

April 17, 2012

Cassandra F. Frazier  
Nuclear Regulatory Commission  
Region III  
2443 Warrenville Rd.  
Lisle, IL 60532-4351

Dear Ms. Frazier,

In response to your phone conversations with Ms. Dzanbazoff and me, the following is a summary of information requested and measures Eastern Michigan University and Medical Physics Consultants are taking to address your concerns regarding the appointed Radiation Safety Officer (RSO) and EMU's Broad Scope license.

1. Ms. Dzanbazoff will be on site and available for "advice and assistance on radiological safety matters" (per 10CFR 33.14(b)(1)) with licensee management, approved and supervised users, and other staff at least monthly. Ms. Dzanbazoff is also available by phone and e-mail, including 24 hour emergency response.
2. Responsibility for the Radiation Safety Program is being transitioned from the Provost's Office to Environmental Health and Safety (EHS). Kathryn Wilhoff is the Director of Environmental Health and Safety and as such will be providing campus oversight to the University's Radiation Safety Program.
3. At present, there is only one research laboratory where radioactive research is performed under Eastern Michigan University, License #21-06885-01. The current radionuclides being used are H-3, C-14 and P-32. Maximum amounts of these radionuclides "on hand" are millicurie amounts (< 100 mCi of 3H, < 100 mCi of 14C, and < 10 mCi of 32P"). Ms. Dzanbazoff has radiation training and experience with these (and other radionuclides) in the quantities used at our facility.

5. Periodic inspections of the radiological laboratory will be conducted by either Ms. Wilhoff or Mr. Francoeur.
6. In addition to Ms. Wilhoff and Mr. Francoeur, Mark Wesley, Director of Emergency Management, has radiological planning and response experience and is readily available on campus to assist if there are any concerns or issues.
7. Attached is information on Mr. Francoeur's, Mr. Wesley's and Ms. Wilhoff's experience and training with radiological materials.
8. Additional information regarding Ms. Dzanbazoff's training and experience has also been attached.

I believe the above information and attachments address your concerns regarding the radiological program oversight and Ms. Dzanbazoff's qualifications as the RSO. If you have any questions or concerns regarding this response or need additional information, do not hesitate to contact me.

Sincerely,



Kathryn E. Wilhoff

Director, Environmental Health and Safety

Attachments



Francoeur, S. N., E. M. Espeland, and R. G. Wetzel. 2003. Short-term effects of nitrogen and extracellular protease amendment on algal productivity in nitrogen-deprived periphyton. *Journal of Freshwater Ecology* 18(1): 105-113.

Espeland, E. M., S. N. Francoeur, and R. G. Wetzel. 2001. Influence of algal photosynthesis on biofilm bacterial production and associated glucosidase and xylosidase activities. *Microbial Ecology* 42(4): 524-530.

**Table 2**  
**Radiation-related Experiences of Steven Francoeur**

Period	Place	Experience
1990-1997	Bowling Green State University	University-level courses in Biology, Chemistry, Physics and Mathematics. Physics courses included units on radioactivity, and Biology coursework included formal training to use a radiation-producing device (scanning electron microscope with x-ray analysis)
1997-2001	University of Alabama	Doctoral research involving $^3\text{H}$ and $^{14}\text{C}$ as tracers of microbial metabolism.
2002-present	Eastern Michigan University	Research involving $^3\text{H}$ and $^{14}\text{C}$ as tracers of microbial metabolism. Supervised technician and students, and responsible for laboratory protocols, laboratory surveys and record-keeping.
2011	Nevada Technical Associates	Forty-hour Radiation Safety Officer training course.

**Steven N. Francoeur**

*Has successfully completed the 40 hour technical short course entitled*

**Radiation Safety Officer**

*September 19, 2011 – September 23, 2011*

*This certificate presented in Las Vegas, Nevada, September 23, 2011*

*By Nevada Technical Associates, Inc.*

Approval codes for C.E. units are: ASRT 30.5 units: NVZ0146001, AAHP 32 units: 2008-00-005, ABIH 4.5 units: 08-1362

*Ted Allen*

**Ted Allen**

*Instructor*

**Certificate Number: 1316415604**

- **Michigan State Police Emergency Management Division**  
Mr. Wesley managed the Radiological Emergency Preparedness program for the State of Michigan in addition to the hazardous materials planning program. He supervised development of state and local radiological emergency response plans, planning related to weapons of mass destruction incidents, and planning for hazardous materials spills. Mr. Wesley has also assessed training needs and developed REP training programs. He has developed and evaluated REP exercises for the State of Michigan for approximately 20 years, including exercise scenarios for medical drill and ingestion pathway events and provided off-site training for fire, law enforcement, ambulance and hospital ER staff.

### **Training**

- **Radiological Emergency Response Operations**

Reynolds Electric Company;  
U.S. Department of Energy and  
Federal Emergency Management Agency;  
Nevada Test Site  
Mercury, NV

Included operational-level radiological training using guidance and information from the U.S. Department of Homeland Security, Federal Emergency Management Agency, U.S. Nuclear Regulatory Commission, U.S. Department of Energy, and the Environmental Protection Agency, involving hands-on training to perform in a radiological emergency response operation, monitoring, protective measures and decontamination operations.

- **Radiological Emergency Planning**  
Harvard School of Public Health  
Center for Continuing Professional Education  
Boston, MA

This program brought together leaders in the field of emergency planning to explore the requirements and basic principles for creating a comprehensive emergency plan for radiological events.

- **Radiation Medical Planning**  
Radiation Management Consultants, Sponsored by Northwestern University Medical Schools  
Hilton Head, SC
- **FEMA Courses**
  - Fundamentals Course for Radiological Response Teams
  - Radiological Emergency Management

## **Education**

Bachelors of Science in Medical Technology, University of Michigan.

Masters of Public Health in Environmental and Industrial Health, University of Michigan.

## **Professional Experience**

Occupational Safety and Health Representative at the University of Michigan, specializing in laboratory safety. Responsibilities included laboratory safety inspections, training and program development. Frequently interacted with Radiation Safety Services (RSS) Health Physicists regarding laboratory safety issues and compliance. Attended RSS Radiological Safety Course, collected wipe samples and participated in dosimetry program.

Director, Environmental Health and Safety Eastern Michigan University. Developed and implemented Chemical Hygiene Plan, including information on radiological material spills. Work with the RSO regarding radiological waste disposal, laboratory safety inspections, participate in site visits by state regulators, serve on the Radiation Safety Committee and serve as the alternate RSO.

Region III, Materials Licensing  
2443 Warrenville Road, Ste 210  
Lisle, IL 60532-4352

RE: Change Radiation Safety Officer – Additional Information  
NRC License No. 21-06885-01  
Control No. 576732

Dear Ms. Frazier:

Per your request, we are supplying additional information on Ms. Dzanbazoff's training and experience.

**1996-2000**

University of Michigan Medical Center, License #21-00215-04: Worked as a nuclear pharmacy technologist and nuclear medicine technologist under a broad scope license. Responsibilities included personnel monitoring, bioassay, contamination/decontamination control, ordering and package receipt, instrumentation and calibration, material inventory and accountability, radioactive material waste disposal, transportation; packing, labeling, surveys, handling/preparing radionuclides and radiopharmaceuticals for patient administration and research projects.

**2000-2010**

Harper University Hospital, License #21-04127-02: Worked one day per week as radioactive research laboratory radiation safety/regulatory supervisor. Predominantly used radionuclide was P-32. This licensee was approved for the following research radionuclides and quantities:

H-3	1 Curie
C-14	25 mCi
P-32	100 mCi
P-33	100 mCi
S-35	50 mCi
Scandium-46	25 mCi
Cr-51	50 mCi
Cs-137	1500 Curies

Responsibilities included personnel monitoring, contamination/decontamination control, ordering package receipt, instrumentation and calibration, material inventory and accountability, radioactive solid and liquid waste disposal, transportation, packing, labeling surveys, program audits and safety evaluations, investigation of incidents, training personnel, served on Radiation Safety Committee, approved new uses and uses with RSC, drafted license amendments to NRC.



Blood irradiator safety/regulatory supervisor of Gamma Irradiator (MDS Nordion - Cs-137 Sealed Source 1500 Curies): Responsibilities include personnel monitoring, investigation of incidents, training of personnel, monitoring and surveys, instrumentation and calibration, material inventory and accountability, leak tests of sealed source, program audits and safety evaluations, serving on Radiation Safety Committee, approving new uses and users with the RSC.

**2000-Present:**

Children's Hospital of Michigan, License #21-03298-05: Work one day per week as radioactive research laboratory radiation safety/regulatory supervisor. Predominantly used radionuclides are H-3, C-14, Cr-51, P-32, and I-125. This licensee is approved for the following research radionuclides and quantities:

H-3	200 mCi
C-14	200 mCi
Cr-51	400 mCi
Z-65	20 mCi
I-125	100 mCi
S-35	100 mCi
P-33	100 mCi
P-32	100 mCi

Responsibilities include personnel monitoring, contamination/decontamination control, ordering package receipt, instrumentation and calibration, material inventory and accountability, radioactive solid and liquid waste disposal, transportation, packing, labeling surveys, program audits and safety evaluations, investigation of incidents, training personnel, serving on Radiation Safety Committee, approving new uses and uses with RSC, drafting license amendments to NRC.

**Presently RSO on CVA License # 21-15166-01**

**2000-Present:** Work as a Medical Physics Regulatory Consultant for the past twelve years. Her employer is Medical Physics Consultants, Inc, in Ann Arbor, Michigan. My duties as a consultant include:

**Regulatory services include:**

- Regulatory compliance inspections
- Preparation of license application, renewal and amendments
- Radiation safety program review
- ALARA program review and advice on radiation exposure reduction

Sealed source swipe testing  
Fetal dose estimation (by and ABR Nuclear Medicine Physicist)  
Radiation safety in-services

**Quality assurance services include:**

Dose calibrator review, calibration and testing  
Counting equipment calibration and testing  
Survey meter annual calibration, repair and loan  
Gamma camera quality control review  
Gamma camera acceptance testing  
Consultation on facility design and equipment purchases

Ms. Dzanbazoff's training and experience with radionuclides (sealed and unsealed) is listed (but not limited) to the following: H-3, C-14, P-32, Cr-51, I-125, S-35, Tc-99m, Cs-137, Co-57, Tl-201, I-131, I-123, Xe-133, In-111, Ga-67, Gd-153, Na-22, Ba-133, Eu-152, Ge-68, and Mo-99/Tc-99m generators.

Per the IAEA, Ms. Dzanbazoff has radiological safety experience with all of the radionuclide types used at our facility. Ms. Dzanbazoff has worked with radioactive material found in each of the following groups: Group II: High Radiotoxicity, Group III Moderate Radiotoxicity, Group IV Low Radiotoxicity.

Ms. Dzanbazoff fulfills the requirements listed in NUREG 1156, Volume 11, 10 CFR 35, and 10 CFR 33.

If you have any questions or concerns regarding this information, please feel free to contact, Cari Dzanbazoff, at 734-662-3197 or e-mail [cdz\\_mpc@comcast.net](mailto:cdz_mpc@comcast.net).