UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of:	)	
	)	Docket No.: 40-9091-MLA
STRATA ENERGY, INC.	)	
	)	Date: March 16, 2015
(Ross In Situ Uranium Recovery Facility)	)	

BRIEF OF APPLICANT STRATA ENERGY, INC IN OPPOSITION TO THE NATURAL RESOURCES DEFENSE COUNCIL AND POWDER RIVER BASIN RESOURCE COUNCIL PETITION FOR REVIEW OF LBP-15-3

I. INTRODUCTION

Strata Energy, Inc. (Strata), by its undersigned counsel of record, hereby submits this Brief in Opposition to the Natural Resources Defense Council and Powder River Basin Resources Council (hereinafter the "Intervenors") Petition for Review of the Atomic Safety and Licensing Board's (Licensing Board) initial decision in LBP-15-3[1] regarding Strata's license application for a new United States Nuclear Regulatory Commission (NRC) combined source and 11e.(2) byproduct material license to construct and operate an in situ leach uranium recovery (ISR) facility (hereinafter the "Ross ISR Project") in Crook County, Wyoming. For the reasons discussed below, Strata respectfully requests that the Commission deny Intervenors' Petition for Review. In the alternative, in the event that the Commission determines that Intervenors' Petition for Review should be granted, Strata respectfully requests that the Commission deny Intervenors' appeal as their arguments do not demonstrate that the Licensing Board's initial

[1] *Strata Energy Inc.*, (Ross In Situ Recovery Uranium Project), LBP-15-3, Slip Op. (January 23, 2015).

decision presents a substantial question warranting reversal of LBP-15-3 in accord with 10 CFR § 2.341(b) or a clear error on a factual determination.

II. BACKGROUND AND PROCEDURAL HISTORY

Pursuant to the Commission's 10 CFR Part 40 and Appendix A uranium recovery regulatory program and associated guidance, Strata submitted a license application to NRC for its review and approval on January 4, 2011. This license application contained a detailed technical report (TR) addressing potential safety issues and a detailed environmental report (ER) addressing potential environmental issues for the Ross ISR Project[2].

On June 28, 2011, NRC Staff completed its acceptance review of and formally docketed Strata's license application for its detailed technical and environmental review[3]. On July 13, 2011, NRC issued a Federal Register Notice (76 Fed. Reg. 41308) providing the public with sixty (60) days to request an administrative hearing under 10 CFR Part 2.

On October 27, 2011, Intervenors filed a hearing request, including arguments on legal standing for a hearing and admissible contentions. Intervenors' hearing request included a proffer of five (5) potential environmental contentions. On December 5, 2011, Strata and NRC Staff filed responses challenging Intervenors' legal standing and the admissibility of their proffered contentions. On December 20, 2011, the Licensing Board held oral argument and, by Order dated February 10, 2012, the Licensing Board granted Intervenors' hearing request finding that they possessed legal standing for an NRC administrative hearing and that four (4) of the proffered contentions were admissible.[4] All four admissible contentions were classified as environmental contentions.

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[2] ADAMS Accession No. ML110120063 (Package).
[3] ADAMS Accession No. ML111721948.
[4] *See Strata Energy, Inc.* (Ross ISR Project), LBP-12-3, *Ruling on Standing and Contention Admissibility* (February 10, 2012).

On February 28, 2013, NRC Staff finalized and issued its Safety Evaluation Report (SER) for the Ross ISR Project and concluded that Strata's license application satisfies appropriate safety-related regulations at 10 CFR Parts 20 and 40.[5] At no point during this proceeding have Intervenors attempted to submit new or to amend its existing admitted contentions based on information in the SER. Thus, the SER and its conclusions within the ROD are not subject to challenge in this proceeding.

On February 28, 2014, NRC Staff completed its 10 CFR Part 51 environmental review and issued the final SEIS (FSEIS) for the Ross ISR Project.[6] The FSEIS concluded that there were no issues in its environmental review that would prevent issuance of Strata's license.

On March 31, 2014, Intervenors submitted a request to migrate or amend their existing contentions to the FSEIS and to admit two new contentions NRC Staff and Strata filed responses in opposition to this request on April 14 and April 23, 2014, respectively. By Order dated May 23, 2014, the Licensing Board allowed three (3) contentions on the FSEIS to migrate and declined to migrate Contention 4/5A or to admit any new contentions. Thus, only four (4) contentions remained to be litigated.[7] Later, pursuant to motions for summary disposition filed by Strata and NRC Staff, the Licensing Board summarily disposed of Contention 4/5A.[8]

On April 24, 2014, NRC Staff completed its license review process and issued Strata NRC License No. SUA-1601 and a final Record of Decision (ROD) demonstrating that Strata's

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[5] United States Nuclear Regulatory Commission, *Safety Evaluation Report for the Strata Energy, Inc. Ross ISR Project, Crook County, Wyoming, Materials License No. SUA-1601*, Docket No. 040-09091 at 6-7 (February, 2013). Intervenors refer to Strata's ER as its "SER" but, in this pleading, "SER" stands for NRC's Safety Evaluation Report.

[6] United States Nuclear Regulatory Commission, NUREG-1910, Supplement 5 (February 28, 2014).

[7] *See Strata Energy, Inc.* (Ross ISR Project), *Ruling on Motion to Migrate/Amend Existing Contentions and Admit New Contentions Regarding Final Supplement to Generic Environmental Impact Statement* (May 23, 2014).

[8] *See Strata Energy, Inc.* (Ross ISR Project), *Ruling on Summary Disposition Motion Regarding Environmental Contention 4/5A* (July 25, 2014).

license is adequately protective of public health and safety and the environment. The ROD contains a detailed memorandum discussing the license review process, Strata's license application, including the ER and revised TR, as well as NRC Staff decision documents in the form of the final SER, FSEIS, and final license conditions.

On September 30 and October 1, 2014, the Licensing Board held an evidentiary hearing in the city of Gillette, Wyoming on each of the three (3) remaining admitted contentions. Over the course of those two days, multiple exhibits were admitted as evidence in this proceeding and the administrative record was completed pending submission of proposed findings of fact and conclusions of law. After receipt of hearing transcript corrections, on October 28, 2014, the Licensing Board officially closed the evidentiary record in this proceeding. On November 3 and 17, 2015, respectively, all parties submitted proposed findings of fact and conclusions of law.

On January 23, 2015, the Licensing Board issued LBP-15-3 in which Strata's NRC license and NRC Staff's ROD were upheld with one minor exception which relates to plugging and abandonment of historical boreholes within the license boundary but outside the proposed ISR monitor well network. Strata has not appealed this portion of LBP-15-3 and does not plan to seek any judicial or administrative review of this determination. On February 17, 2015, Intervenors submitted their Petition for Review of LBP-15-3. In response to this Petition, Strata respectfully requests that the Commission decline review of Intervenors' petition for review of LBP-15-3. In the event that the Commission determines that review of Intervenors' petition for review is warranted, Strata respectfully requests that the Commission deny Intervenors' appeal for failure to demonstrate a substantial question under 10 CFR § 2.341(b) warranting reversal of LBP-15-3.

III. STANDARD OF REVIEW

As a general matter, the Commission conducts review in response to a petition for review filed pursuant to 10 C.F.R. § 2.341 (formerly 2.786). In determining whether to grant, as a matter of discretion, a petition for review of a Licensing Board Order, the Commission gives due weight to the existence of a substantial question with respect to the consideration set forth in 10 C.F.R. § 2.341(b). The Commission may, as a matter of discretion, grant review of Licensing Board orders based on whether a "substantial question" exists in light of the following considerations:

> (1) A finding of material fact is clearly erroneous or in conflict with a finding as to the same fact in a different proceeding;
> (2) A necessary legal conclusion is without governing precedent or is a departure from or contrary to established law;
> (3) A substantial and important question of law, policy or discretion has been raised;
> (4) The conduct of the proceeding involved a prejudicial procedural error; or
> (5) Any other consideration which the Commission may deem to be in the public interest.

10 C.F.R. § 2.341(b) (formerly § 2.786(b)(4)); *see also Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-05-16, 62 NRC 1, 3 (2005); *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-05-19, 62 NRC 403, 410 (2005); *Private Fuel Storage, L.L.C.* (Independent Spent Fuel Storage Installation), CLI-04-10, 61 NRC 131, 132 (2004).

The Commission may dismiss its grant of review even though the parties have briefed the issues. *Tennessee Valley Authority*, (Browns Ferry Nuclear Plant, Units 1, 2, & 3), CLI-82-26, 16 NRC 880, 881 (1982), *citing Jones v. State Board of Education*, 397 U.S. 31 (1970). 10 C.F.R. § 2.341 (formerly § 2.786) describes when the Commission "may" grant a petition for review but does not mandate any circumstances under which the Commission must take review. *Louisiana Energy Services* (Claiborne Enrichment Center), CLI-97-12, 46 NRC 52, 53 (1997).

Licensing Board findings may be rejected or modified if, after giving the Licensing Board's decision the probative force it intrinsically demands, the record compels a different result. *See e.g., General Public Utilities Nuclear Corp.* (Three Mile Island Nuclear Station, Unit 2), ALAB-926, 31 NRC 1, 13-14 (1990). However, a finding by a Licensing Board will not be overturned simply because a different result could have been reached. *See Pacific Gas & Electric Co.* (Diablo Canyon Nuclear Power Plant, Unit 2), ALAB-254, 8 AEC 1184, 1187-1188 (1975). Generally, as stated in this proceeding, the Commission normally attaches "significance to the presiding officer's evaluation of the evidence." *Hydro Res., Inc.* (Crownpoint Uranium Project), CLI-00-12, 52 NRC 1, 3 (citations omitted). Thus, the Commission generally does not "second-guess" a Presiding Officer's "reasonable findings." *Id.*

The Commission's denial of review of a particular decision simply indicates that the appealing party "identified no 'clearly erroneous' factual finding or important legal error requiring Commission correction." *Hydro Res., Inc.*, LBP-06-1, 63 NRC 41, 59 n.15 (2006), *aff'd*, CLI-06-14, 63 NRC 510 (2006) (*citing Hydro Res., Inc.* (P.O. Box 15910, Rio Rancho, NM 87174), CLI-00-12, 52 NRC 1, 3 (2000) (*quoting* 10 C.F.R. § 2.786(b)(4), now § 2.341(b)(4))). Where the Presiding Officer has reviewed an extensive record in detail, with the assistance of a technical advisor, the Commission is generally disinclined to upset his findings and conclusions, particularly on matters involving fact-specific issues or where the affidavits or submissions of experts must be weighed. *Hydro Res., Inc.*, CLI-01-4, 53 NRC 31, 45-46 (2001).

Further, as the three (3) admitted contentions in this proceeding were deemed "environmental" or attacks on NRC Staff's 10 CFR Part 51 environmental review process and findings, some additional discussion on its environmental review process is warranted. For new

ISR operating licenses, NRC Staff sought approval of the Commission to develop and finalize a programmatic or *Generic Environmental Impact Statement for In Situ Leach Uranium Milling Facilities* ("NUREG-1910").[9] This programmatic document was the subject of multiple public meetings, an extensive public comment period, and a complete draft and revised version, as well as responses to hundreds of public comments. In addition, NRC Staff specifically indicated to the Commission that the purpose of NUREG-1910 was to allow for the tiering of site-specific supplemental environmental impact statements (SEIS) for each new ISR operating license application. Since the issuance of NUREG-1910, NRC Staff has developed and finalized five (5) SEISs for site-specific environmental reviews of new ISR operating license applications, including Supplement 5 for Strata. "Tiering" is specifically allowed under the Council on Environmental Quality's (CEQ) National Environmental Policy Act (NEPA) regulations. *See* 40 C.F.R. § 1502.20.

NRC's 10 CFR Part 51 environmental reviews are specifically identified as regulations that can be satisfied through the use of NUREG-1569 entitled *Standard Review Plan for In Situ Leach Uranium Extraction License Applications* acceptance criteria.[10] It is well-understood that standard review plans, such as NUREG-1569 are entitled "special weight" when determining whether satisfaction of its guidance or acceptance criteria is in accord with existing regulations. *See Nextera Energy Seabrook, LLC* (Seabrook Station, Unit 1), CLI-12-05, 75 NRC 301, 314, n.78 (2012); *see also In the Matter of Private Fuel Storage* (Independent Spent Fuel Storage Installation), CLI-01-22, 54 NRC 255, 264 (2001). However, as briefed by Strata before the Licensing Board below, NUREG-1569 should be accorded more than "special weight" as it was

[9] United States Nuclear Regulatory Commission, NUREG-1910, *Generic Environmental Impact Statement for In Situ Leach Uranium Milling Facilities* (2009).
[10] United States Nuclear Regulatory Commission, NUREG-1569, *Standard Review Plan for In Situ Leach Uranium Extraction License Applications* (2003).

the subject of a Commission Staff Requirements Memorandum (SRM) in 2003 where the Commission voted to approve publication of NUREG-1569 subject to some revisions wherein, as stated by Commissioner Dicus, it was determined that NUREG-1569's acceptance criteria "are an acceptable means of implementing the Commission's policy decisions for uranium recovery facilities, *in lieu* of rulemaking."[11] Thus, in the absence of other evidence, adherence to guidance may be sufficient to demonstrate compliance with the regulatory requirements. *Metropolitan Edison Co.* (Three Mile Island Nuclear Station, Unit 1), ALAB-698, 16 NRC 1290, 1299 (1982), *rev'd in part on other grounds*, CLI-83-22, 18 NRC 299 (1983).

IV. ARGUMENT

As will be shown below, each of Intervenors' arguments presented in its Petition for Review fail to satisfy the 10 CFR § 2.341 requirements for grant of such a Petition. The Commission standard of "clear error" for overturning Board factual findings is high, particularly with respect to intricate factual findings based on expert witness testimony and credibility determinations. *Private Fuel Storage, L.L.C.,* (Independent Spent Fuel Storage Installation), CLI-03-8, 58 NRC 11, 26-27 (2003). *See also Private Fuel Storage, L.L.C.,* (Independent Spent Fuel Storage Installation), CLI-05-1, 61 NRC 160, 174 (2005). (The Commission traditionally defers to a Board's disclosure-related factual findings, and will reverse only if the findings are "clearly erroneous" (*quoting* 10 C.F.R. § 2.786(b)(4)(i) [now 10 C.F.R. § 2.341(b)(4)(i)]). For failure to show the Licensing Board violated this standard, Strata respectfully requests that the Commission deny Intervenors' Petition for Review or, in the alternative, deny the appeal based on failure to demonstrate that a substantial question exists under 10 CFR § 2.341(b) warranting reversal of LBP-15-3.

[11] United States Nuclear Regulatory Commission, *Staff Requirements-SECY-02-0204-Update of Uranium Recovery Guidance Documents* (May 7, 2003), (*Commissioner Comments on SECY-02-0204* at 1 (Commissioner Dicus Comments)).

A. Environmental Contention 1: Alleged Failure to Adequately Characterize Baseline Groundwater Quality

Initially, Intervenors' Petition focuses on the substance of previously admitted and litigated Contention 1 regarding the assessment of "baseline" groundwater quality pursuant to 10 CFR Part 40, Appendix A, Criterion 7. Intervenors' entire case below and its arguments in its Petition focus on the fundamental difference between Criterion 7 "baseline" groundwater quality characterization and Criterion 5B(5) "Commission-approved background." *See e.g.*, Intervenors' Petition at 5, ¶ 2. As argued by Strata below, Intervenors have failed to understand that Strata agreed that it was required to gather "complete baseline" groundwater data pursuant to Criterion 7 and Chapter 2 of NUREG-1569 entitled *Site Characterization* prior to issuance of an NRC license. Intervenors have ignored the distinction between complete "baseline" data per Criterion 7 and Commission-approved background (CAB) per Criterion 5B(5) and Chapter 5 of NUREG-1569 entitled *Operations*, which reflect the Commission's decision in *Hydro Resources, Inc.* that allows "particular determinations to be made post-licensing" prior to operations in a wellfield) to provide clarity to the ISR licensing process.[12] These determinations include the establishment of upper control limits (UCL), CAB, and other groundwater standards, pursuant to mandated methods set forth in Strata's license application, the SER, and final license conditions, as well as evaluated in the FSEIS.[13]

[12] *Hydro Res., Inc.* (Crownpoint Uranium Project), CLI-06-01, 63 NRC 1, (2006). It is also worth noting that Phase II of the *Hydro Resources, Inc.* Subpart L proceeding was briefed and decided after finalization of NUREG-1569 in 2003 and affirmed by the Commission. Thus, many of the resource areas discussed in NUREG-1569 are representative of the HRI decisions and should be considered binding as Commission precedent.

[13] Intervenors' allegation on Page 11, that site-specific data post-license issuance is used to "confirm proper baseline quality values" is merely reflective of the factual dispute between Strata (and NRC Staff) and Intervenors on satisfaction of Criterion 7 "baseline" groundwater quality characterization requirements. As shown herein, this factual dispute was determined by the Licensing Board to be in favor of NRC Staff's licensing decision and to be in satisfaction of NUREG-1569 requirements.

Intervenors arguments also attempt to question the Licensing Board's determinations on factual bases, including compliance with NUREG-1569 acceptance criteria. Many of Intervenors' allegations in its Petition specifically address factual determinations that were offered as part of expert testimony by all parties, including statements that (1): the Licensing Board stated that more data collection was not necessary "given the License requirement to collect *adequate* data only for a 'post-license' (i.e., post-NEPA baseline)" (Intervenors' Petition at 5); (2) that "[n]either SEI nor Staff disputed that the baseline water quality data relied on in the FSEIS was insufficient to meaningfully characterize the site" (Intervenors Petition at 10, ¶ 2.a); (3) that no witness ever disputed Intervenors' expert on wells relied on for groundwater sampling (Intervenors Petition at 12, ¶ 2.b.i); and (4) that eight (8) to ten (10) independent groundwater samples should have been collected (*Id.*). Each of these allegations are specifically refuted in LBP-15-3 and in Strata's expert testimony as follows: (1) Intervenors' citation to LBP-15-3 at ¶ 4.22 is wholly inaccurate as it does not discuss post-license collection of groundwater quality data; but rather, it discusses how the Licensing Board determined that adequate Criterion 7 "baseline" groundwater data was collected without the need to follow the cited EPA Unified Guidance; (2) Intervenors' allegation that wells were properly screened is addressed by the Licensing Board in LBP-15-3 at ¶ 4.31 and the allegation on the need for "unbiased grid sampling" again improperly references United States Environmental Protection Agency (EPA) Unified Guidance; (3) justification for well locations was disputed and refuted in Strata's initial (Strata Exhibit SEI005 at ¶ A.30) and rebuttal testimony (Strata Exhibit SEI045 at ¶ A.12), and such testimony expressly showed compliance with NUREG-1569 acceptance criteria; and (4) Strata exceeded NUREG-1569 acceptance criteria and applicable guidance by submitting eight (8) quarters of groundwater monitoring data (Strata Exhibit SEI005 at ¶¶ A.33-34). In each of

these cases, Intervenors are attempting to challenge the Licensing Board's factual findings without a demonstration that any such findings raise a substantial question under 10 C.F.R. § 2.341(b). Given that compliance with NUREG-1569 acceptance criteria is specifically tailored to 10 CFR Part 51 environmental reviews per Table 1 of NUREG-1569, Intervenors' NEPA-based claims on Environmental Contention 1 are without merit.

Intervenors' Petition also levies other allegations in a manner similar to those referenced in the preceding paragraph including: (1) that the Licensing Board acknowledged that only fully screened wells could "collect accurate data" (Intervenors' Petition at 5, ¶ C.1) (2) that the Licensing Board "appeared to discount the relevance of an accurate baseline on the grounds that the aquifer is 'exempt'" (Intervenors' Petition at 13, n.16); (3) that the Licensing Board "did not dispute that [the] approach [of screening site characterization monitor wells only through the part of the aquifer containing the stacked ore horizons] could bias results to high values" (Intervenors Petition at 13, ¶ ii); and (4) that "baseline" groundwater quality results were averaged " on the grounds that the data collected from each well may 'vary considerably' depending on its mineral content" (Intervenors Petition at 23, n. 27). Once again, each of these allegations is specifically refuted by the Licensing Board in its factual findings based on expert testimony offered by Strata and/or NRC Staff including: (1) that the Licensing Board determined that fully screened monitor wells are only required for post-license issuance perimeter monitor wells and not pre-license issuance groundwater quality "baseline" sampling wells in accord with NUREG-1569 (LBP-15-3 at ¶ 4.31); (2) that the Licensing Board concluded that NUREG-1569 acceptance criteria were satisfied by appropriately comparing groundwater quality analyses to EPA MCLs (LBP-15-3 at 28-30, ¶ 4.22 and n. 20)[14]; (3) that the Licensing Board concluded in LBP-15-3 at ¶4.28 that the

[14] It is important to note that the Licensing Board found that, pursuant to the Safe Drinking Water Act (SDWA) (42 U.S.C. § 300f *et seq.*) in EPA's underground injection control (UIC) regulatory program, it

screened intervals were three (3) to twelve (12) times larger than the average mineralized zone thickness and likely had the effect of diluting some of the constituents compared to future wells used to establish CAB, which will be screened only through the mineralized zone; and (4) that the Licensing Board addresses groundwater quality averaging at LBP-15-3 at ¶¶ 4.33-34, including that reporting the average concentration is consistent with NUREG-1569 acceptance criteria and that there is no NEPA requirement to adopt a more rigorous statistical methodology, and the raw data were available for analysis and critique. As is the case with the four (4) allegations summarized above, Intervenors have made no attempt to show how the Licensing Board's factual determinations of compliance with NRC regulations, NUREG-1569, and other relevant guidance, as well as the credibility of Strata's expert witnesses and NRC's ROD rise to the level of a substantial question under 10 CFR § 2.341(b). Without more, Intervenors' Petition falls short of the Commission's requirements for a successful petition for review of LBP-15-3.

B. Environmental Contention 2: Alleged Failure to Adequately Assess Potential Environmental Impacts of Failure to Restore Recovery Zone Groundwater Quality to Primary or Secondary Standards

With respect to previously admitted and litigated Environmental Contention 2 or Intervenors' allegation regarding the FSEIS' alleged failure to analyze the potential environmental impacts of failure to restore recovery zone groundwater quality to primary or secondary standards, Intervenors once again rely on inaccurate and conclusory statements to attempt to refute the factual determinations rendered by the Licensing Board in LBP-15-3. These allegations are insufficient to demonstrate a substantial question under 10 CFR § 2.341(b) and do not represent a clear error of law in the Licensing Board's factual determinations.

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is important that the exempted aquifer will never serve as a an underground source of drinking water (USDW); therefore, there is no degradation of a possible future source of drinking water. LBP-15-3 at 64-65, n. 47.

Intervenors' Petition begins with a statement that the aquifer identified by Strata for uranium recovery and exempted from current or future use as a public drinking water source under the SDWA will "become a toxic, hazardous disposal area." Intervenors' Petition at 20, ¶ 3.e. This statement is an attempt by Intervenors to characterize ISR operations as dramatically increasing contamination of an already undrinkable water source and, apparently, assumes that no groundwater restoration will ever be conducted in accordance with appropriate NRC regulations. Indeed, as shown in LBP-15-3 at ¶¶ 4.67 and 4.85, this statement ignores the very basic factors associated with groundwater corrective action under 10 CFR Part 40, Appendix A, Criterion 5B(5) and those required for an alternate concentration limit (ACL) under Criterion 5B(6). These statements also ignore the fact that NRC requires a separate safety (10 CFR Part 40) and environmental (10 CFR Part 51) review for every requested ACL and that, as a matter of law, no ISR licensee is permitted to even apply for an ACL until it has attempted to restore the recovery zone (within the exempted aquifer) to Criterion 5B(5) groundwater quality goals (i.e., CAB or a maximum contaminant level (MCL), whichever is higher). *See* 10 CFR Part 40, Appendix A, Criteria 5B(5) & 5B(6). Further, even though the SDWA is mentioned, this argument actually appears to ignore the fact that the recovery zone aquifer is exempted, in perpetuity, as a current or future source of public drinking water. *See* LBP-15-3 at 64-65, n. 47. The Licensing Board properly evaluated these factors when addressing Environmental Contention 2, and its determination does not raise a substantial question in accordance with 10 CFR § 2.341(b) or a clear error on a factual finding.

Intervenors' Petition includes another factually inaccurate statement that "every previous ISL operation has required an…ACL." Intervenors' Petition at 6, ¶ C.2. This is factually inaccurate because, NRC Staff regulatory oversight did not provide for ACLs for previously

approved restoration activities. *Compare* LBP-15-3 at ¶ 4.72, n. 46 (showing previous license conditions required restoration to background or a secondary standard, which usually was the State-based pre-operational class-of-use standards). On this point, Intervenors also claim that NRC will approve any ACL even if the water quality parameters are higher than that at other sites such as Crow Butte. This conclusory statement completely ignores all of the aforementioned factors associated with the granting of an ACL as discussed in LBP-15-3 at ¶¶ 4.67 and 4.85. Further, it also ignores the express findings of the Commission that the manner in which groundwater quality values are determined for ISR wellfields, including the establishment of site-specific UCLs post-license issuance, is permissible. *See Hydro Resources, Inc.*, CLI-06-01, 63 NRC at 1. It is the establishment of these groundwater quality parameters, such as CAB, that allow NRC Staff to understand the site-specific nature of ISR wellfield-specific constituents of concern and what the appropriate groundwater restoration values under Criterion 5B(5) must be for each wellfield prior to operations and restoration.

Intervenors' Petition further mischaracterizes the ROD by stating that the uranium level approved at Cameco Resources' Smith Ranch-Highland Wellfield A[15] "was not disclosed in the FSEIS." Intervenors' Petition at 14, ¶ 3.a. Intervenors fail to note that this was disclosed in NRC Staff's testimony (NRC Staff Exhibit NRC0001 at ¶ A.2.6.) and that the FSEIS addressed a range of uranium concentrations (up to 18 times baseline) at Cameco Resources' Crow Butte ISR Project site. *See* FSEIS Errata (NRC Staff Exhibit NRC010) at 4.[16] Moreover, with respect to the lack of a "transport model" for evaluating groundwater restoration at Crow Butte, Intervenors mischaracterize NRC Staff's expert testimony on how the FSEIS evaluated that data in light of

[15] Strata notes that LBP-15-3 incorrectly cites NRC Staff's testimony on the Nubeth project as applying to Smith Ranch-Highland Wellfield A. LBP-15-3 at 4.91.

[16] This Errata Statement is also not referenced by Intervenors when they allege that the FSEIS states that the Crow Butte uranium concentrations increased by only eighteen (18) percent. As shown in NRC Staff Exhibit NRC010 at Page 4 and LBP-15-3 at 65, n. 48, this reference was corrected.

the Ross ISR Project. Specifically, Intervenors mischaracterize Dr. Johnson's testimony when she stated that it is standard practice to "evaluate[] generally the kind of transport that would go on from the location within the production area out to that exempted boundary." Tr. at 616. In no way does this testimony imply that the FSEIS incorrectly did not include a transport model nor does it intimate that such a model should have been used prior to issuing Strata's NRC license or when evaluating the groundwater restoration data for Crow Butte. Further, this testimony also does not indicate that the concentrations identified at Crow Butte ware not adequately protective of public health and safety, as alleged by Intervenors. Intervenors cannot sustain a claim of a clear error on a factual determination or a substantial question under 10 CFR § 2.341(b) when they cannot even characterize the administrative record or LBP-15-3 correctly.

Intervenors' argument on Environmental Contention 2 continues with more inaccurate statements regarding the use of other data from the Irigaray and Christensen Ranch ISR Project sites. Intervenors' provide an inaccurate statement that "the Board agreed that for…Irigaray…the Staff had included data that biased the results." Intervenors' Petition at 14, ¶ 3.a. In actuality, the Licensing Board did not state this; but rather, LBP-15-3 stated that "excluding mine unit 1 from this calculation *better serves* the purpose of the bounding analysis in assessing what an ACL might look like at the Ross site." LBP-15-3 at ¶ 4.95. This inconsistency demonstrates that the true point of the Licensing Board's decision on this issue was its conclusion that the use of this alternate calculation method does not materially affect the FSEIS' impact analysis, since the upper range for likely uranium concentrations remains unchanged. *Id.* Intervenors' also inaccurately state that NRC Staff relied on Christensen Ranch data in its assessment of potential ACLs. Intervenors' Petition at 18, n. 20. This is factually incorrect as the FSEIS specifically states that Christensen Ranch restoration had not yet been

approved and, thus, no further information was evaluated from that site. *See* FSEIS at 4-46 (Strata Exhibit SEI010 at 320). These inaccurate statements cannot serve as grounds for a substantial question under 10 CFR § 2.341(b) or a clear error on a factual determination. Therefore, the Commission should deny Intervenors' appeal of Contention 2.

C. Environmental Contention 3: Alleged Failure to Asses Potential Impacts from Control of Fluid Migration

With respect to previously admitted and litigated Environmental Contention 3 or Intervenors' allegation regarding the FSEIS' alleged failure to adequately assess the potential for fluid migration from the Ross ISR Project recovery zone, Intervenors' Petition primarily focuses on LBP-15-3's discussion of the plugging of historical boreholes at the Ross ISR Project site. The Petition starts with a statement that "Staff argued that filling these boreholes *was not relevant to the risk of excursions*" and that "the Board *rejected* this argument." Intervenors' Petition at 21, ¶ 4. This statement mischaracterizes the Licensing Board discussion of this issue, wherein it found that plugging historic boreholes at the site was not "critical to the FSEIS conclusion that the environmental impacts associated with fluid migration will be SMALL." LBP-15-3 at 4.126. LBP-15-3 also concludes that "the staff places its main reliance…on SEI's excursion detection and recovery efforts." *Id.* at ¶ 4.127. Nevertheless, active monitoring controls, including establishment of Criterion 5B(5) groundwater quality standards and UCLs, excursion monitoring, pump tests, mechanical integrity tests (MIT) and, if necessary, borehole plugging all are measures used under NRC regulations and guidance and Strata's NRC License during active operations and restoration to control fluid migration from the recovery zone. *Id.* Further, Strata has committed to attempt to plug and abandon all identified boreholes within the perimeter monitor well network prior to operations and LBP-15-3 has modified this license requirement to include identified historic boreholes outside such perimeter monitor well

network.[1718] *See* LBP-15-3 at ¶¶ 4.129-4.131. Thus, the Licensing Board has made a factual determination that the full suite of groundwater protective measures assigned to NRC License No. SUA-1601 is adequate to protect public health and safety from potential fluid migration. Intervenors' have offered no evidence showing that the Licensing Board ignored or found Intervenors' expert testimony to be credible.[19] Given this, pursuant to *Hydro Res., Inc.*, the Commission should not disturb the Licensing Board's findings on this issue in LBP-15-3. *See* CLI-01-4, 53 NRC at 45-46.

Intervenors also argue that "Staff will be powerless to act absent a showing that SEI's violation [of LC 10.12 requirement to attempt to locate and plug boreholes] is 'willful.'" Intervenors' Petition at 22. As discussed by the Licensing Board, NRC Staff will review both the results of hole plugging efforts and the results of pump tests conducted for each wellfield, which will be designed to detect any potential unplugged or improperly plugged boreholes. *See* LBP-15-3 at ¶ 4.128. NRC Staff also has its AEA-based enforcement authority where a "willful" violation of a license condition likely would result in significant enforcement action and immediately effective orders to commence corrective action to reclaim any vertical

[17] Intervenors also argue that there is a "lack of a firm requirement for SEI to properly fill" historic boreholes." Intervenors' Petition at 6. LBP-15-3 at ¶ 4.128 evaluates the license requirement (License Condition 10.12) that Strata will attempt to plug and abandon all historical boreholes within the perimeter monitor well network and that the timetable for carrying out its provisions is clear. Strata expert witnesses testified that, even if a borehole was not plugged depending on circumstances, it would not necessarily affect safe ISR operations. The Board also notes a unique incentive in License Condition 11.5 requiring wellfield operation shutdown if Strata fails to identify one or more unplugged boreholes and it results in a vertical excursion. *See* LBP-15-3 at ¶¶ 4.127 and 4.128.

[18] Intervenors' Petition at 21-22 also mischaracterizes the Licensing Board's evaluation of statements that excursions occurred at a State of Texas site. Exhibit JTI026 *does not show* that excursions at this site were caused by historic exploration boreholes. This was an inspection report for an exploration permit and not for an operating ISR facility. There is no indication that any of these exploration holes were not plugged properly such that they would pose a potential future risk for fluid migration after an operating ISR wellfield commenced recovery operations.

[19] Intervenors' Petition also improperly cites to Intervenors' Exhibit JTI026 to support its argument. JTI026 does not offer any evidence of excursions or improper borehole plugging. Thus, JTI026 does not offer any evidence of a substantial question under 10 C.F.R. § 2.341 or a clear error on a factual determination.

excursion. In addition, as is well-understood, the Commission does not presume that a licensee will violate its license or its license conditions. *See Private Fuel Storage* (Independent Spent Fuel Storage Installation), 53 NRC 232, 235-36 (2001); *see also GPU Nuclear Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-06, 51 NRC 193, 207 (2000).

With respect to Intervenors' allegations regarding the use of uranium as a monitoring parameter for excursion monitoring during active recovery operations and groundwater restoration, the Licensing Board specifically addressed Strata's excursion monitoring program and the parameters selected for the best "early warning" indicators of a potential excursion. *See* LBP-15-3 at ¶ 4.145. The Licensing Board concluded that "as compared to other possible indicators such as chloride, alkalinity, sulfate and electrical conductivity, uranium is not as effective a tool for providing a timely alert regarding a lixiviant excursion." *Id.* This is consistent with NUREG-1569 acceptance criteria which identify the excursion parameters discussed by the Licensing Board as acceptable for an excursion monitoring program at a typical ISR facility and do not recommend use of uranium as an excursion monitoring parameter because it is not as conservative.[20] *See* NUREG-1569 at 5-41 ("Uranium is not considered a good excursion indicator because, although it is mobilized by *in situ* leaching, it may be retarded by reducing conditions in the aquifer"). While a license applicant is free to propose additional parameters or parameters for substitution in its license application based on site-specific conditions, compliance with NUREG-1569 acceptance criteria represents an acceptable approach

[20] Intervenors argue that the burden was placed on them to demonstrate why uranium should have been monitored. NUREG-1569 does not recommend using uranium as an excursion monitoring parameter. *See* NUREG-1569 at 5-41; *see also* LBP-15-3 at 107, n.77. Given that compliance with NUREG-1569 is an acceptable means of complying with NRC regulatory requirements, Intervenors should have shown why compliance with NUREG-1569 criteria is unacceptable.

to satisfying NRC regulatory requirements. *See id.* at 10.[21] Further, the Licensing Board specifically acknowledged a large body of evidence showing that uranium is a less conservative monitoring parameter and found it to be credible.[22] *See* LBP-15-3 at ¶¶ 4.143-4.145.

The Licensing Board also thoroughly evaluated the unsupported argument offered by Intervenors that "uranium may move through the aquifer more quickly than chloride and the other excursion indicator constituents." Intervenors' Petition at 24. The Licensing Board evaluated the argument and testimony offered by all expert witnesses on this matter and correctly concluded that there is evidence that "as compared to other possible indicators such as chloride, alkalinity, sulfate and electrical conductivity, uranium is not as effective a tool for providing a timely alert regarding a lixiviant excursion." LBP-15-3 at ¶ 4.145. Indeed, to the best of Strata's knowledge, nowhere in the administrative record is there testimony that uranium would move more quickly than chloride. Further, the Licensing Board acknowledges that there is a large body of evidence that shows uranium is less conservative than other parameters. *Id.* at ¶¶ 4.143-4.145, *citing* NRC Staff Exhibit NRC050 at 5. Intervenors offer no evidence that the Licensing Board did not evaluate this issue and that its decision was nothing more than an evaluation of the factual evidence offered at the evidentiary hearing. Without more, Intervenors have not shown that a substantial question exists under 10 CFR § 2.341(b) or that a clear error on a factual determination has been committed.

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[21] "The standard review plan is general guidance to the staff on the type of information that is commonly acceptable for evaluating the environmental impact of a proposed licensing action. Consistent with the NRC risk-informed, performance-based licensing philosophy, licensees may use compliance demonstration methods different from those presented in the standard review plan so long as the staff can determine whether public health and safety and the environment are protected."

[22] Intervenors incorrectly state the uranium will not be monitored at all during excursion monitoring. As noted by the Licensing Board, even if NUREG-1569 does not recommend the use of uranium as an "early warning" parameter, the State of Wyoming's Permit to Mine for the Ross ISR Project require Strata to perform a full chemical analysis, including uranium, if an excursion is not recovered within thirty (30) days. *See* LBP-15-3 at 108, n. 78.

Intervenors' Petition also makes reference to an inaccurate statement that groundwater quality data shows that the OZ aquifer at the Ross ISR Project site is not confined. Intervenors' Petition at 23. Throughout LBP-15-3, the Licensing Board reviewed all argument and testimony offered by all parties on this issue and concluded that Strata's and NRC Staff's position had merit. *See* LBP-15-3 at ¶ 4.141. In its opinion, the Licensing Board documents extensive evidence that there is adequate confinement between the OZ and SM aquifers, including potentiometric head differences between the two aquifers and pumping test results that showed no communication between such aquifers. *See id.* at 95, n. 67; *see also id.* at 110, n. 79, & ¶ 4.120. Once again, Intervenors offer no evidence that the Licensing Board did not evaluate this issue and that its decision was nothing more than an evaluation of the factual evidence offered at the evidentiary hearing. Without more, Intervenors have not shown that a substantial question exists under 10 CFR § 2.341(b) or that a clear error on a factual determination has been made.

Lastly, Intervenors' statements that the Licensing Board improperly evaluated whether impacts will occur to the adjacent, non-exempt aquifer instead of within the exempted aquifer itself are rife with inaccuracies and omissions. Intervenors' Petition at 25. These statements are inaccurate, because it is not accurately reflective of the subject matter of Environmental Contention 3, which are potential impacts to groundwater outside of the recovery zone from fluid migration and not from operations within the recovery zone (exempted aquifer). *See* FSEIS Contentions Order at 21. It also ignores the specific groundwater restoration requirements for the recovery zone under Criterion 5B(5), the manner in which an ACL must be applied for in the event primary goals cannot be reached, and the financial assurance requirements under 10 CFR Part 40, Appendix A, Criterion 9 to ensure that the recovery zone (exempted aquifer) will be restored pursuant to Criterion 5B(5) in the event the licensee is unable to do so. These

statements are not supported by any evidence that a substantial question under 10 CFR § 2.341(b) or a clear error on a factual determination exists. As such, Intervenors' appeal of Environmental Contention 3 should be denied.

D. Other Contentions Deemed Inadmissible, Unable to Migrate or Summarily Disposed

In addition to levying its arguments on the three (3) contentions litigated at the evidentiary hearing, Intervenors also attempt to argue that previously dismissed or summarily disposed contentions should have been admitted and litigated. For Contention 4/5A on cumulative impacts, Intervenors argue inaccurately that Strata's ER "did not address cumulative impacts." *See* Intervenors Petition at 4, § I.B.2. Intervenors fail to note that LBP-12-3 specifically acknowledges that Strata's ER did address cumulative impacts and Contention 4/5A was admitted at that time as a challenge to the *sufficiency* of Strata's ER's analysis of cumulative impacts. *See* LBP-12-3 at 42-43 (February 10, 2012). Further, the Licensing Board determined in two (2) separate decisions that Contention 4/5A should not migrate to the draft SEIS (DSEIS) and the final SEIS (FSEIS). *See* LBP-13-10 at 19-22 (July 26, 2013); *see also* Memorandum and Order of May 23, 2014. In LBP-13-10, the Licensing Board determined that Intervenors did not properly follow procedures to *amend* Contention 4/5A rather than offer a new contention on cumulative impacts. A plain reading of 10 C.F.R. § 2.309 shows that contentions can be offered as new or amended contentions, and Intervenors' failure to follow the procedural guidelines in this regulation should not serve as grounds for a substantial question on a prejudicial procedural error. It is well-settled that if a petitioner fails to address the criteria in 10 C.F.R. § 2.309(c)(1) that govern late-filed contentions, a petitioner does not meet its burden to establish the admissibility of such contentions. *Baltimore Gas and Electric Co.,*(Calvert Cliffs Nuclear Power

Plant, Units 1 & 2), CLI-98-25, 48 NRC 325, 347 n. 9 (1998); *Baltimore Gas and Electric Co.,* (Calvert Cliffs Nuclear Power Plant, Units 1 & 2), LBP-98-26, 48 NRC 232, 241 (1998).

Additionally, a cumulative impact analysis that serves as grounds for a final agency action on the part of NRC are not rooted in the license applicant's ER; but rather, they are founded in NRC Staff review of such potential impacts as required under 10 CFR Part 51. As stated by the Commission in *Private Fuel Storage,* "Licensing Board rulings are affirmed where the brief on appeal points to no error of law or abuse of discretion that might serve as grounds for reversal of a Board's decision. CLI-00-21, 52 NRC 261, 265 (2000); *Amergen Energy Company, LLC,* (Oyster Creek Nuclear Generating Station), CLI-06-24, 64 NRC 111, 121 (2006) (noting that the Commission affords its Licensing Boards substantial deference on threshold issues, such as standing and the admissibility of contentions). Intervenors have not shown that the Licensing Board's decision was inconsistent with any 10 CFR Part 51 requirement or applicable guidance. Thus, Intervenors' arguments on Contention 4/5A are not grounds to reverse the Licensing Board's decisions on this contention in this proceeding.

With respect to previously offered Contention 6 on the proposed scope of Strata's Ross ISR Project license application, Strata asserts that the Licensing Board's conclusion in LBP-13-10 that the proper scope of the license application was strictly limited to the Ross ISR Project is correct and does not raise a substantial question of law or fact. Intervenors' argument on previously offered Contention 6 is that the Licensing Board should have admitted it due to the fact that Strata "likely" will conduct additional ISR recovery operations at project sites adjacent to or at a distance from the Ross ISR Project. However, the Licensing Board did state, as conceded by Intervenors, that their proffered contentions needed to show that other potential projects would show that the "Ross facility lacks any independent utility in the absence of the

completion of the other Lance District ISR sites." *See* LBP-13-10 at 29-30. By statute, NRC is a reactive agency and is required to evaluate the proposed action put before it by an independent party through a license or license amendment application. Strata's proposed action was the Ross ISR Project, which serves as an independent ISR facility and can operate on its own without the need for development of other ISR properties. Intervenors also fail to note that Strata's ER specifically speaks to the potential development of future properties contiguous to or in the vicinity of the Ross ISR project and that the DSEIS, and hence the FSEIS, contained over fifty (50) pages of cumulative impact analysis on these potential projects, which is all that is required. *See* Strata Exhibit SEI016A at 2-23;[23] *see also* NRC Staff Exhibit NRC006B at 113-169; Strata Exhibit SEI009A at 401-462; LBP-13-10 at 31. In addition, Strata's ER request for additional information (RAI) responses significantly expanded on the discussion of potential future development in the vicinity of the Ross ISR Project. *See* Strata Exhibit SEI017 at 24-57. Further, as briefed by Strata previously, case law exists showing that only formally proposed actions before NRC Staff need to be considered together in a single environmental review document.[24] Intervenors have not shown how the determination in LBP-13-10 is inconsistent with existing law. Thus, its allegations regarding Contention 6 should be dismissed.

Lastly, Intervenors make some references to a proposed rulemaking from the EPA regarding alleged *generally applicable standards* proposed under the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), as it amends the Atomic Energy Act of 1954 (AEA).

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[23] Intervenors' allegation at Page 9, § III.1.a that Strata "deliberately mischaracterized the scope of the project in the [ER]" is materially false. Strata's ER at 2-23 specifically stated that "[t]he proposed Ross project site is intended to be the first of several ISR project sites to be developed in the area."

[24] Intervenors' Petition at Page 9, § III.1.a also alleges that the Licensing Board erred by claiming Intervenors should have reviewed Strata's parent company's documents after the ER was submitted. As stated in Footnote 19 *infra.*, Strata's ER indicated that, at some point, it intended to develop future properties well-prior to the issuance of the DSEIS. Thus, Intervenors cannot claim any prejudice based on the Licensing Board's ruling.

UMTRCA imposes a complex regulatory scheme under which EPA proposes *generally applicable standards* for the safe disposal and management of 11e.(2) byproduct material, and the Commission conforms its regulations to implement and enforce such standards to ensure compliance with NRC's AEA statutory mandate of adequate protection of public health and safety. Intervenors' referenced Proposed Rule has not yet even reached the final date for public comments and additional public hearings have been ordered. As such, the Proposed Rule is not yet an effective regulation and, thus, cannot be regarded by the Commission as an enforceable rule, especially considering that the Commission must complete a conforming rulemaking before any of its provisions can be imposed on *NRC licensees.* It is well-understood that NRC regulates on the basis of regulations and guidance in existence at the time of review and, therefore, Intervenors' references to this Proposed Rule should be viewed as irrelevant.

V. CONCLUSION

For the foregoing reasons, Strata respectfully requests that the Commission decline review of Intervenors' Petition for Review of LBP-15-3 or, in the alternative, that the Commission deny Intervenors' appeal for failure to demonstrate a substantial question under 10 CFR § 2.341(b) or a clear error on a factual determination warranting reversal of LBP-15-3.

Respectfully Submitted,

/Executed (electronically) by and in accord with 10 C.F.R. § 2.304(d)/ Christopher S. Pugsley, Esq.

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Anthony J. Thompson, Esq.
Christopher S. Pugsley, Esq.
Thompson & Pugsley, PLLC
1225 19th Street, NW
Suite 300
Washington, DC 20036
COUNSEL TO STRATA ENERGY, INC.

Dated: March 16, 2015

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of:	)	
	)	Docket No.: 40-9091-MLA
STRATA ENERGY, INC.	)	Date: March 16, 2015
(Ross In Situ Uranium Recovery Facility)	)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing "**APPLICANT STRATA ENERGY, INC'S BRIEF IN OPPOSITION TO THE NATURAL RESOURCES DEFENSE COUNCIL AND POWDER RIVER BASIN RESOURCE COUNCIL'S PETITION FOR REVIEW OF LBP-15-3**" in the above-captioned proceeding have been served via the Electronic Information Exchange (EIE) this 16th day of March, 2015, which to the best of my knowledge resulted in transmittal of the foregoing to those on the EIE Service List for the above-captioned proceeding.

Respectfully Submitted,

/Executed (electronically) by and in accord with 10 C.F.R. § 2.304(d)/
Christopher S. Pugsley, Esq.

Anthony J. Thompson, Esq.
Christopher S. Pugsley, Esq.
Thompson & Pugsley, PLLC
1225 19th Street, NW
Suite 300
Washington, DC 20036
COUNSEL TO STRATA ENERGY, INC.

Dated: March 16, 2015