



December 8, 2014

Attention: Document Control Desk  
Director, Office of Federal and State Materials and Environmental Management Programs  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Re: Strata Energy, Inc., Ross In Situ Recovery Project  
Source Materials License SUA-1601, Docket No. 040-09091  
Response to Comment on Distance to Monitor Well Ring

Dear Director:

By letter dated November 13, 2104 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14301A434), NRC provided Strata Energy Inc. (Strata) with a comment concerning monitor well spacing at the Ross project. In that comment NRC noted that during the recent ASLB hearings on the Ross Project representatives from Strata suggested that portions of the perimeter well ring could be installed at distances less than 400 feet and that a specific distance of 200 feet was mentioned. NRC further stated that this monitor well spacing was not assessed in the Safety Evaluation Report and that should Strata intend to make such a design change an amendment to SUA-1601 would be required.

Strata has reviewed the transcripts for the hearings held on September 30 and October 1, 2014 (ML14279A153 and ML14280A199) and is unable to identify the context in which a specific well spacing of 200 feet was mentioned by Strata personnel. In testimony provided by Ben Schiffer on October 1 it was stated that by Mr. Schiffer that "...we can be closer with our mining activities to those monitor wells. But we cannot be farther away". Strata currently has no plans for a design change that would result in monitor wells being routinely spaced at 200 feet from the nearest operating mining wells (injector or producer).

The Ross Safety Evaluation Report (SER) (ML14002A107) discusses monitor well spacing in three locations. In Sections 3.1.3.3 (Excursion Monitoring Wells), 5.7.8.3.1.2 (Wellfield and Excursion Baseline Monitoring), and 5.7.8.3.1.7 (Wellfield Hydrogeologic Package), the SER notes that Strata had proposed a spacing of 122 to 183 meters [400 to 600 feet] and an approximate distance of 122 to 183 meters [400 to 600 feet] from the edge of the wellfield. The SER further notes in Sections 3.1.3.3 and 5.7.8.3.1.7 that in response to a Request for Additional Information (RAI) Strata had committed to a spacing of 122 meters [400 feet]. To be precise, in response to RAI No. 19 (ML121020343), Strata stated the following: "*Strata will commit to a **maximum** monitor well spacing and offset of 400 feet*". (Emphasis added).

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As NRC must be aware there are a number of circumstances that would result in the need to place perimeter monitor wells closer than the maximum allowed distance. These could include the need to adjust a well location for site topography or accessibility or for avoidance of a physical feature (e.g., structure or water body) or avoidance of historic or cultural sites. Strata must have the flexibility to determine the most appropriate perimeter monitor well locations within the constraints of the 400 foot maximum distance.

NRC has recognized this flexibility in guidance. NUREG-1569, Section 5.7.8.3 (3) states:

*Perimeter monitor wells should be placed close enough to the well field to provide timely detection, yet they should be far enough away from the well field to avoid numerous false alarms. Previously approved in situ leach excursion monitoring systems used monitor wells as far as 180 m [600 ft] and as near as 75 m [250 ft] from the well field edge (NRC, 2001, Table 4-6). The licensee should be afforded some discretion in determining the appropriate distance of horizontal excursion monitor wells from the well field, but should provide justification for distances greater than about 150 m [500 ft]. For example, a rigorous modeling demonstration that a theoretical excursion can be controlled at the monitor well locations within 60 days of detection is an acceptable technical basis.*

In Addendum 2.7-H of the Technical Report for the Ross ISR project Strata analyzed monitor well spacing alternatives ranging between 200 and 600 feet from the wellfield with the numeric groundwater model. The analyses, which is presented in Section 4.11 of Addendum 2.7-H (Pages 87-105), demonstrates that the monitor wells could be placed anywhere between 200 and 600 feet from the wellfield and an excursion could be successfully recovered within the appropriate regulatory timeframes. Tables 4.11-1 and 4.11-2 as well as Figures 4.11-7 and 4.11-8 (pages 98-102) of TR Addendum 2.7-H further demonstrate that a potential excursion event observed at a monitor well 200 feet from the wellfield would be observed and recovered as efficiently as one detected in a monitor well spaced 400 or 600 feet from the wellfield. Addendum 2.7-H supports Strata's commitment to a maximum 400 foot well spacing and further demonstrates, through the analyses of a hypothetical well spacing at 200 feet, that it is conservative from the standpoint of excursion detection and recovery to place the monitor wells closer than 400 feet from the wellfield.

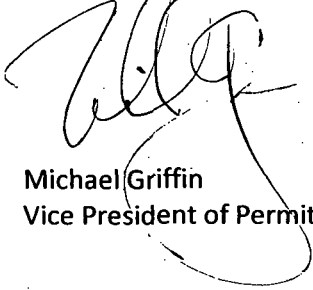
In Section 2.4.3.4.4 of the Ross SER NRC Staff concluded that the numeric groundwater model was appropriate for the data quality objectives of the application. It is clear from their conclusion that staff reviewed Addendum 2.7-H. Since Addendum 2.7-H includes an analysis for monitor wells spaced between 200 and 600 feet from the wellfields, the potential for adjustments in the monitor well spacing less than 400 feet have already been evaluated by staff.

Based on the modeling results for the approved application and the commitment in the RAI response (which is listed in License Condition 9.2 as supplementing the approved application), Strata believes that while the wellfield package submitted to NRC and the Wyoming Department of Environmental Quality (WDEQ) should provide a discussion of the basis for using monitor well distances that are significantly less than 400 feet, perimeter monitor well spacing and offsets that are less than 400 feet are part of the approved license and that an amendment should not be necessary. If NRC Staff disagrees with this interpretation please provide basis for that disagreement and the well spacing distance(s) where NRC believes an amendment would be required.

Please contact me if you have any questions regarding this letter. You can reach me at (307) 686-4066 or [mgriffin@stratawyo.com](mailto:mgriffin@stratawyo.com).

Sincerely,

Strata Energy, Inc.

A handwritten signature in black ink, appearing to read 'M. Griffin', is written over the printed name and title.

Michael Griffin

Vice President of Permitting, Regulatory and Environmental Compliance

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Mr. Dave Schellinger, Permit Coordinator, Wyoming Department of Environmental Quality