

## Thompson, James

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**From:** John Longley <longjohn@isu.edu>  
**Sent:** Thursday, June 20, 2019 9:28 AM  
**To:** Silva, Patricia  
**Cc:** Thompson, James; Scott Snyder; Jon Stoner  
**Subject:** [External\_Sender] Re: Re: Question regarding the proposed independent assessor

Ms. Silva,

Thank you for letting us know. We will proceed with the contract for the independent assessment and causal analysis as specified in the confirmatory order.

John Longley, CHP  
Interim Radiation Safety Officer  
Idaho State University  
208-220-9552

On Thu, Jun 20, 2019 at 7:59 AM Silva, Patricia <[Patricia.Silva@nrc.gov](mailto:Patricia.Silva@nrc.gov)> wrote:

Mr. Longley,

I am responding to your submittal for approval of the resume of a third-party to perform the audit and causal evaluation per the Confirmatory Order issued under cover letter dated May 2, 2019 (ADAMS Accession Number ML19122A123). Thank you for responding to our inquires on the resume. The NRC approves the provided resume of the third-party.

Patricia A. Silva

Chief, Materials Inspection Branch

Division of Nuclear Materials Safety

Region IV

817-200-1455

**From:** RADCompliance <[radcompliance@gmail.com](mailto:radcompliance@gmail.com)>

**Sent:** Tuesday, June 18, 2019 12:09 PM

**To:** John Longley <[longjohn@isu.edu](mailto:longjohn@isu.edu)>

**Cc:** Scott Snyder <[sdsnyder@isu.edu](mailto:sdsnyder@isu.edu)>; Jon Stoner <[stonjon@isu.edu](mailto:stonjon@isu.edu)>; Thompson, James <[James.Thompson@nrc.gov](mailto:James.Thompson@nrc.gov)>

**Subject:** [External\_Sender] Re: Question regarding the proposed independent assessor

Hello John,

As the RSO at the University of Massachusetts Lowell, I conduct the running of a broadscope license as well as NRC special nuclear materials license and provide radiation safety for the reactor license. Although I have not been to the specific G-205 course, I have been in radiation safety conducting root cause analysis and corrective action plans for radiation, laser, and other EHS functions for over 10 years, in radiation safety for over 15 and have taken comparable seminars on the subject. I am in tune with the objectives of conducting a root cause analysis:

Determine the cause of failure, class of failure, take corrective action, response to event, documentation, identification, follow-up actions. All in efforts to determine the probability of the event occurring again and in efforts to mitigate that (systemic or one time occurrence). I would be using, as reference, NRC "Information Notice No. 96-28" and DOE-NE-STD-1004-92.

I would be conducting my analysis with several of my consultants (Alexis LaViolette, Childrens Hospital, and Robert Puckett, Naval Research Laboratory).

I hope this helps address your questions and provides clarification.

Thanks,

Steve Snay Ph.D. CHP.  
Managing Member.

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On Tue, Jun 18, 2019 at 10:32 AM John Longley <[longjohn@isu.edu](mailto:longjohn@isu.edu)> wrote:

Dr. Snay,

ISU submitted your resume to the NRC Region IV for approval to perform independent assessment, causal analysis, and develop a corrective action plan. The NRC had several questions regarding your experience in causal analysis and corrective action planning and who else would be assisting with your work improving the radiation safety program at ISU. See the forwarded E-mail.

Please provide additional information regarding these topics so we can forward it to the NRC.

Thanks

John Longley, CHP

Interim Radiation Safety Officer

Idaho State University  
208-220-9552

----- Forwarded message -----

From: **Thompson, James** <[James.Thompson@nrc.gov](mailto:James.Thompson@nrc.gov)>

Date: Tue, Jun 18, 2019 at 8:02 AM

Subject: Question regarding the proposed independent assessor

To: [longjohn@isu.edu](mailto:longjohn@isu.edu) <[longjohn@isu.edu](mailto:longjohn@isu.edu)>

Mr. Longley:

Thank you for submitting the resume for the proposed independent assessor. As we discussed during our telephone conversation this morning, we had a few questions before providing our approval. The resume does not indicate whether Dr. Snay has appropriate experience in performing causal analyses and developing corrective action plans. Could you please verify that Dr. Snay has this experience? Also, ISU indicated they selected the company, RADCompliance, LLC. We would like to understand if Dr. Snay will be conducting the work himself, or if other employees working for RADCompliance, LLC will also perform the work.

We look forward to your response.

Thank you,

-James

James L. Thompson, Senior Health Physicist

US NRC, Region IV

**From:** John Longley <[longjohn@isu.edu](mailto:longjohn@isu.edu)>

**Sent:** Thursday, May 30, 2019 9:31 AM

**To:** Vasquez, Michael <[Michael.Vasquez@nrc.gov](mailto:Michael.Vasquez@nrc.gov)>; Pruett, Troy <[Troy.Pruett@nrc.gov](mailto:Troy.Pruett@nrc.gov)>

**Cc:** Scott Snyder <[sdsnyder@isu.edu](mailto:sdsnyder@isu.edu)>; Jon Stoner <[stonjon@isu.edu](mailto:stonjon@isu.edu)>; Joanne Hirase-Stacey <[hirajoan@isu.edu](mailto:hirajoan@isu.edu)>; Sandra Shea <[sheasand@isu.edu](mailto:sheasand@isu.edu)>

**Subject:** [External\_Sender] Proposed Independent Assessor for Idaho State University Radiation Safety Program

Mr. Vasquez and Mr. Pruett,

As required in the Confirmatory Order related to enforcement action EA-18-53, I have attached the resume of Dr. Steven Snay, proposed to serve as the independent assessor for the Idaho State University Radiation Safety Program. Dr. Snay (Rad Compliance LLC) is the RSO at University of Massachusetts Lowell and has significant experience managing a comprehensive university radiation safety program similar to that of ISU.

Idaho State University requested bids from seven entities and received three proposals. Rad Compliance LLC. was selected as the most qualified of the three bids received. In addition, Rad Compliance LLC was selected in a separate bid process to complete the independent review of our radioactive material inventory. Idaho State believes using the same contractor will add to the overall quality of our program assessment and improvement.

Please contact me if you have questions or need more information.

Best regards,

John Longley, CHP  
Interim Radiation Safety Officer  
Idaho State University  
208-220-9552

## Steven Snay Ph.D. CHP.

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**CAREER OBJECTIVE:** To ensure the safety of the public and workers through outstanding radiological protection practices and health physics techniques

**EDUCATION:**

2018	Ph.D.	University of Massachusetts Lowell	BMEBT in Health Physics
2007	M.S.	University of Massachusetts Lowell	Radiological Sciences and Protection
2005	B.S.	University of Massachusetts Lowell	Physics w/ Radiological Health Opt.
2003	A.E.T.	Three Rivers Community College	Nuclear Engineering

**WORK EXPERIENCE:**

Director of Radiation Safety (March 2012-Present)

As the Radiation Safety Officer (RSO), I direct the implementation of the UMass Lowell type A broad scope license, Special Nuclear Materials license, and Reactor license RSO. I oversee the proper radioactive material and laser use by laboratories including a 5.5MV direct current positive ion particle accelerator and a 1MW swimming pool nuclear test reactor. The reactor containment building also houses gamma irradiation facilities capable of exposures in MRad/hr. My tasks (below) ensure the safe use of this radioactive material for workers and the public.

- 2011 NRC Special Nuclear Material license reapplication (complete rewrite)
- 2011 Broad Scope License reapplication (complete rewrite)
- Secretary of the Radiation Safety Committee, Reactor Safety Subcommittee, and Accelerator Safety Subcommittee. Reviewing, advising, and voting to approve new experiments, commission new laboratories, and provide technical support and expertise to the committee members
- ALARA reporting
- Maintain and update source inventories on the National Source Tracking System
- Responsible for State and Nuclear Regulatory Commission inspections
- UML hazard mitigation committee member

Assistant Radiation Safety Officer and Laser Safety Officer, UMass Lowell (2004-present)

- Annual Broad Scope License Audit (2012, 2011, 2010, 2008 and assisted in 2009, 2007, 2006, 2005 audits) following NRC inspection criteria 69012 and 69001 for reactor specific audits.
- Campus Laser Safety Officer ensuring laser safety compliance as per state and federal regulations
- Procedure writing, updating, and reviewing.
- Member of the Reactor and Accelerator Safety Subcommittees (2009-present)
- Radioactive material shipping and receiving (as per DOT and IATA)
- Laboratory surveys to verify compliance of Radioactive Material users (contamination, dose rate measurements, worker compliance with procedures)
- Assisting in redevelopment of all radiation and laser surveys and incorporating them into an electronic platform
- Decommission laboratories for free release (waste removal, final lab survey, etc.)
- Radioactive waste handling, analysis and database inventory (liquid, solid, sharps, mixed waste)

- Effluent monitoring (waste water holding tanks, reactor primary and secondary water analysis, air effluent monitoring, etc.)
- Source inventory (sealed source leak test, byproduct inventory, and special nuclear materials)
- Investigations and analysis of unknown sources, solid and liquid waste for radioactivity and being in compliance with laws for chemical satellite areas
- Partook in State and Nuclear Regulatory Commission inspections
- Emergency response drills (lead in 2009, 2012, and 2013) and inventories of campus emergency supplies
- Massachusetts Nuclear Incident Advisory Team (NIAT) training and drill controller
- Personnel radiation monitoring implementation (TLD, FILM Badges) and calibrations (electronic and pocket dosimeters)
- Portable survey meters instrument inventory, calibrations using a pulse generator, and calibrated radiation sources (ion chambers, GMs, NaI detectors and neutron meters)
- Personnel hand and foot monitor setup and calibrations
- Gamma spectroscopy system setup, install and calibrations (efficiency, energy, etc.) for BeGe and HPGe using Genie 2000 Software
- Gas proportional counter calibration, use, and system configuration
- Liquid scintillation calibration, use, and system configuration
- Conducted training of radiation workers and ancillary personnel (i.e. housekeeping, facilities, police, fire fighters, ambulatory staff, and Saints Memorial Hospital staff) annually and biennially since 2004
- Background checked and fingerprinted with the NRC for increased controls and unescorted reactor access
- Radiation safety student worker and internship manager (managed 46 people since 2004)

#### Health Physics Consultant and Managing Member RADCompliance (2006-present)

This position over the years has afforded me the opportunity to study many intricate sides of radiation safety. This position helped me become a more well-rounded health physicist by assisting, creating, or devolving solutions, reports, and calculations to address the needs of the customer. Some of the more noteworthy consulting task can be seen below.

- Program audits and procedure reviews with site inspections.
- Upper level policy for handling radiation safety (both ionizing and non-ionizing) for an entire federal organization with facilities in all 50 states and abroad.
- Detector development and source characterizations for a major defense company testing mobile radiation detection devices.
- Site area verification for decommissioning.
- DOT, Laser Safety Officer, Radiation Safety, First responder trainings
- CDRH device registration reports for many manufacturers of radiation producing devices

#### Adjunct Faculty in Physics, UMass Lowell (2006-present)

In a formal teaching and mentoring capacity I have the privilege to educate health physics and medical physics undergraduate and graduate students as well as teaching laboratory sections for non-science majors. This endeavor helped solidify my understanding of the radiation protection field and better communicate training and concepts to my audience. In the spirit of health physics as an educator one task I take pride in is educating the public in the safe use and many uses of radioactive material, which these classes and mentoring activities allow me to perform.

- Introduction to Radiological Sciences 95.204 (2011-present)
- Radiation and Life Laboratory 98.102 (2007–2012)
- Evaluation of workplace hazards guest lecturer 19.614 (2011-present)

- Research project advisor and internship manager for Radiological Sciences Master's degree candidates at UMass Lowell

Auxiliary Operator, UMass Lowell Research Reactor (2003-2004)

This position instilled a great understanding of reactor physics, plant systems, and the safety methods associated with them. At the research reactor I assisted in reactor operations, calibrations, activations, and analysis for operations.

Unit 2 and 3 Health Physics, Dominion Nuclear Power Plant (2002-2004)

Millstone nuclear power station is a two-plant 2000MWe electricity generating plant. Through my nuclear engineering background I was able to assist the Health physics and I&C departments through full power operations and two unit outages.

- Radiation surveys and inspections, preplanning for work evolutions, pre-job inspections and walk downs, life cycle analysis, and six-sigma approach to radiation monitoring

**WORKPLACE INITIATIVES:**

Besides the routine tasks and assessments in radiation safety, there have also been many initiatives that I introduced, conducted, and completed.

- Waste minimization by decreasing source waste size or by decontamination of many surfaces and objects within source locations for free release. This initiative saves the university money by decreasing radioactive waste generation volume and weight.
- Implementation of a new electronic dosimeter program (procedures, radiation work permits, MCNP5 Monte Carlo simulation of the calibration apparatus, and source field verification). This dosimetry is a real time monitoring and alarming detector worn by personnel in the reactor. Because the workers log their dose record on entry and exit, and they can easily read the detector display or hear its alarm, this initiative decreased radiation exposure of personnel.
- Conducted a comprehensive background radiation analysis of UMass Lowell. Through Optically stimulated dosimetry placed across campus and routine radiation monitoring of the buildings a comprehensive background dose study and report were completed for the UMass Lowell campus.
- Creation of a new training platform for the entire campus radiation safety program including site specific sections (accelerator, reactor, x-ray, lasers, etc.). This training replaces an outdated general training with a modern UML general radiation training and site specific training with user input and assessment.
- Redesigned and restructured the UMass Lowell calibration lab. The basis for the new layout was to make calibrations more efficient and to keep doses As Low As reasonably Achievable (ALARA)

**WORKPLACE SAVINGS:**

Below is the list of obtained donations, or cost savings (cost savings in parenthesis), totaling **\$581,580**.

- Offsite source recovery project removal of unwanted cobalt (\$337,000)
- Handheld model FH40 detector donation (32 x \$2,500 = \$80,000)
- High range instrument calibration source donation (\$75,000)
- Canberra split top, front opening laminated shield donation (\$30,000)
- MGP Mirion dosimeter discount (45 x \$400 per = \$18,000)
- Hand held spectrometer donations (\$14,080)
  - RIIDEYE M-G (\$10,850)
  - Radeye SPRD (\$3,230)
- Leaded acrylic shielding material and container donation (\$3,700)

## **PROFESSIONAL ASSOCIATIONS:**

- Certified member of the American Academy of Health Physics (2011-present)
- Board of Directors for the New England Chapter Health Physics Society (2005-2008, 2013-2016, 2018-2021)
- New England Chapter Health Physics Society (NECHPS) President (2014-2015)
- NECHPS Admissions Committee chairperson (2013-2015)
- NECHPS Awards Committee Chair (2015-2016)
- NECHPS Committee chairperson for student affairs (2006-2008, 2013-2015)
- Health Physics Society member (2004-present)
- Office of Radiological Safety (ORS) East coast 2020 executive steering committee member (2018)

## **ACHIEVEMENTS AND AWARDS:**

- Certified Health Physicist (2011)
- UMass Lowell Distinguished Staff Honor (2017)
- Certificate of Appreciation for excellence in inventory reporting for Nuclear Materials Management and safeguards systems (NMMSS) from the NRC and DOE (2012, 2015, 2016)
- Featured in Operational Radiation Safety Journal by the Health Physics Society "ORS Interview with Steve Snay" Vol 110 No.2 Feb. 2016
- Francis College of Engineering Deans Medal recipient for Highest Achievement in 2018
- KUDOS award from the Senior Vice Chancellor of Operations & Strategic Planning (2018)
- Outstanding Radiological Sciences Graduate Student (2007)
- Kenneth Skrable Technical Excellence Award in Radiological Science Award (2014 and 2005)
- Charles R. Mingins Award for outstanding senior physics student (2005)
- National Academy of Nuclear Training scholarship (2003 and 2004)
- American Nuclear Society -John Lamarsh Scholarship (2004)
- Association of Facilities Engineering Scholarship and Candidate for Outstanding Technical Student of the Year (2003)
- Dominion full Scholarship to Three Rivers college (2001-2003)
- Three Rivers College Math Scholarship (2002 and 2003)

## **PROFESSIONAL TRAINING AND ACTIVITIES:**

- Certification in Health Physics (CHP) from the American Academy of Health Physics (2011-present)
- FEMA IS-3 Radiological Emergency Management (2013)
- FEMA IS-301 Radiological Emergency Response (2013)
- FEMA IS-302 Modular Emergency Radiological Response Transportation Training (2013)
- FEMA IS-100 Introduction to the Incident Command System (2012)
- FEMA IS-200.b ICS for Single Resource and Initial Action Incident ICS-200 (2012)
- FEMA ICS-300 ICS for Expanding Incidents (2017)
- FEMA ICS-400 Advanced ICS for Command Staff in Complex Incidents (2017)
- FEMA IS-700a National Incident Management (NIMS) Training (2012)
- FEMA IS-701.a NIMS Multi Agency Coordination System (2016)
- FEMA/DHS weapons of mass destruction standardized awareness training AWR-160-SAT (2013)
- National Nuclear Security Administration (NNSA) Global Threat Reduction Initiative (GTRI) alarm response training program (May 16-20, 2011) and Personnel radiation detectors (June, 2012)
- OSHA 40hr Hazardous Waste Operations and Emergency Response HAZWOPER Certification #69636321 w/annual 8hr emergency responder refresher (2008-present)
- OSHA Slips, Trips, and Falls (Feb 25, 2016)

- OSHA Confined Space entrant (April 29, 2015)
- UMass Lowell Respirator Fit Tested (2012-present)
- CPR Certification from the American Heart Association for medical personnel (2011, 2013)
- First Aid for First Responders certification from the American Heart Association (2011, 2013)
- IATA/DOT radioactive material shippers training (2007, 2010, 2013, 2016)
- DOT hazardous materials training for shippers of all classes (2013)
- RCRA hazardous waste classification course (2017)
- Laser Safety Officer training by the Laser Institute of America (LIA) (2008)
- Laser Safety Officer instructor for 40hr Kentek courses (2013-present)
- Host of the Boston Area Laser Safety Officer roundtable (2014)
- Advanced Laser Safety Officer training by Kentek Laser Safety (October 2013)
- DOE Advanced Laser Safety Officer training (August 2011)
- Laser Safety for Health Physicists by Ben Edwards, CLSO (2008)
- UMass Lowell Environmental Health and Safety Laboratory training
- CAM200 Radioactive release monitoring by Canberra (2013)
- Health Physics Society annual meeting (2013, 2012, 2010, and 2006)
- Health Physics Society Summer School "Medical Health Physics" (June 16-23, 2006)
- Performance Management Training (2012)
- Massachusetts Conflicts of Interest Law training program (April 2015)

**INTERESTS:** Physics, kayaking, hiking and snow shoeing.