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September 25, 2013 **Sent via Overnight Mail**

Attn: Document Control Desk
U.S. Nuclear Regulatory Commission
Mr. Ron Litton, Project Manager
Decommissioning & Uranium Recovery Licensing Directorate
Division of Waste Management & Environmental Protection
Office of Federal and State Materials &
Environmental Management Programs
11545 Rockville Pike
Rockville, MD 20852-2738

Subject: License SUA-1341, Docket No. 40-8502
Willow Creek Project
Submittal of Requested SOP's

Dear Mr. Litton:

In accordance with License Conditions 11.3 Uranium One is proposing to demonstrate compliance with 10 CFR 20.1204 for ***In-Plant Air Particulate Sampling*** as follows:

> In-plant air particulate sampling locations at Christensen Ranch Satellite will be collected and counted for Gross Alpha contamination which would include activity from Unat, Ra-226, Po-210, Pb-210 and Th-230 if present. As noted in NUREG 1569 Th-230 is mobilized by bicarbonate-laden leaching solutions utilized as part of the ISR mining process. However the amount of Th-230 present in the lixiviant solutions is anticipated to be minimal due to the low solubility nature of thorium. To verify this, a sample of the wellfield lixiviant will be collected and analyzed for radionuclide content including Th-230 to determine the ratio of the radionuclides present. The gross alpha airborne concentrations will then be compared against the mixed ratio DAC, or the most restrictive DAC for the identified radionuclides on a semi-annual basis. If gross alpha concentrations are less than 10% of the mixed ratio DAC or the most restrictive DAC as specified in 10 CFR 20 Appendix B Table 1 values, Uranium One as permitted in 10 CFR 20.1502 would not be required to determine compliance under the statutes of 10 CFR 20.1204. Uranium One proposes that in-plant airborne sampling will continue to be collected and analyzed for gross alpha content as long as the mixed ratio DAC, or the most restrictive DAC for radionuclides present are less than 10% of the applicable DAC.

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Samples collected from the Irigaray YC drypack area will be analyzed for gross alpha only and compared to the appropriate uranium DAC. In-plant samples at areas other than YC drypack at Irigaray will be compared to the mixed DAC, or most restrictive DAC on a semi-annual basis based on results of radionuclide concentrations of the lixiviant. The licensee will also evaluate changes to plant operations to determine if more frequent sampling may be required.

A second portion of License Condition 11.3 requires the licensee to collect environmental air particulate sampling at the Christensen Ranch Satellite facility and have these filters analyzed for Unat, Ra-226, Pb-210 and Po-210 or demonstrate compliance with 10 CFR 20.1301. Uranium One intends to demonstrate compliance with 20.1301 as follows:

As discussed with NRC during draft License Condition 11.3 process, Uranium One proposes to use the environmental airborne concentrations observed at the Irigaray airborne effluent monitoring locations for Christensen Ranch. The use of the Irigaray airborne constituents Unat, 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 and would meet the requirements of 10 CFR 40.31(h). NRC infers this would appear to be a conservative approach in Section 5.7.7.3.2 of the SER which states in part "*The NRC staff has reviewed the Irigaray air particulate monitoring results in LRA Table 5.14 from 1995 through 2001 and for 2005. The NRC staff did not identify any significant impacts from operations at Irigaray, and based on the staffs experience and knowledge the air particulate releases, air particulate impacts at Christensen Ranch should be lower than for Irigaray operations*". Uranium One is proposing to demonstrate compliance with 10 CFR 40.31(h) by applying Irigaray airborne effluent concentrations for Unat, Ra-226, Po-210 and Pb-210 to the Christensen Ranch Satellite airborne effluent releases which would be conservative in estimating airborne releases and potential pubic dose.

Uranium One considers this to be a conservative approach based on the premise that if gross airborne concentrations in the Christensen satellite plant are less than 10% of the DAC for the mixed ratio or most restrictive radionuclide present, then the potential for environmental effluent releases above those specified in 10 CFR 20, Appendix B, Table 2 are minimal. As stated above Uranium One will take the conservative approach and use the effluent radionuclide concentrations from Irigaray Plant and continue to include environmental radon and gamma from the Christensen to determine public dose. Uranium will continue to use the man camp areas at Irigaray and the Christensen Ranch Satellite as the receptor points likely to receive the highest dose to a member of the public.

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Should you have any questions or need additional information in regards to this matter please contact Jon Winter by phone at (307) 234-8235 ext. 331or email at jon.winter@uranium1.com or myself at (307) 234-8235 ext.330 or email at scott.schierman@uranium1.com.

Sincerely,

Scott Schierman
Sr. SH&E Specialist

cc: Donna Wichers
Jon Winter
Larry Arbogast
Barry Koch

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