SAFETY EVALUATION REPORT
2016 FINANCIAL ASSURANCE UPDATE FOR STRATA ENERGY, INC.'S ROSS ISR FACILITY, CROOK COUNTY, WYOMING

Docket No.: 040-09091

License No.: SUA-1601

Date: June 10, 2016

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

Technical Reviewers: John L. Saxton
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SUMMARY AND CONCLUSIONS:

By letter dated December 4, 2015, Strata Energy, Inc. (Strata) submitted to the U.S. Nuclear Regulatory Commission (NRC), for review and approval, its 2016 annual surety update for the Ross ISR Facility in Crook County, Wyoming (Strata, 2015). Subsequently, Strata provided to NRC revisions to the update reflecting revisions in response to comments from Wyoming Department of Environmental Quality's (WDEQ's) review (Strata, 2016a)

The financial assurance update seeks to increase the financial assurance amount for the Ross ISR Facility to a face value of at least $10,221,000. This update reflects the decommissioning and reclamation costs for the processing plant and ancillary equipment (including one pond), deep disposal well, Mine Unit 1, and up to three header houses in Mine Unit 2.

The NRC staff has reviewed the financial assurance update in accordance with License Condition 9.5 and Criterion 9 of Appendix A to Part 40 of Title 10 of the Code of Federal Regulations (10 CFR Part 40, Appendix A). Based on this review, staff has reasonable assurance that the current financial assurance estimate of $10,221,000 will be adequate to complete groundwater 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. As of December 17, 2012, NRC's uranium milling licensees, which are regulated, in part, under 10 CFR Part 40, Appendix A, Criterion 9, are required to have an STA in place. Criterion 9 provides that if a licensee does not use a trust as its financial assurance mechanism, then the licensee is required to establish a standby trust fund to receive funds in the event the Commission or State regulatory agency exercises its right to collect the funds provided for by surety bond or letter of credit. The purpose of an STA is to provide a separate account to hold the decommissioning funds in the event of a default.

Consistent with provisions of 10 CFR Part 40, Appendix A, Criterion 9(d), Strata has consolidated its NRC financial assurance sureties with those it is required to obtain by the State of Wyoming, and the financial instrument is held by the State of Wyoming. Strata has not established an STA, nor has it requested an exemption from the requirement to do so.

Wyoming law requires that a separate account be set up to receive forfeited decommissioning funds, but does not specifically require an STA. Section 35-11-424(a) of the Code of Wyoming states that "[a]ll forfeitures collected under the provisions of this act shall be deposited with the State treasurer in a separate account for reclamation purposes." Under Wyoming Department of Environmental Quality (WDEQ) financial assurance requirements, WDEQ holds permit bonds in a fiduciary fund called an agency fund. If a bond is forfeited, the forfeited funds are moved to a special revenue account. Although the Wyoming special revenue account is not an STA, the special revenue account serves a similar purpose in that forfeited funds are not deposited into the State treasury for general fund use, but instead are set aside in the special revenue account to be used exclusively for reclamation (i.e., decommissioning purposes).

The NRC has the discretion, under 10 CFR 40.14(a), to grant an exemption from the requirements of a regulation in 10 CFR Part 40 on its own initiative, if the NRC determines the exemption is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public interest. The NRC had elected to grant Strata a limited exemption to the STA requirements in 10 CFR Part 40, Appendix A, Criterion 9, for the previous year's surety arrangement to allow the NRC an opportunity to evaluate whether the State of Wyoming's separate account requirements for financial assurance instruments it holds is consistent with the NRC's STA requirements (see 80 FR 66056). The limited exemption granted last year extended to December 31, 2016 and covers the period for this year's financial surety arrangement.

TECHNICAL REVIEW:

Background

By letter dated December 4, 2015, Strata Energy, Inc. (Strata) submitted to the U.S. Nuclear Regulatory Commission (NRC), for review and approval, its 2016 annual surety update for the Ross ISR Facility in Crook County, Wyoming, pursuant to License Condition (LC) 9.5 of source and byproduct materials license SUA-1601 (Strata, 2015). In addition, Strata had revised the update in response to Wyoming Department of Environmental Quality's (WDEQ's) comments and submitted those revisions for NRC to include as part of the surety update (Strata, 2016).

By license condition and regulations, Strata must provide an annual update to the surety calculations. This year's surety update covers the first year of operation of the facility, which was initiated in December 2015.

Discussion

Adequacy of the Calculations

In the surety calculations, Strata includes costs for decommissioning and decontamination (D&D) of four wellfield header houses at Mine Unit 1 (MU-1) and the first three header houses at Mine Unit 2 (MU-2), the Central Processing Plant (CPP), water storage ponds and all other

related facilities needed for operations. The estimate also includes costs to complete reclamation for areas in various stages of wellfield development in MU-1 and MU-2. The unit costs for the D&D are consistent with WDEQ Guideline 12 or actual prices/rates from on-site activities or contractor quotes.

Strata estimates the total cost for an independent third party to perform decommissioning and decontamination of the portions of the facility that will be constructed by the end of this year at $10,221,000. This figure represents an increase of $3,824,000 from the previous year's total cost estimate. The increase from last year is attributed primarily to a $2.18M increase for groundwater restoration, $111K increase in building demolition and disposal, $172K increase in wellfield buildings, piping and equipment removal and disposal, $547K increase in well abandonment, and $765K increase in the 25 percent contingency attributed to noted increases listed above.

The cost estimate, which is based on work being performed by a third party contractor, does not take credit for any salvage value and includes a 25 percent contingency factor.

Staff reviewed the increases and/or decreases in the licensee's adjustments to the surety calculations in accordance with items listed in 10 CFR Part 40 Appendix A, Criterion 9(f). The increases and/or decreases are as follows:

(1) Inflation –
The changes in inflation costs include the following:

- The unit prices include adjustments to inflation or actual 2016 costs;
- The unit cost for well abandonment is based on WDEQ-LQD prescribed well plugging and abandonment cost of $2.50 per foot.

(2) Changes in Engineering Plans –
The changes in engineering plans include the following:

- The labor component for all workers, building costs and equipment is increased by two years to allow time for additional groundwater restoration.

(3) Activities performed –
The changes in activities include the following:

- Extending the operations to include four header house in Mine Unit 1 and three header houses in Mine Unit 2;
- Installation of ancillary equipment (i.e., piping, wells, pumps) to support the operations;
- Restoration of groundwater in the wellfields affected by the operations;
- Reclamation of the areas affected by the operations.

(4) Spills, leakage or migration of radioactive material to the subsurface –
No changes to the surety costs due to spills, leakage or migration of radioactive material to the subsurface.

(5) Waste inventory –
No changes to waste inventory.

(6) Waste disposal costs –
No changes to waste disposal costs.

(7) Facility modifications –
The changes in facility modifications include the following:

- Increasing the ore zone thickness from 8 feet to 15 feet based on the completed thicknesses of ore zone wells in Mine Unit 1 and Mine Unit 2;
- Increasing the number of production wells from 643 to 1022 in Mine Unit 1 and Mine Unit 2 affected by operations;
- Adding the monitor wells in Mine Unit 2;
- Reducing the number of uncontaminated fiberglass tanks from 4 to 2 to reflect as-built conditions;
- Increasing the number of ion exchange columns from 8 to 9 to reflect as-built conditions;
- Increasing the length of PVC pipe in the CPP from 1000 ft. to 7700 feet to reflect as built conditions;
- Decreasing the average diameter of the PVC piping in the CPP from 5-inch to 4-inch to reflect as-built conditions;
- Increasing the diameter of PVC pipe at the Deep Disposal Well (DDW), and the piping from the CPP to the DDW from 2-inch to 4-inch to reflect as-built conditions;
- Revising the dimensions of the Administration, DDW, and Portable Water buildings to reflect as-built conditions;
- Adding three header houses in Mine Unit 2;
- Adding trunkline and wellfield piping to Mine Unit 2;
- Increasing the average depth for Mine Unit 2 wells from 500 feet to 620 feet;
- Deleting the installation of a second DDW;
- Adding 4-inch diameter wastewater pipeline from CPP to Pond 1 to reflect as-built conditions.

(8) Changes in authorized possession limits –
No changes in authorized possession limits.

(9) Actual remediation costs –
No changes in remediation costs (no remediation is occurring).

(10) Onsite disposal –
No changes to onsite disposal (no onsite disposal is occurring).

(11) Any other condition affecting costs –
The changes in any other condition include the following:

- Including salvageable steel transportation costs;
- Increasing the estimated portion of the concrete floor at the CPP and CPP Truck Bay buildings that would need to be disposed of at a NRC-Licensed Facility from 0 to 20 percent with the remaining 80 percent meeting NRC standards for on-site disposal;
- Replacing the cost to remove gravel from the CPP/Office area with a cost to scarify gravel in place;
- Revising the total volume of topsoil in stockpiles 2 and 3;
- Adding costs for ecological surveys;
- Adding costs for delineation and historic drill hole abandonment;
- Adding the CPP Truck Bay concrete for demolition and disposal;
- Increasing the estimate chip volume of 16-inch diameter HDPE trunk line from the CPP to Mine Unit 2 from 7,873 cubic feet to 10,157 cubic feet;
- Including 5-year Mechanical Integrity Testing costs for wells currently installed.

The Staff reviewed the above listed adjustments and finds those adjustments are consistent with proposed changes in the operations and that the licensee identified all expected changes during the period for which the proposed surety will be in effect. The NRC staff 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 NUREG-1569; and (2) to be conducted during the period covered by the estimate. The 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.

Furthermore, the NRC Staff reviewed the costs to perform the decommissioning and reclamation of those changes to operations as well as at the currently existing facility. The NRC staff finds that the values used in the surety estimate are based on current dollars and reasonable costs for the required reclamation activities are defined (NRC, 2015). Criterion 9 does not specify a contingency factor to be used in the surety calculations. Guidance in the standard review plan NUREG-1569 recommends a minimum 15 percent contingency as an acceptance criterion and that in NUREG-1727 recommends applying a contingency factor of 25 percent of the total cost. The contingency used by the licensee are consistent with that guidance.

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 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 $10,221,000 and has been accepted by WDEQ. Staff finds the surety instrument meets the 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 the event that the NRC exercises its right 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 had elected to grant a time-limited exemption to the STA requirements in 10 CFR Part 40, Appendix A, Criterion 9, for the previous year's financial assurance arrangement. The exemption covers the period for the current financial surety arrangement.

Environmental Review

The licensing action of approving a surety update meets the categorical exclusion provisions in 10 CFR 51.22(c)(10)(i). In addition, the NRC staff has determined that the exemption from the requirement to have an STA in place is eligible for categorical exclusion under 10 CFR 51.22(c)(25)(vi)(H), which provides that an exemption from surety, insurance, or indemnification requirements is categorically excluded if the exemption would not result in any significant hazards consideration; change or increase in the amount of any offsite effluents; increase in individual or cumulative public or occupational radiation exposure; construction impacts; or increase in the potential for or consequence from radiological accidents. The staff finds that the STA exemption involves surety, insurance, and/or indemnity requirements and that granting Strata this temporary exemption from the requirement of establishing a standby trust arrangement would not result in any significant hazards or increases in offsite effluents, radiation exposure, construction impacts, or potential radiological accidents.

Therefore, preparation of an environmental assessment is not required for this amendment.

Proposed License Conditions

The proposed license condition is the following:

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 groundwater 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 groundwater 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 $10,221,000, 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 three header houses at Mine Unit 2.

[Applicable Amendment: 3, 5]

REFERENCES:

NRC, 2015. Memorandum to John Saxton (NRC) from Reginald Augustus (NRC) PAB Assessment of Strata's 2016 Annual Surety Update, Docket No. 040-09091. ADAMS Accession No. ML16097A592, April 14, 2016

Strata, 2015. 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 Surety Estimate. ADAMS Accession No. ML15344A022, December 4, 2015

Strata, 2016. 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 Surety Estimate (Revised March 2016). ADAMS Accession No. ML16099A115, March 11, 2016.

ENCLOSURE 2
License SUA-1601, Amendment 5