

## Gryglak, Magdalena

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**From:** Gryglak, Magdalena  
**Sent:** Thursday, September 19, 2019 8:32 AM  
**To:** Lannutti, Nick  
**Subject:** Request to name J. Whitlock as an ARSO, NRC license no. 24-00866-02, Mercy Hospital Springfield  
**Attachments:** 0560\_001.pdf

Good morning Mr. Lannutti,

I have reviewed your request to name a new ARSO, J. Whitlock on the subject license.

You described some of the training for the use of the blood irradiator such as the security requirements.

Please review the guidance in NUREG 1556, Volume 5, Revision 5, Section 8.7.1. specific to the RSO/ARSO training required for the use of the blood irradiator.

Please describe Mr. Whitlock training specific to the blood irradiator capturing the training elements listed in the referenced guidance (see the attached excerpt from NUREG 1556).

Please provide your response in a signed and dated letter by October 4, 2019. You may email your response directly to me.

Thank you

Magdalena R. Gryglak  
U.S. NRC Region III  
630-829-9875

**APPENDIX F**  
**MODEL SELF-SHIELDED IRRADIATOR TRAINING PROGRAM**

## **Model Self-Shielded Irradiator Training Program**

To ensure the control and security of licensed material, licensees should provide individuals with training commensurate with their assigned duties. Irradiator users should be trained prior to first use of the irradiator. Irradiator users may receive training from the irradiator manufacturer or distributor, the radiation safety officer (RSO), or an authorized user (AU).

If the self-shielded irradiator licensee also maintains another U.S. Nuclear Regulatory Commission (NRC) or Agreement State license (e.g., broad scope medical, academic, research and development, etc.), training material may be incorporated into the overall radiation safety training program by the licensee to address the various licensed activities.

### **Course Content**

Training may be in the form of a lecture, DVD or other video, webinar, hands-on activity, or self-study; training emphasizes practical subjects important to the safe use of the self-shielded irradiator:

- Radiation Safety
  - characteristics of types of radiation
  - units of radiation dose and quantity of radioactivity
  - radiation vs. contamination
  - internal vs. external exposure
  - biological effects of radiation
  - types and relative hazards of radioactive material possessed
  - "as low as reasonably achievable" (ALARA) philosophy
  - use of time, distance, and shielding to minimize exposure
  - use of radiation detection instruments
- Regulatory Requirements
  - applicable parts of Title 10 of the *Code of Federal Regulations* (10 CFR), "Energy," of 10 CFR Parts 19, 20, 21, and 30
  - locations of use and storage of radioactive materials and devices containing radioactive materials
  - material control and accountability
  - security of radioactive materials and devices containing radioactive materials
  - annual reviews of radiation safety program content and implementation
  - license conditions, amendments, and renewals
  - occupational and public dose limits
  - transfer and disposal
  - applicable U.S. Department of Transportation regulations and 10 CFR 71

- recordkeeping
- reporting requirements for nationally tracked sources
- reporting requirements for theft or loss, incidents, exposures, etc.
- licensing and inspection by regulatory agency
- need for complete and accurate information (10 CFR 30.9)
- employee protection (10 CFR 30.7)
- deliberate misconduct (10 CFR 30.10)
- security (10 CFR 37)
- Practical Explanation of the Theory and Operation of Each Irradiator Possessed by the Licensee
  - routine vs. nonroutine maintenance
  - operating and emergency procedures
  - prior events involving self-shielded irradiators
- Appendix O provides additional information for licensee staff who will perform nonroutine maintenance.

### **Training Criteria**

The RSO and AUs should have successfully completed the following:

- an irradiator manufacturer's or distributor's course for users (or equivalent)

**AND**

- at least 8 hours of hands-on experience with a self-shielded irradiator

Additionally, the RSO should have successfully completed a radiation safety officer training course.

### **Training Assessment**

Management will ensure that potential RSOs and AUs are qualified to work independently with each type of the licensee's irradiators. This may be demonstrated by written or oral examination or by observation.

### **Training Documentation**

Training should be documented, including course outlines and materials and results of testing. Maintain records of training for 3 years after the last use of licensed material by the user.

### **Training Frequency**

#### **Radiation Safety Refresher:**

Radiation safety refresher training should be performed whenever there is a change in duties or the work environment (e.g., new make and model of irradiator, new location) and at a frequency sufficient to ensure that all irradiator users are adequately trained.

See Section 8.10.6.2 of this NUREG for information on the training required for security.