



ENVIRONMENTAL HEALTH AND SAFETY  
UNIVERSITY OF MISSOURI - SAINT LOUIS  
1 UNIVERSITY BOULEVARD (102 PTB)  
ST. LOUIS, MO 63121

FACSIMILE TRANSMITTAL SHEET

TO: Colleen Carol Casey	FROM: Steve Struck
COMPANY: US NRC	DATE: 1/18/2007
FAX NUMBER: 630-829-9782	FAX NUMBER: 314-516-6309
PHONE NUMBER: 630-829-9841	PHONE NUMBER: 314-516-6362
RE: Control Number 315869	NUMBER OF PAGES INCLUDING COVER SHEET: 9

URGENT    FOR REVIEW    PLEASE COMMENT    PLEASE REPLY    CONFIDENTIAL

NOTES/COMMENTS:

The following is the revised request to amend our license number 24-00513-38 for RSO change.

**Environmental Health and Safety**

One University Boulevard  
Saint Louis, MO 63121-4499  
Telephone: 314-516-6363  
314-516-6362  
Fax: 314-516-6309

January 18, 2007

Materials Licensing Branch Chief  
U.S. Nuclear Regulatory Commission  
Region III  
2443 Warrenville Road STE 210  
Lisle, Illinois 60532-4352

RE: Change of RSO for license number 24-00513-38

Dear Sir or Ma'am,

The following is a request to change the licensed Radiation Safety Officer (RSO) for the University of Missouri – St. Louis, license number 24-00513-38. The current licensed RSO is Robert M. Wester. Mr. Wester's company had been contracted by the University to provide RSO services and manage our radiation safety program. The contract under which Mr. Wester was providing these services ended on November 30<sup>th</sup> 2006.

The position of RSO will be filled by a university employee, Steven D. Struck. Mr. Struck has worked in the radiation safety field for the past 12 years after receiving initial training in the Naval Nuclear Power program. He has worked at the University since March of 2006 acting as Radiation Safety Coordinator, managing the radiation safety contract and preparing for the transition of responsibilities to the Environmental Health and Safety office. His current duties include conducting an audit of the University's Radiation Safety Program, supervising the use of radioisotopes at the University, maintaining a current radioisotope inventory for both licensed users and the waste handling facility, and maintaining records in accordance NRC regulations.

Mr. Struck has received training from the Naval Nuclear Power program, which consists of a rigorous training program with the following coursework:

- Mathematics
- Nuclear Physics
- Electrical theory and equipment
- Reactor plant technology
- Thermodynamics aka Heat Transfer & Fluid Flow
- Chemistry
- Materials engineering and metallurgy
- Health physics
- Reactor principles

Throughout his career as a health physics technician, Mr. Struck has received continuous training on radiation safety principles and contamination control. He has received qualification as a DOE certified Health Physics Technician, and as Radiation Protection Manager for DOE contracts.

After completion of his naval service, Mr. Struck worked for 5 years as the Radioactive Waste Manager of Monsanto in St. Louis, Missouri. Isotopes held under this license consisted of P-32, C-14, H-3, I-125, I-129 S-35, Ca-45, Am-241. His duties as radioactive waste manager included the storage and disposal of waste generated at the facilities research laboratories, maintaining an inventory of radioactive waste at the waste storage facility, maintaining radiological controls at the waste facility and the research laboratories, emergency response and decontamination of radiological spills. Disposal of radioactive material included shipping of radioactive and mixed waste, disposal to sewer of C-14 and H-3 aqueous waste, decay in storage of isotopes with a half life less than 90 days and maintaining records of shipments and disposals for the site.

More recently, Mr. Struck served as the Lead Health Physics Technician for the decommissioning of the Westinghouse Hematite Nuclear Fuel Plant. In this position, he supervised over 10 health physics personnel that provided radiological coverage and support to a contractor's work crew of approximately 50 employees with limited radiological experience. While serving in this position Mr. Struck's duties included the following:

- Provided 100% health physics coverage during decontamination of large quantities of unsealed radioactive source material from equipment and surfaces. Equipment was decontaminated and surveyed for release then removed from the restricted area.
- Issued stop work orders if unsafe activities or unexpected conditions arose i.e. unexpected radiological or safety issues or if work instructions could not be completed safely.
- Performed audits of decommissioning procedures to ensure compliance with NRC licensing basis and NRC regulations. Coordinated with contract supervision to develop radiological controls for project work instructions.
- Performed contamination control, equipment characterization, and routine surveys at the site and reviewed and maintained survey records at the site. Approximately 10 to 15 surveys were completed daily by the health physics staff.
- Calculated dose and assessed the exposure risks for work activities within the restricted area. Investigation of unexpected events that may have contributed to a higher than expected dose i.e. unexpected contamination levels or poor work practices.
- Coordinated with security personnel to ensure the security of the source material
- During NRC inspections Mr. Struck was responsible for escorting the NRC inspector into the restricted area and provided any radiological support the inspector needed. He also participated in interviews with NRC inspectors.

Mr. Struck also served as Radiation Protection Manager for the DOE HISS site in St. Louis Missouri. His duties in this position included review of health physics practices to ensure compliance with procedures and NRC/ DOE/ DOT regulations, maintaining the radiation protection program records and submitting records to archive, performing semi annual source inventory and leak checks (including a moisture density gauge) and providing radiation safety training for personnel.

Mr. Struck has completed a Radiation Safety Officer course given by Nevada Technical Associates in July of 2006. See attachment 1 for a course outline of the training given.

Mr. Struck will be attending Nuclear Gauge Safety Training for nuclear gauge operators given by Troxler for the soil moisture gauge model 4302A listed on our license on January 25<sup>th</sup> 2007

If you have any questions or concerns, please feel free to contact me at (314)516-6363, or you can contact Mr. Struck directly at (314) 516-6362.

Sincerely,

A handwritten signature in black ink that reads "Craig Robinson". The signature is written in a cursive, flowing style.

Craig T. Robinson  
Environment, Safety, and Health Coordinator

Attachments: Radiation Safety Officer course outline, Radiation Safety Officer course certificate.

**Nevada Technical Associates, Inc.  
Radiation Safety Officer  
Course Outline**

1. Introduction
  - a. Course objectives and schedule
  - b. Origins of nuclear science
  - c. Atomic structure, isotopes, nuclear stability
  - d. Equations of radioactive decay
2. Radioactive Decay Processes
  - a. Alpha emission
  - b. Beta emission
  - c. Gamma emission
  - d. Other decay processes
  - e. Statistics of radioactive decay
3. Radiation Detection and Measurement
  - a. Gas-filled chambers
  - b. Scintillation detectors
  - c. Semi-conductors
  - d. Photographic emulsions
4. Interaction of Radiation with Matter
  - a. Modes of interaction
  - b. Heavy charged particle interactions
  - c. Beta particle interaction
  - d. Gamma ray interaction

**e. Neutron interaction**

**5. Biological Effects of Radiation**

- a. Radiation quantities and units
- b. Quality factors
- c. Biological effects
- d. Mechanisms of biological damage
- e. Acute, whole-body gamma radiation
- f. Risk of stochastic effects
- g. Fatality rates in various industries
- h. Radiation dose from natural and man-made sources

**6. Shielding**

- a. Charged particle shielding
- b. Photon shielding
- c. Neutron shielding
- d. Facility shielding

**7. Personnel Radiation Dosimetry Devices and Methods**

- a. External monitoring
- b. External dose evaluation
- c. Internal monitoring
- d. Internal dose assessment

**8. Federal and State Regulations**

- a. Chronology of standards
- b. Sources of standards, recommendations and requirements
- c. Basis of Standards
- d. Current regulations
- e. Licensing procedures

- 9. Radiological Safety Surveys, Records and Documentation**
  - a. Surveys and inspections
  - b. Radiological Controls and ALARA
  - c. Records and documents
  - d. Operating and emergency procedures and document control
- 10. Radioactive Material Transportation and Disposal Regulations**
  - a. Applicable regulations
  - b. Categories, packaging and limits
  - c. Manifests, records, markings, and labels
  - d. Radwaste disposal methods, sites, records and regulations
- 11. Radiological Emergencies**
  - a. Definitions, classifications and phases
  - b. Notifications and assistance
  - c. Response: isolation, radiation and medical evaluations
  - d. Review of accident causes and recent accidents
- 12. Drafting a Radiological Safety Plan (student exercise)**
  - a. Attendees prepare program
  - b. Exercise review

**Steve Struck**

*Has successfully completed the Technical Short Course entitled*

**Radiation Safety Officer**

*July 24 - 28, 2006*

*Presented in Orlando, Florida this 28th day of July 2006*

*By Nevada Technical Associates, Inc.*

Approved for 30.5 CD credits from the American Society of Radiologic Technologists

*Robert Holloway*  
**Robert Holloway, Ph.D**  
*Course Coordinator*





**Environmental Health and Safety**

One University Boulevard  
Saint Louis, MO 63121-4499  
Telephone: 314-516-8363  
314-516-8362  
Fax: 314-516-8309

January 18, 2007

U.S. Nuclear Regulatory Commission  
Region III  
2443 Warrenville Road STE 210  
Lisle, Illinois 60532-4352

RE: Change of RSO for license number 24-00513-38

Ms. Casey,

I am writing this letter to acknowledge and consent to being named as the Radiation Safety Officer for the University of Missouri – St. Louis license number 24-00513-38. I understand the duties and responsibilities of that position.

Sincerely,

A handwritten signature in black ink, appearing to read "Steven D. Struck", written over a horizontal line.

Steven D. Struck  
Radiation Safety Coordinator  
University of Missouri – St. Louis