

May 3, 2016

U.S. Nuclear Regulatory Commission
Nuclear Material Safety and Safeguards
Division of Decommissioning, Uranium Recovery, and Waste Programs
Uranium Recovery Licensing Branch
Attention: Mr. John Saxton, Project Manager
Two White Flint North, Mail Stop T8 F5
11545 Rockville Pike
Rockville, MD 20852

RE: Strata Energy Inc. Ross ISR Project
License Number SUA-1601, Docket #40-9091
Pond 1 Monitor Well Action Level Exceedance

Dear John:

As reported by email on April 27, 2016, Strata recently had a sample from Pond Monitor well P1-C3 that exceeded the action level by more than 20%. The chloride concentration in pond monitor well P1-C3 was measured at 13.3 mg/L from the monthly sample obtained on April 25, 2016. This meets the criteria for a suspected release from the pond as defined in Section 3.2.3 of the CPP Groundwater Detection Monitoring Program (GWDMP) since the concentration exceeds the action level (AL) of 10.2 mg/L by at least 20%. Strata collected a verification sample on April 26, 2016, which had a concentration of 14.0 mg/L, confirming the criterion is exceeded. The other indicator parameters were below their respective action levels and similar to previously measured concentrations.

In accordance with the commitments in Section 3.2.3 of the GWDMP, Strata performed the following immediate actions consistent with the excursion reporting and corrective action procedures in LC 11.5:

1. Notify the NRC Project Manager by telephone or email within 24 hours of confirming that the release criterion has been exceeded, and by letter within 7 days. The initial notification was made by telephone and email on April 27, 2016 at 1212 MDT.
2. Immediately sample the groundwater in all compliance monitor wells associated with Pond 1 and evaluate samples for the full suite of parameters in Table 5.7-2 of the approved license application (as amended). Strata obtained these samples on April 28, 2016 for analysis by a contract laboratory and estimate receiving the results on or near May 28, 2016.
3. Increase the groundwater detection monitoring frequency for all compliance monitor wells to at least once every 7 days for nonhazardous indicator parameters until three (3) consecutive samples are at or below the action levels. Strata has scheduled these samples for weekly collection.
4. Conduct an investigation to determine the probable cause of the release to groundwater (described herein).

5. Initiate corrective action as necessary to return the concentrations of the nonhazardous indicator parameters to concentrations below the action levels. No corrective action is necessary based on the initial investigation.

Initial Investigation

As stated in the initial notification, Strata believes that the water quality results show that the chloride exceedance is likely a result of natural variation in shallow groundwater quality that was not captured during the background sampling period. The following table shows that neither alkalinity nor conductivity increased in the April 25, 2016 sample, providing strong evidence that no release to the environment has occurred. The table includes data from well P1-C1 since that well also exceeded the AL but not by 20%. A follow-up sample from well P1-C1 on April 26, 2016 measured a concentration of 9.6 mg/L, which is below the AL.

Station Name	Sample Date	Alkalinity (as CaCO ₃), mg/L		Chloride, mg/L		Laboratory Conductivity, µmhos/cm	
		Measured	AL	Measured	AL	Measured	AL
MW P1-C1 (Cell 1—North)	8/13/2015	557	1,128	7.7	10.2	2,910	4,120
	8/31/2015	516		6.9		2,670	
	9/30/2015	503		6.7		2,710	
	10/28/2015	508		6.2		2,580	
	1/22/2016	481		8.7		2,430	
	4/25/2016	480		10.3		2,190	
	4/26/2016	NM		9.6		NM	
MW P1-C3 (Cell 3—South)	8/13/2015	819		8.1		3,370	
	8/31/2015	789		8.4		3,200	
	9/30/2015	769		8.0		3,450	
	10/28/2015	800		8.4		3,280	
	1/22/2016	799		10.8		3,060	
	4/25/2016	780		13.3		3,430	
	4/26/2016	NM		14.0		NM	

NM – not measured

As part of the required investigation, Strata verified that there are no leaks in the primary and secondary liners. As stated in Section 3.2.3 of the GWDMP, Strata uses a three-tiered approach to leak detection and groundwater detection monitoring. The three tiers include: 1) the leak detection system present between the primary and secondary liners, 2) the underdrain system that underlies each cell within Pond 1, and 3) the groundwater detection monitoring program. Based on this three-tiered approach, Strata verified the following:

- Presence and depth of water in the riser pipes. If more than 6-inches, the fluid should be sampled and conductivity should be compared to the fluid in the pond. This will confirm that

there is no leak in the primary liner. Strata measures the water level in these standpipes daily and has confirmed that there has been no increase in the water level immediately before, during, or after the sample from well P1-C3 was obtained.

- Collect a sample from the underdrain and analyze for conductivity, total alkalinity and chloride. Compare results to fluid in the pond. This will confirm that there isn't a leak in the secondary liner. Strata has not completed this step because there is no leak indicated for the primary liner and limited water is available from the underdrain system.

Further, Strata evaluated the potential for effluent released during the March 3, 2016 spill near Pond 1 to have altered the water quality measured in well P1-C3. Average linear velocities were determined based on a conservative hydraulic conductivity estimate of 3.0 feet/day¹ for the bedrock sandstone and sandy alluvial fill deposits in the area, a porosity of 46%¹ based on permeability tests performed on samples taken at the retention ponds, and a distance of 353 feet from the spill location to the well P1-C3. The water level gradient between the spill and the well measured on March 18, 2016 was 0.2 feet/feet. Based on these assumptions, it would have required approximately 95,000 days to effect the water quality measured at well P1-C3. Clearly, the small amount of effluent released on March 3, 2016 did not play a role in the exceedances of the chloride AL described herein.

Path Forward

Strata will continue to sample the pond monitor wells on a weekly basis until three consecutive samples are below the action level. Strata will notify NRC when this criterion is met.

In the future Strata may update the ALs for the pond monitor wells to more accurately account for the natural variation in the shallow groundwater. The GWDMP (p. 10) states that “[c]onsistent with EPA Unified Guidance (EPA, 2009, Section 5.3) Strata may periodically update the background water quality and corresponding action levels for the compliance monitoring points using the detection monitoring results. Such updates would occur approximately every 1-2 years of operation. Prior to updating background water quality, Strata would compare recent sample results for each constituent with the sample results used previously to establish background water quality in order to determine whether there is a statistically significant increasing trend. Strata would also evaluate sample results from the upgradient monitoring points (French drain collection sump and MW-P1-C4) to determine whether there are natural trends or changes in upgradient water quality indicative of site-wide groundwater change unrelated to the impoundments. Updates to the background water quality and corresponding action levels for intrawell comparisons at the compliance points will only be performed if proper statistical tests demonstrate that the data remain unaffected by a release from the ponds. If no statistically significant increasing trend is apparent that cannot be attributed to natural trends or changes in site-wide groundwater quality (based on evaluation of results from upgradient monitoring points), Strata may pool the recent sampling results with previous sampling results and recalculate background water quality and corresponding action levels for the compliance monitoring points, provided that no leak is detected in the groundwater detection monitoring results”. We believe that the elevated chloride is likely due to natural variation in the surficial aquifer and that consistent with Section 3.2.3 of the GWDMP, Strata will evaluate subsequent water quality results and may recommend in the written report that the ALs be updated.

¹ From Ross TR Addendum 3.1-A

Mr. John Saxton
May 3, 2016

Please call me at (307) 467-5995 if you have any questions.

Sincerely,

STRATA ENERGY INC.

A handwritten signature in blue ink, appearing to read "Mike Griffin", is positioned above the printed name.

Mike Griffin

Vice President of Permitting, Regulatory and Environmental Compliance