July 23, 2015

Mr. Michael Griffin
Vice President of Permitting, Regulatory
and Environmental Compliance
Strata Energy, Inc.
PO Box 2318
Gillette, WY 82717-2318

SUBJECT: STAFF'S COMMENTS AND REQUEST FOR ADDITIONAL INFORMATION ON SUBMITTALS REGARDING LICENSE CONDITIONS 12.6, 12.7, and 12.8, ROSS ISR PROJECT, CROOK COUNTY, WY, SOURCE MATERIAL LICENSE SUA-1601, DOCKET NO. 040-09091, TAC J00735

Dear Mr. Griffin:

By letter dated March 1, 2015, Strata Energy, Inc. (Strata) submitted a license amendment request that addresses license conditions (LC) 12.6, 12.7, and 12.8 of its Materials License SUA-1601.

The NRC staff has completed its technical review of the information and provides the enclosed comments (on the matters described in LC 12.7 requiring NRC verification) and request for additional information (on the matter described in LC 12.8 requiring NRC approval and license amendment). Upon receipt of Strata's reply, the staff will continue its evaluation and notify Strata in writing of its results.

In accordance with 10 CFR 2.390 of the NRC's "Agency Rules of Practice and Procedure" a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html.

If you have any questions regarding this action, please contact me at 301-415-0697 or by e-mail at john.saxton@nrc.gov.

Sincerely,

/RA/

John Saxton, Hydrogeologist
Uranium Recovery Licensing Branch
Division of Decommissioning, Uranium Recovery
and Waste Programs
Office of Nuclear Material Safety
and Safeguards

Docket No.: 040-09091
License No.: SUA-1601

Enclosure: Comments and Request for Additional
Information on Strata's March 1, 2015,
License Amendment Request

cc: D. Schellinger WDEQ

If you have any questions regarding this action, please contact me at 301-415-0697 or by e-mail at john.saxton@nrc.gov.

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NRC Staff's Review of Strata Energy, Inc., Letter Dated March 1, 2015
Preoperational License Conditions 12.6, 12.7, and 12.8
Materials License SUA-1601; Docket No. 040-09091

Background

By letter dated March 1, 2015, Strata provided its responses to preoperational license conditions (LCs) 12.7 and 12.8 of Materials License SUA-1601 (Strata 2015). Strata also requested a license amendment to revise LC 12.6 to include reference to LCs 12.7 and 12.8, and to simultaneously delete LC 12.7 and 12.8, as follows (proposed additional text in *italics*):

12.6 The licensee shall not commence operations until the NRC performs a preoperational inspection to confirm, in part, that operating procedures and approved radiation safety and environmental monitoring programs are in place, and that preoperational testing is complete. The licensee should inform the NRC, at least 90 days prior to the expected commencement of operations, to allow for sufficient time for NRC to plan and perform the preoperational inspection. *The licensee may commence operations before receiving the verification required under LC 12.7 and the approval required under LC 12.8.*

Staff's review of Strata's responses are provided herein. The review is provided in chronological order of the license condition and will provide an **approval**, **disapproval**, **comment** or **request for additional information (RAI)**. A "comment" requests a clarification of an issue for a license condition that requires staff's verification (LC 12.7). An RAI requests additional information for a license condition that requires staff's approval.

FORM 313

In accordance with 10 CFR 40.44, an amendment requests shall be filed with a Form 313. As stated on the Form 313 submitted with this request, items 5 through 11 are to be provided on 8 ½" x 11" paper.

Comment No. 1 – Form 313 Incomplete

The Form 313 provided as Attachment 1 to Strata's request is not complete. Items 5 through 11 of Form 313 were not provided.

Comment: Strata should provide a complete Form 313 for the proposed amendment.

LICENSE CONDITION 12.6

As discussed above, Strata requested an amendment to incorporate LC's 12.7 and 12.8 into LC 12.6.

The staff **disapproves** Strata's request to both incorporate reference to LCs 12.7 and 12.8 into LC 12.6 and to delete LC 12.7 and 12.8. Licensing actions to resolve preoperational license conditions, including the matters described in preoperational LCs 12.7 and 12.8, will involve including the licensee's approved statements, representations, and commitments in response to

the LCs as additional tie-down conditions in LC 9.2, and to delete the preoperational LCs. These licensing actions will be prerequisites to scheduling a preoperational inspection. No changes to LC 12.6 are required.

LICENSE CONDITION 12.7(A)

In Attachment 2 to its March 1, 2015, letter, Strata provided its response to license condition 12.7(A), which states:

> Discuss how, in accordance with 10 CFR 40.65, the quantity of the principal radionuclides from all point and diffuse sources will be accounted for, and verified by, surveys and/or monitoring.

Strata included extensive background information relevant to license condition 12.7(A) in the following sections of Attachment 2, "Response to Pre-Operational License Conditions":

1.1 "Scope of the Response"
1.2 "Pertinent Regulations and Applicability"
1.3 "Technological Infeasibility"

The staff finds that the information in Sections 1.1 through 1.3 of Attachment 2 is primarily background information that did not directly address the technical requirements of license condition 12.7(A). Therefore, NRC staff **did not evaluate** this information.

In Section 1.4, "Quantifying Principal Radionuclides," Strata described: (1) how it will assess the radionuclide composition of its in-plant air samples and yellowcake (Section 1.4.1); (2) the technological infeasibility of stack sampling (Section 1.4.2.1); (3) its proposed alternative to stack sampling for determining radon effluent quantities in accordance with Title 10, Code of Federal Regulations (10 CFR) 40.65 (Section 1.4.2.2); and (4) its justification for not quantifying principal radionuclides in air effluents from well fields. The staff's evaluation of this information is provided below.

Radionuclide composition of plant air samples (Section 1.4.1)

In Section 1.4.1 of Attachment 2 to its March 1, 2015, letter, Strata commits to supplement its radiological characterization program described in Section 5.7.3.1.1 of its Technical Report by characterizing the radionuclide composition of its dryer product (yellowcake) within the first 3 months of dryer operations, including both: (1) isotopic composition; and (2) total alpha and beta activity. Strata also described its current requirement to have a contamination control program in accordance with LC 9.7, which requires Strata to conform to Regulatory Guide 8.30, Regulatory Position 2.5. Strata also committed to perform isotopic analysis of in-plant air samples if the gross alpha concentration exceeds 25% of the derived air concentration (DAC) for Class D natural U. Section 5.7.3.1.1 of the Technical Report (Strata 2011) already describes commitments to analyze composite air samples from various points in the Central Processing Plant (CPP) for natural U, thorium-230 and radium-226 and to characterize yellowcake product to verify its radiological composition.

Also, as stated in license condition 10.16, Strata is already required to characterize airborne samples for natural U, Th-230, Ra-226, Po-210, and Pb-210 as follows:

> The licensee shall conduct radiological characterization of airborne samples for natural U, Th-230, Ra-226, Po-210, and Pb-210 for each restricted area air particulate sampling location at a frequency of once every 6 months for the first two years, and annually thereafter to ensure compliance with 10 CFR 20.1204(g). The licensee shall also evaluate changes to plant operations to determine if more frequent radionuclide analyses are required for compliance with 10 CFR 20.1204(g).

Comment No 2. Yellowcake Characterization

In light of Strata's previous commitment to characterize yellowcake, the commitment in Attachment 2 of its March 1, 2015, letter appears to clarify: (1) when the yellowcake would be characterized (i.e., within first 3 months of operation); and (2) what characterization would be performed (i.e., isotopic composition and total alpha and beta activity). However, Strata did not explain why it was committing to additional detail in its requirement to characterize yellowcake, and how this information would be relevant to the requirement in license condition 12.7 to discuss how, in accordance with 10 CFR 40.65, the quantity of the principal radionuclides from all point and diffuse sources will be accounted for, and verified by, surveys and/or monitoring.

Comment: Strata should explain how the additional detail regarding yellowcake characterization relates to LC 12.7(A)

Technological infeasibility of stack sampling (Section 1.4.2.1)

In Section 1.4.2.1 of Attachment 2 to its March 1, 2015, letter, Strata, citing ANSI/HPS N13.1-1999, "Sampling and Monitoring Releases of Airborne Radioactive Substances from the Stacks and Ducts of Nuclear Facilities,"(ANSI 1999) stated why it believes, among other things, that isokinetic sampling of radon in vents is technologically infeasible and unreasonable. Strata stated that ANSI/HPS N13.1-1999 has been approved by the staff in Regulatory Guide 4.16, "Monitoring and Reporting Radioactivity in Releases of Radioactive Materials in Liquid and Gaseous Effluents from Nuclear Fuel Processing and Fabrication Plants and Uranium Hexafluoride Production Plants" (NRC 2010). The staff evaluated ANSI/HPS N13.1-1999 and found that Section 6.3.1, "Basic considerations," specifically states that the "ANSI N13.1-1969 recommendation for isokinetic sampling is no longer required. Studies have shown that isokinetic operation is not a prerequisite for obtaining representative samples (McFarland and Rodgers 1993)." Furthermore, with respect to radon (a non-reactive noble gas), Section 6.5 of ANSI/HPS N13.1-1999 states,

> When non-reactive gases and vapors are the only species being sampled, the sampling requirements are considerably simpler than those for aerosol particles. The requirements for minimizing particle line-loss are irrelevant....If the flow can contain only gaseous contaminants, the nozzle design is not critical, but the sampling shall take place at a location where the flow is well mixed and meets the criteria of clause 5.2.2.2. The nozzle design can be simply an open ended or perforated tube.

With regard to clause 5.2.2.2 of ANSI/HPS N13.1-1999, the staff finds that radon will generally be sufficiently well mixed in the types of vent piping used at most In Situ Recovery (ISR) facilities

such that the conditions of clause 5.2.2.2 will be met, and radon sampling can be straightforward and simple.

Aside from a review of ANSI/HPS N13.1-1999, as stated above, the NRC staff did not perform a detailed evaluation of the licensee's reasons for not performing stack sampling for radon or other radionuclides. This is because Strata's proposed method, which is addressed in the following section of this evaluation below, is an **acceptable method** described in the staff's draft guidance on surveys of radon and radon progeny in air and the licensee need not justify its reasons for not using other methods (NRC 2014a).

Proposed Alternative to Stack Sampling (Section 1.4.2.2)

In Section 1.4.2.2 of Attachment 2 to its March 1, 2015, letter, Strata describes its method to estimate air effluent quantities of radon from the CPP. Strata stated that in the first six months of steady state operations, it will sample lixiviant and measure radon in water to establish both the quantity per unit time of radon entering the CPP in the pregnant lixiviant (i.e., radon in water) and the quantity per unit time of radon exiting the CPP in barren lixiviant. Strata proposed to attribute any positive difference in radon in the pregnant lixiviant minus barren lixiviant to loss through air effluent from the CPP (a "loss term"). The licensee provided two technical reports in support of the "loss term" approach (i.e., Brown and Smith 1980; Marple and Dziuk 1982). Strata stated that it would compare the results thus obtained to: (1) source term estimates calculated using Regulatory Guide 3.59 (NRC 1987); (2) source term estimates calculated using the method described in Appendix D to NUREG-1569 (NRC 2003); and (3) the results of routine operational environmental monitoring program. Strata also explained that quantifying principal radionuclides released in effluents from the well fields and other areas by direct measurements is technologically infeasible and unreasonable.

Comment No. 3 Methodology for Sampling and Analyzing Radon in Water

Strata did not explain its method for determining concentrations of radon in water. For example, one method for measuring radon in water is ASTM D5072-09, "Standard Test Method for Radon in Drinking Water" (ASTM 2009). When describing this method or another other, Strata should describe how it will control the pressure of lixiviant sampling to obtain a representative sample and also provide either a detailed description of the sampling locations and/or a piping diagram and sketch of the sampling station in detail sufficient to demonstrate that sample results will be representative of lixiviant conditions.

Comment: Strata should explain its method for sampling and analyzing radon in water.

Comment No. 4: Justification for the Frequency of Lixiviant Sampling for Radon.

Strata did not explain and justify the frequency of lixiviant sampling for radon, other than to state that this sampling would occur during the first 6 months of "steady state operation."

Comment: Strata should explain and justify the frequency of lixiviant sampling for radon.

Comment No. 5: Procedures to Determine Effluent Quantities Prior to Steady-state Operations

Strata stated that it would perform measurements "in the first 6 months of steady state operations" but did not explain when it expected "steady state operations" to begin, relative to quantities of radon in air effluents. For example, if steady state operations are assumed to occur no sooner than year 3 or 4 of plant operation, Strata should explain how it will determine effluent quantities in years 1, 2 and 3.

Comment: Strata should explain when steady state operations will begin and what procedures will be used to determine effluent quantities until steady state operations begin.

Other Point and Diffuse Sources

Comment No. 6: Accounting for Radionuclides in Unmonitored Effluents

Strata did not explain how it would account for radionuclides in effluents from well fields or deep disposal well houses. Regulatory Guide 8.37, "ALARA Levels for Effluents from Materials Facilities," Regulatory Position 3.3, "Unmonitored Effluents," states, "If a licensee has release points for which monitoring is not practicable, the licensee should estimate the magnitude of the unmonitored effluents ... Unmonitored releases may be estimated based on the quantity of material used in these areas or the number of procedures performed or other appropriate methods. When practicable, unmonitored effluents should not exceed 30% of the total estimated effluent releases." (NRC 1993)

Comment: Strata should explain how it will account for radionuclides in unmonitored effluents, such as those from well fields or deep disposal well houses.

Triggers for Vegetation and Cattle Sampling

Although it was not part of license condition 12.7(A), the staff's Safety Evaluation Report (SER) (NRC 2014c) stated in Section 5.7.7.3.2.4 that "…the applicant specify, in its airborne effluent and environmental monitoring program, particular conditions that will trigger the need for the applicant to conduct operational livestock and vegetation sampling." The evaluation in Section 5.7.7.3.2.4 of the staff's SER included reference to footnote (o) of Regulatory Guide 4.14, Table 2, which states:

> Vegetation or forage sampling need be carried out only if dose calculations indicate that the ingestion pathway from grazing animals is a potentially significant exposure pathway (an exposure pathway should be considered important if the predicted dose to an individual would exceed 5% of the applicable radiation protection standard);

However, Section 1.5 of Attachment 2 to its March 1, 2015, letter, Strata stated that it would start vegetation and cattle sampling, as described in Regulatory Guide 4.14 (NRC 1980), if air sampling results for particulate radionuclides (natural U, Th-232, Ra-226, and/or Pb-210) at any

air sampling station in unrestricted areas was greater than 25% of the applicable effluent concentrations in 10 CFR 20, Appendix B, Table 2, for at least two quarters in any year. Strata did not explain the departure from guidance in Regulatory Guide 4.14.

The staff evaluated Strata's proposed trigger. As noted in the staff's SER, in Section 5.7.7.1.3 of its Technical Report (TR), Strata stated that it would monitor vegetation, food, and fish based on the results of the MILDOS-AREA model and final approval of the operational monitoring program (Strata 2011). Strata also stated in TR Section 5.7.7.1.3, "In the event monitoring is required, sample collection will be conducted similar to the pre-operational baseline monitoring described in Section 2.9 and will meet the recommendations of Regulatory Guide 4.14." However, in Table 5.7-1 of Strata's application, which summarizes Strata's operational environmental monitoring program, Strata committed to vegetation sampling for Ra-226 and Pb-210 three times during the grazing season in 3 different sectors that have the highest predicted concentrations of radionuclides. Strata also committed to animal tissue sampling (3 beef samples and 1 fish sample) for Ra-226 and Pb-210 once during site decommissioning and prior to license termination.

Comment No. 7: Description of Operational Livestock and Vegetation Sampling

Strata should reconcile the different commitments in Sections 5.7.7.1.3 and Table 5.7-1 of its Technical Report, and clarify its description of triggers for operational livestock and vegetation sampling. In a revised response, Strata should also address whether a license amendment is needed to reconcile differences between TR Section 5.7.7.1.3 and Table 5.7-1.

Comment: Strata should clarify its description of operational livestock and vegetation sampling in light of commitments already made and staff guidance in Regulatory Guide 4.14, Table 2, regarding acceptable trigger levels.

LICENSE CONDITION 12.7(B)

In Attachment 2 to its March 1, 2015, letter, Strata provided information in response to license condition 12.7(B), which states:

> Discuss and identify how radon (radon-222) progeny will be factored into analyzing potential public dose from operations consistent with 10 CFR Part 20, Appendix B, Table 2.

Strata included extensive background information relevant to license condition 12.7(B) in the following sections of Attachment 2 of its letter:

2.1 "Scope of the Response"
2.2 "Pertinent Regulations"

The staff finds that the information in Sections 2.1 and 2.2 of Attachment 2 is primarily background information that did not directly address the technical requirements of license condition 12.7(B). Therefore, NRC staff **did not evaluate** this information.

In Section 2.3, "Proposed Monitoring and Analysis Method," Strata described how it will factor radon progeny into analyzing public dose from operations. Strata proposed to compare

background-subtracted downwind concentrations of lead-210 in air to effluent concentrations for lead-210 in 10 CFR 20, Appendix B, Table 2. Strata proposed to measure lead-210 in quarterly composites of weekly air samples collected at Strata's established pre-operational air sampling stations. Figure 2.9-24 of Strata's Technical Report indicates there are six air monitoring stations located at the site boundary between 0.4 and 1.8 miles from the CPP (Strata 2011). Strata also proposed using the MILDOS-AREA code to: (1) calculate public dose, including dose from radon progeny; (2) and calculate downwind concentrations of lead-210 for comparison with measured concentrations of lead-210 at the site boundary.

Comment No. 8: Deficiencies in Accounting for Radon Progeny in Estimates of Public Dose.

The staff identified the following concerns with Strata's proposed approach:

1. Measurements of lead-210 at the air sampling stations at the site boundary are not annual average concentrations of radioactive material released in gaseous and liquid effluents at the boundary of the unrestricted area, as described in 10 CFR 20.1302(b)(2)(i). Therefore, the comparison to effluent concentrations of measured lead-210 concentrations at site boundary locations beyond the boundary of the unrestricted area does not demonstrate that public dose limits are met.

2. Even if lead-210 concentrations were measured at the boundary of the unrestricted area, lead-210 is not "at the end of the short-lived radon progeny decay train," as stated by Strata. Lead-210 is a long-lived progeny of radon-222 with a half-life of 22 years and is not present in the environment in either secular equilibrium or transient equilibrium with relatively short-lived radon-222 from nearby licensed sources. In fact, assuming radon-222 were present at constant concentrations, lead-210, with its half-life of 22 years, would take about 100 years to reach equilibrium (Eisenbud 1997). Furthermore, as a result of both its long half-life and various mechanisms for removal of dust from the atmosphere (e.g., dry and wet deposition), it is generally not possible to reliably attribute measured lead-210 in air to any nearby source of radon-222. Therefore, lead-210 is not an appropriate "proxy" for short-lived radon progeny emitted from nearby sources.

3. For the reason stated above (item 2), the use of MILDOS-AREA to calculate downwind concentrations of lead-210 for comparison to measured values for the first four quarters of plant operation is not valid. Also, the staff has not approved the use of MILDOS-AREA during the period of plant operation to calculate annual public dose for purposes of annual demonstrations of compliance with 10 CFR 20.1301 and 20.1302. As stated in Section 4.2.2 of the Draft Interim Staff Guidance (NRC 2014a), one acceptable approach involves measurements of radon-222 in lixiviant water, as proposed by Strata, and use of MILDOS-AREA to estimate downwind concentrations of radon and radon progeny, provided that the licensee also commits to measuring radon or radon progeny in air to verify that predicted concentrations are not exceeded. As described in Section 4.7 of the draft ISG, when feasible, measurements should be performed close enough to the facility that releases from the facility are statistically distinguishable from background.

   The staff recognizes that operations at newer ISR facilities may result in annual effluent quantities of radon below that which would result in concentrations of radon near the facility that are statistically distinguishable from background. This may be because newer ISRs: (1) use pressurized down flow columns that are not open to the atmosphere, and; (2) have

facility-wide leak rates of radon from all systems containing pressurized lixiviant that are much less than 1% per day, which is the value assumed in the example in Appendix D of NUREG-1569 (NRC 2003), and which is the value used by many licensees in initial applications. In such cases, a network of radon samplers at the security perimeter of the CPP, which includes at least one sample in each of the eight cardinal and ordinal directions (N, NE, E, SE, etc.), will provide staff the requisite assurance that calculated annual quantities of radon in air effluent are not exceeded.

Acceptable approaches were described by the staff in its draft Interim Staff Guidance (NRC 2014a).

Comment: Strata should revise its plan for accounting for radon progeny in estimates of public dose.

LICENSE CONDITION 12.7(C)

In Attachment 2 to its March 1, 2015, letter, Strata provided information in response to license condition 12.7(C), which states:

> Discuss how, in accordance with 10 CFR 20.1501, the occupational dose (gaseous and particulate) received throughout the entire License Area from licensed operations will be accounted for, and verified by, surveys and/or monitoring.

In Section 3.0, "License Condition 12.7(C)," Strata, citing the analysis described in Section 7.3.6 of its Technical Report, described how it accounted for occupational dose from radon and radon progeny throughout the entire License Area using the MILDOS-AREA model. Strata provided a table of the highest calculated doses, including a location (Location #3) 0.75 km west and 0.5 km north of the CPP which had a predicted radon concentration of 85.7 pCi/m^3, a radon progeny concentration of 3.84×10^{-6} working levels, and a calculated total effective dose equivalent (assuming full-time occupancy) of 1.48 mrem per year.

Strata also proposed to measure radon at both semiannual and quarterly frequencies at several (4-6) locations with the highest projected doses during the first full year of CPP operations with both yellowcake production and dryer operations. Strata proposed to assume 100% equilibrium between radon and radon progeny in its calculation of occupational dose. After the first full year of CPP operations, assuming its assumptions regarding occupational dose are confirmed, Strata proposed to use MILDOS-AREA to estimate "inhalation doses from radon progeny throughout the license area."

The staff evaluated Strata's response to LC 12.7(C). The purpose of this license condition is for Strata to describe how it will monitor occupational dose outside the CPP for employees whose occupational exposures are already individually monitored in accordance with 10 CFR 20.1502, "Conditions requiring individual monitoring of external and internal occupation dose." The license condition is required because Strata described its program for monitoring individual occupational exposure inside the CPP, but it did not describe how it would account for any additional exposure that would occur outside the CPP (i.e., in the entire License Area), as a result of monitored individuals' assigned duties outside the CPP.

Comment No. 9: Annual Occupational Dose in Areas Outside the Central Processing Plant

The information provided by Strata in response to LC 12.7(C) does not address any additional workplace air sampling inside structures outside the CPP (e.g., header houses) to assess internal exposure, or additional external exposure monitoring. Also, the NRC staff has not approved the use of the MILDOS-AREA code for estimating annual occupational dose in License Areas outside the CPP. The staff has previously approved a program for accounting for occupational dose outside the CPP (NRC 2014d).

Comment: Strata should explain how it will account for annual occupational dose received in areas outside the Central Processing Plant (CPP) (i.e., throughout the entire License Area) for employees who are already monitored in accordance with 10 CFR 20.1502 using workplace air sampling and personnel dosimetry.

LICENSE CONDITION 12.8

In Attachment 2 to its March 1, 2015, letter, Strata provided information in response to license condition 12.8, which states:

> Prior to the preoperational inspection, the licensee shall develop a survey program that will meet the requirements of 10 CFR Part 20, Subpart F to detect beta-gamma contamination on personnel exiting restricted areas and to detect beta-gamma contamination in unrestricted and restricted areas. The licensee shall provide, for NRC staff review and approval, the surface contamination detection capability (scan MDC) of the radiation survey meters used in surveys for releasing equipment and materials to unrestricted use or personnel contamination. In the scanning mode, the detection capability for any expected alpha and beta radiation shall be provided in terms of dpm per 100 cm^2.

In Section 4.0, "License Condition 12.8," Strata described its previous approach and commitments in Section 5.7 of its Technical Report and provided additional information to address the questions raised in license condition 12.8.

However, in its March 1, 2015, letter, Strata did not describe the detection capability of equipment used to release equipment and survey personnel in terms of dpm per 100 cm^2. The specific item that NRC required for staff review and approval is the surface contamination detection capability (scan MDC) of radiation survey meters used in surveys for releasing equipment and materials to unrestricted use or personnel contamination. In accordance with the license condition, this information was to be provided in terms of disintegrations per minute (dpm) per 100 cm^2.

RAI-1 Scan MDC

Strata described several aspects of its survey program, such as personnel dosimetry, surface contamination limits, and technical parameters of survey equipment, but it did not describe the detection capability of equipment used to release equipment and survey personnel in terms of dpm per 100 cm^2. As a result, NRC cannot approve the surface contamination detection capability of Strata's proposed radiation detection equipment.

As explained in Section 5.7.6.3.2 of the SER (NRC 2014c), the purpose of License Condition 12.8 is for the licensee to demonstrate, using specific information about surface equipment and procedures proposed for use at the Ross ISR Project, that the scan minimum detectable concentration will be sufficiently low to meet or exceed the guidance in the Guidelines (NRC 1993) and Regulatory Guide 8.30, Table 2 (NRC 2002) for alpha contamination and beta/gamma contamination. Factors which should be considered in estimating scan minimum detectable concentrations (MDCs) are addressed in Section 6.7.2 of NUREG-1575 (NRC 2000) and NUREG-1507 (NRC 1995). NRC staff has previously approved a program description which included consideration of scan MDCs (NRC 2014d).

Request for Additional Information: In order to comply with LC 12.8, Strata must calculate surface contamination detection capability (scan MDC) of the radiation survey meters used in surveys for releasing equipment and materials to unrestricted use or personnel contamination.

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