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LOST CREEK ISR, LLC

August 10, 2012

Mr. Mark Satorius, Director
Office of Federal and State Materials and Environmental Management Programs
U.S. Nuclear Regulatory Commission
Two White Flint North, Mail Stop T8D22
11545 Rockville Pike
Rockville, MD 20852

Re: Response to the July 25, 2012 Memo Regarding the MU1 Wellfield Package
License Number SUA-1598, Docket 40-9068

Dear Mr. Satorius,

On July 25, 2012, the NRC issued a memo which posed several questions pertaining to the Mine Unit 1 Wellfield Package for the Lost Creek Project. Please find behind this cover a report which addresses items 1(A) through 1(E) as requested. The remaining items, 2 through 4, will be addressed during the pre-start inspection, Wellfield SERP, and Year 1 or 2 Financial Surety Update as requested.

If you have any questions regarding this letter or require additional information please feel free to contact me at (307) 265-2373.

Regards,

Lost Creek ISR, LLC
By its Manager, Ur-Energy USA Inc.

John W Cash

By: John W. Cash, V.P. of Regulatory Affairs, Exploration and Geology
Ur-Energy USA Inc.

Cc: ✓NRC Document Control Desk
Theresa Horne, Ur-Energy, Littleton
Tanya Oxenberg, PhD, NRC, Rockville, via e-mail

FSME20

Lost Creek Project Mine Unit 1 Follow-Up Report

For consistency, this report will follow the format of questions posed in the NRC's July 25, 2012 letter regarding the Mine Unit 1 Package.

(1) A follow-up report which will include:

(A) Evaluation of baseline conditions in accordance with license conditions and after consultation with Wyoming DEQ staff;

The Wyoming Department of Environmental Quality – Land Quality Division ("LQD") was contacted via email on July 30, 2012 to initiate a discussion on the method for calculating excursion UCLs and methods for handling outliers during baseline data collection. A teleconference was subsequently held with LQD on July 31, 2012 with LQD confirming their position that the method used to calculate UCLs for the Lost Creek Project are correct and consistent with LQD Rules and Guidance. Specifically, LQD believes the method used to select outliers and the method used to average chemical concentration values for the entire mine unit instead of on a well by well basis are correct.

(B) Discussion of Procedures to detect changes in water quality at the trend wells in accordance with LCI's narrative in MU-1 Wellfield Package;

Lost Creek ISR, LLC ("LCI") proposes the following procedure be added to the end of Section 5.1.4 of the MU1 Wellfield Package as a general set of guidelines that can be followed to detect and prevent excursions with particular emphasis on the use of trend wells.

> **"The baseline water quality and level of each trend well will be determined prior to the initiation of production activities by collecting at least two samples per trend well and analyzing for field pH and conductivity, and lab chloride, alkalinity, Unat and radium. The results of the assays will be reviewed pursuant to the QA/QC program and if necessary additional samples will be taken to ensure two rounds of representative results are obtained. During operations, the semi-monthly water level readings from each trend well will be reviewed by an individual with groundwater management experience. Sudden changes in water levels may indicate that the mine unit flow is out of balance. Increases in water levels may be an indication of fluid migration out of the production zone toward the monitor well ring. Water level changes in trend wells greater than ten (10) feet, or significant changes in water level in conjunction with other compelling evidence as assessed by the experienced reviewer, will trigger a review of operational activities within the area of interest and a possible modification of operating flow rates and pattern balance. The water level "Rose Diagrams" that are generated after each sampling round will also be reviewed to determine the extent and more precise location of water mounding. Corrective actions will be taken as dictated by the results of the investigation. However, in the event the corrective action isn't effective at reversing the water level trend within one sample period, water quality samples will be collected from the trend well on the semi-monthly schedule until such time the water level issue is corrected. The sample will be analyzed for field pH and conductivity and lab chloride and alkalinity with the results compared to the baseline readings to determine if lixiviant is migrating**

toward the monitor well ring. The results of the assays will be used to determine what corrective actions need to be taken and what corrective actions are effective. Trend wells are not points of compliance but are excellent indicators of groundwater control and effectiveness of corrective actions."

(C) Procedures for monitoring and evaluation water levels at the trend/monitoring wells and out-of-balance condition for the production units;

Please see the procedure proposed in item 1(B).

(D) Corrective action procedures;

Please see the procedure proposed in item 1 (B)

(E) Evaluation that the spacing between the fault and the first well north of the fault is adequate to detect an excursion;

As discussed during the NRC conference call, well M-114 was originally planned to be a monitor well on the south side of the Lost Creek Fault. Responses to pumping tests are not definitive; rather it appears that M-114 is within the fault zone, and in communication, to a limited degree, with the HJ Sand on both sides of the fault. For example, during the MU1 North test, 2.8 feet of drawdown was observed during pumping (approximately 25% of the total drawdown observed in the closest monitor well to the north [M-115; 10.2 feet of drawdown]). During the MU1 South test, 1.2 feet of drawdown was observed during pumping (approximately 25% of the total drawdown in the closest monitor well to the south [M-113; 4.8 feet of drawdown]). These data suggest that M-114 is located and completed such that the well will respond to drawdown (e.g., recovery operations) conducted on either the north or south side of the fault, and hence also would be suitable to detect an excursion on either side of the fault. Further, the accepted design criteria for the MU1 perimeter monitor well ring is the placement of wells every 500 feet around the wellfield, staying within 500 feet of the nearest pattern. It is noted that well M-114 is located within 500 feet of the HJ Sand monitor wells to the north (M-115) and to the south (M-113). In this regard, the unique character of the M-114 completion is no different, from a regulatory perspective, than monitoring wells completed around a wellfield that has a variable transmissivity. M-113 to the south is positioned less than 400 feet from the fault and 500 feet from the nearest planned pattern. This spacing should be sufficient to detect any indicators of an imbalanced wellfield on the south side of the fault as water level increases and chemical constituents would progress towards the monitor well ring in a radial fashion. M-115 is the adjacent monitor well to the north and is 500 feet from the fault and 500 feet from the nearest planned pattern and is similarly positioned to detect indications of local wellfield imbalance north of the fault. Furthermore, LCI has committed to the installation of a trend well approximately 400 feet northeast of M-114 as an operational tool for monitoring production zones outside of the 800 foot 'capture' radius of M-114 and M-115. This trend well will also aid in observing any fluid movement along the north side of the fault on the west end of MU1.