

## Parker, Bryan

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**From:** Clark, Randal <rcclark@usgs.gov>  
**Sent:** Thursday, April 30, 2015 5:10 PM  
**To:** Parker, Bryan; Carl Orazio  
**Cc:** fproa@usgs.gov  
**Subject:** Re: NRC license amendment  
**Attachments:** RSO Amendement Additional Information Final Signed Copy 4\_30\_2015.pdf

Mr. Parker,

Please see attached file for the additional information that you needed.

Please contact me if you have any additional questions.

Thanks,  
Randal Clark

On Thu, Apr 23, 2015 at 3:14 PM, Parker, Bryan <[Bryan.Parker@nrc.gov](mailto:Bryan.Parker@nrc.gov)> wrote:

Mr. Clark,

I am the reviewer working on the amendment request to replace you as the RSO on the license with Frank Proa. I will need some additional information in order to complete the amendment.

1) We need a Delegation of Authority for Mr. Proa, signed by management and Mr. Proa, accepting the delegation. Attached is a model form you may use for this.

2) Please provide more information regarding Mr. Proa's training & experience as it relates to working with radioactive material. For example, more description on the isotopes and general amounts that he worked with at UC-Santa Barbara and CSU-Humboldt would be helpful.

Also, any additional training to be RSO and/or more description of his training with you during the period of October 2014 to present as noted in your letter would be helpful as well.

You may provide a response to me by email by **attaching a signed PDF letter with the responses.**

If you have any questions, please contact me.

Thanks.

Bryan

*Bryan A. Parker*

Health Physicist

U. S. Nuclear Regulatory Commission - Region III

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# United States Department of the Interior

## U. S. GEOLOGICAL SURVEY

Columbia Environmental Research Center  
4200 New Haven Road  
Columbia, Missouri 65201

Thursday, April 30, 2015

Bryan A. Parker  
Health Physicist  
U. S. Nuclear Regulatory Commission - Region III  
2443 Warrenville Road, Suite 210  
Lisle, IL 60532-4352

SUBJECT: License No. 24-12728-01 Request for Change of RSO, Additional information.

Dear Sir:

Please see the following attachments for the additional information that you requested.

Sincerely,

CERC Center Director, *acting*



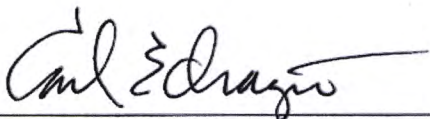
**ATTACHMENT: Delegation of Authority**  
License No. 24-12728-01

Memo To: NRC, Affected Branch Chiefs, Radiation Safety Officer  
Date: April 30, 2015  
From: Center Director

Subject: CERC RSO Appointment and Delegation of Authority, NRC License No. 24-12728-01

Dear Sir:

You, Frank Proa, have been appointed Radiation Safety Officer and are responsible for ensuring the safe use of radiation at CERC. You are responsible for managing the Radiation Protection Program; identifying radiation protection problems; initiating, recommending, or providing corrective actions; verifying implementation of corrective actions; stopping unsafe activities; and ensuring compliance with regulations. You are hereby delegated the authority necessary to meet those responsibilities, including prohibiting the use of radioactive material by employees who do not meet the necessary requirements and shutting down operations where justified to maintain radiation safety. You are required to notify management if staff does not cooperate and does not address radiation safety issues. In addition, you are free to raise issues with the Nuclear Regulatory Commission at any time.

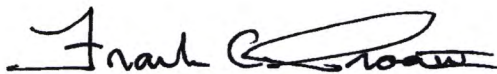


Signature of Center Director, *acting*

4-30-2015

Date

I accept the above responsibilities



Signature of Radiation Safety Officer Appointee

30 APR 2015

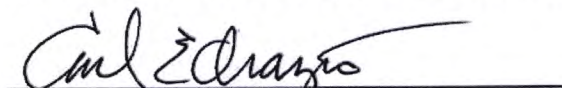
Date

**ATTACHMENT: Authorities, Duties, and Responsibilities of the Columbia Environmental Research Center (CERC) Radiation Safety Officer (RSO)**  
License No. 24-12728-01

The duties and responsibilities of the Columbia Environmental Research Center (CERC) Radiation Safety Officer (RSO) include ensuring radiological safety and compliance with NRC and DOT regulations and the conditions of the radioactive materials license.

CERC RSO authority, duties, and responsibilities include the following:

- Provide Radiation Safety and Radiation Protection Program oversight;
- Ensure the CERC Radiation Protection Program is up-to-date;
- Ensure elements of the Radiation Protection Program are developed, distributed, and implemented;
- Perform audits of the Radiation Protection Program are performed at least annually and documented;
- If violations of regulations, license conditions, or program weaknesses are identified, ensure effective corrective actions are developed, implemented, and documented;
- Ensure an up-to-date license is maintained, and amendment and renewal requests are submitted in a timely manner;
- Ensure compliance of radiation workers and areas;
- Ensure licensed material is properly secured;
- Ensure proper authorities are notified of incidents such as loss or theft of licensed material, damage to or malfunction of sealed sources, and fire;
- Ensure licensed material is disposed of or transferred properly and only to authorized entities;
- Ensure licensed material is transported, or offered for transport, in accordance with all applicable DOT requirements;
- Ensure appropriate records are maintained;
- Authority to ensure radiation exposures are ALARA;
- Authority to stop unsafe activities involving licensed material;
- Ensure possession, use, and storage of licensed material are consistent with the limitations in the license, the regulations, the SSDR certificate(s), and the manufacturer's recommendations and instructions;
- Ensure an accurate and timely inventory of CERC radioactive materials;
- Conduct personnel training commensurate with the duties regarding licensed material;
- Ensure radiation workers receive initially and annual training;
- Maintain documentation to demonstrate that individuals are not likely to receive, in 1 year, a radiation dose in excess of 10% of the allowable limits or that personnel monitoring devices are provided;
- Maintain records of the results personnel monitoring devices and ensure they are used and exchanged at the proper intervals;
- Maintain documentation to demonstrate, by measurement or calculation, that the total effective dose equivalent to the individual likely to receive the highest dose from the licensed operation does not exceed the annual limit;
- Report medical events and precursor events to the NRC, investigate causes and ensure appropriate corrective actions are identified, and implemented in a timely manner

  
Signature of Center Director, *acting*

4-30-2015  
Date

  
Signature of Radiation Safety Officer Appointee

30 APR 2015  
Date



**ATTACHMENT: Summary of Relevant Training and Experience for Frank Proa at CERC  
License No. 24-12728-01**

**(AUG13-Present) Summary of Training Received from CERC RSO (Randal Clark):**

- Radioactive materials security
- Radiation Program recordkeeping
- Transfer and receipt radioactive materials
- Storage and inventory of radioactive materials
- Shipment and disposal of radioactive waste
- Decommissioning of radiation areas
- Operation of radiation measuring devices
- Radiation monitoring of employees and radiation use areas
- Calculations and conversion of radiation activity units
- Radiation worker safety and protection (ALARA, administrative and industrial controls)
- Biological effects of radiation
- Incidental spill response
- Review of CERC's NRC License and Radiation Program and NRC License amendment process

Isotopes handled/used at CERC include: <30 mCi H-3, <50 mCi C-14, <124 mCi Ni-63, and <5.0 mCi of every isotope in CERC radiation inventory.

**(AUG13-Present) Summary of Formal Radiation Safety Related Training:**

(MAR15) NRC General Licenses (USGS in Denver CO)  
(MAR15) Chemical Hygiene (USGS in Denver CO)  
(DEC14) University of Missouri Hazardous Waste Management Institute (HazMat Shipping)  
(NOV14) University of Missouri ACS Chemical Safety Management Institute (Chemical Hygiene)  
(NOV14) Safety: Resources, References, and Standards  
(SEP14) Safety: Authorities, Roles, and Responsibilities  
(SEP14, SEP13) Site Specific Radiation Safety Training  
(NOV13) USGS: Safety Hazard Communication

**(AUG13-Present) Summary of Informal Radiation Safety Program Experience:**

Radiation Security Review; Radiation Disposal Rules Review; Decommissioning Rules Review; DOT and IATA Radiation Shipment Rules; Review of EPA and NRC Rules Involving NORM and TENORM; Review of OSHA, DOT, DOI, and USGS Radiation Policies; Receipt and Deployment of Personal Dosimeters

  
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Signature of Radiation Safety Officer Appointee

30 APR 2015  
Date

  
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Signature of Center Director, *acting*

4-30-2015  
Date



**ATTACHMENT: Radiation Related Education and Work Experience for Frank Proa**  
License No. 24-12728-01

**Formal Education:**

(2008) B.S. in Chemistry and Applied Mathematics

(2010) Masters in Chemistry (Emphasis in Hybrid Materials and Theoretical Chemical Physics)

**Work History and Experience:**

**(SEP14-Present)** US Geological Survey, Columbia MO: Environmental, Safety, and Radiation Programs Manager (in Training)

**(AUG13-Present)** US Geological Survey, Columbia MO: Radiation Worker and Analytical Chemist in Environmental Forensics

**(2010-2014) Technology and Scientific Consultant**

Theoretical simulations for nuclear reactors and quantum electrodynamics.

**(2008-2010) UC Santa Barbara:** Radiation Worker, Graduate Student, Lab Instructor, and Research Assistant working with ionizing and nonionizing, atomic and electromagnetic, radiation sources, and, theoretical simulations of nuclear electro-dynamics and neutron scattering.

Summary of Papers, Posters, and Presentations on Radiation Related Topics Include:

- Free Electron and Plasma Laser Theory
- Electrodynamics of Nonlinear Optics
- Cherenkov Radiation
- BCS Theory of Superconductivity

Radiation handled/used includes: H-3, C-14, mixed isotope heavy metals in less than exempt quantities (see 10 CFR § 30.71 Schedule B) for advanced opto-electronic and magnetic materials and advanced electromagnetic sources for materials characterization.

**(2003-2008) CSU Humboldt:** Radiation Worker, Student, and Research Assistant working with ionizing and nonionizing, atomic and electromagnetic, radiation sources, and theoretical simulations for nuclear reactions. Summary of Papers, Posters, and Presentations on Radiation Related Topics Include:

- Anatomy of Nuclear Weapons and their Detonation
- Transmutation and Separations of Nuclear Materials for Advanced Fuel Cycles
- Advanced Passive Reactor Safety Features (Fuels and Designs)
- A Finite Unbound Universe and the Implications for Dark Stuff
- Life Cycles of Stars

Radiation handled/used includes: H-3, C-14, mixed isotope heavy metals in less than exempt quantities (see 10 CFR § 30.71 Schedule B) as analytical tracers, and, for synthesis of advanced opto-electronic and magnetic materials. Electromagnetic sources used for materials characterization.

**(1996-2003) U.S. Navy:** Nuclear, Bio, and Chem Casualty Rapid Response Team and Reactor Emergency Response Team Member aboard USS Enterprise. Trained to aid in response to a nuclear incident involving 2 of 8 nuclear reactors or a nuclear attack for the purpose of firefighting, and, containment, isolation, and decontamination of personnel and equipment.

  
Signature of Radiation Safety Officer Appointee

30 APR 2015  
Date