June 7, 2012

Mr. Bill Kearney
Director, Safety, Health and Environment
Uranium One USA, Inc.
907 N. Poplar Street, Suite 260
Casper, WY 82601

SUBJECT: LICENSE AMENDMENT 22, AMENDMENT OF LICENSE CONDITION 10.5, URANIUM ONE USA, INC., WILLOW CREEK PROJECT, LICENSE SUA-1341, JOHNSON AND CAMPBELL COUNTIES (TAC J00666)

Dear Mr. Kearney:

By letter dated May 18, 2012, Uranium One, USA, Inc. (Uranium One) submitted to the U.S. Nuclear Regulatory Commission (NRC) staff a letter requesting concurrence from NRC that Uranium One's interpretation of the "annual average flow rate of 4,000 [gallons per minute] gpm" is consistent with the approved license application and is acceptable to NRC (Agencywide Documents Access and Management System (ADAMS) ML12143A224). Uranium One noted in the request that NRC license SUA-1341, license condition 10.5, authorizes Uranium One to "conduct operations at a maximum flow rate of 4,000 gpm, exclusive of restoration flow." The request further stated that Uranium One has always interpreted this as the "annual average flow rate of 4,000 gpm," as described in Section 3.0, Mine Plan and Section 3.4.2.2, Ion Exchange/Lixiviant Makeup, of the approved license application.

NRC staff has reviewed Uranium One's request and is amending license condition 10.5 to reflect the change from a maximum flow rate of 4,000 gpm to an annualized flow rate of 4,000 gpm, consistent with the license application. The change is also consistent with the NRC Safety Evaluation Report (SER) and NRC Environmental Assessment that were both published in 1998 when the license was renewed. The basis for NRC staff's concurrence is discussed in the enclosed SER. The staff has further determined that the proposed amendment belongs to a category of actions which the NRC has determined are eligible for categorical exclusion (i.e., that do not require an environmental assessment) under 10 CFR 51.22(c)(11).

License condition 10.5 will be amended to read:

> 10.5 The licensee is authorized to conduct operations at an annual throughput at Christensen Ranch that does not exceed an average flow rate of 4,000 gallons per minute, exclusive of restoration flow. Annual dried yellowcake production shall not exceed 2.5 million pounds.

In an e-mail dated May 31, 2012, Uranium One agreed to the license condition change (ADAMS Accession No. ML12152A355).

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 document system (ADAMS). ADAMS is accessible from the NRC Website at http://www.nrc.gov/reading-rm/adams.html.

If you have any questions concerning the above, please contact Ron Linton at (301) 415-7777 or via email at ron.linton@nrc.gov.

Sincerely,

/RA/

Keith I. McConnell, 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

Enclosure:
License Amendment No. 22
Safety Evaluation Report

cc: Glenn Mooney (WDEQ)

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(CLOSES TAC NO. J00666)

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SAFETY EVALUATION REPORT

Date: May 31, 2012

Docket No.: 040-08502

License No.: SUA-1341

Facility: Willow Creek In Situ Recovery Project

Project Manager: Ron C. Linton

Technical Reviewers: Ron C. Linton

Summary and Conclusions:

By letter dated May 18, 2012, Uranium One, USA, Inc. (Uranium One) submitted to the U.S. Nuclear Regulatory Commission (NRC) staff a letter requesting concurrence from NRC that Uranium One's interpretation of the "annual average flow rate of 4,000 [gallons per minute] gpm" is consistent with the approved license application and is acceptable to NRC (Agencywide Documents Access and Management System (ADAMS) ML12143A224). NRC staff has reviewed this request and is amending NRC license SUA-1341, license condition 10.5, to reflect the change from a maximum flow rate of 4,000 gallons per minute (gpm) to an annualized flow rate of 4,000 gpm, consistent with the approved license application (LA) and NRC Safety Evaluation Report (SER) and Environmental Assessment (EA) published in 1998 when the license was renewed. The proposed license condition was discussed with Uranium One and agreed to in an e-mail from Uranium One dated May 31, 2012.

Background:

The licensee operates the Willow Creek In Situ Recovery (ISR) Project that consists of the Irigaray and Christensen Ranch sites in the Powder River basin of Wyoming. The Irigaray site consists of a central processing facility and decommissioned well fields. The Christensen Ranch site consists of a satellite ion exchange facility and well fields used for uranium recovery. The project is in operational status and actively recovering uranium.

In Uranium One's May 18, 2012, letter requesting concurrence from NRC that its interpretation of the "annual average flow rate of 4,000 [gallons per minute] gpm" is consistent with the approved license application and is acceptable to NRC, Uranium One noted that NRC license SUA-1341, license condition 10.5, authorizes Uranium One to "conduct operations at a maximum flow rate of 4,000 gpm, exclusive of restoration flow." The request further stated that Uranium One has always interpreted this as the "annual average flow rate of 4,000 gpm," as described in Section 3.0, Mine Plan and Section 3.4.2.2, Ion Exchange/Lixiviant Makeup, of the approved license application (LA). To support the request, Uranium One referenced in its letter similar language found in the NRC SER and EA, which was published at the time of license renewal, referencing the average annual flow rate of 4,000 gpm.

Safety Evaluation:

NRC staff reviewed the approved LA under which Uranium One is operating the Willow Creek ISR Project, approved by NRC on June 30, 1998 (ADAMS Package ML081060061). NRC staff confirmed that the LA contains several descriptions referencing the flow rate as an annualized average flow rate. Two of these descriptions are listed below:

> LA Section 1.2.3, DESCRIPTIONS OF EXISTING FACILITIES states, "[t]he Christensen Ranch satellite extraction plant consists of an ion exchange circuit which will be operated at a flow rate of 4,000 gpm on an annual average, and a lixiviant makeup circuit." (ADAMS ML090210764)

> LA Section 3.4.2.2, Ion Exchange/Lixiviant Makeup Circuit states, "[t]he satellite plant contains four IX trains (sets of columns) with each train having two fixed-bed columns connected in series. The columns in each train have individual capacities of approximately 600 gpm, thus providing a maximum 4,800 gpm capacity of the system. The plant will be operated at an annual average flow rate of 4,000 gpm. (ADAMS ML090210764)

NRC staff reviewed the NRC SER and the EA that provided the basis of the NRC staff's safety and environmental reviews of the 1998 approved LA (ADAMS package ML081060061). Both the SER and EA were published when the project's license was renewed on June 30, 1998. Both the SER and the EA make reference to the annualized flow rate. For example:

> NRC EA, Section 1.2, Proposed Action states, "[t]he renewed license would authorize the facilities to continue to be operated such that the annual throughput at Christensen [Ranch] does not exceed an average flow rate of 4,000 gallons per minute (gpm) exclusive of restoration flow, and such that the annual average yellowcake production does not exceed 1,133,980 kg (2,500,000 pounds) of U308 annually." (ADAMS package ML081060061)

> NRC SER Section 1.1, Description of the Proposed Action states, "[t]he renewed license would authorize the facilities to continue to be operated such that the annual throughput at Christensen Ranch does not exceed an average flow rate of 4,000 gallons per minute (gpm) exclusive of restoration flow, and such that the annual average yellowcake production does not exceed 1,133,980 kg (2,500,000 pounds) of U30 8 annually." (ADAMS package ML081060061)

In the authorized activities section of the SER, the staff references the maximum average flow rate of 4,000 gpm, but does not clarify the timeframe over which the flow rate is to be averaged, such as daily, monthly, or yearly.

> NRC SER Section 2.0 AUTHORIZED ACTIVITIES states, "[c]urrently, COGEMA is authorized to recover uranium-bearing solutions from the ore bodies at a maximum average flow rate of 15,140 [liters per minute] Ipm (4,000 gpm), exclusive of restoration flow, using lixiviant composed of native groundwater, either sodium bicarbonate/carbonate or CO2 gas added as a complexing agent, and either oxygen or hydrogen peroxide as an oxidant.

Also, in the conclusion section of the EA, the staff references the annual flow rate of 4,000 gpm, but doesn't add the modifier maximum.

> NRC EA, Section 11.0, CONCLUSIONS, INCLUDING ENVIRONMENTAL LICENSE CONDITIONS states, " [u]pon completion of the environmental review of COGEMA's application for the renewal of Source Material License SUA-1341, the staff has concluded that the continued commercial operation of the Irigaray and Christensen Ranch Uranium Projects, in accordance with the following conditions to be included in the renewed license, is protective of public health and safety and the environment, and fulfills the requirements of 10 CFR Part 51. Therefore, the staff recommends the renewal of SUA-1341, subject, in part, to the following conditions:"
>
> 3. The annual flowrate at the Christensen Ranch Satellite shall not exceed 4,000 gpm. The annual plant throughput shall not exceed 1,133,980 kg (2,500,000 pounds) of U308.

When SUA-1341 was renewed on June, 30, 1998, license condition 10.5 was written differently than as noted in EA Section 11.0, No. 3.

> SUA-1341, license condition 10.5 was written, "[t]he licensee is authorized to conduct operations at a maximum flow rate of 4,000 gallons per minute, exclusive of restoration flow. Annual yellowcake production shall not exceed 2.5 million pounds" (ADAMS package ML081060061).

The NRC staff can find no basis or reference in the SER or the EA as to why the license condition in the renewed license was transcribed as a maximum flow rate of 4,000 gpm and not as an annualized flow rate as discussed in the LA or as discussed in the NRC SER or EA. The NRC staff has reviewed this matter and has determined that the original licensing analysis set forth in the SER and EA, as well as the LA, considered and approved an annualized flow rate of 4,000 gpm, exclusive of restoration flow.

The NRC staff is not concurring with Uranium One's interpretation of license condition 10.5 as currently written in SUA-1341, license amendment 21. The plain language of license condition 10.5, as currently written, states the flow rate is a maximum flow. However, the NRC staff does agree with Uranium One that the flow rate specified in license condition 10.5 should be consistent with the LA and NRC analysis provided in the SER and EA at the time of licensing. For the reasons discussed above, the NRC staff has determined that the NRC's intent at the time of licensing was to allow for a maximum flow rate of 4,000 gpm, calculated on a yearly average.

Accordingly, the NRC staff will amend license condition 10.5 to be consistent with the June 30, 1998, NRC SER Section 1.1, Description of the Proposed Action, to read:

10.5 The licensee is authorized to conduct operations at an annual throughput at Christensen Ranch that does not exceed an average ~~maximum~~ flow rate of 4,000 gallons per minute, exclusive of restoration flow. Annual dried yellowcake production shall not exceed 2.5 million pounds.

[Applicable Amendments: 5, 13, 22]

Environmental Review:

The staff has reviewed the licensee's amendment request and finds that the proposed action belongs to a category of actions which the NRC has determined are eligible for categorical exclusion (i.e., that do not require an environmental assessment) under 10 CFR 51.22(c)(11) which states:

> Issuance of amendments to licenses for fuel cycle plants and radioactive waste disposal sites and amendments to materials licenses identified in § 51.60(b)(1) which are administrative, organizational, or procedural in nature, or which result in a change in process operations or equipment, provided that (i) there is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite, (ii) there is no significant increase in individual or cumulative occupational radiation exposure, (iii) there is no significant construction impact, and (iv) there is no significant increase in the potential for or consequences from radiological accidents.

The staff finds that the amendment changing the throughput from a maximum flow rate of 4,000 gpm to an annualized flow rate of 4,000 gpm, as originally evaluated by the NRC, to be an administrative action that does not result in a: significant change in the types or significant increase in the amounts of any effluents that may be release offsite; significant increase in individual or cumulative occupational radiation exposure; significant construction impact; or significant increase in the potential for or consequences from radiological accidents. Therefore, this action does not require an EA.