

## StrataRossLAPEm Resource

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**From:** Ben Schiffer [bschiffer@wwcengineering.com]  
**Sent:** Friday, February 22, 2013 1:44 PM  
**To:** Saxton, John  
**Cc:** Moore, Johari; Mike Griffin; Ralph Knode  
**Subject:** Ross ISR Project, Docket#040-09091, Phase I Comments to 2nd Round Draft License  
**Attachments:** Strata draft license\_2nd Round\_Comments\_Phase I.pdf

John--

On behalf of Strata Energy, please see the attached comments to the 2nd round draft license. We have phased the submittal to allow more time to review several other draft license conditions. I will let you know on 2/25 if more comments will be forthcoming. Let me know if you have any questions and I look forward to talking with you on Monday.

Respectfully,

Ben

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Draft LC #	2 <sup>nd</sup> Round Draft License Condition	2 <sup>nd</sup> Round Strata Comments
<b>SECTION 9: Administrative Conditions</b>		
9.2	Whenever the word “will”, “would” 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.	Strata searched the license application for the use of the word “would” and determined that in the vast majority of cases it is not used to denote a commitment. Strata suggests modifying this LC to omit the word “would.” This is consistent with recently approved licenses, including SUA-1596, SUA-1597 and SUA-1598. When revising the Technical Report, Strata commits to evaluating all instances of the word “would” and replacing “would” with “will” or “shall” when denoting a commitment. The suggested revisions to the second paragraph follow: <i>Whenever the words “will” or “shall” is used in the above referenced documents, it shall denote a requirement.</i>
9.4	D) The licensee’s determinations concerning (B) and (C) of this condition, shall be made by a Safety and Environmental Review Panel (SERP). The SERP shall consist of a minimum of three individuals. One member of the SERP shall have expertise in management (e.g., Plant Manager) and shall be responsible for financial approval for changes; one member shall have expertise in operations and/or construction and shall have responsibility for implementing any operational changes; and one member shall be the radiation safety officer (RSO) or equivalent meeting recommendation in paragraph 2.3.1 of regulatory Guide 8.31 with the responsibility of assuring changes conform to radiation safety and environmental requirements. Additional members may be included in the SERP, as appropriate, to address technical aspects such as groundwater or surface water hydrology, specific earth sciences, and other technical disciplines. Temporary members or permanent members, other than the three above-specified individuals, may be consultants.	Strata suggest revising the 3 <sup>rd</sup> sentence to properly reference the section of Regulatory Guide 8.31 that provides recommendations for RSO education, training and experience, i.e. 2.4. The revised License Condition would read as follows: <i>The licensee’s determinations concerning (B) and (C) of this condition, shall be made by a Safety and Environmental Review Panel (SERP). The SERP shall consist of a minimum of three individuals. One member of the SERP shall have expertise in management (e.g., Plant Manager) and shall be responsible for financial approval for changes; one member shall have expertise in operations and/or construction and shall have responsibility for implementing any operational changes; and one member shall be the radiation safety officer (RSO) or equivalent meeting recommendations in Section 2.4 of Regulatory Guide 8.31 with the responsibility of assuring changes conform to radiation safety and environmental requirements. Additional members may be included in the SERP, as appropriate, to address technical aspects such as groundwater or surface water hydrology, specific earth sciences, and other technical disciplines. Temporary members or permanent members, other than the three above-specified individuals, may be consultants.</i>
9.6	Regulatory Guide 8.30 (as revised), Table 2 shall apply to the removal to unrestricted areas, of equipment, materials, or packages that have potential accessible surface contamination levels above background. The licensee shall submit to the NRC for review and written verification a contamination control program. The program shall provide sufficient detail to demonstrate how the licensee will maintain radiological controls over the equipment, materials, or packages that have the potential for accessible surface contamination levels above background, until they have been released for unrestricted use as specified in the Guidelines, and what methods will be used to limit the spread of contamination to unrestricted areas. The contamination control program shall demonstrate how the licensee will limit the spread of contamination when moving or transporting potentially contaminated equipment, materials, or packages (i.e. pumps, valves, piping, filters, etc.) from restricted areas through unrestricted areas. Prior to its implementation, the licensee shall receive written NRC verification of the licensee’s contamination control program if	It appears that the LC as written contains a redundant requirement for written NRC verification. The second sentence states: “ <i>The licensee shall submit to the NRC for review and written verification a contamination control program.</i> ” The fifth sentence states: “ <i>Prior to its implementation, the licensee shall receive written NRC verification of the licensee’s contamination control program if recommendations in RG 8.30 are not followed.</i> ”  The following sentence included in the first draft has been removed from the second draft: “ <i>The licensee shall document their survey of equipment, materials, or packages prior to releasing them as discussed above.</i> ” The requirement to document these surveys is based on 10 CFR §20.2103 so perhaps a restatement of the requirement in the license is not necessary.

Draft LC #	2 <sup>nd</sup> Round Draft License Condition	2 <sup>nd</sup> Round Strata Comments
	recommendations in RG 8.30 are not followed.	
<b>SECTION 10: Operations, Controls, Limits, and Restrictions</b>		
<i>Standard Conditions</i>		
10.6	<p><b>Restoration Stability Monitoring.</b> The licensee shall conduct sampling of all constituents of concern on a quarterly basis during restoration stability monitoring. The sampling shall include the specified production zone aquifer wells. The applicant shall continue the stability monitoring until the data show that the most recent four consecutive quarters indicate no statistically significant increasing trend for all constituents of concern, which would lead to an exceedence of the relevant standard in 10 CFR Part 40, Appendix A, Criterion 5B(5).</p>	<p>The section on Restoration Stability Monitoring has been added since the first draft of the license and does not conform to the stability monitoring program proposed in the license application (and now approved in the WDEQ Permit to Mine). The restoration stability program contained in draft LC 10.6 varies from the program proposed by Strata as follows:</p> <ol style="list-style-type: none"> <li>1. The new LC states that “<i>The sampling shall include the specified production zone aquifer wells.</i>” In the license application (TR 6.1.2.5) Strata proposed to “evaluate the results of the pre-ISR water quality and recommend specific recovery wells to be sampled during stability monitoring.” Presumably the recovery wells identified by Strata in the Wellfield Baseline Packages are the “specified production zone aquifer wells” referenced in the new LC. If so, this should be unambiguously stated to prevent confusion.</li> <li>2. Strata proposed to perform at least eight rounds of stability monitoring over a 12-month period. This included an initial sample event at the end of active groundwater restoration, followed by monthly sampling for six months and then either monthly or quarterly sampling for another six months depending on the level of stability observed in the groundwater quality. The draft LC requires quarterly sampling until four consecutive samples show no “statistically significant increasing trend”. This new requirement results in an open-ended stability monitoring period contingent on ill-defined terms and raises several issues for Strata: <ul style="list-style-type: none"> <li>○ NRC should define the term “statistically significant increasing trend” and the acceptable method(s) to determine whether a trend is statistically significant.</li> <li>○ The draft LC in two places refers to “constituents of concern”. This term is not used in the Strata license application and, to Strata’s knowledge, is not defined by NRC. NRC should define this term.</li> <li>○ The license application stated that in cases where a “hot spot” was identified or constituents with increasing trends were observed, Strata would evaluate whether there was a potential impact on the water quality outside of the exempted aquifer and that this analysis could include “extended stability monitoring or flow and transport modeling”. The draft LC would preclude the option of flow and transport modeling to determine whether the observed water quality posed a threat to groundwater outside the aquifer exemption boundary. It is Strata’s position that the ultimate purpose of groundwater restoration is to prevent impacts on groundwater outside the aquifer exemption boundary and that by disregarding the option of modeling the draft LC fails to recognize this.</li> <li>○ The draft LC states a “statistically significant increasing trend” would lead</li> </ul> </li> </ol>

Draft LC #	2 <sup>nd</sup> Round Draft License Condition	2 <sup>nd</sup> Round Strata Comments
		<p>to “an exceedence of the relevant standard in 10 CFR Part 40, Appendix A, Criterion 5B(5)”. Criterion 5B(5) contains three standards: 1) Commission approved background concentration; 2) the respective value given in the table in paragraph 5C if the constituent is listed in the table and if the background level of the constituent is below the value listed; or 3) an alternate concentration limit established by the Commission. These measurements are to be made at the point of compliance as defined in Appendix A. Presumably the initial relevant standard during stability monitoring would be the Commission-approved background calculated as specified in the license application. However, Strata may be required to apply the other two standards if restoration does not successfully return all “constituents of concern” to background. As written the draft LC would require that quarterly stability monitoring be continued until an alternate concentration limit was approved by NRC. Past experience would indicate that this is a lengthy process. Depending on the parameters involved and the increasing trend observed it may not be reasonable to continue quarterly stability monitoring for all “constituents of concern” in all “specified production zone aquifer wells” during this extended period. Unfortunately, the draft LC does not provide an alternative.</p> <p>Strata believes that the stability monitoring program proposed in the license application (and now required in the approved WDEQ Permit to Mine) achieves the same goals as the new paragraph in draft LC 10.6. The initial monitoring described in the license application is more intensive than that required by NRC and increasing trends will result in an extension of the stability monitoring period or flow and transport modeling to ensure groundwater quality outside the aquifer exemption area will not be impacted. The LC as written will conflict with the WDEQ Permit to Mine. Strata requests that this section of LC 10.6 be revised to specify the program described in the license application or simply delete the license condition.</p>
10.6	<p>Notwithstanding the LC 9.4 change process, the licensee shall not implement any changes to groundwater restoration or post-restoration monitoring plans without written NRC verification that the criteria in LC 9.4 do not require a license amendment. The licensee shall submit all changes to groundwater restoration or post-restoration monitoring plans to the NRC staff, for review and written verification, at least 60 days prior to commencement of groundwater restoration in a production area.</p>	<p>Another new paragraph in LC 10.6 appears to be part of the new section on Restoration Stability Monitoring and requires the following:</p> <p><i>Notwithstanding the LC 9.4 change process, the licensee shall not implement any changes to groundwater restoration or post-restoration monitoring plans without written NRC verification that the criteria in LC 9.4 do not require a license amendment. The licensee shall submit all changes to groundwater restoration or post-restoration monitoring plans to the NRC staff, for review and written verification, at least 60 days prior to commencement of groundwater restoration in a production area.</i></p> <p>Based on the new outline included in LC 10.6 (i.e., Groundwater Restoration, Restoration Standards, and Restoration Stability Monitoring) it is unclear to Strata whether this new paragraph applies strictly to monitoring plans implemented during groundwater restoration and post-restoration or whether it applies to all groundwater restoration activities under LC 10.6. NRC should clarify this new requirement or</p>

Draft LC #	2 <sup>nd</sup> Round Draft License Condition	2 <sup>nd</sup> Round Strata Comments
		preferably delete the license condition.
10.8	B) <u>Weekly Inspection</u> . The licensee will conduct weekly inspections in accordance with Section 5.3.1.2 of the approved license application. The inspections will include visual inspection of the entire area including perimeter fencing. The inspection report will be reviewed by the RSO, Manager of EHS, and the Regulatory Affairs and Operations Manager. The weekly inspection reports will be maintained on-site for NRC staff to review during inspections.	<p>The job position titles used in this LC for review of the weekly inspection reports do not conform to the organizational chart contained in the license application (TR Section 5.1) and should be revised to include the RSO, the Manager of Health, Safety, and Environmental Affairs, and the Facility Manager.</p> <p>The revised License Condition would read as follows:</p> <p><i><u>Weekly Inspection</u>. The licensee will conduct weekly inspections in accordance with Section 5.3.1.2 of the approved license application. The inspections will include visual inspection of the entire area including perimeter fencing. The inspection report will be reviewed by the RSO, the Manager of Health, Safety, and Environmental Affairs, and the Facility Manager. The weekly inspection reports will be maintained on-site for NRC staff to review during inspections.</i></p>
<i>Facility Specific Conditions</i>		
10.13	<u>Wellfield Package</u> . Prior to conducting principal activities in a new wellfield, the licensee shall submit a hydrologic test data package (well package) to the NRC. The initial wellfield package will be submitted for NRC staff review and verification. Each wellfield package shall be submitted at least 60 days prior to the planned start date of lixiviant injection. In each wellfield data package, the licensee will document that: (1) all perimeter monitoring wells are screened in the appropriate horizon in order to provide timely detection of an excursion; and (2), the baseline values to establish groundwater protection standards and UCLs for the Wellfield in accordance with LC 11.3. The wellfield package will adequately define heterogeneities that may affect the chemical signature and groundwater flow paths within the ore zone as described in Sections 2.7.3.2.3, 3.1.1 and 5.7.8.1 of the approved license application.	<p>Strata suggests replacing (well package) with (wellfield package).</p> <p>The revised License Condition would read as follows:</p> <p><i><u>Wellfield Package</u>. Prior to conducting principal activities in a new wellfield, the licensee shall submit a hydrologic test data package (wellfield package) to the NRC. The initial wellfield package will be submitted for NRC staff review and verification. Each wellfield package shall be submitted at least 60 days prior to the planned start date of lixiviant injection. In each wellfield data package, the licensee will document that: (1) all perimeter monitoring wells are screened in the appropriate horizon in order to provide timely detection of an excursion; and (2), the baseline values to establish groundwater protection standards and UCLs for the Wellfield in accordance with LC 11.3. The wellfield package will adequately define heterogeneities that may affect the chemical signature and groundwater flow paths within the ore zone as described in Sections 2.7.3.2.3, 3.1.1 and 5.7.8.1 of the approved license application.</i></p>
10.18	The licensee shall ensure radiation safety training is consistent with Regulatory Guides 8.13, "Instruction Concerning Prenatal Radiation Exposure," (as revised) and 8.29, "Instruction Concerning Risks from Occupational Radiation Exposure," (as revised) in addition to the requirements in Section 2.5 of Regulatory Guide 8.31 (as revised), as described in Section 5.5 of the approved application, or NRC-approved equivalent.	<p>Strata suggests adding 'and' after the 3<sup>rd</sup> (as revised).</p> <p>The revised License Condition would read as follows:</p> <p><i>The licensee shall ensure radiation safety training is consistent with Regulatory Guides 8.13, "Instruction Concerning Prenatal Radiation Exposure," (as revised) and 8.29, "Instruction Concerning Risks from Occupational Radiation Exposure," (as revised) in addition to the requirements in Section 2.5 of Regulatory Guide 8.31 (as revised), and as described in Section 5.5 of the approved application, or NRC-approved equivalent.</i></p>

Draft LC #	2 <sup>nd</sup> Round Draft License Condition	2 <sup>nd</sup> Round Strata Comments
<b>SECTION 11: Monitoring, Recording, and Bookkeeping Requirements</b>		
<i>Standard Conditions</i>		
11.1	D) Consistent with Regulatory Position 2 of Regulatory Guide 4.14 (as revised), a semiannual report that summarizes the results of the operational effluent and environmental monitoring program. For this program, the nearby water supply wells are those within 2 km of the perimeter ring monitoring wells for all wellfields undergoing recovery operations or restoration. This report shall be submitted to NRC within 60 days following completion of the reporting period.	Strata suggest that the 60 day reporting time frame is unnecessary as this requirement is codified in 10CFR40.65(a)(1). Moreover, none of the three recently issued licenses incurred this requirement.
11.1	E) An annual report pursuant to LC 9.4(E). This report shall be made available for inspection upon request.	Not consistent with License Condition 9.4(E) as written.
11.1	F) An annual report that summarizes modifications to the inventory of nearby water supply wells and land-use survey within 2 kilometers of any production area. This report shall be submitted to NRC within 60 days following completion of the reporting period.	Strata suggests removing the 60 day requirement.
11.2	The licensee shall submit the results of at least an annual review of the radiation protection program performed in accordance with 10 CFR 20.1101(c). This review shall include the content and implementation of the radiation protection program. Results shall include an analysis of dose to individual members of the public consistent with 10 CFR 20.1301 and 10 CFR 20.1302. This report shall be submitted to NRC within 60 days following completion of the reporting period.	This LC has been revised to include the following requirement in regards to the annual review of the radiation protection program content and implementation and dose to the public: <i>“This report shall be submitted to NRC within 60 days following completion of the reporting period”</i> . Strata notes that the new 60 day constraint on report submittal does not consider that monitoring data is generally not available until 30 days after the monitoring period and this does not allow adequate time for data analysis and report preparation. Strata also notes that this time constraint is not consistent with the most recent materials licenses and drafts issued by NRC (i.e., SUA-1597, SUA-1598, draft SUA-1600, and the draft renewal of SUA-1341).
11.5	If an excursion is not corrected within 60 days of the initial detection, the licensee shall either: (a) terminate injection of lixiviant within the wellfield, or a portion of the wellfield provided the licensee demonstrates to NRC that only a portion of the wellfield is within the area of influence for the excursion) until the excursion is corrected; or (b) increase the financial surety in an amount to cover the full third-party cost for correcting and cleaning up impacts that may be attributed to the excursion. The surety increase shall remain in force until the NRC has verified that the excursion has been corrected and appropriate remedial actions have been undertaken. The written 60-day excursion report shall identify which course of action the licensee is taking if the excursion has not been corrected. Under no circumstances does this condition eliminate the requirement that the licensee remediate the excursion to meet groundwater protection standards as required by LC 11.3.	This LC changed the requirement for action if an excursion is not corrected within 60 days to begin from “initial detection” rather than “initial confirmation”, which was the requirement contained in the first draft. While this is not a huge change (a matter of a few days), it does shorten the period allowed for Strata to retrieve an excursion since corrective actions would not start until an excursion was confirmed. This is also not consistent with the most recent materials licenses and drafts issued by NRC (i.e., SUA-1597, SUA-1598, and the draft of SUA-1600). Furthermore, the draft renewal of SUA-1341 does not include <u>any</u> required action if excursions extend beyond 60 days. These varying requirements do not establish a consistent regulatory approach with the various licensees. Strata requests that the requirement in the 1 <sup>st</sup> draft license be reinstated and the extra parenthesis be removed.  The revised License Condition would read as follows:  <i>If an excursion is not corrected within 60 days of the initial confirmation, the licensee shall either: (a) terminate injection of lixiviant within the wellfield, or a portion of the wellfield provided the licensee demonstrates to NRC that only a portion of the wellfield is within the area of influence for the excursion until the</i>



Draft LC #	2 <sup>nd</sup> Round Draft License Condition	2 <sup>nd</sup> Round Strata Comments
		<p><i>excursion is corrected; or (b) increase the financial surety in an amount to cover the full third-party cost for correcting and cleaning up impacts that may be attributed to the excursion. The surety increase shall remain in force until the NRC has verified that the excursion has been corrected and appropriate remedial actions have been undertaken. The written 60-day excursion report shall identify which course of action the licensee is taking if the excursion has not been corrected. Under no circumstances does this condition eliminate the requirement that the licensee remediate the excursion to meet groundwater protection standards as required by LC 11.3.</i></p>
11.5	<p>The licensee shall notify the NRC Project Manager (PM) by telephone or email within 24 hours of confirming a lixiviant excursion, and by letter within 7 days from the time the excursion is confirmed, pursuant to this license condition and 9.3. A written report describing the excursion event, corrective actions taken, and the corrective action results shall be submitted to the NRC within 60 days of the excursion confirmation. For all wells that remain on excursion status after 60 days, the licensee shall submit a report as discussed in LC 11.1(A).</p>	<p>Strata suggests adding ‘LC’ before 9.3.</p> <p>The revised License Condition would read as follows:</p> <p><i>The licensee shall notify the NRC Project Manager (PM) by telephone or email within 24 hours of confirming a lixiviant excursion, and by letter within 7 days from the time the excursion is confirmed, pursuant to this license condition and LC 9.3. A written report describing the excursion event, corrective actions taken, and the corrective action results shall be submitted to the NRC within 60 days of the excursion confirmation. For all wells that remain on excursion status after 60 days, the licensee shall submit a report as discussed in LC 11.1(A).</i></p>
<p><b>SECTION 12.0: Preoperational Conditions</b></p>		
<p><i>Standard Conditions</i></p>		
<p><i>Facility Specific Conditions</i></p>		
12.7	<p>C). 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.</p>	<p>Ambient environmental monitoring programs for gaseous and particulate dose estimates were provided in the Technical Report in Section 5.7.7.1.1.</p> <p>The second draft retains the following requirement from the first draft: “<i>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</i>”. In response to the first draft Strata commented that the ambient environmental monitoring programs for gaseous and particulate dose estimates were provided in the Technical Report in Section 5.7.7.1.1. According to Strata’s notes from the December 20, 2012 meeting held with NRC, staff indicated they agreed with this comment and this requirement would be deleted.</p>

Draft LC #	2 <sup>nd</sup> Round Draft License Condition	2 <sup>nd</sup> Round Strata Comments
12.10	<p>At least 60 days prior to the preoperational inspection, the licensee will submit a completed Quality Assurance Plan (QAP) for NRC staff review and verification. The QAP will include the requirements in 10 CFR Part 20, Subpart H, and be consistent with guidance in Regulatory Guide 4.15 (as revised).</p>	<p>Strata suggests revising ‘Quality Assurance Plan’ to ‘Quality Assurance Project Plan’ to be consistent with Regulatory Guide 4.15. In addition, NRC added the requirement that the Quality Assurance Plan (QAP) include the requirements of 10 CFR Part 20, Subpart H. It is unclear to Strata how the QAP can implement the requirements for this Subpart, which describes the requirements for Respiratory Protection and Controls to Restrict Internal Exposure in Restricted Areas. NRC should clarify this LC.</p> <p>Therefore, Strata requests that the language be reinstated from the 1<sup>st</sup> Draft License.</p> <p>The revised License Condition would read as follows:</p> <p><i>At least 60 days prior to the preoperational inspection, the licensee will submit a completed Quality Assurance Project Plan (QAPP) to the NRC staff for review to verify that the QAPP will be consistent with Regulatory Guide 4.15 (as revised).</i></p>

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