

June 6, 2013

Mr. Jon Winter
Manager, Wyoming Environmental
and Regulatory Affairs
Uranium One Americas, Inc.
907 N. Poplar Street, Suite 260
Casper, WY 82601

SUBJECT: URANIUM ONE, USA, INC., WILLOW CREEK PROJECT, CAMPBELL AND
JOHNSON COUNTIES, WYOMING, SOURCE MATERIALS LICENSE SUA-
1341, ANNUAL SURETY ESTIMATE ADJUSTMENT (TAC NO. J00691)

Dear Mr. Winter:

The Nuclear Regulatory Commission (NRC) received the Uranium One, USA, Inc. (Uranium One), Willow Creek Project, Irigaray and Christensen Ranch Annual Report dated September 18, 2012. Contained within the report was the annual surety update for the Willow Creek Project. The report was made publicly available in the NRC's Agencywide Documents Access and Management System (ADAMS) on October 11, 2012, and can be found at ML122850355. NRC staff requested additional information in a letter dated March 21, 2013 (ML13077A192). Uranium One updated the surety estimate in a letter dated April 22, 2013; however, NRC staff determined the letter was missing a page. On May 7, 2013, Uranium One provided the missing page. The complete survey estimate update can be found at ML13137A221.

The financial assurance update seeks to increase the financial assurance amount for the Willow Creek Project to a total of \$21,075,000 from the currently approved amount of \$16,308,890. This increase is based on several factors, including: costs for restoration and decommissioning of wellfield 10; additional wellfield buildings and a new resin transfer bay; increased plugging and abandonment costs for new wells; topsoil replacement and revegetation related to the opening of new wellfields; and an adjustment to account for inflation.

Staff has reviewed the financial assurance update in accordance with License Condition 9.5, consistent with Criterion 9 of Appendix A to Part 40 of Title 10 of the Code of Federal Regulations (10 CFR Part 40, Appendix A). Based on this review, staff has reasonable assurance that the current financial assurance estimate of \$21,075,000 will be adequate to complete groundwater restoration and decommissioning activities at the facility.

Staff's review is documented in the enclosed Technical Evaluation Report (TER) (Enclosure 1). The TER concludes that sufficient information is available to support the reasonable assurance finding by the staff. License Amendment No. 1 is also enclosed (Enclosure 2).

This licensing action meets the categorical exclusion provisions in 10 CFR Part 51.22(c)(10)(i). Therefore, no further environmental review is required for this action.

J. Winter

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If you have any questions regarding this action, please contact Mr. Ron Linton, the Project Manager for Source Material License SUA-1341, at 301-415-7777, or by e-mail at ron.linton@nrc.gov.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice for Domestic Licensing Proceedings and Issuance of Orders," 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 Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Sincerely,

/RA/

Andrew Persinko, Deputy Director
Decommissioning and Uranium Recovery
Licensing Directorate
Division of Waste Management
and Environmental Protection
Office of Federal and State Materials
and Environmental Management Programs

Docket No.: 040-08502
License No.: SUA-1341

Enclosures:

1. Technical Evaluation Report for Financial Assurance Review
2. Amendment No. 1 to Source Materials License SUA-1341

cc: Mike Ploughe P.G. (WDEQ)

J. Winter

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**TECHNICAL EVALUATION REPORT
2012-2013 FINANCIAL ASSURANCE UPDATE FOR THE WILLOW CREEK PROJECT,
JOHNSON AND CAMPBELL COUNTIES, WYOMING**

Docket No.: 04008/502

License No.: SUA-1341

Date: May 16, 2013

Facility: Willow Creek Project, Irigaray and Christensen Ranch Facilities

Technical Reviewers: Ron C. Linton
Reginald Augustus

Project Manager: Ron C. Linton

SUMMARY AND CONCLUSIONS:

The U.S. Nuclear Regulatory Commission (NRC) received the Uranium One, USA, Inc. (Uranium One), Willow Creek Project, Irigaray and Christensen Ranch Annual Report dated September 18, 2012. Contained within the report was the annual surety update for the Willow Creek Project. The report was made publicly available in the NRC's Agencywide Documents Access and Management System (ADAMS) on October 11, 2012, and can be found at ML122850355. Uranium One updated the surety estimate in a letter dated April 22, 2013; however, NRC staff determined the letter was missing a page. On May 7, 2013, Uranium One provided the missing page. The complete survey estimate update can be found at ML13137A221.

The financial assurance update seeks to increase the financial assurance amount for the Willow Creek Project to a total of \$21,075,000 from the currently approved amount of \$16,308,890. This increase is based on several factors, including: costs for restoration and decommissioning of wellfield 10; additional wellfield buildings and a new resin transfer bay; increased plugging and abandonment costs for new wells; topsoil replacement and revegetation related to the opening of new wellfields; and an adjustment to account for inflation.

Staff has reviewed the financial assurance update in accordance with License Condition 9.5, consistent with Criterion 9 of Appendix A to Part 40 of Title 10 of the Code of Federal Regulations (10 CFR Part 40, Appendix A). Based on this review, staff has reasonable assurance that the current financial assurance estimate of \$21,075,000 will be adequate to complete groundwater restoration and decommissioning activities at the facility.

This Technical Evaluation Report (TER) concludes that sufficient information is available to support the reasonable assurance finding by the staff.

TECHNICAL REVIEW:Willow Creek Project

License Condition (LC) 9.5 of source materials license SUA-1341 currently reads, in part, as follows:

The licensee's currently approved surety, Irrevocable Standby Letter of Credit issued in favor of the State of Wyoming, Department of Environmental Quality (WDEQ) shall be continuously maintained in an amount no less than \$16,308,890 for the purpose of complying with 10 CFR 40, Appendix A, Criterion 9, until a replacement is authorized by both the State of Wyoming and the NRC.

Staff reviewed the components of the submitted financial assurance cost estimate for the Willow Creek Project to verify that it includes the activities that would be required during reclamation and closure of the facility. The NRC staff also reviewed the unit costs to verify that they represent the costs that would be incurred by a third party to complete reclamation and closure.

Uranium One continues operational activities in three wellfields and a portion of one other at the Willow Creek Project. Wellfield development activities continue in an additional wellfield. Due to proposed expanding operations, the financial assurance estimate has been updated to \$21,075,000 and includes the following items:

- Worksheet 1: Groundwater Restoration
The number of wells and wellfield area for mine unit 8 has been adjusted based on the current number and location of wells installed. Costs for the groundwater restoration of MU10 have been added.
- Worksheet 2: Plant Equipment Removal and Disposal
An additional 9 wellfield module buildings have been added to the surety.
- Worksheet 3: Building Demolition and Disposal
Uranium One added a resin transfer bay to the Christensen Ranch facility and 9 wellfield module buildings to the surety.
- Worksheet 4: Pond Reclamation Cost
Uranium One has added costs for relining Pond A and Pond C and costs for reclamation to the surety.
- Worksheet 5: Well Plugging and Abandonment
Additional wells and the increased average depth of wells have been added to the surety to reflect the actual number and depth of wells installed. The estimated number of wells to be installed in the upcoming year has been increased in the surety.
- Worksheet 6: Wellfield Equipment Removal & Disposal
The length of pipeline in wellfield 8 has been increased and the estimated length of pipeline for additional wellfields 10 and 11 has been added in the surety. The

average outside diameter for wellfield piping for wellfields 7 and 8 has been reduced to reflect current construction methods. The number of production well pumps now reflects the current number for mine unit 8, and the estimated number of production wells and pumps for mine units 10 and 11 has been added. In addition, trunkline footage for mine unit 8 has been decreased to reflect the actual footage, and estimated trunkline footage for mine units 10 and 11 has been added. Finally, the number of manholes for mine unit 8 has been increased to reflect the actual number, and the estimated number of manholes for mine units 10 and 11 has been added to the surety.

- Worksheet 7: Topsoil Replacement & Revegetation
The estimated affected acreage and roads for mine units 10 and 11 have been added to the surety.
- Worksheet 8: Miscellaneous Reclamation
Construction and development costs for mine units 10 and 11 have been added to the surety.

Staff reviewed the estimate for the Willow Creek Project and determined that the cost estimate includes the range of activities necessary to decommission, restore groundwater, reclaim, and close the site. The quantities included in Uranium One's estimate are consistent with staff's knowledge of the site. Staff observes that Uranium One used either guidance from Wyoming Department of Environmental Quality Guideline 12 or actual costs to develop the cost estimate. The majority of the line items contained in the surety are unchanged from the last surety that was reviewed and approved on January 24, 2012 (ADAMS Package ML113540381). The line items that were unchanged from the previous surety that was reviewed and approved were not reanalyzed. Cost increases for previously reviewed line items are due to an increase in inflation. Staff has determined that the inflation costs were calculated correctly.

The largest increase in surety was due to groundwater restoration costs for new mine units that are scheduled to become operational in the next year. Uranium One included new line items for proposed new development of mine units 9 and 10. NRC staff reviewed these costs and finds them reasonable and consistent with those items included in the surety for mine units 2 through 8 that were previously approved. Groundwater restoration costs are based on one pore volume of groundwater sweep and 5 pore volumes of reverse osmosis for mine units 2 through 6. Groundwater restoration costs are based on one pore volume of groundwater sweep and 10 pore volumes of reverse osmosis for mine units 7 through 11. This variation in pore volumes in the surety is based on the fact that groundwater restoration activities have occurred and a groundwater restoration report for mine units 2 through 6 was submitted to NRC for review. NRC staff has not approved the restoration for mine units 2 through 6. Uranium One has indicated that additional restoration work will likely require isolated or localized groundwater restoration in portions of some of mine units 2 through 6 and that the current portion of the surety for mine units 2 through 6 of \$3,892,287 is adequate. NRC staff agrees with Uranium One that additional restoration efforts in mine units 2 through 6 will not likely require restoration on a total mine unit basis and that restoration efforts will likely be targeted in specific areas of each mine unit. Furthermore, NRC staff agrees it is not likely that 6 pore volumes will be required to complete restoration in each mine unit.

NRC staff raised an issue in a request for additional information that the lack of header houses in mine unit 6 may not be accounted for in the surety. NRC staff notes that mine unit 6 header houses were moved for use in mine unit 7 and not replaced in mine unit 6, although all the subsurface piping remains in place. Uranium One has responded that since extensive groundwater restoration on a wellfield scale will not likely be needed to complete restoration, full scale header houses will not likely be required. Uranium One has stated it believes that all the future restoration costs, including maintenance [header houses] could be contained within the current surety of \$3,892,287 for mine units 2 through 6. NRC staff agrees that the \$3,892,287 currently in the surety for restoration at mine units 2 through 6 will likely cover these costs, if needed. However, NRC staff will take a closer look at this issue in the next surety revision, due on August 15, 2013, and may request that additional funding be added for associated maintenance for mine unit 6 module header houses.

For the reasons identified above, the NRC staff determined that Uranium One has provided adequate justification for the current financial assurance estimate at Willow Creek Project. Therefore, the NRC staff has reasonable assurance that the financial assurance estimate is sufficient and accepts Uranium One's estimate for the Willow Creek Project. The revised license condition is shown at the end of this TER.

ENVIRONMENTAL REVIEW:

This licensing action meets the categorical exclusion provisions in 10 CFR Part 51.22(c)(10)(i). Therefore, no further environmental review is required for this action.

PROPOSED LICENSE CONDITION:

The last paragraph of NRC Materials License SUA-1341, License Condition 9.5 will be changed to read:

- 9.5 The licensee's currently approved surety, Irrevocable Standby Letter of Credit issued in favor of the State of Wyoming, Department of Environmental Quality (WDEQ) shall be continuously maintained in an amount no less than ~~\$16,308,890~~ \$21,075,000, for the purpose of complying with 10 CFR 40, Appendix A, Criterion 9, until a replacement is authorized by both the State of Wyoming and the NRC.