



January 7, 2019

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D.C. 20555

RE: Response to Notice of Violation (USNRC Inspection No.: 03006692/2018001)

Dear Mr. Burritt:

This correspondence is in response to the Notice of Violation dated December 12, 2018. Our reply responds to the initial paragraph describing the concern regarding the security of the Cf-252 sources then our reply will respond in the same alphabetical order as your lettered violations.

First, regarding the inspector's comments regarding the security of the device and the handling of the keys by the facility.

**Response:** During the review, the items were identified and the security of the device was finalized. Also, this was an awareness issue of the newly incoming RSO that needed to be resolved. The keys are now under the RSO's responsibility only. The location of the replacement Cf-252 is fixed and determined to be in a low access area with maximum security. To enhance this security, the company will be revamping its Radiation Protection Program to include a more heightened awareness by all applicable personnel.

*A. Paragraph 10 CFR 30.51 (a)(1) requires that each licensee keep records showing the receipt, transfer, and disposal of byproduct material. The licensee shall retain each record of receipt of byproduct material as long as the material is possessed and for three years following transfer of the material.*

*Contrary to the above the licensee did not keep records showing the receipt and transfer of fixed gauging devices containing byproduct material, and did not retain records of receipt while the material was possessed. Specifically, as of June 26, 2018, the licensee did not keep records of receipt and transfer of Californium-252 source exchanges, or retain records for three years following transfer of the material.*

*This is a Severity Level IV violation (Enforcement Manual Section 6.3).*

**Response:** Since the records of transfer were not immediately available for inspection, it appears that the violation statement that the "licensee did not keep records" may be true. However, after the inspection, the transfer and receipt records were recovered, signed by the RSO and filed.



**These records were provided to the inspector on August 22, 2018. So, the violation is partially acknowledged as it was unavailable to be reviewed. The corrective steps are following: 1) The RSO is obtaining a mentoring session from the consultant in the day-to-day tasks of the RSO to include keeping track of all sources on site; 2) A logbook is developed to provide a centralized storage location for all important documents required under this license; and 3) A revamping of the Radiation Protection Manual to provide more detailed duties of the RSO at the site to include the maintaining of Receipt/Transfer records.**

*B. NRC License 47-11451-01, Amendment No. 24, Condition 15, requires, in part, that the licensee conduct a physical inventory every six months, or at intervals approved by the U.S. Nuclear Regulatory Commission, to account for all sources and/or devices received and possessed under the license. Condition 15 also requires that records of inventories be maintained for 3 years from the date of each inventory and include the radionuclide, quantities, manufacturer's name and model number, and the date of the inventory.*

*Contrary to the above, for three years prior to June 26, 2018, the licensee had not conducted physical inventories every six months to account for all sources and or devices possessed under the license. Specifically, the licensee possessed fixed gauge devices under the license and, as of June 26, 2018, had not conducted a physical inventory for the previous three years, a period great than six months.*

This is Severity Level IV violation (Enforcement Manual Section 6.3)

**Response: It appears that reason for the lapse in performance of this task was a specific inventory format was not adequately developed in order for the new incoming RSO to step into this task. Additionally, the Advanced Radiation Protection training (40-hour) that the new RSO recently attended provided general details of the duties of the RSO and minimal "how to's" for fixed industrial gauges. These reasons plus the outgoing RSO was moved to other duties, resulted in minimal transition.**

**With the addition of the radiation safety consultant providing immediate response to these deficiencies and the desire of our current RSO to overcome these issues, we feel that the progress to correct these problems will be swift. In addition, an excel spreadsheet to document the details of the inventory plus other tasks has been developed and will be used shortly. Also, the company will have the consultant provide 8-hour Authorized User training for new and existing users and refresher training for trained personnel in the first quarter of 2019. The new RSO will be a part of the training to ensure that the details required in the inventories are complete. And finally, the upcoming revisions to the Radiation Protection Manual will provide additional detailed procedures to enhance the proper execution of this task.**



*C. NRC License 47-11451-01, Amendment 24, Condition 14 A. requires, in part, that sealed sources shall be tested for leakage or contamination at intervals specified in the certificate of registration. The certificate of registration (TN-1031-D-101-B) for the sealed sources possessed by the license requires leak testing every 3 years.*

*Contrary to the above, the licensee failed to leak test sealed sources at the required intervals. Specifically, Cobalt-60 sealed sources were not leak tested between March 17, 2013 and March 17, 2017, an interval great than 3 years.*

*This is a Severity Level IV violation (Enforcement Manual Section 6.3)*

**Response:** It appears that Argos did not provide the adequate time tasking requirements to ensure that this particular task was performed in a timely manner. The specific leak tests are scheduled for January 23, 2019. Additionally, the following actions have been implemented to ensure that this does not repeat:

1. The gauges with the specific leak test frequencies are delineated on the newly created inventory form (copy attached). The RSO has the responsibility to issue the task order to the staff for implementation. The RSO will use this form to ensure the timeliness of the respective tasks on the inventory form.

2. The upcoming 8-hour Authorized User training will reinforce the requirements of the Authorized Users (AUs) and their responsibilities. In addition, specific training to the AUs will be provided on "how to" do leak testing of sealed sources.

3. The upcoming revised Radiation Protection Manual will provide additional detail for the RSO and the staff in implementing the leak testing program.

*D. NRC License 47-11451-01, Amendment No. 24, Condition 14E. requires, in part, that analysis of leak test samples shall be performed by persons specifically licensed by the USNRC or Agreement State to perform such services.*

*Contrary to the above, between March 17, 2013 and June 26, 2018, leak test samples were taken by the licensee but sample analysis was not performed by persons specifically licensed by the USNRC or Agreement State to perform such services.*

*This is a Severity Level IV violation (Enforcement Manual Section 6.3).*

**Response:** It is recognized that Argos did not send the leak test samples to an authorized laboratory. From this point on, the RSO is aware of the requirements of the chain-of-custody of leak test samples and need for them to be forwarded to an authorized laboratory for analysis. Argos has retained a Radiation Safety Consultant to perform the required leak testing. This consultant has obtained the leak test kits and testing will be performed on January 23, 2019. After proper training by the AUs in the collection of the samples, the RSO will survey then forward the samples to the authorized recipient. These will be revised in the upcoming changes to the Radiation Protection Manual.



E. NRC License 47-11451-01, Amendment No. 24, Condition 15, requires, in part, that the licensee shall test each gauge for the proper operation of the on-off mechanism (shutter) at intervals not to exceed six months or at such longer intervals as specified in the certificate of registration issued by the USNRC pursuant to 10 CFR 32.210 or the equivalent regulations of an Agreement State.

Contrary to the above, as of June 26, 2018, the licensee did not test each gauge for the proper operation of the on-off mechanism (shutter) since 2015, an interval which exceeds six months.

This is a Severity Level IV violation (Enforcement Manual Section 6.3).

**Response:** It appears that Argos did not provide the adequate measures to ensure that this procedure was performed in a timely manner. The following actions have occurred to ensure that this does not repeat:

1. The gauges are delineated on the newly created inventory form. The RSO then has the responsibility to issue the task order to the staff for implementation. The RSO will use this form to ensure the timeliness of the respective tasks.

2. The upcoming 8-hour Authorized User training will reinforce the requirements of the Authorized Users (AUs) and their responsibilities. In addition, specific training to the AUs will be provided on "how to" do shutter checks of the source holders.

3. The upcoming revisions to the Radiation Protection Manual will provide additional detail for the RSO and the staff in implementing the shutter check program.

F. 10 CFR 20.1101(c) requires that the licensee shall periodically (at least annually) review the radiation protection program content and implementation.

Contrary to the above, for the calendar years 2015-2017, the licensee did not perform a review of the radiation protection program content and implementation, as required.

This is a Severity Level IV violation (Enforcement Manual Section 6.3).

**Response:** It is recognized that this task was not formally performed or documented. With the assistance of our radiation consultant, a review of the program was conducted on November 28, 2018. This report provides many details that will be used to assist the RSO in enhancing this program. One primary recommendation was the revamping of the Radiation Protection Manual. This will include the checklist of the review that the RSO is to ensure is performed annually. This topic will also be included in the upcoming training that will be provided in January of 2019.



**In addition to be the above comments, the following is a synopsis of the overall plan to rectify the current compliance condition:**

**1. The RSO will have the Radiation Protection Manual (RPM) redone and submitted to the USNRC Licensing branch for review and approval within the 1<sup>st</sup> QTR of 2019.**

**2. Authorized User (8-hour) training will be provided on January 23, 2019 to key personnel to ensure their knowledge of the requirements of this license is understood.**

**3. The RSO will work with the radiation safety consultant in establishing task ordering time lines to ensure that tasks with time period requirements are not missed.**

**4. The RSO has received a LOGBOOK to property file ALL the necessary documents to make ready for any upcoming USNRC inspections.**

**5. A newly developed INVENTORY form has been created to assist the RSO in maintaining time lines.**

If you need further information or explanation, please contact us.

Sincerely,

A handwritten signature in blue ink, appearing to read "Heinz Knöpfel".

Heinz Knöpfel  
Plant Manager

Enc. Inventory form

C: USNRC Regional Administrator, Region I  
2100 Renaissance Blvd  
King of Prussia, PA 19406-2713

Andrew Frye, RSO  
Ben Warren, Applied Environmental Consulting, Inc.

Physical Inventory of Sealed Sources - Required Semi-Annually

Date:

Number	Location	Source Holder Serial Number	Source Holder Manufacturer	Manufacturer Model Number	Radioactive Material Isotope	Original Source Activity (mCi)	Original Source Manufacturer Date	Proper Shutter Operation (Y/N/NA)	Is Posting Adequate? (Y/N)	General Physical Condition (Good, Fair, Poor) If Fair or Poor, explain (task order required)	Authorized User Initials	Inspection Date	Leak Test Date	Leak Test Next Due	Gauge Maintenance Action Items	
<b>Specifically Licensed Sources</b>																
Number	Source	SN	Source Holder													
1	Quarry Cross Belt Analyzer (CB-Omni)	822316	Thermo Gamma Metrics		Californium-252					NA	Yes	Good	7/24/18	7/24/2018	4/11/2019	
2	Raw Mill (Additives) Cross Belt Analyzer	821112	Thermo Gamma Metrics		Californium-252					NA	Yes	Good	7/24/18	7/24/2018	4/11/2019	
3	Stage 3 CO-60	1899-12-10	Berthold Technologies		Cobalt-60					See Schedule	Yes	See Schedule		Scheduled 1-25-19		
4	Stage 4 CO-60	1901-12-10	Berthold Technologies		Cobalt-60					See Schedule	Yes	See Schedule		Scheduled 1-25-19		
5	Stage 5 CO-60	1900-12-10	Berthold Technologies		Cobalt-60					See Schedule	Yes	See Schedule		Scheduled 1-25-19		
6	Lime Slurry Area	7285CP	Vega	SHLD1	Cesium-137					See Schedule	Yes	See Schedule		Scheduled 1-25-19		
7	Cooler Cyclone	7476CO	Vega	SHLD1	Cesium-137					See Schedule	Yes	See Schedule		Scheduled 1-25-19		
8																
9																
10																
11																
12																
13																
14																
15																
16																
17																
18																
19																
20																

**DRAFT**

**DRAFT**

Generally Licensed Sources

21																
22																
23																
24																
25																

Comments

RSO Signature \_\_\_\_\_ Date \_\_\_\_\_