graduates 1967
Australian School of Nuclear Technology, Sydney, Australia

EXPERIENCE: **Associate Director, Radiation Safety office 1984-Present**
University of Vermont, Burlington, VT
Assistant Radiological Safety officer 1973-1984
University of Vermont, Burlington, VT
Health Physics Technician, Radiation Safety Office 1970-1973
Temple University, Philadelphia, Pennsylvania
Scientific Officer 1960-1970
Bhabha Atomic Research Center, Bombay, India

PROFESSIONAL: Health Physics Society, Member 1970- Present

SERVICE: Radiation Safety Committee Member 1970- Present

PUBLICATIONS CO-AUTHOR:

HPS Midyear Topical Meeting Abstract 5:6 (2006)
Bulletin of Radiation protection 8, 45-48, (1985)
Ecology 52, 185-188, (1971)
Health Physics 19, 535-542, (1970)
Health Physics 11, 1459-70, (1970)



THE RADIATION SAFETY OFFICER'S DUTIES AND RESPONSIBILITIES

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The duties, responsibilities and authority of the Radiation Safety Officer are as follows:

1. The Radiation Safety Officer serves as the Director of the Radiation Safety Office and is a member of the University's Radiation Safety Committee. The Director is appointed by the Provost, and he reports directly to the Vice President for Research.
2. The Radiation Safety Officer coordinates the Radiation Safety Committee's review of safety evaluations of all proposed uses of radioactive material. He is given authority by the Radiation Safety Committee to grant provisional approval for all routine applications prior to formal review by the Radiation Safety Committee.
3. The Radiation Safety Officer oversees all activities involving radioactive materials, including routine monitoring and surveys of all areas in which radioactive materials are used. He is responsible for periodic surveys of work areas to supplement and audit routine monitoring by authorized users.
4. The Radiation Safety Officer has the authority to suspend a radiation handling project that is found to be a threat to health, safety, property, or the environment.
5. The Radiation Safety Officer determines compliance with federal rules and regulations, and Nuclear Regulatory Commission license conditions.
6. The Radiation Safety Officer is responsible for conducting training programs, and he instructs personnel on proper radiation safety procedures.
7. The Radiation Safety Officer furnishes consulting services on all aspects of radiation safety to Investigators and radiation handlers.
8. The Radiation Safety Officer is responsible for receiving, opening, and testing all shipments of radioactive material arriving at the University, and for receiving, packing, and shipping all radioactive materials leaving the University.

9. The Radiation Safety Officer is responsible for maintaining a computerized inventory of all radionuclides at the University and limiting the quantities of radionuclides to the amounts authorized by the institutional license.
10. The Radiation Safety Officer is responsible for the radioactive waste disposal program, including waste storage, disposal records, and monitoring effluents.
11. The Radiation Safety Officer is responsible for the distribution and processing of personnel monitoring devices. He determines the need for, and evaluates, bioassays.

He maintains records of personnel exposure and bioassays.

He notifies individuals and their supervisors of exposures that exceed ALARA action levels or are approaching maximum permissible amounts.

He recommends and supervises appropriate remedial action.

12. The Radiation Safety Officer is responsible for arranging for annual calibration and quality control of radiation detecting instruments used by the Radiation Safety Office.
13. The Radiation Safety Officer is responsible for performing leak tests on sealed sources.
14. The Radiation Safety Officer is responsible for supervising decontamination procedures in case of contamination accidents.
15. The Radiation Safety Officer is responsible for maintaining all records required by the Nuclear Regulatory Commission.
16. The Radiation Safety Officer is responsible for day-to-day coordination and management of the radiation safety program. The Radiation Safety Officer is a full-time employee of the University.



The
UNIVERSITY
of **VERMONT**

OFFICE OF THE VICE PRESIDENT FOR RESEARCH
AND DEAN OF GRADUATE STUDIES

September 5, 2006

MEMO TO: Keddy Bharathan, Director,
Radiation Safety Office

FROM: Frances Carr, Vice President for Research and Dean of Graduate Studies

SUBJECT: Radiation Safety Delegation of Authority

This memo regards delegation of authority. You have been appointed as Director of the Radiation Safety Office and are responsible for the following:

Ensuring and safe use of radiation.

Managing the radiation protection program.

Identifying radiation protection problems.

Initiating, recommending, or providing corrective actions.

Verifying implementation of corrective actions.

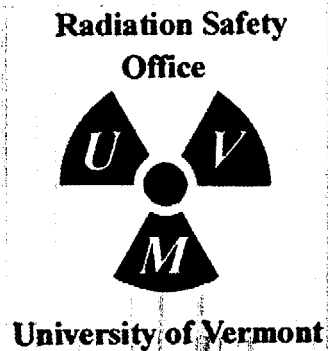
Determining and taking action regarding unsafe activities; and ensuring compliance with regulations.

I hereby delegate the authority necessary to meet those responsibilities, including prohibiting the use of byproducts material by employees who do not meet the necessary requirements and terminating or delaying operations where justified by radiation safety. You are required to notify management of situations where staff are not cooperating and not addressing radiation safety issues. In addition, you are free to address issues with the Nuclear Regulatory Commission if necessary. Please copy the Office of VP Research on important correspondences.

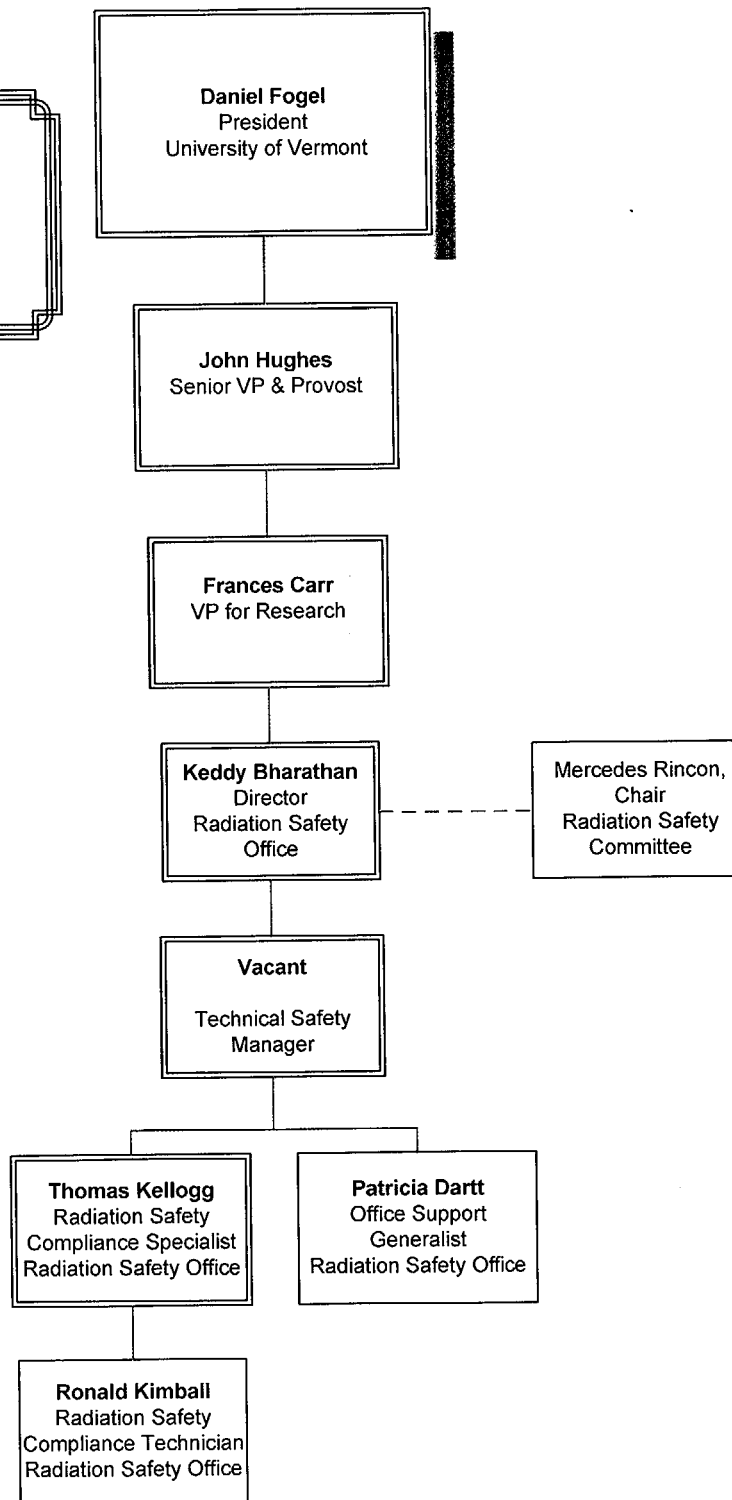
cc: Nuclear Regulatory Commission

Radiation Safety Office Organizational Chart

University of Vermont
September 5, 2006



THE UNIVERSITY
OF VERMONT



THOMAS L. KELLOGG

Home [REDACTED]

Work (802) 656-3283

Email: tkellogg@uvm.edu

July 6, 2006

PROFESSIONAL OBJECTIVES Opportunity to utilize technical and supervisory skills in the field of radiation protection and education.

EDUCATION UNIVERSITY OF VERMONT, Burlington, VT (9/81 - 12/85)
Bachelor of Science Degree Biochemical Science emphasis in Molecular Genetics.

UNIVERSITY OF VERMONT, Burlington, VT (9/80 - 5/82)
Associate of Science Degree Nuclear Medicine Technology.

WORK EXPERIENCE UNIVERSITY OF VERMONT, Burlington, VT (12/86 - present)
Senior Radiation Safety Technician

Assist the Radiation Safety Officers in managing, planning, organizing and operating the Radiation Safety Office. Supervision and training of full-time and part-time employees. Coordinate radioactive waste processing and disposal. Present instructional and educational courses given by the Radiation Safety Office. Operate and maintain various types radiation detectors. Radiation spill clean-up and personal decontamination performed. Evaluate hazards related to the use of radioactive materials in the research laboratory. Perform leak test of radioactive materials received and sent. Managed air sampling and bio-assays of the thyroid for iodination procedures. Ship radioactive material on and off-site. Manage and perform chemical safety inspections. Extensive use of computers in all areas. Web designer and webmaster for the RSO's home page, <http://www.uvm.edu/radsafe>

UNIVERSITY OF VERMONT, Burlington, VT (5/85 - 12/86)
Radiation Safety Technician

Assisted the Radiation Safety Officers in performing the technical duties of the Radiation Safety Office. Areas included; thyroid burden assays and air sampling for iodination lab, leak test of radioactive materials, laboratory inspections and radioactive waste disposal.

COURSES & LECTURES PRESENTED Presented lectures for the Radiation Safety Office and Department of Medical Laboratory and Radiation Sciences, University of Vermont

Radioactive Waste Disposal at the University of Vermont
Radiation Safety for Electron Microscope Users
Radiation Contamination Surveys
Radiation Safety for X-ray Diffraction Users
Radiation Safety for Dental Hygienist
Liquid Scintillation Detection
Radiation Protection for Radiographers
The Use of Radiation in Science
Radiation Safety Awareness Training
Biological X-ray Irradiator Safety Training
Understanding Radiation Exposure for XRF Device Users
X-ray Machine Safety for Fluoroscopy Users

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Presentation given outside of the University of Vermont:

Dental Radiation Safety and Radiobiology

Presented for the Dental Hygiene School, VT Technical College, Williston, VT 02/2006
New Requirement of OHSA's Ionizing Radiation Safety Standard
Presented for the Vermont Safety & Health Council, Burlington, VT 11/2005
Self Audit for NRC Inspection
Presented at the Health Physics Society Mid-Year Meeting, Scottsdale, Az 01/2006

**MEETINGS &
CONFERENCES
ATTENDED**

Health Physics Society Mid-Year Meeting, Scottsdale, AZ 01/2006
New England Radioactive Waste Annual Meeting, Boston, MA 04/2003
US DOT Hazardous Material Transportation Course, U. of Vermont 11/2002
Managing Multiple Projects, Objectives & Deadlines, Burl. VT 04/2000
President's Leadership Series, University of Vermont 1999
OSHA Hazardous Awareness Training, University of Vermont 05/1999
Health Physics Summer School, River Falls, Wisconsin 06/1998
Compliance with the New 10CFR20, Washington, DC 10/1990
Health Physics Society 35th Annual Meeting, Anaheim, CA 06/1990
Health Physics Society 33rd Annual Meeting, Boston, MA 07/1988
Campus RSO 11th Biennial Conference, Montreal, Canada 06/1987
9th Annual NIH Research Safety Symposium, Washington, DC 12/1985

**HONORS &
AWARDS**

Biochemical Science Honors Award 04/85
2nd Place Award at The Society of Nuclear Medicine, New England Chapter,
for the presenting a paper entitled: *Cold Pressor Technique, An Alternative
to Exercise Testing in Nuclear Cardiology.* 03/82

**SOCIETIES &
COMMITTEES**

Health Physics Society 12/85 - present
Radiation Safety Committee 05/85 - present
Chemical and Biological Safety Committee 10/96 - present

REFERENCES

Available upon request.

Ronald F. Kimball

Residence Address

[REDACTED]
[REDACTED]
[REDACTED]

Work Address

004 Rowell Building,
106 Carrigan Drive,
Burlington, Vermont, 05405
(802) 656-8813

E-mail and Office URL

Ronald.Kimball@uvm.edu
<http://www.uvm.edu/~radsafe>

Professional Objective

Continue to further my career in Radiation Safety at the University of Vermont through a combination of education and work experience.

Education

Vermont Technical College, Randolph Center, Vermont.
Associates Degree in Applied Science with major in Architectural Engineering and Building Technology.

University of Vermont, Burlington Vermont
Continuing Education Radiation Sciences and Business Administration

Work Experience

Radiation Safety Compliance Technician, November 1991 - present
Radiation Safety Office, University of Vermont.
Report to Associate Director and Radiation Safety Compliance Specialist and assist in implementing the Radiation Safety Program. Areas of responsibility include laboratory inspections, education and training of researchers and lab technicians, data analysis and record keeping, emergency response, federal and state regulation compliance, iodination supervision, thyroid burden assays, personnel monitoring, commission and decommission lab space for radioactive materials use, receive-ship-leak test-manifest radioactive shipments, contamination surveys, supervise work study students, consult radiation safety issues with UVM personnel, assist and coordinate with other UVM departments, radioactive sample counting, equipment disposal surveys, security of radiation sources, create annual reports for the Radiation Safety Office and Radiation Safety Committee, quality control of instrumentation, radioactive waste disposal, record minutes of the Radiation Safety Committee, inspect radioactive inventories, assist with irradiator and x-ray devices usage.

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BY NRC. NO COPY OF THIS INFORMATION
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Work Experience

Architectural Draftsman-Technician 1988-1990

Wiemann-Lamphere Architects Incorporated, Burlington, Vermont

Assist architects on all public and private design projects including : all working drawings and schematics, presentation drawings and proposals, computer graphics, federal and state building code compliance, blueprinting and packaging of final presentations. Main projects : Court House Plaza, Gutterson Field House, Copy Tek Building, Aquatec Facility.

Architectural-Civil Draftsman 1987-1998

Rist Frost Associates , Glens Falls, New York

Assist architects and civil engineers on all public and private design projects including : all working drawings and schematics, specification and building code transcription, blueprinting and presentation compilation. Main Project : Interstate 87 reconstruction.

**Societies and
Committees**

Health Physics Society

Radiation Safety Committee

Special Skills

Computer literacy with wide range of experience using data bases, spreadsheets, word processing, power-point presentation, web page design, statistical analysis, dosimetry and measurements, architectural and cad system design software, blueprinting and copying equipment, radiation detection instrumentation, surveying equipment.

References

Professional and personal references available on request.

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September 11, 2006

RADIATION SAFETY COMMITTEE

MEMBERSHIP LIST 2005 – 2006

NAME	DEPARTMENT	PHONE NO.
Erik Bateman, Ph.D.	Micro. & Molecular Genetics 304 Stafford Building	656-8608
Keddy Bharathan	Radiation Safety Office 004 Rowell Building	656-2570
Cheryl Collins	Medicine D304 Given Building	656-2289
Ruth Farrell	Office of Sponsored Programs 340 Waterman Building	656-3360
Kevin Foley, Ph.D.	Med. Lab and Radiation Sciences 302 Rowell Building	656-2506
Christopher Francklyn, Ph.D. Vice Chair	Biochemistry B401 Given Building	656-8450
Louis Izzo	Med. Lab and Radiation Sciences 302 Rowell Building	656-3265
Marleen Moore	Medical Physics FAHC	847-3506
Mercedes Rincon, Ph.D. Chair	Medicine D305 Given Building	656-0937
Mark Rould, Ph.D.	Molecular Physio. & Biophysics E312 Given Building	656-9532
Francis Churchill	Environmental Safety Facility 667 Spear Street	656-5405

This is to acknowledge the receipt of your letter/application dated

9/11/2006, and to inform you that the initial processing which includes an administrative review has been performed.

Amendment 44-60728-13 There were no administrative omissions. Your application was assigned to a technical reviewer. Please note that the technical review may identify additional omissions or require additional information.

Please provide to this office within 30 days of your receipt of this card

A copy of your action has been forwarded to our License Fee & Accounts Receivable Branch, who will contact you separately if there is a fee issue involved.

Your action has been assigned Mail Control Number 139454.
When calling to inquire about this action, please refer to this control number.
You may call us on (610) 337-5398, or 337-5260.

NRC FORM 532 (R1)
(8-99)

Sincerely,
Licensing Assistance Team Leader