

From: [Stokley, Matthew Brian MAJ USARMY 20 CBRNE \(USA\)](#)
To: [Ullrich, Betsy](#)
Cc: [McIver, Monique M CPT USARMY 20 CBRNE \(USA\)](#)
Subject: [External_Sender] RE: RE: additional information requested about the proposed new RSO (UNCLASSIFIED)
Date: Friday, July 8, 2022 1:12:48 PM

CLASSIFICATION: UNCLASSIFIED

Good Afternoon, Ma'am,

I have no issue with my previous email or this one being place in ADAMS. Thank you for asking.

CPT McIver's work here has required her to run the source use, control, management, and overall radiation safety of her team's NRC licensed material to include neutron sources. This includes all of the routine sealed source required functions of proper handling, dose control, leak testing, inventory and security. The additional aspects of these tasks has of course evolved to using the appropriate neutron detection, survey and dose monitoring equipment required. Of which she had already had academic and laboratory experience through her courses as previously mentioned (primarily at ORAU's Applied Health Physics Course). She has also received OJT training on the use and function of the Portable Isotopic Nuclear Spectroscopy (PINS) systems utilizing prompt neutron activation analysis. We are coordinating her a specific rundown of the standard operating procedures with the authorized user for these systems and this was planned to be conducted upon her appointment as RSO within mid-July but will most likely occur before the appointment confirmation now. (Same timeframe of Mid-July) In a related area, CPT McIver's team mission set, if activated in support of the DOE or other agencies as requested during emergency operations, encompasses the potential to collect samples requiring CPT McIver to become familiar with general neutron spacing/shielding and hazard awareness to reduce likelihood of criticality issues. This did not consist of the level of criticality management supported by modeling critical masses or calculating reactivity thresholds as that would not be prudent for fieldwork and in such missions the team would be supported by the requesting organization (most likely DOE) for such analysis.

In addition to the above, upon talking with CPT McIver, I was informed that she also has some experience within her chemistry degree/research in conducting nondestructive elemental analysis with gamma spectroscopy. This technique is often conducted by delayed neutron activation of samples. From my understanding, it was limited but I still thought it pertinent.

Respectfully,

Matthew B. Stokley
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-----Original Message-----

From: Ullrich, Betsy <Elizabeth.Ullrich@nrc.gov>
Sent: Friday, July 8, 2022 7:09 AM
To: Stokley, Matthew Brian MAJ USARMY 20 CBRNE (USA) <matthew.b.stokley.mil@army.mil>

Subject: [Non-DoD Source] RE: RE: additional information requested about the proposed new RSO (UNCLASSIFIED)

You are correct that the CV does not provide detail of the courses, and very few courses deal with neutron sources.

If you would provide some detail on the OJT with the neutron sources, that would be helpful.

For this additional training and experience information regarding neutron sources, please let me know if placing your email in ADAMS is acceptable to you. If not, I will need that information in a letter attached to the email, so the letter can be placed in ADAMS.

Betsy

-----Original Message-----

From: Stokley, Matthew Brian MAJ USARMY 20 CBRNE (USA) <matthew.b.stokley.mil@army.mil>

Sent: Thursday, July 07, 2022 3:54 PM

To: Ullrich, Betsy <Elizabeth.Ullrich@nrc.gov>

Subject: [External_Sender] RE: additional information requested about the proposed new RSO (UNCLASSIFIED)

CLASSIFICATION: UNCLASSIFIED

Afternoon, Ma'am,

CPT McIver received extensive training beyond the typical medical RSO purview within the Oak Ridge Associated Universities' (ORAU) Health Physics Course and during that course she covered safety and management aspects of all sealed sources, neutron generating sources included, as well as advanced topic such as accelerators, Gamma spectroscopy, nuclear reactor health physics, internal and bio-dosimetry, radiological shielding analysis, and Class 7 packaging and transportation among many other topics. She has also received all hazard radiation control, dose assessment, and emergency response training with ORISE, attended Defense Nuclear Weapons School Applied Radiological and Response Technique courses dealing with management and control of all forms of radiological hazards, neutron generating sources included, and covered the medical aspects of radiological protection for radiological hazards ranging from point sources up to nuclear weapon detonations through the Armed Forces Radiobiology Research Institute's MEIR course. These items are listed on her 313A and CV. CPT McIver has worked within the unit going on a year gaining on-the-job experience/knowledge of these system's mission use. With these items we felt she had the tools needed to transition to the administrative role focusing on managing the license and radiation safety program. Of 'course she will also have the support of her authorized users. What would be an acceptable way to document this experience for the amendment? It is listed on her CV but, as with most CVs, it doesn't get into the intricate details. Any guidance you have would be appreciated. Thank you, Ma'am.

Respectfully,

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-----Original Message-----

From: Ullrich, Betsy <Elizabeth.Ullrich@nrc.gov>

Sent: Thursday, June 30, 2022 9:57 AM

To: Stokley, Matthew Brian MAJ USARMY 20 CBRNE (USA) <matthew.b.stokley.mil@army.mil>; McIver, Monique M CPT USARMY 20 CBRNE (USA) <monique.m.mciver.mil@army.mil>; Wyatt, Walter D Jr CIV USARMY 20 CBRNE (USA) <walter.d.wyatt.civ@army.mil>

Subject: [Non-DoD Source] additional information requested about the proposed new RSO

All,

The vast majority of experience of the proposed RSO is with medical, largely short-lived material. Although most of the authorized materials on the CBRNE license are small calibration and reference sources, the neutron generator tubes present a much different radiation hazard than the other items on the license, and I don't see any experience with neutron materials. I do note that the proposed RSO has been working at CBRNE since September 2021.

Please provide any documentation of training/experience with the neutron generators or similar devices or radioactivity.

Thanks,

Betsy

Betsy Ullrich, Senior Health Physicist

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