



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

September 28, 2017

Mr. Scott Schierman, Manager
Health, Safety, and Environment
Uranium One USA, Inc.
907 N. Poplar Street, Suite 260
Casper, WY 82601-1310

SUBJECT: URANIUM ONE, USA, INC., WILLOW CREEK PROJECT, NRC STAFF
EVALUATION OF LICENSEE RESPONSES TO LICENSE CONDITION 9.12,
MATERIALS LICENSE SUA-1341 (CAC J00707)

Dear Mr. Schierman:

By letter dated August 8, 2014, Uranium One USA, Inc. (Uranium One) submitted its response to the Nuclear Regulatory Commission (NRC) materials license SUA-1341, condition 9.12, paragraphs 4 and 5, which require that NRC staff verify Uranium One's program for allowing a designee other than a radiation safety officer or health physics technician to perform a daily visual inspection (NRC's Agencywide Documents Access and Management System (ADAMS) Accession No. ML14309A456). The NRC staff has reviewed the submittal and finds it cannot verify the licensee's proposed program. The NRC staff's evaluation and comments on Uranium One's response is enclosed. Upon receipt of Uranium One's reply, the NRC staff will continue its evaluation and notify Uranium One in writing of its results.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's ADAMS. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

If you have any questions, contact me at 301-415-7777, or by e-mail at ron.linton@nrc.gov.

Sincerely,

/RA/

Ron Linton
Uranium Recovery Licensing Branch
Division of Decommissioning, Uranium Recovery,
and Waste Programs
Office of Nuclear Material Safety
and Safeguards

Docket No.: 040-08502
License No.: SUA-1341
Enclosure: NRC Staff Evaluation

cc: Luke McMahan, PG. (WDEQ)
Ryan Schierman (WDEQ)

SUBJECT: URANIUM ONE, USA, INC., WILLOW CREEK PROJECT, NRC STAFF
EVALUATION OF LICENSEE RESPONSES TO LICENSE CONDITION 9.12,

MATERIALS LICENSE SUA-1341 (CAC J00707),
DATED SEPTEMBER 28, 2017

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ADAMS Accession No.: ML17268A056

OFC	URLB	URLB	URLB	URLB
NAME	D. Brown	R. Linton	B. VonTill	R. Linton
DATE	09/27/2017	09/27/2017	09/27/2017	09/28/2017

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**NRC Staff Evaluation
Willow Creek Project
License Condition 9.12, paragraphs 4 and 5**

Background

In Section 5.4.3.3, "Personnel Designated by the Radiation Safety Officer," of the NRC staff's Safety Evaluation Report (SER) for the Willow Creek Project License Renewal Application (LRA) (NRC 2013a), the NRC staff determined that the LRA was deficient because the licensee had not described the training or qualifications in the LRA of either a "properly trained employee" or a "qualified designee" who the licensee stated would be designated by the Radiation Safety Officer to perform daily visual inspections. For this reason, the NRC staff revised license condition (LC) 9.12 to state:

The RSO shall have the health physics authorities, responsibilities, and technical qualifications identified in Regulatory Guide 8.31, as revised. Health Physics Technicians or Radiation Safety Technicians should have qualifications that are equal or equivalent to those specified in Regulatory Guide 8.31, as revised.

The licensee shall follow the guidance set forth in Regulatory Guide 8.30, as revised, "Health Physics Surveys in Uranium Recovery Facilities," or NRC-approved equivalent with the following exception:

Within 90 days of license renewal, the licensee will develop an SOP and specific training for personnel that do not meet the qualifications of RSO or Health Physics Technician, as defined in Regulatory Guide 8.31, as revised, that are designated to survey resin trucks leaving a restricted area and traveling to another restricted area authorized by the license. The SOP and training shall be submitted to the NRC for review and verification.

The licensee shall follow the guidance set forth in Regulatory Guide 8.31, as revised, or NRC-approved equivalent with the following exception:

The licensee shall describe in an SOP the training provided and procedures used by the RSO designate to conduct daily inspections in the temporary absence of the RSO or Radiation Safety Technician. The SOP for the conduct of daily inspections and training requirements shall be submitted to the NRC for review and written verification. Weekly inspections shall be performed by the RSO and follow the recommendations of Regulatory Guide 8.31, as revised. The licensee shall describe in an SOP the procedures used to conduct weekly inspections in the temporary absence of the RSO. The SOP for the conduct of weekly inspections shall be submitted to the NRC for review and written verification.

The fifth paragraph of LC 9.12 contains a requirement for the licensee to submit a Standard Operating Procedure (SOP) for NRC review and written verification. As stated, the SOP must address the conduct and training of RSO designees that perform daily visual inspections. The licensee provided its initial response to this requirement on June 5, 2013 (Uranium One 2013). In a meeting on May 24, 2014, the NRC staff clarified that it needs a detailed training program description, not an SOP, to meet the requirement of LC 9.12, paragraph 4 (NRC 2014a). By letter dated June 3, 2014, the NRC staff informed the licensee in writing that it's June 5, 2013,

submittal was incomplete (NRC 2014b). By letter dated August 8, 2014, the licensee provided a revised submittal (Uranium One 2014).

In its summary of the May 24, 2014, meeting the NRC staff provided an example of an approved designee program description for the licensee's use in preparing its revised submittal (NRC 2014c).

In Attachment 2 of its August 8, 2014, submittal, the licensee provided a description of training provided to operations personnel to perform daily visual inspections (Uranium One 2014). A comparison of the licensee's program and other NRC-approved programs is provided in Table 1. As shown in column 3 of Table 1, there are six areas in which the licensee's program is deficient because it does not meet or exceed the standards previously approved by the NRC staff for qualification, experience, and training of designees other than an RSO or HPT who perform daily visual inspections.

Regulatory Requirements

The regulatory requirements in 10 CFR 20.1101(a) and (b) require each licensee to develop, document, and implement a radiation protection program commensurate with the scope and extent of licensed activities and sufficient to ensure compliance with the provisions of Part 20, and use, to the extent practical, procedures and engineering controls based upon sound radiation protection principles to achieve occupational doses and doses to members of the public that are as low as is reasonably achievable (ALARA).

The NRC staff's Regulatory Position C.2.3.1 in Regulatory Guide 8.31 (NRC, 2002) states, in relevant part, that the Radiation Safety Officer (RSO) or designated health physics technician should conduct a daily walk-through (visual) inspection of all work and storage areas of the facility to ensure proper implementation of good radiation safety procedures, including good housekeeping and cleanup practices that would minimize unnecessary contamination. Problems observed during all inspections should be noted in writing in an inspection logbook or other retrievable record format. The entries should be dated, signed, and maintained on file for at least 1 year.

Description of Deficiency

Through ongoing licensing actions involving multiple in-situ recovery facility licensees, the NRC staff have established minimum acceptable standards for the qualification, experience, and training of designees other than an RSO or health physics technician (HPT) who perform daily visual inspections. These standards are required because several licensees have requested a departure from the guidance in Regulatory Guide 8.31, Regulatory Position C.2.3.1, which states only an RSO or HPT may perform daily visual inspections. The information in Table 1 below explains where the licensee's standards are not equivalent (or do not exceed) the standards previously approved by the NRC staff.

NRC Staff Comments

1. Please provide a revised program description for the qualification, experience, and training of designees other than an RSO or HPT who perform daily visual inspections that addresses the following deficiencies identified in Table 1:

- a. Regarding the minimum education requirements for a designee candidate, the minimum standard is a high school diploma or equivalent. In this context, equivalent education means General Educational Development (GED), high school equivalent certificate, or equivalent level of education. The NRC staff has not accepted work experience in lieu of the minimum education requirement.
- b. Regarding designee training, the minimum standard includes at least observations of 5 daily visual inspections performed by the RSO or HPT, and 4 daily visual inspections performed by the trainee without direct supervision by the RSO or HPT, but which are assessed by the RSO or HPT as part of the designee's training.
- c. Regarding the maximum duration of performance by a qualified designee, the standard is that this duration is not more than 4 days during specified holidays, as stated in Table 1.
- d. Regarding designee requalification training, the standard includes a written examination with a minimum passing grade of 80%.
- e. Regarding the timeliness of RSO or HPT review of designee daily visual inspection checklists, the standard is that the checklist is reviewed and signed off by the RSO or HPT by close of business on the day the RSO or RST returns to work.
- f. Regarding availability of the RSO or HPT during times the designee is performing daily visual inspections, the RSO or HPT must be available by telephone or equivalent means of communication.

References

10 CFR Part 20. *Code of Federal Regulations*, Title 10, *Energy*, Part 20, "Standards for Protection Against Radiation." Washington, D.C.

NRC (U.S. Nuclear Regulatory Commission). 2002. Regulatory Guide 8.31, Revision 1, "Information Relevant to Ensuring that Occupational Radiation Exposures at Uranium Recovery Facilities Will Be As Low As Is Reasonably Achievable." Washington, DC., ADAMS Accession No. ML021260630.

NRC (U.S. Nuclear Regulatory Commission). 2013a. Letter from A. Persinko, NRC to D. Wichers, Uranium One USA Inc., dated March 7, 2013, Re: Materials License SUA-1341, License Renewal, Uranium One USA, Inc., Willow Creek Uranium In Situ Recovery Project, Campbell and Johnson Counties, Wyoming (TACX J00564). ADAMS Accession No. ML13015A179 (pkg).

NRC (U.S. Nuclear Regulatory Commission). 2013b. Letter from A. Persinko, NRC, to S. Hatten, Lost Creek ISR, LLC, dated April 22, 2013, Re: Lost Creek Project, Source Materials License SUA-1598 License Amendment No. 1 – Technical Report Page Changes, 2011-2012 Financial Assurance Update, and Addition of Two Dryers (TACS J00562, J00662, L00665). ADAMS Accession No. ML13016A071.

NRC (U.S. Nuclear Regulatory Commission). 2014a. Memorandum from R. Linton, NRC, to B Von Till, NRC, dated July 7, 2014, RE: Summary of May 27, 2014, Meeting with Uranium One USA, Inc., Willow Creek Licensing Issues. ADAMS Accession No. ML14156A141.

NRC (U.S. Nuclear Regulatory Commission). 2014b. Letter from R. Linton, NRC to S. Schierman, Uranium One USA, Inc., dated June 3, 2014, RE: Review of Submittal of Requested Standard Operating Procedures Required by License Condition 9.8 & 9.12, Uranium One USA, Inc., Materials License SUA-1341, Willow Creek In Situ Recovery Project Campbell and Johnson Counties, Wyoming (TAC J00707). ADAMS Accession No. ML14150A403.

NRC (U.S. Nuclear Regulatory Commission). 2014c. Letter from L. Camper, NRC, to L. Teahon, Cameco Resources, dated November 5, 2014, Re: Materials License SUA-1534, License Renewal, Crow Butte Resources, Inc., Crow Butte Uranium In Situ Recovery Project, Dawes County, Nebraska (TAC J00555). ADAMS Accession No. ML13324A090

NRC (U.S. Nuclear Regulatory Commission). 2015. Letter from J. Saxton, NRC, to M. Griffin, Strata Energy, Inc., dated September 8, 2015, Re: Verification of Preoperational License Condition 12.4, Ross ISR Project, Crook County, WY, Source Material License SUA-1601, Docket No. 040-09091, TAC J00735. ADAMS Accession No. ML15209A877.

NRC (U.S. Nuclear Regulatory Commission). 2017. Letter from B. Von Till, NRC to M. Griffin, Strata Energy, Inc., dated February 21, 2017, Re: Amendment 6, Source and Byproduct Materials License SUA-1601, Ross In-Situ Recovery Project, Crook County, Wyoming, Docket No. 040-09091, TAC J00735. ADAMS Accession No. ML16351A130.

Uranium One (Uranium One USA Inc.). 2013. Letter from S. Schierman, Uranium One, to R. Linton, NRC, dated June 5, 2013, RE: License SUA-1341, Docket No. 40-8502 Willow Creek Project Submittal of Requested SOP's. ADAMS Accession No. ML13211A356.

Uranium One (Uranium One USA Inc.). 2014. Letter from S. Schierman to R. Linton (NRC), dated August 8, 2014, RE: License Condition 9.8 and 9.12, Materials License SUA-1341, ADAMS Accession No. ML14309A456.

Table 1. Comparison of NRC-Approved Program Descriptions and Licensee’s Proposal

Program Element	Description ¹	Licensee’s Proposal
Daily Inspection Scope	All work and storage areas of the facility	All work and storage areas of the facility
Designee Education	High school diploma or equivalent	[Not equivalent] – H.S. <u>or</u> experience
Designee Experience	3 months at a uranium recovery facility as operator or supervisor familiar with facility operations and knowledgeable in health physics, industrial safety, and industrial hygiene practices	3 months at a uranium recovery facility in operations or maintenance and knowledgeable in health physics, industrial safety, and industrial hygiene practices
Designee Selection	RSO decides whether a candidate meets education and experience requirements	RSO decides whether a candidate meets education and experience requirements
Designee Training	<ul style="list-style-type: none"> • 3 hours instruction • 80% test score on written test • Observe 5 daily inspections • 4 RSO-assessed independent daily inspections 	<ul style="list-style-type: none"> • 3 hours instruction • 80% test score on written test • Observe 3 daily inspections [Not equivalent] • [Not equivalent] – no RSO-assessed independent daily inspections
Maximum Duration of Designee Performance	<p>Weekends, holidays, and when RSO and HPT are absent.</p> <p>No more than 2 consecutive days per week, except up to 3 consecutive days when a Federal holiday falls on a Monday or Friday, or up to 4 consecutive days for Thanksgiving and when the Christmas holiday consists of two days abutting a weekend.</p>	<p>Weekends, holidays when the RSO and HPT are absent.</p> <p>[Not equivalent] -- Up to 5 consecutive days on holidays</p>
Designee Requalification	<ul style="list-style-type: none"> • 2 supervised inspections annually • 80% requalification test score 	<ul style="list-style-type: none"> • 2 supervised inspections annually • Abbreviated training program • [Not equivalent] - requalification exam not included
Designee Report Review Timeliness	By close of business on day RSO or RST returns to work	[Not equivalent]
RSO or HPT Availability	By telephone	[Not equivalent]

¹ Based on NRC-approved programs for Lost Creek (NRC 2013b), Crow Butte Operations (NRC 2014c), and Ross (NRC 2015, 2017).