

**SAFETY EVALUATION REPORT
2015 FINANCIAL ASSURANCE UPDATE FOR STRATA ENERGY, INC.'S ROSS ISR
FACILITY, CROOK COUNTY, WYOMING**

Docket No.: 040-09091

License No.: SUA-1601

Date: October 5, 2015

Facility: Ross In Situ Recovery Project, Crook County, Wyoming

Technical Reviewers: John L. Saxton
Reginald Augustus

Project Manager: John L. Saxton

SUMMARY AND CONCLUSIONS:

By letter dated January 14, 2015, Strata Energy, Inc. (Strata) submitted to the U.S. Nuclear Regulatory Commission (NRC), for review and approval, its 2015 annual surety update for the Ross ISR Facility in Crook County, Wyoming (Strata, 2015a). Subsequently, Strata provided revisions to NRC reflecting the surety update as revised in response to comments from Wyoming Department of Environmental Quality's (WDEQ's) review (Strata, 2015b;c).

The financial assurance update seeks to increase the financial assurance amount for the Ross ISR Facility to a face value of at least \$6,397,000. This update reflects the decommissioning and reclamation costs for the processing plant and ancillary equipment (including one pond), deep disposal wells and Mine Unit 1.

The NRC staff has reviewed the financial assurance update in accordance with License Condition 9.5, consistent with Criterion 9 of Appendix A to Part 40 of Title 10 of the Code of Federal Regulations (10 CFR Part 40, Appendix A). As part of the review of the Mine Unit 1 Wellfield Package, staff identified a discrepancy in screen thickness used in the surety calculations (8 feet) and the average screen thickness for baseline wells (approximately 14 feet). Strata elected to limit the development of Mine Unit 1 to the first two header houses to address this discrepancy. Based on this review, staff has reasonable assurance that the current financial assurance estimate of \$6,397,000 will be adequate to complete ground water restoration and decommissioning activities at the Ross ISR facility, Crook County, Wyoming.

Staff determined that Strata's financial assurance arrangement does not include a standby trust agreement (STA) as required by 10 CFR Part 40, Appendix A, Criterion 9. Pursuant to 10 CFR 40.14(a), the NRC, upon its own initiative, will grant a limited exemption from the requirement for an STA until December 31, 2016 in order to conclude discussions with the State of Wyoming regarding the applicability of Wyoming's financial arrangements as a STA.

Enclosure

TECHNICAL REVIEW:

Background

By letter dated January 14, 2015, Strata Energy, Inc. (Strata) submitted to the U.S. Nuclear Regulatory Commission (NRC), for review and approval, its 2015 annual surety update for the Ross ISR Facility in Crook County, Wyoming (Strata, 2015a). The submittal was pursuant to License Condition (LC) 9.5 of source and byproduct materials license SUA-1601, Amendment 2.¹ In addition, during the review process, staff has been in contact with Wyoming Department of Environmental Protection (WDEQ) to coordinate each agency's review of the surety calculations. Strata had revised the update in response to WDEQ's comments and submitted revisions to the surety update for NRC's review (Strata, 2015b;c).

This year's surety update covers the first year of operation of the facility anticipated to begin during September 2015 (pending approval of the pre-operational inspection by NRC Staff).

Discussion

Adequacy of the Calculations

In the surety calculations, Strata includes costs for decommissioning and decontamination (D&D) of the first four wellfield modules at Mine Unit 1, the Central Processing Plant (CPP), water storage ponds and all other related facilities anticipated to be constructed during the first year. The estimate also includes the costs to complete final reclamation for limited well installation activities in a portion of MU-2 and reclamation of approximately 2,100 feet of secondary access road in MU-2. Construction of any Module Buildings or trunklines at MU-2 will likely be added to the next annual surety update. The unit costs for D&D are consistent with WDEQ Guideline 12 or actual prices/rates from on-site activities or contractor quotes.

Strata estimates the total cost to decommission and decontaminate the facility as would be constructed during this year by an independent third party at \$6,397,000. This figure represents a decrease of \$3,425,600 from the amount of \$9,822,600 initially submitted by the licensee for this surety update. The reduction was due to the following major changes initiated by the licensee to the plans for facility construction and operation and revisions to the Restoration Action Plan (RAP) as follows:

- Yellowcake processing and drying will not be done at the CPP during the first year. The CPP will only be used as a Satellite Ion Exchange (IX) facility with loaded IX resin shipped to another licensed facility for toll processing. Uranium elution, precipitation and drying equipment will not be installed.
- Reduction in CPP size that will initially only house IX type equipment.

¹ The license is currently at Amendment 2. At the time of the submittal (January 14, 2015), the license was not amended since its issuance in April 2014. However, License Condition 9.5 had not been revised since its issuance in April 2014.

- The operation of the facility as a Satellite eliminates the need for a chemical storage and separate warehouse/maintenance building.
- Two deep disposal wells may be installed instead of three.
- Only one waste water pond will be initially constructed.
- Due to the fact that Strata owns the land at the CPP site and the local municipalities do not desire that concrete be disposed at municipal landfills, concrete will now be disposed on site as clean fill. All other non-construction related solid waste will be disposed of at the Moorcroft Municipal Landfill.

The cost estimate is based on costs of a third party contractor, does not take credit for any salvage value and includes a 25 percent contingency factor.

NRC staff has completed its review of the initial surety estimate for Strata's Ross In Situ Recovery Project facility and finds that the licensee has included in the update all activities: (1) listed in the reclamation plan or in Sections 6.1-6.4 of the standard review plan in NUREG-1569; and (2) to be conducted during the period covered by the estimate. Staff finds the licensee has based the assumptions for the financial surety analysis on site conditions, including experiences with generally accepted industry practices, research and development at the site, and previous operating experience.

By letter dated July 17, 2015 (Strata, 2015d), Strata submitted its Mine Unit 1 Wellfield Package to NRC for review and verification. As part of the review of the Mine Unit 1 Wellfield Package, staff identified a discrepancy in screen thickness used for the surety calculations (8 feet) and the average screen thickness for baseline wells (approximately 14 feet) in the wellfield package. Because the surety instrument in the amount of \$6,397,000 has been established, Strata has elected to limit development of Mine Unit 1 such that the decommissioning and reclamation costs for that portion of the mine unit are below the existing surety instrument amount. By letter dated September 30, 2015 (Strata, 2015e), Strata estimates that limiting the development of Mine Unit 1 to the first two header houses (Header House 1 & 2) would result in a cost that is below the established surety instrument. Staff has reviewed Strata's estimates and agrees that the limitation results in a cost for decommissioning and reclamation that is below the established surety instrument value. Staff will memorialize this limitation into the revised license condition.

NRC staff finds the values used in the surety estimate are based on current dollars and reasonable costs for the required reclamation activities are defined (NRC, 2015). Therefore, staff finds that the licensee has established an acceptable financial assurance cost estimate based on the requirements in 10 CFR Part 40, Appendix A, Criterion 9.

Appropriateness of the Financial Instrument

The instrument to be used by the licensee for the financial assurance update is a reclamation performance bond to be held in favor of the WDEQ. An original copy of the financial instrument remains with WDEQ for uranium recovery licensing activities based on an agreement between the State and the NRC. The NRC maintains a copy on file of the instrument as well. Along with

WDEQ's portion, the bond includes 100 percent of NRC's portion. The surety bond has a face value of \$6,397,000 and has been accepted by WDEQ. Staff finds the surety instrument meets criteria in 10 CFR Part 40, Appendix A, Criterion 9.

Additionally, a Standby Trust Agreement (STA) must be established by the licensee to receive funds in case of the NRC's need to collect the surety. Because the licensee does not have an STA in place at this time, as required by 10 CFR Part 40, Appendix A, Criterion 9, in accordance with 10 CFR 40.14(a), staff has elected to grant a time-limited exemption to the STA requirements in 10 CFR Part 40, Appendix A, Criterion 9, for the current surety arrangement.

Environmental Review

This licensing action meets the categorical exclusion provisions in 10 CFR 51.22(c)(10)(i). Therefore, no environmental review is required for these actions.

Proposed License Conditions

The proposed license conditions are the following:

- 9.2 The licensee shall conduct operations in accordance with the commitments, representations, and statements contained in the license application dated January 4, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML110120063), which is supplemented by submittals dated February 28, 2011 (ML110800187), March 30, 2012 (ML121030404), April 6, 2012 (ML121020343), August 10, 2012 (ML12227A369), January 18, 2013 (ML130370654), October 14, 2013 (ML13295A230), October 17, 2013 (ML13296A026), February 28, 2014 (ML14091A036), January 14, 2015 (ML15036A062), May 27, 2015 (ML15149A023) and September 30, 2015 (ML15289A056). The approved application and supplements, hereby, are incorporated by reference, except where superseded by specific conditions in this license. The licensee must maintain the approved, updated, license application on site.

Whenever the word "will" or "shall" is used in the above referenced documents, it shall denote a requirement. The use of "the Wellfield" in this license is synonymous with the use of mine unit as defined in the approved license application. The use of "verification" in this license with respect to a document submitted for NRC staff review means a written acknowledgement by U.S. Nuclear Regulatory Commission (NRC) staff that the specified submitted material is consistent with commitments in the approved license application, or requirements in a license condition or regulation. A verification will not require a license amendment.

[Applicable Amendment: 2, 3]

- 9.5 Financial Assurance. The licensee shall maintain an NRC-approved financial surety arrangement, consistent with 10 CFR 40, Appendix A, Criterion 9, adequate to cover the estimated costs, if accomplished by a third party, for decommissioning and decontamination, which includes offsite disposal of radioactive solid process or evaporation pond residues, and ground water restoration. The surety shall also

include the costs associated with all soil and water sampling analyses necessary to confirm the completion of decontamination.

Proposed annual updates to the financial assurance amount, consistent with 10 CFR Part 40, Appendix A, Criterion 9, shall be provided to the NRC 90 days prior to the anniversary date of February 14th. The financial assurance update renewal date for the Ross Project will be determined following consultation with the licensee and the State of Wyoming. If the NRC has not approved a proposed revision 30 days prior to the expiration date of the existing financial assurance arrangement, the licensee shall extend the existing arrangement, prior to expiration, for one year. Along with each proposed revision or annual update of the financial assurance estimate, the licensee shall submit supporting documentation, showing a breakdown of the costs and the basis for the cost estimates with adjustments for inflation, maintenance of a minimum 15-percent contingency, changes in engineering plans, activities performed, and any other conditions affecting the estimated costs for site closure. Within 90 days of NRC approval of a revised closure (decommissioning) plan and its cost estimate, the licensee shall submit, for NRC staff review and approval, a proposed revision to the financial assurance arrangement if estimated costs exceed the amount covered in the existing arrangement. The revised financial assurance instrument shall then be in effect within 30 days of written NRC approval of the documents.

At least 90 days prior to beginning construction associated with any approved, planned expansion or operational change that was not included in the annual financial assurance update, the licensee shall provide, for NRC approval, an updated estimate to cover the expansion or change. The licensee shall also provide the NRC with copies of financial assurance-related correspondence submitted to the State of Wyoming, a copy of the State's financial assurance review, and the final approved financial assurance arrangement. The licensee also must ensure that the financial assurance instrument, where authorized to be held by the State, identifies the NRC-related portion of the instrument and covers the aboveground decommissioning and decontamination, the cost of offsite disposal of solid byproduct material, soil, and water sample analyses, and ground water restoration associated with the site. The basis for the cost estimate is the NRC-approved site closure plan or the NRC-approved revisions to the plan. Reclamation or decommissioning plan cost estimates and annual updates should follow the outline in Appendix C to NUREG-1569 entitled "Recommended Outline for Site-Specific In Situ Leach Facility Reclamation and Stabilization Cost Estimates."

The licensee shall continuously maintain an approved surety instrument for the Ross Project, in favor of the State of Wyoming in the amount of no less than \$6,397,000, for the purposes of complying with 10 CFR Part 40, Appendix A, Criterion 9, until a replacement is authorized by both the State of Wyoming and the NRC. The approved surety is for the operation of up to the first two header houses (Header House 1 & 2) as described in the September 30, 2015 submittal.

[Applicable Amendment: 3]

License Condition 9.2 was revised to include reference to the January 14th submittal because of the revised Restoration Action Plan. License Condition 9.5 includes setting the anniversary date as well as the approved annual surety amount. NRC staff elected to assign an anniversary date of February 14th because of the requirement for submitting the update 90 days prior to the anniversary date. The February 14th anniversary date would coincide the 90 days with the licensee's requirement of submitting its surety calculations to WDEQ by November 16th.

Because of the changes to the license conditions beyond the dollar amount, the licensee was requested to agree to the proposed license conditions. By email dated October 19, 2015, licensee agreed to the proposed license conditions (Strata, 2015f).

REFERENCES:

NRC, 2015. Memorandum to John Saxton (NRC) from Reginald Augustus (NRC) PAB Assessment of Strata's 2015 Annual Surety Update, Docket No. 040-09091. ADAMS Accession No. ML15069A465, July 2015.

Strata, 2015a. Letter to Document Control Desk (U.S. Nuclear Regulatory Commission) from Mike Griffin (Strata Energy, Inc) Strata Energy, Inc., Ross In Situ Recovery Project Source Materials License SUA-1601, Docket No. 040-09091 Annual Revised Bond Estimate, Docket No. 040-09091. ADAMS Accession No. ML15036A062, January 14, 2015.

Strata, 2015b. Letter to Document Control Desk (U.S. Nuclear Regulatory Commission) from Mike Griffin (Strata Energy, Inc.) Strata Energy, Inc., Ross In Situ Recovery Project Source Materials License SUA-1601, Docket No. 040-09091 Updated Annual Revised Bond Estimate, Docket No. 040-09091. ADAMS Accession No. ML15089A024, March 23, 2015.

Strata, 2015c. Letter to Document Control Desk (U.S. Nuclear Regulatory Commission) from Mike Griffin (Strata Energy, Inc.) Strata Energy, Inc., Ross In Situ Recovery Project Source Materials License SUA-1601, Docket No. 040-09091 Updated Annual Revised Bond Estimate, Docket No. 040-09091. ADAMS Accession No. ML15146A020, April 28, 2015.

Strata, 2015d. Strata Energy Inc., Ross ISR Project, Mine Unit 1 Wellfield Data Package, Docket No. 040-09091. ADAMS Accession No. ML15209A703, July 17, 2015.

Strata, 2015e. Strata Energy, Inc. Ross ISR Project, Mine Unit Injection Limitation, Docket No. 040-09091. ADAMS Accession No. ML15289A056, September 30, 2015.

Strata, 2015f. Email to John Saxton (U.S. Nuclear Regulatory Commission) from Mike Griffin (Strata Energy, Inc.) Strata Energy, Inc., Acceptance of the Amendment 3 - Surety Update language, Docket No. 040-09091. ADAMS Accession No. ML15293A310, October 19, 2015.