

MC # 612474
Lic # 11-27382-01

University of Idaho

August 28, 2019

Environmental Health and Safety

Ms. Michelle M. Hammond, M.Sc.
Health Physicist
Materials Licensing and Decommissioning Branch
Region IV-Division of Nuclear Materials Safety
United States Nuclear Regulatory Commission
Region IV
1600 E. Lamar BLVD
Arlington TX 76011-4511

875 Perimeter Drive MS 2030
Moscow, ID 83844-2030

Phone: 208-885-6524
Fax: 208-885-5969

Dear Ms. Hammond,

The University of Idaho has a broad scope license number 11-27382-01 from the NRC. According to our license, we are allowed up to 40 curies of Krypton-85 gas housed in a leak detection unit, Radiflo Mk V, S/N 2495.

The University of Idaho is seeking the NRC's approval to decommission the Radiflo Mk V unit, S/N 2495 and return the unit to the manufacturer. according to the protocol below.

The university of Idaho will hire a service provider with exclusive federal jurisdiction in the state of Idaho to perform the decommissioning activities and to transfer the leftover quantity of the gas to another NRC licensee, Rink International, NRC license #11-27756-01.

If you have any questions, please let me know.

Sincerely,



Samir Shahat, Ph.D.

RSO, and Director of Environmental Health and Safety

PUBLIC

- Immediate Release
- Normal Release

NON-PUBLIC

- A.3 Sensitive-Security Related
- A.7 Sensitive Internal
- Other: _____

Reviewer: MSD

Date: 8/29/19

Decommissioning Protocol:

The homogenous gas mixture of ^{85}Kr /air in the tool was sampled on July 17th, 2015. At the time, the specific activity of the gas mixture was 129 uCi/atm-cc, with a storage pressure of 112 PSIA, and a total Curie content of 8.83 Ci +/- 10%. Currently, as of December 21st, 2018, because of radioactive decay, it was determined that 7.05 Curies of ^{85}Kr gas remain in the 8,988 cc storage tank, with a specific activity of 103 uCi/atm-cc. The storage tank pressure used in the calculations was 112 PSIA.

1. The university of Idaho would like to keep our future options open and keep the Kr-85 item on our license.
2. The service provider will transfer the ^{85}Kr /air gas mixture to another RAM licensee, Rink International, NRC license #11-27756-01, using Class 7A, type A, shipping containers.
3. After the Nuclear Regulatory Commission approves the transfer, the service provider will schedule the service. The collection and transfer of the gas will be performed observing ALARA principles, until less than 200 millicuries of ^{85}Kr remain in the machine.
4. Besides the continuous HVAC system above the radiFlo unit that vents continuously to the atmosphere, there will be continuous monitoring of the exposure levels around the tool, and all contaminated devices, using handheld survey meters during the relocation to Rink International. The Kr-85/air mixture will be stored in a vessel sealed with a hand valve. There will be no release of Kr-85 into the environment. The controlled area and the exhaust system will be surveyed for contamination, including wipe tests, and a final report issued for release of occupation”
5. Once exposure readings around the machine are less than twice background, the machine is then removed from the room under the service provider’s supervision, along with all accessory pieces of equipment and contaminated parts, and shipped to the manufacturer, with the appropriate labeling, for complete dismantling and disposal. When the equipment is shipped, it is transferred to the manufacturer (IsoVac Engineering Inc.’s California Byproduct Materials license number 1673-19, amendment number 35).
6. A radiation survey, including a wipe test, will be performed on the University of Idaho facility where the Radiflo Mk V is housed.
7. Upon receipt of the equipment at the manufacturer’s site, it will be completely dismantled, separated, deactivated, and any residual contaminated parts and materials are compacted and shipped to a low-level nuclear waste facility for disposal.
8. Following the final disposal of the equipment residues, the manufacturer will provide a confirmation of disposal of the equipment and a facility survey to the University of Idaho.