#### November 12, 2014

Mr. Scott Schierman Sr. Health Safety and Environmental Specialist Uranium One USA, Inc. 907 N. Poplar Street, Suite 260 Casper, WY 82601

SUBJECT: DENIAL OF ACCEPTANCE FOR REVIEW, INFORMATION REQUIRED BY

LICENSE CONDITION 11.3, URANIUM ONE, USA, INC., WILLOW CREEK PROJECT, CAMPBELL AND JOHNSON COUNTIES, WYOMING, MATERIALS

LICENSE SUA-1341 (TAC NO. J00711)

Dear Mr. Schierman:

By letter dated September 25, 2013 (Agencywide Documents Access and Management System (ADAMS) ML13273A017), Uranium One USA, Inc., (Uranium One) submitted information to the U.S. Nuclear Regulatory Commission (NRC) for review and verification as required by Materials License SUA-1341, License Condition (LC) 11.3. The NRC responded on May 8, 2014 (ML14125A008) by notifying Uranium One that the submission was incomplete and that the information submitted did not address radon and other issues required by LC 11.3, PARTS A-D. On July 3, 2014 (ML14195A359), Uranium One provided additional information for NRC review. This letter responds to both the September 25, 2013 and May 8, 2014 Uranium One submissions.

The information submitted by Uranium One to address LC 11.3 has not been accepted for a detailed technical review. The NRC staff has determined that there is insufficient information in the submittal for it to initiate a detailed review. The NRC staff has provided examples where the information is incomplete, but the examples may not reflect all deficiencies in the submissions (attached).

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 is accessible from the NRC Web site at <a href="http://www.nrc.gov/reading-rm/adams.html">http://www.nrc.gov/reading-rm/adams.html</a>.

2

If you have any questions regarding this action, please contact me at 301-415-7777, or by e-mail at <a href="mailto:Ron.Linton@nrc.gov">Ron.Linton@nrc.gov</a>.

Sincerely,

# /RA/

Ron C. Linton, Project Manager 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: License Condition 11.3 cc: Luke McMahan, PG. (WDEQ)

2

If you have any questions regarding this action, please contact me at 301-415-7777, or by e-mail at Ron.Linton@nrc.gov.

Sincerely,

# /RA/

Ron C. Linton, Project Manager
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: License Condition 11.3 cc: Luke McMahan, PG. (WDEQ)

# **DISTRIBUTION:**

RKellar/RIV LGersey/RIV SAchten ZGran DPersinko

### ML14295A668

OFFICE	NMSS	NMSS	NMSS	NMSS	NMSS
NAME	RLinton	SAchten	RBurrows	BvonTill	RLinton
DATE	10/23/14	10/24/14	11/ 07 /14	11/ 12 /14	11/ 12 /14

## **OFFICIAL RECORD COPY**

# Partial list of deficiencies to Uranium One USA, Inc., submissions required by Materials License SUA-1341, License Condition 11.3, Willow Creek Project

- Comments related to In-Plant Air Particulate Sampling in Uranium One USA, Inc. (Uranium One) letter dated September 25, 2013
- Uranium One proposed analyzing and counting in-plant air particulate samples from air
  particulate sampling locations using the gross alpha method. Uranium One indicated
  that this would include activity from Uranium natural, Ra-226, Po-210, Pb-210, and Th230, if present. In conjunction with this method, Uranium One indicated that they would
  verify this by sampling a wellfield lixiviant and analyzing for radionuclide content,
  including Th-230, to determine the ratio of the radionuclides present and gross alpha
  airborne concentrations will then be compared against the mixed ratio of Derived Air
  Concentrations (DAC) or the most restrictive DAC for the identified radionuclides on a
  semi-annual basis.

The U.S. Nuclear Regulatory Commission (NRC) staff has determined that this approach is incomplete and not acceptable. Although gross alpha counting methods may determine the gross amount of alpha activity, gross alpha counting cannot differentiate the type of radionuclides present on the counting medium (i.e., air filter). Thus, without an isotopic analysis. Uranium One would not be able to determine the amount of each radionuclide present to evaluate the DAC. Gross alpha measurements cannot achieve this purpose. The activity that may be determined from the wellfield lixiviant (a liquid) cannot be directly correlated to the activity that may be present on an air filter without conducting an isotopic analysis of the activity on both the air filter and the liquid sample (i.e., wellfield lixiviant). The NRC staff has determined that this correlation has not been sufficiently demonstrated by Uranium One to date. In addition, the activity that may be present on an air filter is derived from potential leaks, spills, maintenance activities, and other contaminants (i.e., radon) that may be present in the air and not necessarily what is in the wellfield lixiviant. Lastly, it is not clear how Uranium One will measure alpha activity for Pb-210 as it is primarily a beta emitter (Schleien, 1992). See additional discussion on beta emitters in the NRC staff's response to Uranium One's submittal for License Condition 11.3(a).

Although the activity in the plant may originally be derived from the wellfield lixiviant, due to different transport pathways (leaks, spills, maintenance activities, etc.) of the contaminant from the wellfield lixiviant and the aging of the contamination (time dependent), this would make such a correlation difficult. The activities that are in the wellfield lixiviant and the activity in the air may not be in equilibrium with each other and/or directly correlated with each other without a more detailed and extensive study. Furthermore, gross alpha measurements of in-plant air sampling may also include the alpha activity from the radon progeny that is present in the air. To differentiate the gross alpha activity from the radon in the air would make any correlation of activity in the wellfield lixiviant to the activity in air difficult. Moreover, to demonstrate compliance with 10 CFR 20.1204(f)(g), current NRC guidance recommends identifying potential radionuclides by air sampling (refer to NRC guidance for 10 CFR 20.1204 in the NRC,

2001). Therefore, as discussed above, and in the NRC staff's response to Uranium One's submittal for License Condition 11.3(a), the NRC staff can't exclude Th-230 as a potential constituent of airborne radioactivity. Aside from the measurement methods, Uranium One has not provided a date or timeline as to when the verification of the sampling of the wellfield lixiviant will be completed. In summary, the NRC staff does not have reasonable assurance that proposed gross alpha measurements of in-plant air particulate sampling locations will be representative of the activity in the wellfield lixiviant, and is therefore not acceptable.

 Uranium One proposed collecting environmental air particulate sampling at the Christensen Ranch Satellite facility and have these filters analyzed for Uranium natural, Ra-226, Pb-210, and Po-210 or demonstrate compliance with 10 CFR 20.1301. The NRC staff does not understand this statement.

Uranium One proposed using the environmental airborne concentrations observed at the Irigaray airborne effluent monitoring locations for Christensen Ranch. Uranium One indicated that the use of the Irigaray airborne constituents Uranium natural, Ra-226, Po-210, and Pb-210 as the Christensen Ranch airborne effluent concentrations would be a conservative approach in estimating air particulate releases for the Christensen Ranch Satellite (facility). The NRC staff observes that Uranium One is confusing the terms "environmental" with "effluent". The NRC staff also does not understand Uranium One's discussion of the DAC in regards to environmental monitoring. The DAC is applied to occupational dose assessment and the NRC staff sees no logical connection to Uranium One's environmental monitoring program. This license condition specifically addresses the environmental monitoring locations for the Christensen Ranch facility. For a discussion of where measurements are taken to compare to 10 CFR 20, Appendix B, Table 2, values see NUREG-1736 (NRC, 2001).

In any case, the NRC staff previously evaluated (refer to SER Section 5.7.7.3.2 of the NRC, 2013b) the licensee's proposed approach of not having an environmental particulate monitoring program at the Christensen Ranch Satellite facility and found it to be inadequate. Part of the reason cited by the NRC staff for this finding was that 10 CFR 40, Appendix A, Criterion 7, requires "[t]hroughout the construction and operating phases of the mill, an operational monitoring program must be conducted to measure or evaluate compliance with applicable standards and regulations; to evaluate performance of control systems and procedures; to evaluate environmental impacts of operation; and to detect potential long-term effects." The NRC staff has found nothing in the licensee's current submittal (Uranium One, 2013) to invalidate these previous findings; therefore, the original findings stand and previous staff conclusions remain valid. Therefore, the proposed method for using a surrogate for environmental monitoring at the Christensen Ranch Satellite facility is not acceptable.

Comments related to NRC License Condition 11.3 (a-d) in Uranium One letter dated July 3, 2014

#### General comments:

Whenever the terms "conservative", "as needed", or similar subjective terms are used in addressing regulatory compliance, factual information and explanatory details should be provided to the NRC staff to enable it to draw its own independent conclusions. Stating that a procedure or practice is conservative without providing appropriate context requires the NRC staff to request additional information from the licensee. Uranium One provides some details in some instances, but not in all cases. For example:

 On page 1 of the response to LC 11.3, Uranium One stated that applying process area measurements to the rates of ventilation is conservative and overestimates the true releases from these sources. Please provide clarification of, and a basis for, this statement.

## Specific comments:

## LC 11.3 a.

- The following issues pertain to the discussion of the Christensen Ranch Satellite Plant:
  - The NRC staff requires clarification on the discussion of the building exhaust rate:
    - o It is not clear to the NRC staff if the total building exhaust, including open doors without fans, will be taken into account when deriving the total effluent radioactivity or if only the exhaust from the fans is being taken into account. For example, Figure 3.12 of the LRA (Uranium One, 2012a) indicates two exhaust fans and several overhead doors that may be open at any given time. Please provide the NRC staff with a clear description of how the emission rate in the formula provided by Uranium One (see below) will be calculated.

$$Activity(\mu Ci) = Concentration\left(\mu \frac{Ci}{ml}\right) * Emission rate\left(\frac{ml}{min}\right) * Time \text{ (min)}$$

It is not clear to the NRC staff why it would not be possible to determine an exhaust rate from the exhaust fans based on manufacturing specifications, or the proposed study, or both. The NRC staff observes that in Section 4.1.1 of its application (Uranium One, 2012a) Uranium One stated that these exhaust fans are capable of removing radon released inside the building. Please provide the NRC staff with Uranium One's analysis of the exhaust rate from the exhaust fans.

- Uranium One stated that only one tank is vented to the atmosphere, referring to the degas column used to remove gases from the reverse osmosis unit. However, in Section 4.1.1 of its license renewal application (LRA) (Uranium One, 2012a), Uranium One stated that radon is also released from the unpressurized lixiviant makeup tank and from the ion exchange columns during resin transfer. The NRC staff observes that lixiviant makeup tanks can be a significant source of radon emissions (refer to NRC, 2013 and response to Request for Additional Information (RAI) 20 in Cameco, 2013). In addition, the NRC staff is not aware of any radon monitoring efforts by Uranium One to quantify these other radon sources consistent with 10 CFR 40.65 (in units of activity, not concentration). Please provide a response to LC 11.3.a that addresses all radon sources in a manner that Uranium One's design basis can be verified and reasonably accurate maximum potential annual doses to the public can be estimated (refer to NRC, 2014).
- Uranium One referred to "Attachment 1 Figure 1" regarding the flow diagram for the degas column. The NRC staff observes that Attachment 1 contains two figures: 1)
   Figure 3.11, titled "Irigaray Processing Facility Process Flow Diagram", and 2) Figure 3.13, titled "Christensen Ranch Satellite Process Flow Diagram". Please provide the correct figure references.
- In discussing the de-gas column, Uranium One referred to a fan that "...is constantly
  pulling outside air into the tank to allow the gases to be released." The NRC staff
  observes that this fan does not appear to be included in the Christensen Ranch Satellite
  Process Flow Diagram and that the flow path (inlet and outlet) associated with this fan is
  not clear.
- In discussing the de-gas column and associated fan, Uranium One stated that "...gases are released since you are displacing air in the tank, naturally forcing the tank to vent to the atmosphere." In the same paragraph, Uranium One stated "...the tank is not forced through the exhaust allowing time for in growth of radon daughters.(sic)" It is not clear to the NRC staff if the flow of air from the tank is affected by the fan or not for the purpose of measuring radon concentrations. Please address this apparent discrepancy.
- In the same paragraph discussing the de-gas column, Uranium One stated that air samples will be taken "...at the source of the ambient ventilation." It is not clear to the NRC staff precisely where these air samples will be taken. Please provide clarification on what is meant by "source of the ambient ventilation".
- In its discussion of particulate emissions, Uranium One refers to an outdated International Atomic Energy Agency (IAEA) document (IAEA Manual on Radiological Safety in Uranium and Thorium Mines and Mills, 1976). The NRC staff observes that this IAEA document is neither incorporated by reference as NRC guidance nor is it recognized by the NRC staff as relevant generally applicable guidance. Furthermore, Regulatory Guide 8.30 does not address radiological effluents. Lastly, neither of these documents is discussed in NUREG-1569 (NRC, 2003) as relevant to effluent monitoring.

- In its discussion of particulate emissions, Uranium One does not discuss monitoring for beta-gamma emitting radionuclides. Other operating facilities (refer to Cameco, 2014) have found both alpha- and beta-emitting radionuclides both present and likely at equilibrium concentrations. Please provide the NRC staff with a discussion on how beta-emitting radionuclides will be incorporated into Uranium One's compliance with 10 CFR 40.65.
- In its discussion of particulate emissions:
  - Uranium One stated that contamination surveys will be performed on a semiannual basis to ensure that build up of surface contamination does not contribute to airborne concentrations. It is not clear to the NRC staff how surface contamination levels inside the Christensen Ranch Satellite Plant can be used to quantify each of the principal radionuclides released from this plant to unrestricted areas as required by 10 CFR 40.65. While the NRC staff agrees that contamination surveys may be used to inform a licensee which radionuclides should be accounted for in effluents, Uranium One has not presented any technical proposal that directly relates contamination levels to quantities of radionuclides released in gaseous effluents.
  - Furthermore, in Section 7.3.3.1.6 of its LRA (Uranium One, 2012b), Uranium One identified the "...yellow cake dryer stack at the Irigaray location..." as the only source of particulate airborne releases. As a result, the design basis for the Christensen Ranch Satellite Plant appears to be zero particulate release in gaseous effluents. Therefore, Uranium One has not demonstrated that its proposed approach is sufficient to determine when quantities of radioactive materials released during the reporting period are significantly above its design objectives (i.e., zero particulate release) previously reviewed as part of the licensing action (refer to the NRC staff discussion for License Condition 12.8(A) in Enclosure 3 of NRC, 2014). Therefore, Uranium One's proposed method does not provide the NRC staff with reasonable assurance that it can fully comply with the reporting requirements of 10 CFR 40.65(a)(1).
- In its discussion of lixiviant sampling, Uranium One proposed relating the presence of
  uranium daughters in the lixiviant, combined with contamination surveys, to quantities of
  principal radionuclides in gaseous effluents. It is not clear to the NRC staff why uranium
  is excluded from the lixiviant analysis for purposes of quantifying principal radionuclides
  in gaseous effluents. Also, the NRC staff requires historical sampling data from Uranium
  One before this proposal can be evaluated.

- In its discussion of air particulate sampling, Uranium One refers to regulations in 10 CFR Part 20 and associated guidance in NUREG-1736 (NRC, 2001). Specifically, Uranium One refers to radionuclide concentrations in air and guidance related to these concentrations. The NRC staff observes that LC 11.3 (a) requires Uranium One to address the requirements of 10 CFR 40.65. The requirements in 10 CFR Part 20 related to occupational dose (e.g., the derived air concentration, or DAC) and mixtures [i.e., 10 CFR 20.1204(f)] are not relevant to the requirements of 10 CFR 40.65, which requires reporting the quantity (not concentration) of each of the principal radionuclides released to unrestricted areas. The NRC staff also observes that there is no mention of a de minimis quantity of radionuclides for the purpose of complying with 10 CFR 40.65. Regarding NUREG-1736, the NRC staff could not find any guidance related to 10 CFR 40.65 and therefore finds that this guidance is not relevant to demonstrating compliance with 10 CFR 40.65.
- In its discussion of air particulate sampling, Uranium One refers to studies that indicate "...thorium isn't mobilized into solution as part of the mining process." However, the NRC staff observes that an author cited by Uranium One (Brown) has actually reported that thorium is mobilized by the lixiviant, albeit at relatively small amounts (Brown, 2008, 2010). Brown further suggested that concentrations of uranium daughters in the lixiviant are "...probably process and may also be facility age dependent."

Furthermore, the NRC staff observes that NUREG-1569 specifically found (refer to Acceptance Criteria 2.7.3(4) of NRC, 2003) that studies have shown "...that thorium-230 is mobilized by bicarbonate-laden leaching solution."

Lastly, this submittal by Uranium One conflicts with Uranium One's September 25, 2013 submittal (Uranium One, 2013) that recognized the same finding regarding thorium-230 in NUREG-1569 as staff discusses previously in this section. Therefore, the NRC staff does not agree with Uranium One's basis for excluding thorium from sampling.

- The following issues pertain to the discussion of the Irigaray Plant:
  - The NRC staff requires the same clarification on the discussion of the building exhaust rate as presented for the Christensen Ranch Satellite Plant above.
  - In its discussion of the elution tanks, Uranium One stated that the high elution tank will be monitored to determine if radon effluent from this source is negligible. Please provide the NRC staff with a more precise description of negligible radon effluent and what Uranium One will do if it is found that radon effluent from this source is not negligible. For example, would other eluate tanks be monitored?

- In its discussion of the precipitation tank, Uranium One stated that "...the radon at the precipitation tank is negligible." Please provide the NRC staff with objective data to verify this statement.
- In its discussion of the precipitation tank, Uranium One stated that the exhaust rate of the precipitation tank fan will be used to determine radon released. Please provide the NRC staff with the exhaust rate of the precipitation tank fan.
- The NRC staff has the same comments on particulate emissions as presented for the Christensen Ranch Satellite Plant above.
- Please provide the NRC staff with the results of contamination surveys taken throughout the Irigaray Plant.
- The following issues pertain to the discussion of the Wellfield:
  - Uranium One stated that to "...quantify the potential release from the well a
    representative sample of three wells per active wellfield will be sampled for radon..."
    Please provide the NRC staff details on how the three wells will be chosen and how it
    will be determined that they are representative of the wellfield. In addition, please
    address whether the same three wells will be used year after year for the purpose of
    radon sampling.
  - Uranium One stated that "Samples will be taken initially on a quarterly basis to determine seasonal variations and annually thereafter, or upon changes to operating parameters. Results will be reported semiannually in accordance with 10CFR 40.65." If samples are taken on an annual basis, please provide the NRC staff with details on how compliance with 10 CFR 40.65 will be met when this regulation requires semiannual reporting on quantities of radionuclides released during the previous six months of operations. Please also discuss what changes in operating parameters will be used to determine when samples are taken.
  - Regarding the discussion of the pond, Uranium One proposes annual monitoring to
    determine radon concentrations. If samples are taken on an annual basis, please
    provide the NRC staff with details on how compliance with 10 CFR 40.65 will be met
    when this regulation requires semiannual reporting on quantities of radionuclides
    released during the previous six months of operations. In addition, please address how
    quantities of radon and daughters will be determined from this source for the purpose of
    reporting in accordance with 10 CFR 40.65.
  - Uranium One stated that a RADTRAK track etch will be used for the deep disposal well
    tank vent. The NRC staff observes that it is not aware of the EPA approving this
    methodology in general, or in any specific case. Please provide the NRC staff with the
    EPA approval for this methodology and Uranium One's analysis on how the EPA
    approval applies to the Willow Creek facility, or an alternate methodology.

The following issues pertain to the Summary discussion:

 Please provide the NRC staff with a description of what is considered "conservative" and whether the results of the annual examination of point and diffuse sources to determine the conservatism will be included in the report required by 10 CFR 40.65.

# LC 11.3 b.

- Please discuss how the maximally exposed member of the public will be determined on an ongoing basis, using proposed monitoring data for all potential sources of exposure.
- Please describe how compliance with 10 CFR 20.1302 will be accomplished if any of the measured values of effluent concentrations exceed the values specified in 10 CFR 20, Appendix B, Table 2.

The following issues pertain to Attachment 2, Identification of Maximum Exposed Individual:

- On page iii, Figure 1 is titled "Human Exposure Pathways for Known and Potential Sources from the Willow Creek Project." However, Figure 1 on page 16 refers to the "Allemand-Ross Project". Please provide an appropriate figure for the Willow Creek Project.
- In Table 1, the source of information for the average ore grade is attributed to "Cogema, 2007". However, Section 4.0, References, does not include this reference. Please provide the NRC staff with the Cogema, 2007 reference cited in Table 1.
- Section 3.22 discusses receptors used in the MILDOS-AREA simulation. Table 4 lists annual exposure hours for the workforce housing as 1872. However, the text in Section 3.2.2 provides different assumptions and arrives at 2400 hours per year. Please resolve this inconsistency.
- The NRC staff can't easily read Figure 2, Willow Creek Project CBM Well Locations, 2 km Buffer. Please provide a higher resolution figure with radon monitors clearly indicated for the NRC staff to evaluate.

#### LC 11.3 c.

- Uranium One refers to "controlled areas" in its response to LC 11.3.c. However, the
  NRC staff observes that Uranium One did not specify where controlled areas were in its
  LRA (for example, refer to Section 5.8.1 of Uranium One, 2012a) and the NRC staff
  neither evaluated nor approved controlled areas at the Willow Creek facility (refer to
  Safety Evaluation Report Section 5.7.7.3 of NRC, 2013b). Please provide an
  amendment request to support the revised area designations at the Willow Creek facility.
- Uranium One stated that "...locations that have the highest predicted dose will be monitored..." Please provide the NRC staff with details of the monitoring method to be used.

 In the second to last paragraph, Uranium One discusses a method of demonstrating compliance using a calculated source term and a dispersion model to demonstrate compliance. Please provide the NRC staff with more details on this option. The NRC staff observes that using calculations and models with no monitoring results to support either is not sufficient to demonstrate compliance with public dose limits. Refer to Enclosure 3 of NRC, 2014.

# LC 11.3 d.

- The NRC staff has the same comments on particulate emissions as presented in its response to LC 11.3.a.
- Please address how Uranium One will apportion occupational internal doses to individual workers that work in process buildings and the wellfields.
- Please discuss how the results of radon and particulate monitoring described in Uranium One's response to LC 11.3.a will be used to assess occupational dose to individuals that may be impacted by these effluents.

## References

Brown, 2010. "Radiological Aspects of U.S. Uranium In Situ Recovery Facilities (An Update) and Some Current Health Physics Issues," Brown, S.H., WM 2010 Conference, March 7-11, 2010, Phoenix, AZ.

Brown, 2008. "The New Generation of Uranium In Situ Recovery Facilities: Design Improvements Should Reduce Radiological Impacts Relative to First Generation Uranium Solution Mining Plants – Paper #8414," Brown, S.H., WM 08 Conference, February 25- March 1, 2008, Phoenix, AZ.

Cameco, 2014. Cameco Resources e-mail to R. Burrows, NRC, "Crow Butte Response to Draft License Condition 11.10 – Beta/Gamma Survey Program," July 30, 2014, ADAMS accession No. ML14212A063.

Cameco, 2013. Cameco Resources letter to T. Lancaster, NRC, "Volume 1 Technical Report-Response to RAI Dated July 3, 2013," December 23, 2013, ADAMS accession No. ML14008A171.

NRC, 2014. Letter from A. Persinko, NRC, to M. Thomas, Uranerz Energy Corporation, "Safety Evaluation Report, Nichols Ranch ISR Project, License Amendment,

Removal of Pre-Operational License Conditions, NRC Materials License SUA-1597," April 15, 2014, ADAMS Accession Package No. ML14087A244.

NRC, 2013a. NRC Inspection Report 040-08943/13-001, Arlington, TX, July 23, 2013, ADAMS accession No. ML13184A360.

NRC, 2013b. Letter from A. Persinko, NRC, to D. Wichers, Uranium One USA, Inc., "D. Wichers Ltr. re: Materials License SUA-1341, Uranium One USA Inc., Willow Creek ISR Project." March 7, 2013, ADAMS Accession Package No. ML13015A179.

NRC, 2003. "Standard Review Plan for In-Situ Leach Uranium Extraction License Applications—Final Report," NUREG1569, Washington, DC, June 2003, ADAMS Accession No. ML031550302.

NRC, 2001. "Consolidated Guidance: 10 CFR Part 20 – Standards for Protection Against Radiation, Final Report," NUREG-1736, Washington, DC, October 2001, ADAMS Accession No. ML013330179.

Schleien, 1992. "The Health Physics and Radiological Health Handbook, Revised Edition," edited by Bernard Schleien, published by Scinta, Inc., 1992.

Uranium One, 2013. Letter from S. Schierman, Uranium One, to R. Linton, NRC, "Willow Creek Project - Submittal of Requested SOP's," September 25, 2013, ADAMS Accession No. ML13273A017.

Uranium One, 2012a. Letter from J. Winter, Uranium One, to K. McConnell, NRC, "Supplemental Information to 2008 License Renewal Application," March 7, 2012, ADAMS Accession Package No. ML120820095.

Uranium One, 2012b. Letter from J. Winter, Uranium One, to R. Linton, NRC, "Response to RAI's for Supplemental Information to 2008 License Renewal Application (TAC NO. J00564)," July 10, 2012, ADAMS accession No. ML12206A436.