

From: [Ullrich, Elizabeth](#)
To: afrye@argos-us.com
Subject: additional information needed for your amendment request, following review of the 8/15/19 information
Date: Wednesday, September 04, 2019 6:24:00 AM

License No. 47-11451-01
Docket No. 030-06692
Control No. 612632
Argos

Mr. Frye,

This refers to the additional information provided in your letter dated August 14, 2019:

1. Your list of definitions does not include the term “source holder”, which is used throughout the procedures for non-routine maintenance. Confirm if “source holder” refers to the gauges you are authorized to possess under the NRC license, or if it has a different meaning.
2. It is not sufficient to state that any “Advanced Authorized User” may perform non-routine duties, as stated under “Training Program,” that persons will complete a 40-hour training course authorized by the Agency” . There are no 40-hour training courses pre-approved by the NRC; nor do our regulations contain a list of subjects that should be covered in training courses. We review training on a case-by-case basis. In accordance with the NRC guidance in Appendix J of NUREG 1556, volume 4, Revision 1, please identify the individuals who will perform non-routine operations, and describe their training and experience. We need the names of the individual(s). For each, provide a training description that includes the course topics and duration of training, including hands-on training; and the description of experience should include the types of gauges and quantities of materials handled, as well as the length of experience and where the experience was gained.
3. Please explain the purpose of the fifth paragraph under the heading “Gauge Instructions”, which discusses the air gap. It is unclear what this information is to be used for.
4. The gauge instructions state that “calculated exposure shall be conducted...the AAU shall utilize the calculated exposure as the assigned dose for workers for that task.” However, Appendix J of NUREG 1556, Vol 4, Rev 1 states that you should confirm that individuals performing non-routine activities will wear both a whole body and extremity dosimeters, OR perform a prospective evaluation demonstrating that unmonitored individuals are not likely to receive a dose in excess of the limits in 10 CFR 20.1502(a). Those limits in 1 year are, in part, 500 millirem to the whole body and 5 rem to the skin of the whole body or the extremities for adults; in addition, any individual entering a high or very high radiation area must be monitored. The prospective (calculated) doses must be added for each task performed throughout the year to obtain the total dose for the year. Confirm that whole body and extremity dosimetry will be issued to any individual performing non-routine activities, unless the prospective dose evaluation demonstrates that unmonitored individuals are unlikely to exceed the 20.1502(a) limits in 1 year.

5. The statement that the public dose limit is "2 mR/hr" is not quite correct. The public dose limit from external radiation sources is 2 millirem in any one hour, therefore higher doses at shorter durations could be possible. However, using 2 mR/hr as an internal criteria is conservative and therefore acceptable. Also, please note that the NRC regulations do not include a posting of "Radiation Hazard" as stated in the section "Postings" in your procedure, so only a "Caution – Radiation Area" sign is acceptable. Confirm that these items will be corrected.
6. The statement that "work conducted in an area where the exposure rates are less than defined as 'Radiation Area' does not require personnel monitoring" is not quite correct. The duration of work in that area could result in doses that exceed the requirements for monitoring as described in Item 4 above. For example, if an area had a reading of 2 millirem per hour, a worker spending 250 hours in that area during a year would reach 500 millirem, above which monitoring is required. A "Radiation Area" is defined as an area that could result in an individual receiving 5 millirem in 1 hour at 30 centimeters (12 inches) from the radiation source; at that dose rate, monitoring would be required if the individual worked more than 100 hours in that area in a year. Please revise this section of your Gauge Procedures.
7. The following refers to the "Radioactive Materials Management Audit Checklist":
 - a. Item 5 asks if each source has been tested for leakage at intervals not to exceed 6 to 36 months, depending on the radioisotope. Please note that the leak test interval is specified in the Sealed Source and Device Registry Certificate, and depends on the device and its use, not the radioisotope.
 - b. Fixed gauges are required to be labeled "Caution – Radioactive Materials" not "Caution Radiation" as stated in Item 14. Most also are required to have a metal tag identifying the radionuclide, quantity as of a specified date, and serial number.
 - c. The checklist refers to "sources" rather than gauges or source holders; is this intended? Also, the audit checklist does not address the following items that likely would be reviewed during an NRC inspection:
 - i. Completion of requirements for shutter and indicator testing of the fixed gauges, and the results of testing;
 - ii. review of gauges that are in storage;
 - iii. confirmation that gauges removed from service were transferred or disposed of properly;
 - iv. completion of the annual program review required to 20.1101(c);
 - v. availability and completeness of records required to be maintained.

Please respond to this request for additional information in 30 days. Your response may be a pdf of an originally signed letter sent to R1DNMSCAL.RESOURCE@nrc.gov. Please refer to Mail Control 612632 so that the incoming response is tracked correctly. Alternately, a hard copy letter may be sent to our regular mailing address.

If you have any questions, please contact me.
Betsy

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