

From: [Katanic, Janine](#)
To: [John Longley](#)
Cc: [Donna Lybecker](#); [Jon Stoner](#); [RADCompliance](#)
Subject: RE: Re: 3rd effectiveness review
Date: Thursday, October 7, 2021 2:20:00 PM

John,

Thanks for the clarification. I will record the 3rd effectiveness review as received on October 1, 2021, and enter it into our electronic records management system (ADAMS) . ISU's continued Implementation of the items from the Confirmatory Order will be reviewed during a future NRC inspection.

Regards,
Janine

Janine F. Katanic, PhD, CHP
Senior Health Physicist
Division of Nuclear Materials Safety
Materials Inspection Branch
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Region IV
office: 817-200-1151
email: Janine.Katanic@nrc.gov

From: John Longley <johnlongley@isu.edu>
Sent: Wednesday, October 6, 2021 8:47 AM
To: Katanic, Janine <Janine.Katanic@nrc.gov>
Cc: Donna Lybecker <lybedonn@isu.edu>; Jon Stoner <stonjon@isu.edu>; RADCompliance <radcompliance@gmail.com>
Subject: [External_Sender] Re: 3rd effectiveness review

Hi Dr. Katanic,

All the corrective actions from the March 6, 2020 corrective action plan were completed by September 6, 2021.

The final corrective action completed was hiring of the CAES Assistant Safety Officer on August 30, 2021.

The document submitted was the third effectiveness review under Section F of the Confirmatory Order.

The final effectiveness review from Section G of the confirmatory will be completed and submitted within six months of the August 30, 2021 completion date, by February 28, 2022.

Please contact me if you have additional questions or need more information.

Thank you.

John Longley, CHP
Radiation Safety Officer
Idaho State University
208-282-5652 Office
208-220-9552 Cell

On Tue, Oct 5, 2021 at 8:34 AM Katanic, Janine <Janine.Katanic@nrc.gov> wrote:

Hi John,

Item D of the Confirmatory Order states that all corrective actions must be completed within 18 months of the corrective action plan submittal to the NRC. The corrective action plan was submitted to the NRC on March 6, 2020, so 18 months from that is September 6, 2021.

Item F states that within 6 months of submitting the corrective action plan to the NRC and every 6 months thereafter, to perform an effectiveness review and submit a report to the NRC within 30 days of the completion of the effectiveness review.

The first effectiveness review was submitted on September 29, 2020.

The second effectiveness review was submitted on April 1, 2021.

The third effectiveness review was submitted October 1, 2021.

Were the corrective actions from the March 6, 2020, corrective action plan completed by September 6, 2021?

If all the corrective actions from the plan were completed, what is the final date when the last corrective action was completed?

Your email and the title of the document calls your submittal the third effectiveness review, which appears to be submitted under Item F of the Confirmatory Order. Or is this the final effectiveness review per Item G of the Confirmatory Order?

Regards,
Janine

Janine F. Katanic, PhD, CHP
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From: John Longley <johnlongley@isu.edu>

Sent: Friday, October 1, 2021 8:53 AM

To: Katanic, Janine <Janine.Katanic@nrc.gov>

Cc: Donna Lybecker <lybedonn@isu.edu>; Jon Stoner <stonjon@isu.edu>; RADCompliance <radcompliance@gmail.com>

Subject: [External_Sender] 3rd effectiveness review

Dr. Katanic,

I have attached the third effectiveness review as required in Confirmatory Order (EA-18-153).
Contact me if you have questions or need more information.

Thank you.

John Longley, CHP
Radiation Safety Officer
Idaho State University
208-282-5652 Office
208-220-9552 Cell

3rd Effectiveness Review
Idaho State University
Confirmatory Order EA-18-153
October 1, 2021

Introduction

ISU performed the third assessment to evaluate the status of corrective actions specified in the corrective action plan completed in March 2020. The assessment evaluated all documentation related to corrective actions and was conducted by a team of three members John Longley, RSO, Jon Stoner, Chairman of the RSC, and Steve Snay, independent reviewer from Rad Compliance LLC. Dr. Snay did not travel to ISU to minimize potential exposure to COVID-19. Results of the assessment are documented in the following sections and follow the outline of the corrective action plan. The discussion for Items that were fully complete in the 2nd effectiveness review was deleted.

This document is organized to follow the outline of the corrective action plan. It is divided into three sections, Programmatic Corrections, violations from enforcement action EA-18-153, and improvements recommended by the independent assessment. Status is given for each item as complete, in progress or complete (routine) which indicates the program change is complete but implementation is part of the routine program. Items that were fully complete in the 2nd effectiveness review were not evaluated further. Complete (routine) items will continue to be evaluated. The table at the end of the document is the milestone summary from the corrective action plan updated with current status. For routine operations, actions completed between March 2021 and August 2021 are discussed.

1. Programmatic Corrections

1.1. Management Commitment

Status: Complete

1.2 Insufficient Staffing

The candidate for the CAES assistant safety officer position accepted the offer on August 3, 2021 and will begin employment on August 30, 2021. The candidate will specialize in general and chemical safety thus allowing the CAES safety officer to focus on radiological safety.

Status: Complete

1.3. Inadequate Program Documents and Procedures

In addition to the documents listed as revised in the corrective action plan, the Radiation Safety Department has updated and or developed the following procedures and posted them on the Radiation Safety Website.

Documents reviewed:

- RSM 13.2, July 1, 2021 On website
- RSM 13.2 RSC Checklist
- RS-04, Sealed Source Leak Test, Rev. 1, 7/1/21 On website
- RS-04 RSC Checklist

- RS-19, Sealed Source Safety, Rev. 0, 7/1/21 On website

Status: Complete

1.4. Inadequate Training

Radiation Safety Department conducted training for authorized users in in the first week of March 2021. In addition, the Radiations Safety Department continued training of technicians in the department in accordance with RS-21, Radiation Safety Technician Qualifications. Implementation of this procedure will be on-going as procedures are added and revised. In addition, the Radiation Safety Department will update awareness training for custodial, public safety, and shipping and receiving personnel.

Documents reviewed:

- RS-21 Qual Card

Status: Complete (routine)

1.5. Improve Tracking of Radioactive Material

ISU completed the physical inventory of all radioactive materials and nuclear materials on the broad scope and isotope production licenses in June 2021. Nuclear materials on the broad scope, reactor, and SNM licenses were inventoried in March 2021.

Documents reviewed:

- March 2021, nuclear material inventory reports
- June 2021, radioactive material inventory reports

Status: Complete (routine)

1.6. Internal Assessments

The Radiations Safety Officer completed the annual assessment on May 25, 2021 and the Radiation Safety Committee Chairman completed the annual RSC assessment on June 17, 2021. The inspections were delayed by the ISU response to the March 2020 inspections and associated pre-decisional enforcement conference.

Documents reviewed:

- RSO Annual Report.
- RSC Annual Report.

Status: Complete (routine)

1.7. Scheduling and Tracking of Radiation Safety Tasks

The Radiation Safety Department followed the detailed monthly schedule.

Documents reviewed:

- Monthly schedules (March 2021, Apr 2021, May 2021, June 2021, July 2021, Aug 2021).

Status: Complete (routine)

2. Specific Violations September 2018 Inspection

2.1. Level III Violation

Status: Complete

2.2. Labeling Containers

Cabinet inventory labels are evaluated in the laboratory assessment process.

Documents reviewed:

- Photographs of sample containers from EML and Reactor.

Status: Complete (routine)

2.3. Radioactive Material Inventory not implemented for each item

ISU completed radioactive material inventory in accordance with procedure EHS-09-16, Rev2, Radioactive Material Inventory. See section 1.5 above.

Documents reviewed:

- March 2021 and June 2021 inventory reports. See 1.5.

Status: Complete (routine)

2.4. Contamination Area Accessible without EH&S Supervision

Status: Complete

2.5. Decommissioned Lab with No Postings and Had No Surveys

ISU decommissioned Gale Life Sciences laboratory 430B in March 2021 and Physical Science 346A in April 2021, and Pharmacy Room 231 in June 2021. In addition, ISU performed a follow-up survey in Gale Life Sciences Room 345 because potential liquid scintillation wastes were identified. Finally ISU maintains a list of facilities decommissioned with dates of completion along with facilities currently in use that will eventually require decommissioning as required in 10 CFR 30.

Documents reviewed:

- Decommissioning list.
- Decommissioning surveys.

Status: Complete (routine)

2.6. Transfers to INL Not Authorized by RSO

Requirements for authorization for transfer of radioactive material are specified in Section 9.2 of the Radiation Safety Manual and in Procedure RS-08, Transport of Radioactive Material, and require written authorization from the RSO on Form RPR-14. This process is fully implemented for transfers and shipments.

Documents reviewed:

- RPR-14 Forms March 2021 – August 2021. 24 shipments and 11 transfers.

Status: Complete (routine)

2.7. Postings for Radioactive Material Areas

Status: Complete

2.8. No Posting of Contamination Control Area

Status: Complete

2.9. Area Surveys and Contamination Surveys Not Conducted at Appropriate Frequency

ISU updated the survey frequency requirements in the Radiation Safety Manual. Immediate work area surveys are required at the end of the day after all use of dispersible radioactive material. Formal map surveys are performed by the authorized user at the frequency specified in the user permit. Survey frequencies are verified in the laboratory inspections.

Documents reviewed:

- Laboratory Inspection Forms March 2021 through August 2021.
- Permit examples 105 and 139.

Status: Complete (routine)

2.10. Testing of Fume Hoods Not Conducted Annually

ISU added a monthly check to the master schedule to verify upcoming fume hood tests and developed an independent list of fume hoods used for radioactive material with test dates. All fume hoods were tested as scheduled.

Documents reviewed:

- Monthly detail schedule (See section 1.7)
- Radiological fume hood list
- Fume hood test forms

Status: Complete (routine)

2.11. Radiation Safety Audit Did Not Audit the Program Content and Implementation

ISU developed procedure EHS-19-01, Rev. 0, Radiation Safety Program Oversight, to guide the annual assessment of the Radiation Safety Program in accordance with the guidance of NUREG 1556. The RSO and Radiation Safety Committee completed the annual review of the radiation safety program in May and June 2021. See section 1.6 above. The inspections were delayed by the ISU response to the March 2020 inspections and associated pre-decisional enforcement conference.

Status: Complete (routine)

3. Recommendations from Independent Assessment

3.1. All Program Commitments from Licenses.

ISU submitted a renewal application for SNM-1373 license on July 9, 2021. This will form the complete history for license SNM-1373.

Documents reviewed:

- SNM license application

Status: Complete

3.2. Lyris Subscription Service

Status: Complete

3.3. Remove Radiation Workers

ISU added verification of radiation workers on the monthly schedule for May to coincide with the end of the academic year. In May 2021, the Radiation Safety Department contacted all authorized users to determine which radiation workers should be maintained and removed workers as necessary.

Documents reviewed:

- Monthly schedule in May. See 1.7.

Status: Complete (routine)

3.4. Radiation Safety Training

ISU updated the radiation safety training and refresher training and moved it to Moodle to correct the testing issue. Implementation of the new training began in January 2021. The Radiation Safety Department tracks training in a spreadsheet application and is evaluating learning management systems to enhance the process.

Documents reviewed:

- Training status spreadsheet.
- Moodle grade reports

Status: Complete (routine)

3.5. Credentialing Document

ISU developed procedure, RS-21, Rev 0, Radiation Safety Technician Qualifications, to formalize the qualification of technicians in the ISU Radiation Safety Department and developed a workbook to track the process for each student technician in the department. ISU completed

the specific qualification process for each student technician in Idaho fiscal year 2021. This will be an on-going process as procedures are added and modified.

Documents reviewed:

- Qualification Cards Work Book See 1.4

Status: In progress

3.6. ALI Ratio

Status: Complete

3.7. Survey Record Forms

ISU continued implementation of Procedure RS-03, Radiological Surveys per the master schedule. One survey was delayed for two months because frequency for the IAC source vault was quarterly in one permit and semi-annual in another. Documentation of the ten percent survey for the SCA was delayed for five months because of confusion coordinating with the EAL regarding analysis of water samples.

- Example surveys.

Status: Complete (routine)

3.8. Reduction in Dosimetry

Status: Complete

3.9. Dosimetry Evaluation

Status: Complete

3.10. Dosimetry Reporting Level

Status: Complete

3.11. Distribution of Reg. Guide 8.13

Status: Complete

3.12. Quarterly Review of Dosimetry

Dosimetry results are reviewed each quarter by a Radiation Safety Department staff member and reported to the Radiation Safety Committee for evaluation.

Documents reviewed:

- Dose summary from 1st and 2nd quarter 2021 RSC meetings.

Status: Complete (routine)

3.13. Dosimetry Storage

Status: Complete

3.14. Radioactive Waste Procedures

Status: Complete

3.15. Fume Hood Checks

The Radiation Safety Department maintains a list of fume hoods used for radiological work. Fume hood verification status is assessed monthly and included in the Radiation Safety Department master schedule. In addition, fume hood calibration dates are verified during routine laboratory inspections.

Documents reviewed:

- Monthly schedule. See 1.7.
- List of rad hoods. See 2.10.
- Example inspection forms RPR 50B See 2.9.

Status: Complete (routine)

3.16. Residual Contamination List

ISU created a list for potential residual radioactive material remaining after individual laboratories are decommissioned. The fume hood ductwork from Pharmacy 231 was added to the list.

Documents reviewed:

- Spreadsheet. See 2.5

Status: Complete (routine)

3.17. Reactor Access List

ISU reviewed the access list for personnel with unescorted access to the reactor and removed all personnel who did not need access. Badge swipe readers have been installed and are fully operational. Personnel on the access list have access through the badge swipe readers and will be removed in the database when access is no longer necessary. ISU will review the access list at the end of each academic year to remove students who have graduated and left the program.

Status: Complete (routine).

3.18. T&R Procedure

Status: Complete

Completion Dates for Corrective Action Items

Action	Expected Completion Date*	Status
Hiring		
Hire Radiation Safety Specialist for Pocatello	April 2020	Complete
Radiation safety/industrial hygiene specialist for CAES	April 2021	Complete
Two half-time safety interns for CAES.	May 31, 2020	Complete
Update Procedures		
RS-02 Dosimetry	June 2020	Complete
RS-04 Sealed Source Leak Tests	December 2020	Complete
RS-05 NMMSS Report	December 2020	Complete
RSC Meeting Minutes	December 2020	Complete
RS-03 Radiological Surveys	September 2020	Complete
RS-06 Radioactive Material Laboratory Inspections	June 2020	Complete
RS-09 Radioactive Waste Management	June 2020	Complete
RS-13 100 mrem Report (includes NESHAPs)	December 2020	Complete
RS-11 Internal Dosimetry	September 2020	Complete
RS-15 Operational Procedure for Shepherd Irradiators	December 2020	Complete
RS-20 Radiation Use Application	December 2020	Complete
RS-21 Radiation Safety Technician Qualifications	June 2020 Procedure	Complete
Corrections from Independent Assessment		
Update On-line training and refresher training	December 2020	Complete
Update list of laboratory decommissioning on a two year basis	June 2020	Complete
Contaminated equipment forms CAES	March 2020	Complete
RSO Verify survey frequency against permit requirements	Start March 2020	Complete
Create better storage area for dosimeters	June 2020	Complete
Create written procedure to approve or deny T&R status	May 31, 2020	Complete

*Dates are approval by the Radiation Safety Committee