



Centers for Disease Control and Prevention (CDC)
National Institute for Occupational Safety and Health (NIOSH)
P.O. Box 18070
Pittsburgh, PA 15236-0070

October 5, 2018

Br. J
03019474
RECRG11015*18AM0650

Licensing Assistance Team
Division of Nuclear Materials Safety
Nuclear Regulatory Commission, Region I
2100 Renaissance Boulevard, Suite 100
King of Prussia, PA 19406-2713

Subject: USHSS CDC NIOSH License #37-01712-11 License Amendment Request

Dear Sir/Madam,

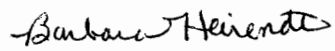
Please see the below request to amend the USHSS CDC NIOSH License #37-01712-11 to reflect changes in the RSO, users/under supervision of, and sources.

1. Section 12: Change RSO from Carl Ornot to Beth Tomasovic. Beth Tomasovic is an Industrial Hygienist in the NIOSH Pittsburgh Facility Management Environmental Health and Safety Office with a background in health and safety and regulatory compliance. She has worked for NIOSH since 2010 in the Environmental Health and Safety Office where she has practical experience with physical inventories of radiation sources, taking leak tests and providing guidance to authorized users. She has also worked in a laboratory environment. She has a B.S. in Chemical Engineering from Pennsylvania State University. She is currently listed in Section 11A of the license. See attached resume.
2. Research involving smoke detectors and Americium 241 is no longer being performed. Therefore the following changes are requested:
 - a. Section 6: Remove the following sources which were disposed of at Applied Health Physics (2986 Industrial Blvd, Bethel Park, PA) on 9/18/2015 and 6/29/2017.
 - 6C. Americium 241 Sealed Sources
 - 6D. Americium 241 Plated Foils.
 - b. Section 9:
 - Section 9A. Remove "Beacon and World International Smoke Detectors."
 - Section 9C: Remove in its entirety "In sources purchased through retail sales to be used for the development of prototype instrumentation that detects or measures concentrations of airborne particles."
 - Section 9D: Remove in its entirety "Used for research and development of prototype instrumentation that detects or measures concentrations of airborne particles."
3. Section 11: Changes to the list of users/under the supervision of are requested due to the following personnel no longer being with the agency:
 - Section 11A: Remove Carl T. Ornot and Alex Smith.
 - Section 11B: Remove Pengfei Gao.
 - Section 11D: Remove Section D in its entirety as we no longer have Americium 241 sources.

610223
NUCLEAR MATERIALS-002

If you have any questions, please contact me at your convenience at 412-386-6861 or beh6@cdc.gov. Thank you.

Sincerely,

A handwritten signature in black ink that reads "Barbara Heirendt". The signature is written in a cursive style with a long horizontal stroke at the end.

Barbara Heirendt
NIOSH Pittsburgh, EH&S Team Lead

Attachment

RESUME FOR CONSIDERATION AS RADIATION SAFETY OFFICER (RSO)
FOR CDC/NIOSH-PITTSBURGH NRC MATERIAL LICENSE # 37-01712-11

Beth Tomasovic

ACADEMIC EDUCATION:

Bachelor of Science degree, Chemical Engineering, Pennsylvania State University, ██████████
Coursework included Inorganic Chemistry, Organic Chemistry, Physical Chemistry, Biology, and Physics.

TRAINING:

40 Hour Radiation Safety Officer, Dade Moeller Radiation Safety Academy, Gaithersburg, Maryland, March 2011.

Topics

- Forms of radiation: non-ionizing and ionizing
- Types of ionizing radiation: α , β , γ , X-Ray, Positrons, and Neutrons
- Characteristics of ionizing radiation: energy emitted, penetrating power, and shielding.
- Mechanism and units for radioactive decay: activity calculations, exposure, absorbed dose, and dose equivalent.
- Regulations (10 CFR 19 and 20): posting of notices to workers (NRC Form 3), training of workers, facility inspections, leak testing, annual safety program audits, radiation dose limits, security, and required records and reports.
- Worker training requirements: storage, transfer, use of radiation and/or radioactive material, health problems associated with exposure to radiation and/or radioactive material, steps required to minimize their exposure.
- Steps required to minimize their exposure: ALARA, shielding, time, distance.
- Health effects: types of health effects, required dose, effect of radiation on the human cell, models for estimating risk (linear, linear quadratic, threshold dose effect, and increased effect at low dose), effects on the embryo and fetus.
- Conducting surveys and monitoring: Monitoring includes wearing a badge (Thermoluminescent dosimetry and radiation film) and bioassay.
- Types of dosimeters: Instadose, filter pack, and types of electronic dosimeters
- Procedures for disposing radioactive waste were outlined.
- Emergency procedures in case of a release or spill: spill kit contents, skin decontamination, spill cleanup, documentation, rules for radiation responders, and reporting.

- Basic principles of radiation detection: gas ionization (ion chamber, gas proportional counter, Geiger – Muller) and scintillation (NaI, plastic and ZnS)
- Choosing the correct instrument: factors affecting the instrument performance and sensitivities for the various instruments.
- Types of calibration: exposure and activity
- Factors affecting the instruments: pressure, temperature, humidity, window material and thickness, resolving time, calibration conditions, energy dependence, background, absorption, and scattering.
- Hands on instrument training: measure a source at various distances: Smart Ion Chamber 450B, Bicron Ion Chamber RSO-50E, Victoreen 451P, Ludlum Model 19A Micro R Meter, Bicron Microrem Meter, and Ludlum Model 5 GM Meter.
- Evaluate instrument readings: compare readings to the activity for the source.
- Procedure for conducting a surface contamination survey: types of isotopes, locations to be metered, items required for doing surveys, analysis of smears, recommended action levels, and survey forms.
- Shipping of radioactive material: DOT requirements, categories of radioactive materials, activity of the different radionuclides, packaging, contamination, and receiving packages.
- Waste management: types of waste (low level radioactive, high level radioactive, transuranic, mixed, and NARM), regulations (10 CFR and 40 CFR), methods and requirements of each type of waste management.
- Waste methods: transfer to licensed recipient, decay-in-storage, release in effluent.
- Elements of a radiation safety program: annual audit, monitoring instruments, material receipt and accountability, occupational dose, public dose, safe use, security, surveys, leak tests, transportation, contamination minimization, and waste disposal.

Radiation Safety Experience:

- NIOSH, Pittsburgh, PA, July 2010 to Present: Position as Industrial Hygienist in the Environmental Health & Safety group. Work with Radiation Safety Officer in radiation safety and inspections of work places with radioactive sources. Assist with annual inventory of radioactive sealed sources (Krypton-85, Polonium-210, Nickel-63, Americium-241) and revising NRC License Amendment for updating Authorized Users. Conducting leak testing of sealed sources (Ni-63, Po-210, and Kr-85). Conducting area survey for X-ray leakage from X-ray diffractometer using Ludlum Measurements Inc. Model 3 general purpose survey meter with Pancake GM detector. Conducting area survey for Kr-85 leakage from aerosol neutralizer using Eberline PRM-7 Radiation Meter with an internal scintillation detector. Familiar with elements of NIOSH Pittsburgh Radiation Safety Program:

- Maintain ALARA exposures (maximize distance, minimize time, and shielding).
- Use chemical fume hood, certified for radioactive materials, to limit inhalation exposure from unsealed radioactive material.
- Do not eat or drink in any area where radioactive materials are used.
- Use measures that prevent the contamination of skin and eyes.
- Ensure that procurement, transfer, shipping/receiving and security of radioactive material in accordance with NRC and DOT regulations.
- Purchase radioactive material using a purchase order and not with a credit card after receiving approval of Radiation Safety Officer.
- Use the correct object code for radioactive material so that the "Radioactive Materials" approval thread in the procurement system is activated.
- The Radiation Safety Officer (RSO) ensures that the radioactive material requested does not exceed the quantity or activity specified in the Material License for that radionuclide.
- The Radiation Safety Officer will provide the vendor with our NRC License information if necessary.
- All radioactive materials at NIOSH-Pittsburgh must be secured or be under constant surveillance at all times.
- Only the RSO or designed shipping and receiving personnel may receive radioactive material that arrive by commercial carrier or are mailed to NIOSH-Pittsburgh.
- Delivery personnel are prohibited from delivering a package with radioactive materials unless there is an Authorized person (Authorized User, Radiation Worker) at the location who will accept it, sign for its receipt, and secure the radioactive materials.
- Upon arrival of a package containing licensed material, the RSO shall immediately identify the package to determine whether or not an inspection is necessary in accordance with 10 CFR 20.
- An inspection includes monitoring of the external surfaces of the package for radioactive contamination.
- If radioactive contamination is found on the package, the RSO will notify the delivery carrier and the NRC regional office immediately. The RSO will also secure the package in a safe area to preclude exposure risk.
- An Authorized User and/or a designee must keep records of all radioactive materials being used, stored, ordered, received, and disposed. Records must be maintained by the AU for a period of 3 years.
- A Change in Custody form must be completed after receiving approval from the RSO when there is a change in ownership or location.
- Dosimeters are not required for workers at NIOSH-Pittsburgh.
- Each area, drawer, cabinet or laboratory used to store or contain licensed radioactive material shall be conspicuously posted with sign bearing the radiation caution symbol and the words "Caution (or Danger), Radioactive Materials."

- A current NRC 3 form "Notice to Employees," Section 206 Noncompliance Form, and Emergency Contact Information must be posted so that it can be easily seen by persons entering or leaving a restricted area.
 - Laboratories with sealed sources will be surveyed at least biannually.
 - Sealed sources will be surveyed by the laboratorians, with RSO assistance, for leakage and external contamination at least once every 6 months.
 - Sources will also be surveyed before and after they are moved, after being dropped or otherwise damaged, and before and after maintenance.
 - The EH&S Office will investigate all accident, spills, fires, or other incidents in which radiological material is involved
 - All Authorized Users and Radiation Workers under their supervision who work with radioisotopes must receive instruction on radiation safety, biological effects of radiation, regulatory requirements, and laboratory techniques in compliance with 10 CFR 19.12.
- URS, Pittsburgh, PA, 2005-2010: Designated as Radiation Worker. Measured iron oxide particle size distribution with TSI particle analyzer instrumentation which utilized a neutralizer containing Kr-85. Ensured that the proper signage was posted for both the TSI neutralizer and a PerkinElmer gas chromatograph containing a Nickel-63 electron capture detector. Observed leak testing for Nickel-63 electron capture detector. Ensured that Chain of Custody for Radioactive Materials or Instruments Containing Radioactive Sources form was completed by the Authorized User when relocating instruments with radioactive sources. Assisted with radioactive source inventory. Ensured that laboratory was locked when not occupied and that surplus radioactive equipment was stored in a secure location.
 - Industrial Scientific Corporation, Oakdale, PA, 1993-2002: Responsible for the safe storage and handling of thorium nitrate while Chemical Hygiene Officer. Measured alpha particle radioactivity level for the thorium nitrate using a Geiger-Mueller counter. Stored the thorium nitrate in a metal container so that adequately shielded.

Certificate of Training

Awarded To

Beth Tomasovic

Recognizing completion of 40 hours of specialized instruction in

Radiation Safety Officer

March 11, 2011

Presented By

Dade Moeller Radiation Safety Academy

438 N. Frederick Avenue, Suite 220, Gaithersburg, MD 20877

www.moellerinc.com/academy - 301-990-6006

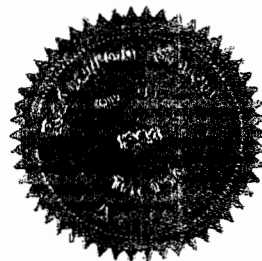
AAHP has awarded this course 32 Continuing Education Credits, 2011-00-0019

ABIH has awarded this course 6.68 CM Points, CM Approval # 09-4745

ARRT and SNMT have awarded up to 42.5 CEH's, 027194-027227

Ray Johnson

Ray Johnson, MS, PE, FHPS, CHP
Vice President, Training Programs





Dade Moeller
**RADIATION
 SAFETY ACADEMY**

Radiation Safety Officer

March 7-11, 2011

Instructors: Ray Johnson, MS, PE, FHPS, CHP, RSO; Alan Fellman, Ph.D., CHP, RSO;
 Sean Austin, MS, CHP, RSO; Kelly Austin, MS, CHP, RSO; Mike Jedlicka, BS

This course is intended to provide a minimum of 40 hours of required and elective classes to meet provisions of 10 CFR 33.15. Required classes are already checked. Please select elective classes for a total of 40 or more hours.

Day 1 Monday March 7, 2011			
Class Selected	Start Time	Class Titles (electives in <i>bold, italics</i>)	Class Hours
<input checked="" type="checkbox"/>	8:00	Introduction, Course Overview, Views on Radiation	3.0
<input checked="" type="checkbox"/>	11:00	Radiation and Radioactivity, Radioactive Decay	1.0
	12:00	Lunch (provided)	
<input checked="" type="checkbox"/>	1:00	Radiation Units, Sources of Radiation, Interaction With Matter	3.0
<input checked="" type="checkbox"/>	4:00	Health Effects	1.5
<input checked="" type="checkbox"/>	5:30	Daily Review	0.5
<input type="checkbox"/>	6:00	<i>Training for the Radiation Safety Trainer (optional)</i>	1.5
	7:30	Adjourn for the day	
Day 2 Tuesday March 8, 2011			
Class Selected	Start Time	Class Titles (electives in <i>bold, italics</i>)	Class Hours
<input checked="" type="checkbox"/>	8:00	Radiation Protection Standards, 10 CFR Part 19 and 20	3.0
<input checked="" type="checkbox"/>	11:00	Essential Highlights of 10 CFR Part 2, 30, 31, 33	1.0
	12:00	Lunch (provided)	
<input checked="" type="checkbox"/>	1:00	External Radiation Protection and Shielding	1.5
<input type="checkbox"/>	2:30	<i>Sealed Sources & Industrial Gauges</i>	2.0
<input type="checkbox"/>	2:30	<i>Internal Radiation Protection</i>	2.0
<input checked="" type="checkbox"/>	4:30	Emergency Response	1.0
<input checked="" type="checkbox"/>	5:30	Daily Review	0.5
<input type="checkbox"/>	6:00	<i>Math Review & Radiation Safety Problem Solving (optional)</i>	1.5
<input type="checkbox"/>	7:30	Adjourn for the day	

Day 3 Wednesday March 9, 2011

Class Selected	Start Time	Class Titles (electives in bold, italics)	Class Hours
<input checked="" type="checkbox"/>	8:00	Radiation Survey Instruments	4.0
	12:00	Lunch (provided)	
<input checked="" type="checkbox"/>	12:30	Instruments Lab, Applications & Troubleshooting	2.0
<input type="checkbox"/>	2:30	<i>Radiation Safety Surveys</i>	1.5
<input type="checkbox"/>	2:30	<i>Security of Radioactive Sources – Increased Controls</i>	1.5
<input checked="" type="checkbox"/>	4:00	<i>License Applications and Amendments</i>	1.0
<input checked="" type="checkbox"/>	5:00	Daily Review	0.5
<input type="checkbox"/>	5:30	<i>Hands On Laboratory Survey and PPE Exercise (optional)</i>	1.5
	7:00	Adjourn for the day	

Day 4 Thursday March 10, 2011

Class Selected	Start Time	Class Titles (electives in bold, italics)	Class Hours
<input checked="" type="checkbox"/>	8:00	Interpreting Radiation Measurements and Quality Assurance	1.5
<input checked="" type="checkbox"/>	9:30	Transportation of Radioactive Materials Overview and Package Receiving	2.5
	12:00	Lunch (provided)	
<input checked="" type="checkbox"/>	1:00	Developing a Training Program	1.5
<input checked="" type="checkbox"/>	2:30	Practical Record-Keeping For RSOs	1.0
<input type="checkbox"/>	3:30	<i>Radioactive Waste Management, Mixed Wastes</i>	2.0
<input type="checkbox"/>	3:30	<i>X-Ray Safety</i>	2.0
<input checked="" type="checkbox"/>	5:30	Daily Review	0.5
<input type="checkbox"/>	6:00	<i>Reception (refreshments)</i>	
	7:30	Adjourn for the day	

Day 5 Friday March 11, 2011

Class Selected	Start Time	Class Titles (electives in bold, italics)	Class Hours
<input checked="" type="checkbox"/>	8:00	Legal Implications: Radiation Litigation	1.5
<input checked="" type="checkbox"/>	9:30	First Steps as New RSOs	1.0
<input checked="" type="checkbox"/>	10:30	Radiation Safety Program Management, Preparing for Regulatory Inspections	1.5
	12:00	Presentation of Certificates and Adjourn 40-hour course	
<input type="checkbox"/>	12:30	<i>Liquid Scintillation Counting Option – Additional Fee</i>	4.0
<input type="checkbox"/>	12:30	<i>DOT HAZMAT Certification Option – Additional Fee</i>	4.0
	5:00	Adjourn optional modules	



ACKNOWLEDGEMENT - RECEIPT OF CORRESPONDENCE

Name and Address of Applicant and/or Licensee U.S. Department of Health and Human Services ATTN: Carl T. Ornot, RSO 626 Cochrans Mill Road P. O. Box 18070 Pittsburgh, PA 15236-0070	Date October 16, 2018
	License Number(s) 37-01712-11
	Mail Control Number(s) 610223
	Licensing and/or Technical Reviewer or Branch Commercial, Industrial, R&D, & Academic Branch

This is to acknowledge receipt of your: Letter and/or Application Dated: 10/05/2018

The initial processing, which included an administrative review, has been performed.
 Amendment Termination New License Renewal

There were no administrative omissions identified during our initial review.

This is to acknowledge receipt of your application for renewal of the material(s) license identified above. Your application is deemed timely filed, and accordingly, the license will not expire until final action has been taken by this office.

Your application for a new NRC license did not include your taxpayer identification number. Please complete and submit NRC Form 531, Request for Taxpayer Identification Number, located at the following link: <http://www.nrc.gov/reading-rm/doc-collections/forms/nrc531.pdf>
 Follow the instructions on the form for submission.

The following administrative omissions have been identified:
 [Empty box for listing omissions]

Your application has been assigned the above listed MAIL CONTROL NUMBER. When calling to inquire about this action, please refer to this control number. Your application has been forwarded to a technical reviewer. Please note that the technical review, which is normally completed within 180 days for a renewal application (90 days for all other requests), may identify additional omissions or require additional information. If you have any questions concerning the processing of your application, our contact information is listed below:

Region I
U. S. Nuclear Regulatory Commission
Division of Nuclear Materials Safety
2100 Renaissance Boulevard, Suite 100
King of Prussia, PA 19406-2713
(610) 337-5260, (610) 337-5313,
(610) 337-5398, or (610) 337-5239