UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of:	)	
	)	Docket No.: 40-9091-MLA
STRATA ENERGY, INC.	)	
	)	Date: December 5, 2011
(Ross In Situ Uranium Recovery Facility)	)	

APPLICANT STRATA ENERGY, INC'S RESPONSE TO NATURAL RESOURCE DEFENSE COUNCIL AND POWDER RIVER BASIN RESOURCE COUNCIL REQUEST FOR A HEARING AND PETITION TO INTERVENE

I. INTRODUCTION

Strata Energy, Inc. (Strata), by its undersigned counsel of record, hereby submits this Response to the Natural Resource Defense Council and Powder River Basin Resource Council (hereinafter the "Council") Request for a Hearing and Petition to Intervene (hereinafter the "Request") regarding Strata's license application for a new, combined source and 11e.(2) byproduct material license to construct and operate an in situ leach uranium recovery (ISR) facility (hereinafter the "proposed Ross ISR Project") in Crook County, Wyoming. For the reasons discussed below, Strata respectfully requests that the Licensing Board determines that the Council does not have the requisite standing for a hearing pursuant to 10 CFR § 2.309(d). Further, even it is determined that standing exists, Strata respectfully requests that the Licensing Board determines that the Council has not proffered an admissible contention pursuant to 10 CFR § 2.309(f)(1).

II. BACKGROUND AND PROCEDURAL HISTORY

On December 31, 2010 and January 4, 2011 respectively, Strata submitted the necessary components of a license application to NRC Staff seeking the issuance of a combined source and 11e.(2) byproduct material license to construct and operate the proposed Ross ISR Project in Crook County, Wyoming. At the time that Strata's license application was submitted, NRC Staff held a Category 1 public meeting to discuss the submission and the procedures that would follow during the NRC licensing process, including its initial "acceptance review" which typically takes up to ninety (90) days to complete. However, on January 19, 2011, NRC Staff informed Strata that its "acceptance review" would not commence until May 2, 2011 due to agency resource constraints. But, while NRC Staff's "acceptance review" of the license application and, thus, its formal docketing would be delayed, on January 26, 2011, NRC Staff made Strata's license application publicly available on its ADAMS database. Thus, Strata's license application was available for review by the Council and any other interested parties for more than three (3) months prior to the commencement of NRC Staff's "acceptance review."

NRC Staff commenced its "acceptance review" on May 2, 2011 and, on June 28, 2011, announced that the "acceptance review" had resulted in formal docketing of Strata's license application. NRC issued a Federal Register notice dated July 13, 2011, which announced the formal docketing of Strata's license application and the opportunity to request an administrative hearing within a sixty (60) day time period.[1] Based on the Federal Register notice issuance date, Strata's license application was publicly available for review by the Council and any other interested parties for more than five (5) months.

[1] *See* 76 Fed. Reg. 41308 (July 13, 2011).

On August 10, 2011, the Council submitted a Motion for Extension of Time to file its Request. On August 17, 2011, the Office of the Secretary issued an Order granting the Council's Motion without allowing Strata's or NRC Staff's counsel to submit a Response objecting to the Motion given the amount of time the license application was available for public review. On August 22, 2011, Strata filed a Motion for Reconsideration of the Office of the Secretary's decision with which NRC Staff counsel concurred. On September 13, 2011, the Office of the Secretary denied Strata's Motion without comment. On October 27, 2011, the Council filed its Request and, by this Response, Strata respectfully requests that the Licensing Board determine that the Council does not have the requisite standing for a hearing pursuant to 10 CFR § 2.309(d). Further, even it is determined that standing exists, Strata respectfully requests that the Licensing Board determines that the Council has not proffered an admissible contention pursuant to 10 CFR § 2.309(f)(1).

III. STATEMENT OF LAW

NRC regulations at 10 CFR Part 2 set forth the parameters for parties seeking to intervene in a Commission proceeding on applications for materials licenses such as the combined source and 11e.(2) byproduct material license requested by Strata. In order to be granted leave to intervene in this proceeding, a petitioner must demonstrate he or she has standing pursuant to 10 C.F.R. § 2.309(d) and has proffered at least one admissible contention pursuant to 10 C.F.R. § 2.309(f)(1). Each of these requirements will be discussed in turn below.

A. Standing Requirements

An interested party or other member of the public who requests a hearing or seeks to intervene in a Commission proceeding must demonstrate that he or she has standing. *See* 10

C.F.R. § 2.309(d)(1). Pursuant to this requirement, the Commission has set forth the following items that a request for a hearing or petition to intervene must contain:

> (i) The name, address and telephone number of the petitioner;
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> (ii) The nature of the requestor's/petitioner's right under the [Atomic Energy] Act to be made a party to the proceeding;
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> (iii) The nature and extent of the requestor's/petitioner's property, financial or other interest in the proceeding; and
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> (iv) The possible effect of any decision or order that may be issued in the proceeding on the requestor's/petitioner's interest.

10 C.F.R. § 2.309(d)(1).

Standing is not a mere legal technicality. It is, in fact, an essential element in determining whether there is any legitimate role for a court or an agency adjudicatory body in dealing with a particular grievance. *Westinghouse Electric Corporation*, (Nuclear Fuel Export License for Czech Republic, Temelin Nuclear Power Plants), CLI-94-7, 39 NRC 322, 331-332 (June 9, 1994). The Commission applies traditional judicial concepts of standing to requests for hearing or petitions for leave to intervene and has stated that these concepts should be applied by adjudicatory boards in determining whether a petitioner is entitled to intervene as a matter of right. *See e.g., Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-98-21, 48 NRC 185, 195 (1998); *Portland General Electric Co.*, (Pebble Springs Nuclear Plant, Units 1 and 2), ALAB-333, 3 NRC 804 (June 22, 1976); *see also Niagara Mohawk Power Corp.*, (Nine Mile Point Nuclear Station, Unit 2), 18 NRC 213, 215 (1983) (noting that contemporaneous judicial concepts should be used to determine whether petitioner has standing to intervene). Thus, the propriety of intervention involves both "constitutional limitations" on an adjudicatory body's jurisdiction and "prudential limitations" on its exercise. *Coalition of Arizona/New Mexico*

Counties for Stable Economic Growth v. Department of Interior, 1997 U.S. Dist. LEXIS 4212, *6 (10th Cir. 1997), *citing Warth v. Seldin*, 422 U.S. 490, 498 (1975).

The "irreducible constitutional minimum" standing test requires a potential litigant to demonstrate that: (1) the litigant has suffered actual or threatened injury, (2) that is caused by, or fairly traceable to, an act that the litigant challenges in the instant litigation, and (3) that is likely to be redressed by a favorable decision. *See e.g., Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992); *Yankee Atomic Elec. Co.* (Yankee Nuclear Power Station), CLI-96-1, 43 NRC 1, 6 (1996); *Georgia Institute of Technology*, 42 NRC 111, 115 (1995); *Envirocare of Utah, Inc.*, 35 NRC 167, 174-5 (1992). These three elements are commonly referred to as injury-in-fact, causation, and redressability.

Beyond the constitutional standing test set forth above, "prudential limitations" also are imposed on a potential intervenor's prospective standing. Prudential considerations include a party's not being permitted to assert a generalized grievance and a party's not being permitted to assert the rights of third parties. *See Warth*, 422 U.S. at 499. Specifically, prudential standing requirements require a showing that the injury is arguably within the "zone of interests" protected by statutes governing the proceeding. *Assoc. of Data Processing Serv. Orgs., Inc. v. Camp*, 397 U.S. 150 (1970); *Metropolitan Edison Co.*, 18 NRC 327, 332 (1983); *Gulf States Utilities Co.*, 40 NRC 43, 47 (1994).

With regard to injury-in-fact, which may be either actual or threatened, it must be both *concrete* and *particularized*, not *conjectural* or *hypothetical*. As a result, standing should be denied when the threat of injury is too speculative. *See Sequoyah Fuels Corp. and General Atomics*, 40 NRC 64, 72 (1994). To show the required injury-in-fact based on an assertion of

future harm, NRC has held that future harm "must be threatened, certainly impending, and real and immediate." *Babcock & Wilcox*, 1993 NRC LEXIS 6, *7-8 (1993).

Petitioners also must establish a causal nexus between the alleged injury and the action subject to challenge in the proceeding. *Commonwealth Edison Co.* (Zion Nuclear Power Station, Units 1 & 2), LBP-98-27, 48 NRC 271, 276 (1998), *aff'd*, CLI-99-4, 49 NRC 185 (1999). Determination of a "causal nexus" under this standard depends, in part, on whether the chain of causation is "plausible." *Sequoyah Fuels*, CLI-94-12, 40 NRC at 75. Judicial and Commission standing jurisprudence requires "realistic threat…of direct injury." *Int'l Uranium (USA) Corp.* (White Mesa Uranium Mill), CLI-01-21, 54 NRC 247, 254 (2001). Absent an obvious potential for harm, "it becomes [petitioner's] burden to provide a 'specific and plausible' explanation of how the action will affect her." *See Nuclear Fuel Servs., Inc.* (Erwin, Tennessee), CLI-04-13, 59 NRC 244, 248 (2004) (finding no obvious potential for harm at petitioner's property 20 miles from the site of a facility that converted high-enriched uranium to low-enriched uranium).

An organization can establish standing by demonstrating injury to itself as an entity or injury to its members. *Coalition of Arizona/New Mexico Counties for Stable Economic Growth*, 1997 U.S. Dist. at *8-9; *see also Georgia Tech*, CLI-95-12, 42 NRC at 115. In order to establish organizational standing, an organization must allege: (1) that the action will cause an injury-in-fact to either (a) the organization's interest or (b) the interests of its members; and (2) that the injury is within the zone of interests of the statute at issue. *Yankee Atomic Electric Co.*, (Yankee Nuclear Power Station) 39 NRC 95, 102 n. 2 (March 18, 1994). A showing of "representational standing" by an organization "[m]ust demonstrate how at least one member may be affected by the licensing action, must identify that member by name/address, and must show that the organization is authorized to request a hearing on that member's behalf." *N. States Power Co.*

(Monticello; Prairie Island, Units 1 & 2; Prairie Island ISFSI), CLI-00-14, 52 NRC 37, 47 (2000). If injury to a member is the basis for an assertion of standing, it must be remembered that the mere interest in a problem without a showing that a member will be affected directly is insufficient to give an organization standing. *Allied General Nuclear Services*, (Barnwell Fuel Receiving and Storage Station), 3 NRC 420 (April 28, 1976).

B. Admissibility of Contentions

In addition to satisfying the Commission's requirement for standing pursuant to 10 C.F.R. § 2.309(d) and in order to have its Request granted, the Council must proffer at least one admissible contention pursuant to 10 C.F.R. § 2.309(f)(1). Currently, Part 2.309(f)(1) mandates that the Council must satisfy the following requirements:

> "A request for hearing or petition for leave to intervene must set forth with particularity the contentions sought to be raised. For each contention, the request or petition must:
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> (i) Provide a specific statement of the issue of law or fact to be raised or controverted;
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> (ii) Provide a brief explanation of the basis for the contention;
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> (iii) Demonstrate that the issue raised in the contention is within the scope of the proceeding;
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> (iv) Demonstrate that the issue raised in the contention is material to the findings the NRC must make to support the action that is involved in the proceeding;
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> (v) Provide a concise statement of the alleged facts or expert opinions which support the requestor's/petitioner's position on the issue and on which the petitioner intends to rely at hearing, together with references to the specific sources and documents on which the requestor/petitioner intends to rely to support its position on the issue; and
>
> (vi) Provide sufficient information to show that a genuine dispute exists with the applicant/licensee on a material issue of law or fact. This information must include references to specific portions of the application (including the applicant's environmental report and safety report) that the petitioner disputes and the supporting reasons for each dispute, or, if the petitioner believes that the application fails to contain information on a relevant matter as required by law,

> the identification of each failure and the supporting reasons for the petitioner's belief."

10 C.F.R. § 2.309(f)(1).

The application of these six contention admissibility factors is "strict by design." *Dominion Nuclear Conn., Inc.*, (Millstone Nuclear Power Station, Units 2 & 3), CLI-01-24, 54 NRC 349, 358 (2001). The failure to satisfy each of the six contention admissibility factors results in grounds for dismissal of a particular contention. *Private Fuel Storage LLC* (Independent Fuel Storage Installation), CLI-99-10, 49 NRC 318, 325 (1999). In other words, as stated by the Commission, "[i]f any one of these [six] requirements is not met, a contention must be rejected." *Arizona Public Service Co.* (Palo Verde Nuclear Generating Station, Units 1, 2, and 3), CLI-91-12, 34 NRC 149, 155 (1991).

The Commission's standards for admissible contentions do not permit filing of "'a vague, unparticularized contention,' unsupported by affidavit, expert, or documentary support." *N. Atl. Energy Serv. Corp.* (Seabrook Station, Unit 1), CLI-99-6, 49 NRC 201, 219 (1999), *quoting Balt. Gas & Elec. Co.* (Calvert Cliffs Nuclear Power Plant), CLI-98-25, 48 NRC 325, 349 (1998). 10 C.F.R. § 2.309(f)(1)(i) states that the Council must submit proposed contentions that provide a "specific statement of the issue of law or fact to be raised or controverted." 10 C.F.R. § 2.309(f)(1)(i). Admissible contentions must state "with specificity" safety or legal reasons for why the application in question must be rejected. *Millstone* CLI-01-24, 54 NRC at 359-60. A long list of omissions and problems does not, without more, provide a basis for believing that there is a safety problem. *See Texas Utilities Generating Co.* (Comanche Peak Steam Electric Station, Units 1 and 2), LBP-83-75A, 18 NRC 1260, 1263 n.6 (1983). Thus, in the case where the Council offers nothing more than "generalized suspicions, hoping to substantiate them later," such proposed contentions should be rejected. *Duke Energy Corp.* (McGuire Nuclear Station

Units 1 & 2; Catawba Nuclear Station, Units 1 & 2), CLI-03-17, 58 NRC 419, 424 (2003) *quoting Oconee*, CLI-99-11, 49 NRC at 337-339.

As stated in 10 C.F.R. § 2.309(f)(1)(iii), admissible contentions must be within the scope of the proceeding as defined by the Federal Register notice offering an opportunity for a hearing. *See Florida Power and Light Co.* (Turkey Point Nuclear Generating Plant, Units 3 & 4), CLI-00-23, 52 NRC 327, 329 (2000). Pursuant to 10 C.F.R. § 2.309(f)(1)(vi), an admissible contention must present a genuine dispute with the applicant on a material issue of law or fact, and any contention failing to satisfy this requirement can be dismissed. *See Sacramento Mun. Util. Dist.* (Rancho Seco Nuclear Generating Station), LBP-93-23, 38 NRC 200, 247-248 (1993), *review declined* , CLI-94-2, 39 NRC 91 (1994). Failure to support a contention with adequate factual information and expert opinions requires that the contention be rejected. *See Palo Verde*, 34 NRC at 155. Thus, the expert testimony offered by the Council must address "with specificity" the potential adverse impacts on the member(s) (i.e., Ms. Pam Viviano) that the Council represents.

10 C.F.R. § 2.309(f)(1)(vi) states that the Council is required to "provide sufficient information to show…a genuine dispute…with the applicant…on a material issue of law or fact." 10 C.F.R. § 2.309(f)(1)(vi) (2010). It is the Council's responsibility to "explain why the application is deficient." *See* United States Nuclear Regulatory Commission, *Final Rule, Rules of Practice for Domestic Licensing Proceedings—Procedural Changes in the Hearing Process*, 54 Fed. Reg. 33168, 33,170 (August 11, 1989); *see also Palo Verde*, CLI-91-12, 34 NRC at 156.

Mere speculation and bare assertions alleging that a matter should be considered will not suffice to allow the admission of a proffered contention. *See Fansteel, Inc.*(Muskogee, Oklahoma Site), CLI-03-13, 58 NRC 195, 203 (2003). The Licensing Board is not required to

make assumptions of fact that favor Petitioners when they fail to provide the required support for their contentions. *See Georgia Tech,* (Georgia Tech Research Reactor), LBP-95-6, 41 NRC 281, 305 April 26, 1995). In addition, information offered by the Council to support a contention requires an explanation of its significance in order to be sufficient to admit such contention. *Fansteel,* CLI-03-13, 58 NRC at 204.

The scope of this proceeding as defined in the July 13, 2011, Federal Register notice and notice of opportunity for a hearing is limited to Strata's proposal to construct, operate, restore, and decommission an ISR project site at the proposed Ross ISR Project and to recover uranium from wellfields located at that site. *See* 76 Fed. Reg. 43108. Thus, admissible contentions must be strictly limited to issues that are relevant to Strata's proposal. *See Yankee Atomic Elec. Co.*, CLI-98-21, 48 NRC at 204. Any contention falling outside the scope of this proceeding should be rejected. *See Portland Gen. Elec. Co.* (Trojan Nuclear Plant), ALAB-534, 9 NRC 287, 289-290, n.6 (1979).

IV. RELEVANT STATUTORY AND REGULATORY REQUIREMENTS

In addition to the aforementioned legal standards applicable to NRC administrative hearings for proposed ISR facilities, the Atomic Energy Act of 1954 (AEA), as amended by the Uranium Mill Tailings Radiation Control Act of 1978 (UMTRCA), the Commission's implementing regulations at 10 CFR Parts 20, 40 and Appendix A, and 51 and other relevant guidance and policies and the United States Environmental Protection Agency's (EPA) Safe Drinking Water Act of 1974 (SDWA) and its implementing regulations requiring aquifer exemptions and underground injection control (UIC) permits also impose requirements on ISR license applicants and licensees that are relevant to this proceeding.

A. Statutory and Regulatory Pre-Conditions for ISR Uranium Recovery Pursuant to an NRC License

1. Atomic Energy Act of 1954, As Amended By the Uranium Mill Tailings Radiation Control Act of 1978

As a general proposition, the recovery of source material (i.e., for the purposes of this proceeding *uranium*) from ores primarily for their source material content and the management of the wastes generated therefrom (i.e., 11e.(2) byproduct material) are regulated under a regime authorized by the AEA, as amended by UMTRCA.

Congress enacted the AEA in 1946, and later amended it in 1954, to facilitate the expeditious and efficient recovery of source material for the purpose of developing an active arsenal of nuclear weapons[2] and for peaceful purposes such as the production of electricity. The AEA, as amended by UMTRCA, defines the scope of regulatory authority for NRC (formerly the Atomic Energy Commission (AEC)) including the regulation of source material, special nuclear material, and both 11e.(1) and (pursuant to UMTRCA) 11e.(2) byproduct material. But, the AEC/NRC does not have, and has never had, regulatory jurisdiction over source material uranium until "removed from its place in nature"[3] and, thus, does not regulate underground or surface uranium *mining.*

In the years following World War II, to avoid dependence on foreign sources of uranium, the AEC developed policies to encourage private companies and individuals to explore for and to develop uranium reserves located in the United States. These policies guaranteed prices for uranium ore production, provided bonuses for the initial production of uranium ores from new mines, and reimbursed uranium producers for transportation costs. These policies also encouraged the construction and operation of new uranium milling facilities.

[2] Atomic Energy Act of 1946, Pub. L. No. 79-585, 60 Stat. 755 (1946).
[3] *See* 42 U.S.C. § 2092; *see also* 10 CFR § 40.4 (definition of "unrefined and unprocessed ore").

To assure adequate regulatory oversight of this industry, pursuant to its AEA authority, the AEC/NRC promulgated 10 CFR Part 40 and, later, Appendix A to Part 40 for conventional uranium milling operations. At the time of Appendix A's issuance, conventional uranium mining and milling operations were assumed to be the primary source of uranium production in the United States, so Appendix A Criteria reflect that assumption. Recently, as ISR processes have become the prevalent form of uranium recovery in the United States, NRC has applied portions of Part 40 and Appendix A Criteria to ISR licensing "as relevant and appropriate." Appendix A Criteria were created to be flexible and performance-oriented rather than prescriptive, since they address facilities (i.e., conventional mills and tailings impoundments) that can be affected by, and can affect, natural systems that vary on a site-specific basis and because they were to be applied to pre-existing uranium milling facilities. As stated in the Preamble to Appendix A:

> "In many cases, *flexibility* is provided in the criteria…on a site-specific basis…. *Licensees or applicants may propose alternatives to the specific requirements* in this appendix. The alternative proposals may take into account local or regional conditions, including geology, topography, hydrology, and meteorology."[4]

This flexibility is also reflected in the Preamble's statement that:

> "In implementing this appendix, the Commission will consider '*practicable*' and '*reasonably achievable*' as equivalent terms. Decisions involving these terms will take into account the state of technology, and the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to the utilization of atomic energy in the public interest."[5]

Since ISR operations similarly take place in natural systems, NRC has approached application of relevant Appendix A Criteria to, and the development of license conditions for, such operations to them with flexibility (e.g., its iterative, "phased" licensing process).

[4] 10 CFR Part 40 Appendix A, Preamble (emphasis added).
[5] *Id.*

Since Appendix A Criteria were focused primarily on conventional uranium milling facilities, to facilitate the submission of complete license applications for ISR operations, NRC created an ISR Standard Review Plan entitled *Standard Review Plan for In Situ Leach Uranium Extraction License Applications* (NUREG-1569).[6] The SRP identifies Appendix A and other relevant regulatory requirements, NRC guidance, and standard industry practices that should be used in preparing ISR license applications. To supplement its licensing program, the Commission promulgated environmental review standards at 10 CFR Part 51 which serve as its implementation of the National Environmental Policy Act of 1970 (NEPA).[7] In order to facilitate the efficient environmental review of license applications, NRC Staff also created NUREG-1748 entitled *Environmental Review Guidance for Licensing Actions Associated with NMSS Programs* which, *inter alia*, provides specific guidance for the format and content of environmental reports (ER) for such license applications. Both these regulations and guidance serve as the fundamental bases for Strata's ER.

2. EPA's Safe Drinking Water Act Underground Injection Control Program

To assure safe and effective underground injection throughout the United States, in 1974, the United States Congress enacted the SDWA,[8] which, in part, authorized establishment of the UIC program so that injection wells would not endanger current and future underground sources of drinking water (USDW). The SDWA empowered the EPA with the primary authority to regulate underground injection to protect current and future sources of drinking water. EPA also was authorized to provide States with the opportunity to assume primary authority over UIC

[6] United States Nuclear Regulatory Commission, NUREG-1569, *Standard Review Plan for In Situ Leach Uranium Extraction License Applications* (June, 2003).
[7] *See* 42 U.S.C. 4321 et seq.
[8] While NRC does not have jurisdiction over matters covered by EPA's mandate under the SDWA and its UIC program, it is important for the Licensing Board to understand the comprehensive, and often redundant, regulatory program s applicable to ISR operations.

programs in accordance with final regulations promulgated by EPA in 1980, which set minimum standards for State programs to meet to be delegated primary enforcement responsibility (i.e., *primacy*) over such programs.[9] UIC regulations establish specific performance criteria for each well class (ISR injection and production wells generally are Class III wells) to assure that drinking water sources, actual and potential, are not rendered unfit for such use by underground injection of the fluids common to that particular class of wells.

Between 1981 and 1996, EPA granted primacy to 34 States for all injection wells (except those on Tribal lands). EPA implements the UIC program directly in 10 States and shares responsibility in six (6) other States. Wyoming has *primacy* for the UIC program, so the Wyoming Department of Environmental Quality (WDEQ) directly implements UIC programs for all classes of wells for a proposed ISR project in the State. Unless authorized by rule or by permit, any underground injection is unlawful and is in violation of the SDWA and UIC regulations.

Before NRC-licensed ISR operations can commence at any proposed ISR site, an ISR operator must have obtained two authorizations: (1) an aquifer exemption for the aquifer or portion of the aquifer wherein ISR operations will occur and (2) a UIC permit. Underground injection is broadly defined as the technology of placing fluids underground in porous formations of rocks through wells or other similar conveyance systems. Thus, all ISR injection well activities require these relevant authorizations.

a. Aquifer Exemptions

As noted above, the UIC program was created to protect current or future USDWs. A USDW is defined as an aquifer, or portion thereof, which serves as a source of drinking water for human consumption, or contains a sufficient quantity of water to supply a public water system,

[9] *See* 42 U.S.C. § 300h(1) (2005).

and contains fewer than 10,000 mg/liter of total dissolved solids (TDS). The broad definition of a USDW was mandated by Congress in Section 1421(d)(2)[10] of the SDWA to ensure that future USDWs would be protected, even where those aquifers were not currently being utilized as a drinking water source or could not be used without some form of water treatment.

Within this regulatory framework, however, some aquifers or portions of aquifers, which can meet the broad regulatory definition of a USDW, cannot reasonably be expected to serve as a current or future source of drinking water. As a result, the UIC program regulations allow EPA to *exempt* portions of an aquifer from delineation as a USDW and allow for injection into such aquifers or portions thereof. EPA regulations at 40 CFR § 146.4 specifically state:

> "An aquifer or a portion thereof which meets the criteria for an 'underground source of drinking water' in § 146.3 may be determined under 40 CFR § 144.8 to be an *'exempted aquifer'* if it meets the following criteria:
>
> a. It does not currently serve as a source of drinking water; and
> b. It cannot now and will not in the future serve as a source of drinking water…; or
> c. The total dissolved solids content of the ground water are more than 3,000 and less than 10,000 mg/L and it is not reasonably expected to supply a public water system."[11]

According to EPA, aquifers meeting these criteria are generally associated with *in situ* mineral recovery and enhanced oil recovery. If an operator, licensee or permittee wishes to inject into a USDW for the purpose of recovering minerals (e.g., uranium), a demonstration must be made that the proposed aquifer meets at least one of the exemption criteria. EPA has issued guidance on the standards that must be satisfied to qualify for an aquifer exemption. To the best of Strata's knowledge, there is no provision in the SDWA authorizing revocation of an aquifer exemption granted pursuant to 40 CFR § 144.8, nor has EPA promulgated regulations

[10] *See* 42 U.S.C. § 300h(b)(1) (2005).
[11] *See* 40 CFR § 146.4 (2010) (emphasis added).

establishing criteria for revocation of an aquifer exemption nor has it ever actually revoked such an exemption.

In addition, it is notable that EPA's SDWA UIC regulations do not require post-operation groundwater restoration for exempted aquifers, because such exempted aquifers will not be used as a drinking water source at any time before, during or after ISR operations are complete. However, as described in 40 CFR § 146.7, EPA's UIC regulations do require corrective action/remediation for any contamination of adjacent, non-exempt aquifers in accordance with the purpose of the SDWA and the UIC program which is to protect USDWs.

b. Underground Injection Control Permits

To obtain a UIC permit for a new Class III well, the owner/operator or licensee must file an application with the UIC Director for the relevant jurisdiction containing specific information listed in 40 CFR Part 146 or in applicable State requirements. Once a UIC permit application has been reviewed, the applicant will be notified of the items needed to complete the application, if any. After a complete application is received, an initial decision to grant or deny the permit is issued. UIC regulations also provide opportunities for public participation and comment.

A UIC permit for each site is a necessary prerequisite for the operation of any ISR uranium recovery project. Such a permit necessarily assumes that the aquifer or portion thereof to be used for underground injection *cannot now or in the future be used as a USDW*. Without this fundamental assumption being reflected in an aquifer exemption, a UIC permit for ISR uranium mining will not be issued.

Thus, EPA's UIC program specifically recognizes that many aquifers or portions thereof cannot now or ever in the future serve as viable USDWs. In many cases, the contamination in such water sources is created by the presence of high concentrations of minerals (e.g., uranium)

that may be recovered using underground injection methods. As such, the UIC program provides for aquifer exemptions, *which must be obtained prior to the commencement of underground injection* for the purposes of ISR operations.

Although, as noted above, EPA's UIC regulations do not require groundwater restoration in exempted aquifers, pursuant to its NRC license, Strata will be required to restore ISR recovery zone groundwater (exempted aquifer groundwater) consistent with *pre-operational or baseline water quality* or a maximum contaminant level (MCL) prescribed for given constituents under the SDWA, *whichever is higher*, *or* an alternate concentration limit (ACL), as articulated in 10 C.F.R Part 40, Appendix A, Criterion 5(B)(5). These restoration standards are not intended to create a new drinking water source within the designated recovery zone; but rather, are intended to minimize or eliminate the potential for post-restoration migration of recovery solutions from the exempted aquifer to adjacent, non-exempt aquifers, or portions thereof.

It is worth noting at this juncture that a frequent concern voiced by interested parties regarding ISR groundwater restoration centers on the allegation that *all* groundwater constituents have never been restored to pre-operational (baseline) water quality at ISR facilities.[12] As noted above, the language of 10 CFR Part 40, Appendix A, Criterion 5(B)(5) states that groundwater restoration must satisfy one of the following standards: baseline *or* an MCL, whichever is higher, *or* an ACL. So, satisfying any one of the three components of Criterion 5(B)(5) is all that is required by NRC's regulations. It is NRC's *policy*, however, to make baseline/pre-operational water quality the primary *goal* of groundwater restoration; but should restoration to an MCL or an ACL satisfy NRC review, the requirements of Criterion 5(B)(5) are satisfied. NRC has

[12] Traditionally, restoration target values (RTV) reflecting pre-operational/baseline water quality have been determined by *averaging* water quality samples from a number of licensee designated and NRC-approved wells (e.g., 100 wells in a wellfield with 600 wells). Thus, the baseline/pre-operational *average* number for any given constituent actually may not be measured in a single well and, as a general proposition, by definition, one-half of the samples are above the average and one-half are below it.

determined that satisfaction of any of the three standards adequately protect public health and safety and the environment as required by the AEA. Thus, in the case where many or even most constituents of concern, but not *all* are returned "consistent with pre-operational/baseline (the primary goal)," MCLs or ACLs can satisfy the regulations for those that do not.

3. 10 CFR Part 40.32(e) Requirements for Site Construction

The NRC licensing process for ISR facilities reflects the "phased," iterative nature of the ISR process and, therefore, itself is phased and iterative. Indeed, Strata's proposed Ross ISR Project license application describes a proposed ISR project that, as discussed in NRC's NUREG-1569, consists of "phased" implementation of multiple activities prior to, and after, the commencement of licensed ISR operations. In other words, due to the nature and development of ISR projects, implementation of project activities is "phased" from pre-operational characterization through construction, active ISR operations, groundwater restoration, and license termination.

NRC's NUREG-1569 discusses two distinctly different phases in the development of proposed ISR projects: (1) Chapter 2, *Site Characterization* and (2) Chapter 5, *Operations*. (Such "phasing" is applicable equally to such issues as historic and cultural resources and financial assurance). The *Site Characterization* phase involves a reasonably comprehensive general analysis of geographic and topographic maps and drawings that identify the proposed ISR site and its relationship to, *inter alia*, water quality within the proposed recovery zone and outside thereof and other geologic, hydrologic, historical and archaeological *features*, etc. *See* NUREG-1569 at 2-1, 2-5, & 2-17. However, NUREG-1569 specifically notes that:

> "[r]eviewers should keep in mind that the development and initial licensing of an *in situ* leach facility is *not based on comprehensive information.…reviewers should not expect*

> *that information needed to fully describe each aspect of all the operations will be available in the initial application*."

Id. at 2-1 & 2-2 (emphasis added).

The pre-licensing *Site Characterization* phase of ISR projects is designed to provide *general* information regarding the location of an ISR-amenable ore body, the techniques or procedures to be used to recover the uranium, the procedures to be used to protect public health and safety and the environment or other relevant resources (e.g., historic and cultural resource inventories), and financial assurance cost estimates for the proposed ISR project for the first year after active operations begin. This phase is not, however, designed to provide detailed site-specific geologic and hydrologic data and analyses regarding such critical items as RTVs reflecting pre-operational/baseline water quality for wellfield design and groundwater restoration and upper control limits (UCL) for early warning of potential excursions that require extensive future actions after a license is issued and a proposed project continues its "phased" development.

Indeed, the post-licensing *Operations* phase of ISR projects, which Strata's proposed Ross ISR Project has not yet reached, requires detailed site-specific data and analyses for items such as the location of initial wells and well fields, determination of pre-operational/baseline water quality in the recovery zone and at monitor wells to establish RTVs for groundwater restoration, to establish UCLs to identify potential excursions, and to assess whether such wellfields, piping or other equipment or processes will impact identified or unidentified environmental or historic and cultural resources. Thus, per NUREG-1569, "phasing" is an essential and integral component of *all aspects* of ISR projects, which necessarily results in generalized site data in the license application as opposed to the detailed site data required post-license issuance to permit active recovery operations and to identify restoration goals.

The sequential development of ISR well fields as an example of the iterative, "phased" nature of ISR projects is particularly relevant to the alleged contentions proffered by the Council in this proceeding regarding the adequacy of the Strata license application's assessment of site groundwater quality. The development of wellfields is "phased" as the accumulation of a complete, detailed sampling database does not take place until a project operator installs baseline, production, and monitor wells, *which is not permitted by NRC until after a requested license is issued*. *See* 10 C.F.R. § 40.32(e).

10 CFR § 40.32(e)'s interpretation described above recently has been further reinforced by the Commission's new rule on "construction." As a result of requests from the ISR industry, the Commission directed NRC Staff to commence a rulemaking designed to harmonize the definitions of "construction" and "commencement of construction" so that NRC license applicants, including those applying for licenses to construct and operate ISR projects, can have clarity as to what pre-licensing site construction activities as permissible at proposed project sites. This rulemaking resulted in the issuance of a Proposed Rule on July 27, 2010 that reinforced NRC Staff's position that the amount of site-specific work permitted at a proposed ISR project site is strictly limited to specifically identified actions and does not extend to actions such as full wellfield development or items described as "construction."[13] Items meeting the definition of the latter are prohibited under Part 40.32(e). This Proposed Rule was made available for public comment and, on September 15, 2011, NRC issued its Final Rule essentially adopting the position noted above. Even if the Final Rule substantially modified the Proposed Rule, Strata's license application was prepared and submitted prior to the Final Rule being issued and, thus, was prepared in accordance with the above-mentioned regulatory interpretation of Part

[13] *See* 75 Fed. Reg. 43865 (July 27, 2010).

40.32(e). However, it continues to be Strata's position that the regulatory interpretation of Part 40.32(e) remains largely unchanged.

4. The ISR Process

As a general proposition, the existence of natural geologic, hydrologic, and geochemical conditions in aquifers amenable to the ISR process, the ISR process itself, and applicable regulatory control requirements for ISR operations and restoration taken together provide a significant package of controls/mitigation measures to prevent potential short and long-term impacts to adjacent, non-exempt USDWs. There are several naturally occurring geologic, hydrologic, and geochemical conditions that, in and of themselves, contribute significantly to the isolation of uranium and associated heavy metals in a redistributed ore body from other portions of an aquifer that can potentially serve as a USDW and which serve to complement and enhance the benefits of existing NRC regulatory control requirements for ISR operations and groundwater restoration.

ISR operations were first tried on an experimental basis in the early 1960s with the first commercial facility commencing operations in 1974. ISR processes continuously re-circulate through the ore body native groundwater from the aquifer in which the ore body resides after fortifying it with oxygen and/or carbon dioxide. Uranium deposits amenable to ISR processes occur in permeable sand or sandstones that typically are confined above and below by less permeable strata. Confinement is a natural environmental condition that acts to assist in the creation of isolated deposits of minerals (e.g., uranium) as a natural result of groundwater flow forced by less permeable layers above and below through coarser sands into reducing environments. These deposits can either be tabular or C-shaped deposits formed as "roll-fronts." These uranium-bearing formations were formed by the lateral movement "downdip" of

groundwater bearing minute amounts of oxidized uranium in solution through the aquifer until precipitation of the uranium occurs along the boundary where the oxygenated waters encounter a zone of abundant reductant. Currently, uranium roll front deposition that has taken place over millions of years is *ongoing on a regional basis every day*. Regional roll fronts require broad areas of upgradient oxidation to keep uranium mobile until the oxygenated water moves downgradient and encounters a zone with sufficient reductant. It is at this regional *redox interface* where the oxygenated water is reduced and uranium is deposited in a reduced mineral phase in what is known as a *redistributed* ore body where ISR operations are conducted.

Uranium mineralization leaves a distinct radiochemical footprint or signature in the host rock and surrounding groundwater—that is, uranium occurs not only upon the rock matrices, but also in the groundwater within the ore body. In other words, given natural dissolution processes, uranium and uranium progeny that accumulate on the host sands also occur naturally in surrounding groundwater media. For a uranium ore body to be amenable to ISR processes using industry standard recovery chemistry, the ore zone must be saturated with relatively fresh water and the rock must have enough transmissivity for water to flow from injection to extraction wells. In other words, for the ISR process to work, the ore must be situated in a saturated, water-bearing interval referred to as an aquifer. *There are no licensed ISR operations in ore bodies that are not in aquifers.*

Techniques for ISR operations, including well construction techniques, regular well testing techniques (i.e., mechanical integrity testing (MIT)), UCLs for highly mobile constituents to provide "early warning" of potential excursions, RTVs for groundwater restoration after the cessation of operations, extensive monitor well systems (above, below, and surrounding wellfields), and well field balance and "bleed," have evolved to the point where these techniques

complement and enhance the above-noted naturally occurring conditions to provide ongoing, iterative controls/mitigation measures with the flexibility to adjust to site-specific conditions in order to protect adjacent USDWs.

After an ore body that is amenable to ISR processes is identified, the licensee develops wellfield designs to progressively remove uranium from the identified ore body. Wellfield design is based on grids with alternating extraction and injection wells, monitor wells above and below the recovery zone, and a ring of monitoring wells surrounding the entire recovery zone to detect any potential *excursions* of solubilized uranium and other minerals from the uranium recovery production zone. Each well field is operated at the maximum continuous flow-rate achievable for that particular well field pattern area. Injection and extraction/production flow-rates are monitored and adjusted as necessary on a daily basis, so that injection can be balanced with extraction/production across the entire well field, with the injection flow smaller than the extraction flow by the amount of the "bleed" rate. The process "bleed" rate varies according to ore body geometry, well pattern and magnitude, and direction of the natural groundwater velocity. Proper wellfield balance, including the process "bleed," maximizes recovery while protecting against recovery solution excursions.

The *sequential* development of ISR wellfields is an example of the iterative, "phased" nature of ISR projects. The development of these wellfields and the accumulation of a complete sampling database cannot take place until a project operator installs baseline, production, and monitor wells. Engineers and geologists continually assess data as it is obtained, applying this new information to the next phase or activity, thus ensuring that subsequent exploration and delineation is based on the most up-to-date information possible to ensure proper well placement. Prior to installing monitor wells, additional exploration and delineation has to be conducted to

assure the wells are properly placed. As well-fields are developed, all wells, including monitor wells, are subject to MITs to assure that they function appropriately prior to being sampled. Water quality sampling establishes water quality within and outside the ore zone (i.e., at the monitor wells) and the aforementioned NRC-approved UCLs to enable the licensee to readily determine if an excursion has occurred at a monitor well. A "lessons learned" approach is implemented, as the results in one well-field may cause the site engineer or geologist to change design in the next. This process is both progressive and iterative, as each well-field is developed and tested with the mineral being progressively depleted from different parts of the ore body.

During active operations, native groundwater from the recovery zone in the aquifer is pumped to the surface for fortification with oxygen and carbon dioxide. This fortified water, which is similar to soda water (i.e., not water fortified with toxic chemicals), is then returned to the recovery zone through a series of *injection* wells in varying patterns in the well-fields. Water withdrawn from *extraction wells* in these patterns exceeds the water injected into the patterns creating a "cone of depression" that assures a net inflow of water into the recovery zone of the aquifer. This is to ensure no lateral or vertical water movement from the small portion of the aquifer where uranium recovery operations will occur, so that any adjacent, non-exempt USDWs will not be impacted by excursions of recovery solutions. The process also continually flushes fresh water into the recovery zone helping to inhibit the build-up of contaminants that could reduce the efficiency of recovery operations.

The extraction pumping causes the injected lixiviant to move through the uranium ore body oxidizing and solubilizing the uranium present in the host sandstone. The water from the extraction wells is then run through ion-exchange (IX) columns containing synthetic resins, which remove the uranium in a process essentially identical to that used to remove minerals from

"hard" drinking water in a conventional home water softener. The uranium is then stripped from the IX resins using a brine solution (again similar to the backwash that takes place in a home water softener). The uranium in this rich eluate is then precipitated chemically, dewatered, and dried to produce saleable *yellowcake.*

After uranium removal in the IX column, the water in the circuit is re-fortified and re-injected as part of a continuous process until the uranium in the ore zone is exhausted. Since water from the ore body, already containing naturally occurring uranium and its progeny, is continuously refortified with oxygen and re-circulated through the sandstone to enhance uranium values removed in the IX columns, injection is balanced with extraction (i.e., extraction slightly exceeds injection to maintain an inward hydraulic gradient). Injection cannot proceed without an equal or greater amount of extraction; therefore, over-injection across the area cannot take place. To help keep the continuously operating system in balance, the extra water that is extracted is removed from the circuit as a "bleed." The "bleed," which contains elevated levels of radium, can be treated to remove the radium in settlement ponds using a barium-radium sulfate precipitation method. Ultimately, the treated water is discharged to holding ponds or tanks and from there it must be disposed of using deep well injection, solar evaporation, land application or some combination of these methods.

As noted above, after active ISR operations cease in a given wellfield, the groundwater in the recovery zone is restored *consistent with baseline* or the other 10 CFR Part 40, Appendix A, Criterion 5(B)(5) standards. Thus, until all active recovery operations cease after the first wellfield is depleted, there is concurrent recovery and restoration at ISR facilities. The natural reductive and confining conditions noted above combined with the NRC requirement that an ISR operator engage in active groundwater restoration in the recovery zone after recovery operations

cease together serve as the primary bases for control/mitigation of any potential long-term impacts to adjacent, non-exempt USDWs. In other words, groundwater restoration efforts are designed to flush recovery solutions from the recovery zone to re-activate its natural pre-operational reductant properties. Logic dictates that these reductant properties which created the redistributed ore body in the first place will adequately retard movement of mobilized constituents (particularly heavy metals such as uranium) over the long-term as the water quality in the restored ore zone equilibrates naturally after restoration is approved by NRC Staff.

Liquid waste is generated during groundwater restoration when uranium recovery operations have ceased in a wellfield. Groundwater sweep uses existing production wellfield patterns to flush the recovery zone with natural groundwater from outside of the recovery zone and to extract the flushed water from the ore zone for treatment on the surface. Removed groundwater can be treated using reverse osmosis (RO) to create *de-ionized* water which can be re-injected to accelerate groundwater restoration. In fact, more recent groundwater restoration efforts often have used a combination of these two techniques and, possibly, the injection of a reductant and pH modifier to optimize restoration results. Groundwater restoration returns water within the depleted recovery zone to approved levels determined by NRC Staff to be adequate to minimize or eliminate post-restoration migration of contaminants and any potentially significant, adverse impacts to adjacent, non-exempt USDWs.

Upon completion of groundwater restoration, wells are sealed or capped below the soil surface using approved plugging methods and the soil surface is restored. Surface process facilities are decontaminated, if necessary, and removed, and any necessary reclamation and re-vegetation of surface soils is completed. As a result, after site closure is completed and

approved, there is no visual evidence of an ISR site, and the decommissioned site will be available for unrestricted (i.e., any future) use.

In over three decades of operations, there have been *no significant, adverse impacts to adjacent, non-exempt USDWs* outside the recovery zone and into the related area of review (AOR)[14] from ISR operations in the United States.[15] Well-field balancing, use of the "bleed," and extensive ongoing monitoring and frequent MITs at ISR sites have been highly successful in assuring that leach solution is contained within the ore (recovery) zone and to mitigate the potential impacts of any excursions. Before monitoring ceases, restoration and a stability monitoring period is completed subsequently to minimize or eliminate the potential risk of excursion that could result in the migration of contaminants from the exempted recovery zone portion of the aquifer to adjacent, non-exempt portions of the aquifer.

ISR projects can be operated in one of two facility types. First, an ISR project can be operated using a central processing facility and well-fields that are directly adjacent to the processing facility. This allows the operator to license a defined site footprint and to construct adjacent well-fields from which groundwater recovered from producing wellfields (pregnant lixiviant) may be directly pumped to the central processing facility. This recovery approach is best utilized when the identified and defined uranium ore body contains enough uranium to make

[14] The "area of review" is essentially a "buffer zone" prescribed by the EPA's UIC program to provide additional protection for USDWs during ISR operations. 40 CFR § 146.6 requires that all ISR uranium recovery licensees must establish a fixed radius of not less than ¼ mile for the area surrounding the recovery zone. The regulation also states:

> "In determining the fixed radius, the following factors shall be taken into consideration: Chemistry of injected and formation fluids; hydrogeology; population and ground-water use and dependence; and historical practices in the area."

40 CFR § 146.6.

[15] *See* United States Nuclear Regulatory Commission, *Staff Assessment of Groundwater Impacts from Previously Licensed In-Situ Uranium Recovery Facilities,* (July 10, 2009).

the licensing, construction, and operation of an individual central processing facility economically viable.

In instances where uranium ore bodies do not contain enough uranium to justify the licensing, construction and operation of central processing facilities or where there are additional but not directly adjacent ore bodies, ISR operators may use satellite or so-called "remote IX" technology to develop wellfields that can be at considerable distances from a central processing facility. The use of "remote IX" has been utilized to recover uranium in South Texas as early as 1980 and is currently used by various ISR companies in Wyoming and Texas. Each "remote IX" is a self-contained, stand-alone unit that recovers uranium using IX columns and resins. When the IX resins are fully loaded with uranium, they are pumped into transport conveyances, typically dedicated tanker trucks. After the uranium-bearing resins are pumped into the transportation conveyance, the resins are transported to a central processing facility where the resins will undergo the same processes described above. The use of remote IX technology has become increasingly popular given that many uranium deposits (e.g., deposits with 2-3 million pounds) cannot justify the cost of licensing and constructing a commercial-scale central processing facility and, recently, there have been some indications that ISR processes using each individual wellfield's water results in more production efficiency.

In summary, NRC licensing of proposed ISR facilities carries a multitude of statutory and regulatory requirements that, while not all under NRC's AEA jurisdiction, impose considerable public health and safety and environmental safeguards.

V. ARGUMENT

A. The Council Does Not Have Standing to Intervene in This Proceeding

Initially, the Council's brief and the supporting affidavits of Wilma Tope and Linda Lopez appear to assert that the Council should be granted standing in this proceeding based on broad based assertions of interest in environmental issues, specifically in the Powder River Basin in Wyoming. For example, Ms. Lopez's affidavit states:

> "NRDC has…sought to improve the environmental, health, and safety conditions at the nuclear facilities operated by the Department of Energy and the civil nuclear facilities licensed by the Nuclear Regulatory Commission and their predecessor agencies [and]…utilizes its institutional resources…to minimize the risks that nuclear facilities pose to its members and to the general public."

Lopez Affidavit at 2, Sections 5 & 6.

Additionally, Ms. Tope's affidavit states that:

> "[s]ince the early years of Powder River [PRBRC], our members have worked for responsible development of Wyoming's vast mineral resources. In order to be responsible, development activities must not sacrifice the protection of air, land, and water resources."

Tope Affidavit at 2, Section 6.

Ms. Tope's affidavit also states that PRBRC's mission statement expressly indicates that one of its purposes is to work for greater regulation of ISR operations and to prevent such operations where there may be the potential "to contaminate aquifers." *Id.* at 2, Section 7. Further, both organizations indicate that their managements have authorized their organizations' participation in this proceeding. *See id.* at 2, Section 8; *see also* Council Brief at 3.

Since it is somewhat unclear from these affidavits whether the Council intends to participate in this proceeding as an individual party and/or as a representative of Ms. Pam Viviano, it is prudent for Strata to address the statements made by the Council in its brief and the affidavits of Ms. Lopez and Ms. Tope. The Council's statements in its brief and the

aforementioned affidavit state that the organizations' general purpose is to protect public health and safety and the environment during mineral development operations. *See generally* Council Brief at 2-4. It is well-settled that the AEA and the Commission's implementing regulations do not envision a grant of standing based solely on broad-based concerns about the environment. This case specifically speaks to this issue by stating, "[i]njury-in-fact cannot be asserted on the footing of nothing more than a broad interest shared with many others—in environmental preservation." *International Uranium (USA) Corp.* (White Mesa Uranium Mill), LBP-02-3, 55 NRC 35, 39 (2002), *citing Sierra Club v. Morton*, 405 U.S. 727, 734-35 (1972). In addition, the Commission has stated that a general interest in observance of laws and/or regulations is insufficient to establish injury-in-fact. *See id.*, *citing Ten Applications for Low-Enriched Uranium Exports to EURATOM Member Nations*, CLI-77-24, 6 NRC 525, 531 (1997), *citing Warth v. Seldin*, 422 U.S. 490, 4999 (1975). Thus, based on this precedent, the Council does not have standing as individual organizations to intervene in this proceeding.

B. The Council's Proffered Affidavits Do Not Satisfy the Commission's Requirements for Representational Standing

Assuming that the general environmental concerns noted above are insufficient to grant the Council standing to intervene, then the *sole* basis for the Council to achieve standing is as the representative of Ms. Pam Viviano. Accordingly, if Ms. Viviano does not satisfy the Commission's requirements for standing, the Council cannot intervene in this proceeding. As will be shown below, Ms. Viviano's affidavit and the "supporting" expert affidavits do not satisfy these requirements and, accordingly, the Council's Request should be denied.

1. Affidavit of Ms. Pam Viviano[16]

In support of its assertion for standing, the Council offers the affidavit of Ms. Pam Viviano in which Ms. Viviano states that the proposed Ross ISR Project will cause her injury-in-fact. Ms. Viviano's affidavit contains eight (8) assertions of injury-in-fact to her or her property 10 miles northeast of the proposed project site boundary and 14.8 miles from the proposed Ross ISR project's central processing plant (CPP): (a) potential threat to water resources at her property caused by historic and/or unplugged drill holes; (b) history of potential spills and leaks at past ISR projects to cause contamination of aquifers; (c) aquifer depletion and/or drawdown based on past ISR projects; (d) alleged difficulty of groundwater restoration at ISR projects; (e) alleged difficulties in stopping the "leaching" process at ISR facilities; (f) decline in property values due to the presence of the proposed Ross ISR project; (g) increases in traffic and potential resulting fugitive dust impacts; and (h) potential impacts from light pollution.

Ms. Viviano's affidavit also offers three (3) additional allegations pertaining to another property approximately 7 miles southeast of the proposed Ross ISR Project: (1) potential contamination of a water well on her property from the proposed project site; (2) potential aquifer depletion or drawdown in the aquifer from proposed project operations; and (3) decline in property values due to the presence of the proposed Ross ISR Project.[17] As will be shown below, the Council should not be granted standing as a representative of Ms. Pam Viviano because she has not satisfied the Commission's standing requirements.

[16] Strata has identified Ms. Viviano as the only named individual seeking the Council to represent him/her in this proceeding.
[17] These 3 additional allegations are included in the topic area referenced in the first set 8 of allegations.

a. Potential Impacts to Water Resources Due to Historic and/or Unplugged Boreholes

Ms. Viviano's first allegation involves the potential for impact to her groundwater resources (i.e., water well(s)) at her residence 10 miles northeast of the proposed Ross ISR project boundary and 14.8 northeast of the proposed Project's CPP. Ms. Viviano's allegation states, "we are deeply concerned that Strata Energy will be unable to locate and properly plug all of these abandoned drill holes….there are hundreds of drill holes outside the mining area and throughout our neighbors' private properties, and we are concerned that those also will not be located and properly plugged." Viviano Affidavit at 1-2, Section 4. Ms. Viviano adds to her allegation by stating that, "[t]hese connections between the aquifers could allow cross contamination from the Fox Hills aquifer to the aquifer in which our wells are located." *Id.* This allegation, according to Ms. Viviano, "would cause our water to be unusable for drinking, washing, watering our garden, as well as for our livestock." *Id.* Ms. Viviano's affidavit makes similar allegations with respect to her property approximately seven (7) miles southeast of the proposed Ross ISR project. *Id.* at 3, Section 12. These allegations do not satisfy the Commission's requirements for standing to intervene in this proceeding.

Ms. Viviano's affidavit is "supported" by expert affidavits from Drs. Moran, Sass, and Abitz which make general claims that pathways exist through which contaminants in groundwater from the proposed Ross ISR Project will migrate from the site. For example, Dr. Sass states that drill holes "have served as a conduit among the four aquifers through which groundwater, including dissolved substances, could freely move from one aquifer to another." Sass Affidavit at ¶ 11. Apparently, based on these affidavits, Ms. Viviano claims that there is the potential for contamination to migrate from the proposed Ross ISR Project to her properties located both northeast and southeast of the proposed project site.

These allegations by Ms. Viviano offer nothing more than bare assertions that historic boreholes will lead to releases from the proposed Ross ISR project to *her* properties. The supporting affidavits make no such assertions. Further, the project's targeted ore zones are located within the lower Lance and Fox Hills formation and aquifer. Ms. Viviano's properties are located northeast and southeast of the proposed Ross ISR project on the western flank of the Black Hills uplift. This means that the subsurface geology dips to the west away from the uplift towards the center of the Powder River Basin and that geologic formations that are exposed at the surface on the western edge of that uplift are deeply buried in the Basin. *See* Strata ER, Figure 3.3-4 & 3.3-5. Ms. Viviano's wells at both of her properties, based on Wyoming State Engineer's Office (WSEO) records, are in the Lower Cretaceous Inyan Kara Group which is only present in the area of the proposed project site at a depth of 4,600 to 5,000 feet below ground surface and below the well-mapped and understood regional aquitards in the form of the Pierre Shale and Graneros Group, which includes the Belle Fourche and Mowry Shales. These subsurface conditions do not lend themselves to a credible, plausible pathway through which contaminants could reach the Inyan Kara Group within the proposed Ross ISR Project site or, upon reaching the Inyan Kara Group, could flow upgradient and against regional groundwater flow to Ms. Viviano's properties. As Strata's license application shows, all of the pre-existing and new boreholes at the proposed project site stop at the Pierre Shale, which is 2,000 feet thick and the top of which is less than 1,000 feet deep. Based on the lack of any data suggesting that any exploration boreholes penetrate the approximately 2,000 foot thickness of the Pierre Shale, the well-documented confining capacity of this Shale and underlying Graneros Group, and the regional groundwater flow direction in the Inyan Kara Group from east-to-west, there is no

plausible pathway through which contaminants from the proposed project could migrate to Ms. Viviano's wells.

None of the "supporting" affidavits offered by the Council make any attempt to demonstrate that a plausible pathway exists through which a historic borehole would cause a release of contaminants that would travel approximately 10 and 7 miles respectively to reach one of Ms. Viviano's properties. Instead, as exhibited by the affidavit of Dr. Sass, they offer nothing more than generalized conclusory assertions about how contaminants could migrate as a result of the presence of historic boreholes at the proposed Ross ISR project site. Nowhere do the Council experts even identify subsurface locations of the relevant aquifers and aquitards, where historic boreholes were located at the site, and how a pathway could have been created that could specifically lead to an aquifer at Ms. Viviano's properties from which she draws water. These affidavits also do not account for the fact that Ms. Viviano's properties are on the western edge of the Black Hills uplift and from this location groundwater flows away from her properties towards the center of the Powder River Basin. Thus, even if the generalized, conclusory statements offered by Ms. Viviano and her experts were indeed accurate, regional groundwater flow, which an ISR operation cannot change, prohibits water from flowing towards Ms. Viviano's properties. Therefore, the potential for injury-in-fact to befall Ms. Viviano is non-existent.

In addition, no boreholes accounted for by Strata penetrated the lower confining aquitard, the Pierre Shale, so the potential for pathways between the Lance and Fox Hills Formations to the Inyan Kara Group and to Ms. Viviano's properties is not realistic. Thus, while her allegation states that there could be a connection between aquifers, Ms. Viviano does not account for the lack of a plausible pathway from the proposed project's ore zone and the aquifer at Ms.

Viviano's properties. Given that the Commission's requirements for standing mandate that a petitioner must show that a plausible pathway exists to show injury-in-fact, this allegation is insufficient to support a grant of standing.

b. Potential Impacts to Water Resources Based on Past ISR Operations

Ms. Viviano's second allegation involves the potential for spills, leaks, and excursions at the proposed Ross ISR project that could result in "contamination of our well water, as well as *surface waters* that run northeast from the mining area." Viviano Affidavit at 2, Section 5 (emphasis added). Ms. Viviano's affidavit also makes several allegations regarding her property approximately 7 miles southeast of the proposed Ross ISR project. *Id.* at 3, Section 12. These allegations do not satisfy the Commission's requirements for standing to intervene in this proceeding.

These allegations are nothing more than bare assertions of potential impacts from leaks and/or spills from the proposed Ross ISR project and do not offer any facts, data or analysis from her supporting affidavits demonstrating how such spills or leaks would result in a release from the proposed project site and reach her properties and what the harm might be. Spills and/or leaks at the proposed project site could only plausibly infiltrate outcropping formations of the Lower Lance and Fox Hills aquifers or the alluvial aquifer associated with surface water. Indeed, as stated above, Ms. Viviano's wells at both properties, based on WSEO records, are in the Inyan Kara Group of the Lower Cretaceous, which is present at the proposed Ross ISR project site at a depth of 4,600 to 5,000 feet below ground surface with the Pierre Shale and Graneros Group. Further, as stated above, Ms. Viviano's primary residence is located upgradient and across a divide from the proposed Ross ISR project site, so surface water flow is away from that residence towards the Little Missouri River. Although surface water from both the proposed

Ross ISR Project site and Ms. Viviano's primary residence flow into the Little Missouri River, Ms. Viviano's residence is on a different tributary to the Little Missouri River and is not downstream from any portion of the Project site. Ms. Viviano's property to the southeast is located in a totally different river basin than the proposed Ross ISR project, namely the Belle Fourche Basin, which flows southeast away from the proposed project site. Given that the Commission's requirements for standing mandate that a petitioner must show that a plausible pathway exists to show injury-in-fact, this allegation is insufficient to support a grant of standing.

c. Potential Aquifer Depletion and/or Drawdown Due to ISR Operations

Ms. Viviano's third allegation involves a concern "about…aquifer depletion." Viviano Affidavit at 2, Section 6. Ms. Viviano alleges that ISR projects typically have "an extremely high consumptive use of water…which has the potential to draw down the aquifers." *Id.* Ms. Viviano's allegation is based on alleged research conducted by the Council on other ISR projects in the United States. *Id.* This allegation is then translated to potential impacts from the proposed Ross ISR project because, "Strata Energy's process will be the same as these other companies." *Id.* Based on this, Ms. Viviano claims that "the loss of water for domestic and stock use would cause us to have to haul water or to re-drill our well…." Viviano Affidavit at 2, Section 6. Ms. Viviano's affidavit also translates her allegations to her property approximately 7 miles southeast of the proposed Ross ISR project. *Id.* at 3, Section 12. These allegations do not satisfy the Commission's requirements for standing to intervene in this proceeding.

Ms. Viviano's affidavit and her supporting expert testimony do not offer any conclusive evidence of a plausible connection between the aquifer from which Ms. Viviano would draw water (i.e., the Inyan Kara Group) and the aquifer in which Strata will conduct licensed ISR operations (i.e., the Lower Lance and Fox Hills). The Lance and Fox Hills aquifers crop out to

the north and east of the proposed Ross ISR project site and are not even present at her primary residence or her second property. *See* Strata ER, Figure 3.3-4 & 3.3-5. In both cases, the aquifer from which she would draw water is present at the proposed project site but is separated by approximately 4,000 feet of the Pierre Shale and Granerous Group composed of essentially impermeable shale. Thus, given the lack of connection between the aquifers in which Ms. Viviano would draw water and the aquifer in which Strata plans to conduct licensed ISR operations, this allegation falls short of the Commission's requirements for standing.

d. Potential Impacts Due to Difficulty of ISR Groundwater Operations

Ms. Viviano's fourth allegation involves statements that "groundwater restoration remains difficult and has taken longer than expected at operating mines in Wyoming." *Id.* at 2, Section 7. Ms. Viviano further states that, "[t]o date there is no example of an aquifer being returned to pre-mining conditions at a commercial-scale ISL uranium mining operation." *Id.* These statements lead Ms. Viviano to conclude that "the inability to restore the aquifer to pre-mining conditions is a potential threat to our aquifers in the future." *Id.* This allegation does not satisfy the Commission's requirements for standing to intervene in this proceeding.

Initially, Ms. Viviano's affidavit merely alleges that the failure to restore to pre-operational conditions represents a potential threat to "aquifers." However, the affidavit does not specifically state how the failure to restore to pre-operational water quality conditions would necessarily result in contamination to adjacent, non-exempt aquifers where water may be drawn in the future. The allegation does not even allege that there is communication between the ore zone at the proposed Ross ISR project and the portion of an aquifer where Ms. Viviano draws water. Thus, since this allegation lacks any specificity regarding injury-in-fact, it should be dismissed by the Licensing Board.

Ms. Viviano's affidavit and supporting expert testimony do not offer any evidence that groundwater restoration at an ISR facility, including the proposed Ross ISR project, that does not restore *all* constituents exactly to pre-operational (baseline) water quality levels will pose any threat to adjacent, non-exempt aquifers. Further, there is no supporting evidence that any potential threat of constituent migration from the proposed Ross ISR project as a result of groundwater restoration above pre-operational levels would result in potential harm to Ms. Viviano's water supplies at her properties. The regional flow of groundwater away from Ms. Viviano's properties demonstrates that no harm will befall Ms. Viviano even if there were groundwater contamination at the proposed Ross ISR site.

Additionally, Ms. Viviano's example of "operating mines in Wyoming" does not account for the fact that NRC regulations mandate that ISR licensees meet site-specific criteria for groundwater restoration, including the stopping of the "leaching process." As noted above, NRC's Criteria at 10 CFR Part 40, Appendix A, Criterion 5(B)(5) require groundwater restoration to pre-operational baseline or MCLs, whichever is higher, or ACLs. Even prior to the imposition of this regulatory requirement on ISRs, NRC Staff's report to the Commission states that there has never been contamination of an aquifer, or portion thereof, adjacent to an ISR project. *See* United States Nuclear Regulatory Commission, *Staff Assessment of Groundwater Impacts from Previously Licensed In-Situ Uranium Recovery Facilities*, (July 10, 2009). As such, Ms. Viviano's allegation amounts to a collateral attack on the Commission's regulations for groundwater restoration, which is impermissible in NRC administrative hearings. *See* 10 CFR Part 2.335(a). Thus, Ms. Viviano's allegation on this issue is insufficient for a grant of standing.

e. Potential Impacts from Failure to Stop the "Leaching Process"

Ms. Viviano's fifth allegation involves statements that, "currently operating ISL uranium mining sites in Wyoming are having difficulties in stopping the leaching process." Viviano Affidavit at 2, Section 8. Ms. Viviano bases her allegation on information from Cameco Resources' Smith Ranch ISR project and states that "Strata Energy has not proposed anything different for its restoration and decommissioning phase." *Id.* Based on these statements, Ms. Viviano concludes that failure to stop the leaching process can result in "a possibility that the contamination of the aquifers…and may therefore threaten our wells in the years to come." *Id.* This allegation does not satisfy the Commission's requirements for standing to intervene in this proceeding.

This allegation falls short of the Commission's requirements for standing for two reasons. First, Ms. Viviano's allegation does not offer any statements that a potential inability to stop the "leaching process" will result in adverse impacts to Ms. Viviano's properties or water supply which, as noted above, is implausible. Ms. Viviano's affidavit does not explain what constitutes a failure to stop the leaching process nor does she offer any facts alleging that a failure to stop the "leaching process" would result in any releases from the proposed project site that could cause injury-in-fact to her; in fact, the entire allegation merely states that "contamination of the aquifers could continue for decades…." This conclusory statement does not carry with it any facts indicating that there likely will be a hydrological connection between the ore zone at the proposed Ross ISR project and any location where Ms. Viviano draws water. Without more specificity, this allegation does not satisfy the Commission's requirements for standing.

Second, Ms. Viviano's example of the Cameco Smith Ranch facility does not account for the fact that NRC regulations mandate that ISR licensees meet specific criteria for groundwater

restoration, after the "leaching process" is completed. As stated above, these Criteria at 10 CFR Part 40, Appendix A, Criterion 5(B)(5) require groundwater restoration to pre-operational/baseline or MCLs, whichever is higher, or ACLs. As stated above, NRC Staff's report to the Commission demonstrates that there has never been contamination of an aquifer, or portion thereof, adjacent to an ISR project. *See* United States Nuclear Regulatory Commission, *Staff Assessment of Groundwater Impacts from Previously Licensed In-Situ Uranium Recovery Facilities*, (July 10, 2009). As such, Ms. Viviano's allegation amounts to a collateral attack on the Commission's regulations for groundwater restoration, which is impermissible in Subpart L adjudications. *See* 10 CFR Part 2.335(a). Thus, Ms. Viviano's allegation regarding failure to stop the "leaching process" is insufficient for a grant of standing.

f. Potential Decline in Property Values Due to the Proposed Ross ISR Project

Ms. Viviano's sixth allegation involves "potential" decline in her property value due to the presence of the proposed Ross ISR project. *Id.* at 3, Section 9. The affidavit alleges that the presence of this proposed project could either decrease her property value or could reduce the amount of available, interested property buyers such that the value of her property would be decreased. Viviano Affidavit at 2, Section 9. Therefore, Ms. Viviano concludes, "we could suffer a negative financial impact from reduced property values due to the proposed site." *Id.* In addition, Ms. Viviano generally attempts to extend her allegations regarding negative impacts to property values for her second property approximately 7 miles southeast of the proposed Ross ISR project. *Id.* at 2, Section 12. This allegation does not satisfy the Commission's requirements for standing to intervene in this proceeding.

Ms. Viviano's allegation amounts to nothing more than bare assertions unsubstantiated by any facts that would support the conclusion that her properties' value would decrease due to

the presence of the proposed Ross ISR project some 10 and 7 miles away respectively. The affidavit does not offer any analyses showing that an ISR project at this distance from a parcel of land in a sparsely inhabited area of Wyoming would result in a drop in property values, and it does not state exactly which aspects of the proposed Ross ISR project will result in negative effects on her properties. Without more, this allegation falls short of the Commission's requirements for standing. *See Sequoyah Fuels Corp.* 40 NRC at 75 (stating it must be likely as opposed to merely speculative that the injury will be redressed by a favorable decision); *see also Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), LBP-92-4, 35 NRC 114, 123 (1992) (finding that an alleged injury that is merely speculative and not realistically threatened and immediate is insufficient for standing).

g. Potential Impacts Due to Increased Truck Traffic

Ms. Viviano's seventh allegation involves the potential for fugitive dust from increased truck traffic. *Id.* The affidavit states, "any traffic results in a dust problem. The increased traffic would cause a health hazard to us and to all those homes along these roads." Viviano Affidavit at 2, Section 10. This allegation does not satisfy the Commission's requirements for standing to intervene in this proceeding.

Ms. Viviano's allegations of increased fugitive dust impacts from increased truck traffic are nothing more than bare assertions of potential harm with no explanation of a plausible pathway through which injury-in-fact likely will be realized. Ms. Viviano's property northeast of the proposed Ross ISR project is approximately 10 miles from Strata's proposed transportation route. *See* Strata ER, Figure 3.2-1 (*Existing Transportation Network*). This distance alone negates any credible support for a causal nexus between Strata's usage of its proposed transportation route and potential "injury-in-fact," and thus, fails to satisfy NRC's

standards for standing. *Compare Atlas Corp.* (Moab, Utah Facility), LBP-97-9, 45 NRC 414, 425-26 (1997) (concluding that describing other activities only using vague terms such as "near," "close proximity," or "in the vicinity" of the facility at issue is not enough to carry the requisite burden for a showing of "injury-in-fact"). Further, Ms. Viviano's affidavit does not indicate the exact nature of the harm that would befall her if Strata utilizes the proposed transportation route in the manner described in its license application. Her affidavit simply alleges that fugitive dust generated some 10 miles from her property would cause her harm. This type of vague assertion lacks a "specific and plausible explanation" of injury-in-fact and, thus, is insufficient for a grant of standing. *See Int'l Uranium (USA) Corp.* (White Mesa Uranium Mill), CLI-01-21, 54 NRC at 254 (2001).

Ms. Viviano's property also is not located in a predominantly downwind area from any proposed transport route that may be used by Strata. *See* Strata ER, Figure 3.6-18. Therefore, Ms. Viviano's affidavit alleging of potential impacts from fugitive dust associated with Strata's use of its proposed transportation route does not satisfy the Commission's requirements for standing as her allegation fails to offer any form of plausible pathway or causal nexus between the proposed action and injury-in-fact. *See Energy Fuels Nuclear, Inc.* (White Mesa Uranium Mill), CLI-01-18, 54 NRC at 30 (2001) (stating that petitioners should show a plausible way in which activities licensed by the challenged amendment would injure them).

h. Potential Impacts Due to Light Pollution

Ms. Viviano's eighth and final allegation involves the potential for impacts from light pollution generated by the proposed Ross ISR project. Ms. Viviano states and concludes that, "[t]he Ross site is directly 10 miles southwest of our property, and lights from [the site] [sic] operating on a 24 hour schedule could interfere with the clear views of the night skies that we

now enjoy." This allegation does not satisfy the Commission's requirements for standing to intervene in this proceeding.

Initially, while the Council's brief states that its arguments regarding aesthetic and view-shed-related issues expand beyond simple light pollution to potential impacts to and concerns from its members regarding Devil's Tower located approximately 11.4 miles to the east of the proposed Ross ISR project site, the Council's supporting affidavit is limited to the allegations offered by Ms. Viviano. Thus, Strata's response to the Council's brief will be limited to the allegations leveled in Ms. Viviano's affidavit.[18]

Ms. Viviano's affidavit alleges potential impacts to the regional view-shed and that the proposed Ross ISR project would disrupt her view of clear skies. However, this argument falls short of satisfying the Commission's requirements for standing for two reasons. First, Ms. Viviano's affidavit does not allege a potential for injury-in-fact within a cognizable sphere of interest. Ms. Viviano's affidavit makes bare assertions that light from the proposed Ross ISR project operating twenty-four (24) hours per day at a site over 10 miles southwest of her property would disrupt her view of "clear skies." However, Ms. Viviano offers nothing more than a conclusory assertion to substantiate her claim that the lights generated by the proposed Ross ISR project would impact her at her property location.[19] There is no factual evidence that the lights from the operation would generate enough light to cause an actual impact to her at her property location, and she does not offer any discussion of how regional topography could affect her

[18] In order to establish the factual predicates for the various standing elements, when legal representation is present, it is generally necessary for the individual to set forth any factual claims in a sworn affidavit. *See Shieldalloy Metallurgical Corp.*, LBP-99-12, 49 NRC 155, 158 (1999).

[19] Strata's ER and TR do contain discussions of light/view-shed impacts; so , any claim based on 10 CFR Part 51.45 alleging inadequate analysis should be rejected. *See* Strata ER, Chapter 5, Section 5.9; TR Chapter 7, Section 7.2.

ability even to see the lights at the proposed Ross ISR project site.[20] *See* Strata ER, Figure 3.9-3 (*View-shed Analysis*). Thus, since Licensing Board precedent specifically requires that a petitioner such as the Council must allege that he/she has or will in fact be perceptibly harmed by the challenged agency action, not that he/she can imagine circumstances in which he/she could be affected by the agency action, Ms. Viviano's request for standing to intervene based on potential impacts from light pollution should be denied.

B. The Council Has Not Proffered an Admissible Contention

1. The Council's Contention #1: Application Fails to Adequately Address Characterization of Baseline Groundwater Quality at the Proposed Ross ISR Project

The Council's Contention 1 claims that "the application fails to comply with 10 C.F.R. § 51.45, 10 C.F.R. Part 40, Appendix A, and NEPA because it lacks an adequate description of the present baseline (i.e., [which it defines as] original or pre-mining) groundwater quality." Council Brief at 10. The Contention also claims that the Strata license application "fails to demonstrate that groundwater samples were collected in a scientifically defensible manner, using proper sampling methodologies. *Id.* The Council also accuses Strata of deviating from NRC's guidance for ISR license applications by not following its recommendations. *Id.* This allegation does not constitute an admissible contention as it is not supported with an adequate factual or legal basis.

Initially, Contention 1 contains several allegations that the data sets and analyses in Strata's license application pertaining to groundwater characterization are insufficient to satisfy relevant NRC regulations. However, while the Council goes to great lengths to claim that Strata's data and analyses do not provide sufficient information to produce what they refer to as

[20] Ms. Viviano's affidavit also does not account for the fact that her primary residence is in the immediate view-shed of the Devil's Tower Monument and, in any event, she has no standing to claim that it somehow is a "sacred" site to her.

"adequate baseline," the Council ignores the fact that NRC regulations do not permit the full development of water quality data at an ISR project prior to licensing, including complete groundwater analysis, prior to a license being granted by NRC. As stated above, 10 CFR § 40.32(e) and NUREG-1569 specifically indicate that complete wellfield development, including the full suite of water quality data, development of UCLs, and RTVs occur after issuance of a license and not before. *See* Strata Response Section IV(A)(3) *supra.* Strata is not able to develop such wellfield data and attempt to comply with the substance of this Contention in its license application without creating the potential for denial of its license application pursuant to 10 CFR § 40.32(e). Thus, Contention 1 should be rejected, because it does not recognize the NRC regulatory program reflected in Part 40.32(e) and ISR guidance in NUREG-1569.

Even if the Licensing Board decides that 10 CFR § 40.32(e) does not serve as the legal basis for rejecting Contention 1, the Contention's substance does not rise to the level of an admissible contention. Initially, the Council's Contention here misreads the scope of Part 51.45. Part 51.45 addresses the types of information required for an environmental report. Nowhere in this regulation does it specify that highly detailed water quality data must be part of a license application. Indeed, Part 51.45(b)(1) states that potential impacts on the environment should be discussed "in proportion to their significance" and Part 51.45(b)(2) including any potential adverse impacts that cannot be avoided if the proposal is implemented. *See* 10 C.F.R. §§ 51.45 (b)(1 & 2). Thus, Part 51.45 provides mere generic parameters for information that should be submitted in an ER but do not prescribe any sort of "technical adequacy" requirement. The parameters in these subsections only describe the categories of potential impacts that a license applicant should address in an ER. The Council's claim that Strata's license application violates 10 CFR § 51.45 is misguided and, thus, renders Contention 1 inadmissible.

Further, the Council's reliance on 10 CFR Part 40, Appendix A, Criterion 5 is also misguided and does not have a basis in law. The bulk of Contention 1 focuses on Strata's alleged inability to fully characterize site groundwater to the degree that their experts say is more appropriate. However, these experts fail to understand that Criterion 5, as noted above, provides standards for groundwater restoration that must be satisfied based on the detailed, post-license, water quality data, UCLs, and RTVs developed by the licensee and approved by NRC. Thus, any claims that groundwater characterization is inadequate due to a lack of data in its license application should be rejected as lacking an adequate basis in law.

Dr. Moran's criticisms of Strata's license application similarly should be rejected. First, Dr. Moran claims that Strata's application does not account for a "true baseline" such as the one that existed prior to the development of the Nubeth pilot project. However, Dr. Moran's claim does not have an adequate basis in law because Strata is required to develop baseline based on site-specific conditions currently existing at the proposed Ross ISR project site and not based on what was licensed previously. Once again, the development of complete baseline groundwater characterization is an ongoing process and *current* baseline conditions will be characterized fully after an NRC license is issued. Further, Dr. Moran ignores the fact that Strata's license application accounts for NRC's approval of restoration of the Nubeth project essentially resulting in final agency action on that licensed operation. *See* Strata TR Addendum 1.2-A. Thus, given that restoration was completed at the Nubeth pilot project location and approved by NRC and that NRC Staff has already reported to the Commission that no contamination has occurred to adjacent, non-exempt aquifers from NRC-licensed ISR operations, Dr. Moran's criticisms have no factual basis and should be rejected.

Dr. Moran's statements that Strata's groundwater data and analyses do not include "unfiltered" samples also should be rejected. Nowhere in his affidavit does Dr. Moran, and nowhere in the Council's brief, does it say that 10 CFR Part 51.45 or 10 CFR Part 40, Appendix A, Criterion 5 or any other Criterion require that "unfiltered" samples be used and nowhere in NUREG-1569 does it say that NRC requires the use of such sampling techniques. Thus, this portion of Contention 1 should be rejected as lacking a basis in law.

Dr. Sass's critique of Strata license application similarly should be rejected. His critique of Strata's analysis of exploratory boreholes is without substance. Strata's license application fully discusses how its data were obtained and how its groundwater analysis was developed. *See* Strata ER at Volume 1, Chapter 3, Subsection 3.4.3; *see also* Strata TR, Volume 1a, Chapter 2, Subsection 2.7.3 & Addenda & Volume 2, Chapter 6, Subsection 6.1 & Addenda. Dr. Sass also believes that more groundwater analysis is necessary to obtain appropriate baseline water quality.[21] As stated above, this statement fails to account for the fact that NRC's regulatory process does not require the suggested level of water quality data at this stage of the licensing process. Thus, Dr. Sass's claims on this issue should be rejected as there is no genuine dispute of material fact.

2. The Council's Contention # 2: Application Fails to Analyze Potential Environmental Impacts Resulting from Failure to Complete Groundwater Restoration to Primary or Secondary Standards

The Council's Contention 2 alleges that "[t]he application fails to meet the requirements of 10 C.F.R. 51.45 and NEPA because it fails to evaluate the *virtual certainty* that Strata will be unable to restore groundwater to primary or secondary limits. Council Brief at 16 (emphasis

[21] Dr. Abitz also levels similar claims that Strata offers insufficient water quality data to create a representative baseline water quality level. For the reasons discussed in this Section, those claims also should be dismissed.

added). This allegation does not constitute an admissible contention as it is not supported with an adequate factual or legal basis.

Initially, the Council's claim focuses on the groundwater standards in 10 CFR Part 40, Appendix A, Criterion 5 which, as stated above, mandates that an ISR licensee satisfy one of three permissible standards: pre-operational/baseline or an MCL, whichever is higher, or an ACL.[22] These groundwater standards are not guidance; but rather, they are *regulations that the Commission has stated must be followed by all uranium recovery licensees, including ISR licensees. See* United States Nuclear Regulatory Commission, *Regulatory Issue Summary*, RIS 2009-05. As such, the Council's claim that a license applicant must account for potential environmental impacts for not satisfying a regulation does not have an adequate basis in law, because it is well-settled that the Commission does not assume that its licensees will violate its regulations. *See Northeast Nuclear Energy Company* (Millstone Nuclear Power Station, Units 2 & 3), 53 NRC 273, 286 (March 30, 2001), *citing GPU Nuclear, Inc.* (Oyster Creek Nuclear Generating Station), CLI-00-6, 51 NRC 193, 207 (2000) (concluding that absent evidentiary support, the Commission will not presume that a licensee will violate its regulations).

With this said, the Council's reliance on 10 CFR Part 51.45 as a legal basis for Contention 2 also is misguided. Nowhere in this regulations nor in NRC's guidance is it required that a license applicant assess the potential impacts of failure to complete groundwater restoration in accordance with Criterion 5(B)(5)'s requirements. Forcing a license applicant to

[22] The Council refers to primary and secondary standards but mistakenly calls Criterion 5(B)(5)'s groundwater quality standards of pre-operational/baseline or an MCL as the primary and secondary standards and then claims that no ISR licensee has ever restored to primary or secondary standards. The Licensing Board should take notice that the language of Criterion 5(B)(5) does not differentiate between baseline *or* MCL, whichever is higher, *or* an ACL. NRC's groundwater restoration *policy* makes baseline a primary *goal* and MCL a secondary goal, but an ACL is a site-specific, constituent-specific, risk-based regulatory standard that any licensee is entitled to propose if the aforementioned *goals* cannot be met. Thus, an ACL is indeed a "secondary" *goal* for ISR groundwater restoration.

assess this possibility assumes that groundwater restoration to Criterion 5(B)(5) standards will not be required by NRC which will not be the case as those restoration standards will be in a license condition, and the Council cannot presume that NRC will not enforce its licensee-specific license conditions. Given that NRC has approved groundwater restoration for ISR licensees in the past and that no contamination of adjacent, non-exempt aquifers has occurred, the Council's claims that groundwater restoration is infeasible is misguided.

Finally, as stated above, the Council also fails to account for the fact that the Nubeth pilot project completed successful groundwater restoration and Strata's license application includes an accounting of how water quality has remained consistent with the NRC-approved restoration levels. This serves as *prima facie* evidence that groundwater restoration consistent with NRC requirements is indeed feasible at the proposed Ross ISR project. Thus, the Council's Contention 2 should be rejected as lacking a basis in fact or in law pursuant to 10 CFR § 2.309(f)(1)(i).

3. The Council's Contention #3: Failure to Include Adequate Hydrological Information for Containing Fluid Migration

The Council's Contention 3 claims that "[t]he application fails to provide sufficient information regarding the hydrogeological setting of the area to meet the requirements of 10 C.F.R. § 51.45, 10 C.F.R. Part 40, Appendix A, Criteria 4(e) and 5G(2), and NEPA." Council Brief at 19. It also alleges that Strata's license application "runs afoul of NUREG-1569 § 2.6" and "fails to assess the likelihood and impacts of fluid migration to the adjacent surface water and groundwater…." *Id.* at 19-20. This allegation does not constitute an admissible contention as it is not supported with an adequate factual or legal basis.

Initially, as stated above, the Council offers no legal basis for claiming the 10 CFR Part 51.45's requirements for ERs specifically require the level of detailed data and analysis that they

claim should be in Strata's license application. Nowhere in Part 51.45 do the regulations describe what constitutes an "acceptable conceptual model of site hydrology" and nowhere does this regulation indicate what parameters are necessary for "adequately characterize[ing] the on-site and off-site hydrogeology…." Thus, Part 51.45 cannot serve as a legal basis for the Council's Contention.

Next, the Council's allegation that Strata violated NRC guidance at NUREG-1569 is inaccurate. Specifically, Strata's ER discusses site-specific hydrology and Strata's team also submitted an extensive, digitized groundwater model addressing all aspects of site operations, including initial uranium recovery, concurrent recovery and groundwater restoration, and final groundwater restoration. *See e.g.,* Strata ER at Volume 1, Chapters 1 & 3, Section 3.4.3, Volume 2, Chapters 4-6; *see also* Strata TR at Volume 2, Chapters 3 & 5 (TR Addendum 2.7-H). These portions of Strata's application alone demonstrate that the Council's statements regarding inadequate site hydrological assessment are misguided.

Dr. Moran's testimony focuses primarily on the potential for pathways through which fluids could migrate from the proposed Ross ISR project site, including naturally occurring interconnections between such aquifers and historic boreholes at the proposed project site. But, Dr. Moran's analysis does not offer any factual bases upon which a finding that there are naturally occurring connections currently in the subsurface at the proposed Ross ISR Project site. He offers no evidence that there are subsurface features such as natural breccias pipes or recovery wells that were not abandoned properly or that there is any connection between aquifers at the proposed Ross ISR project site. Indeed, given the subsurface conditions noted above, there are thousands of feet of essentially impermeable aquitards beneath the ore zone aquifers at the site. Moreover, his affidavit makes no attempt to discuss "with specificity" the potential for

adverse impacts at Ms. Viviano's properties perhaps because, as noted above, her aquifer and those at the proposed Ross ISR project are distinct spatially and stratigraphically such that there is no plausible hydraulic connection.

Further, Dr. Moran ignores that fact that all ISR sites have thousands of boreholes in order to locate and define ore bodies. Some pre-existing boreholes may not have been properly plugged and abandoned; nevertheless, ISR facilities continue to operate without causing contamination to adjacent, non-exempt aquifers. *See* United States Nuclear Regulatory Commission, *Staff Assessment of Groundwater Impacts from Previously Licensed In-Situ Uranium Recovery Facilities*, (July 10, 2009). Thus, Dr. Moran offers no technical basis to conclude that a valid issue of law or safety exists and his testimony should be rejected per 10 CFR § 2.309(f)(1)(i & vi).

Dr. Sass's expert testimony similarly should be rejected. He focuses his testimony on fluid migration as well and faults Strata for not having sufficient subsurface data to enable a conclusion that there is no fluid migration occurring at present and that the ER offers no data on ore concentrations or on the connectivity of subsurface features. These statements completely ignore the data noted above regarding Ms. Viviano's aquifers and the implausibility of any connection with the aquifers at the proposed Ross ISR project site. Further, as stated above, 10 CFR § 40.32(e) does not allow Strata to fully develop wellfields and to gain a *complete* understanding of the subsurface at the proposed Ross ISR project site without creating the potential for a denial of its requested license. Dr. Sass' testimony is thus based on mere speculation and not on any specific facts demonstrating specific inadequacies in the Strata license application that would support his general conclusions, which themselves have no

specific relation to Ms. Viviano's claims. Thus, this testimony fails to provide support for an admissible contention under 10 CFR § 2.309(f)(1)(i & vi).

Dr. Abitz's testimony likewise presents nothing more than conclusory statements that are insufficient to support an admissible contention. Strata's ER and TR provide considerable data and analyses, to the extent permitted under NRC regulations, as well as a comprehensive groundwater model showing that there is adequate confinement and that historic boreholes do not result in potential pathways for fluid migration to Ms. Viviano's properties. Further, none of his statements show that fluid likely would migrate off-site and cause contamination to an adjacent, non-exempt aquifer; but even if it did, it cannot be shown that Ms. Viviano would be adversely affected. Thus, for the reasons set forth above, Dr. Abitz's testimony should be rejected.

In summary, the Council's expert testimony falls short of the Commission's requirements for admissible contentions because they do not offer any connection between the alleged deficiencies in Strata license application and potential harm to their sole potentially impacted intervenor, Ms. Viviano. It is indeed impossible to have a contention that is germane to this proceeding if no actual injury-in-fact could befall a potential intervenor. Thus, because a contention must rest on a specific legal or safety reason to be admitted and because no such safety reason can be identified, Contention 3 should be rejected.

4. The Council's Contention #4: Application Fails to Adequately Document Potential Negative Impacts on Groundwater Quantity

The Council's Contention 4 alleges that "[t]he application violates 10 C.F.R. § 51.45 and NEPA by failing to properly analyze the project's impacts on groundwater quantity." Council Brief at 24. In addition, the Council claims that "the application presents conflicting information on groundwater consumption, precluding an accurate evaluation of the project's impacts in this

area." *Id.* This allegation does not constitute an admissible contention as it is not supported with an adequate factual or legal basis.

The Council's use of 10 CFR Part 51.45 as its legal basis for Contention 4 is inadequate to sustain an admissible contention. Part 51.45 does not prescribe any requirements for ERs to contain the level of detail on potential groundwater consumption described by the Council's experts. Part 51.45 provides specific parameters for the types of information to be submitted in an ER supporting a license application, but it does not prescribe the form or specificity of the information to be offered. This Contention also fails because Strata's ER contains several sections that describe potential impacts associated with groundwater consumption (e.g., Strata ER Sections at Volume 2, Chapters 4-6). These Sections, as well as Sections of the Strata TR, specifically deal with potential impacts associated with groundwater consumption during operations and groundwater restoration and potential impacts associated with groundwater consumption resulting from simultaneous operational and restoration activities. Since groundwater consumption is addressed by Strata's ER and is not a health and safety issue, Petitioners cannot explain "with specificity" particular safety or legal reasons requiring rejection of the contested application. *See Millstone*, CLI-01-24, 54 NRC at 359-360 (stating an "admissible contention must explain, with specificity, particular safety or legal reasons requiring rejection of the contested [application]"). As a result, Contention 4 should be rejected.

5. The Council's Contention #5: Application Fails to Adequately Assess Cumulative Impacts, Financial Assurance, 11e.(2) Byproduct Material Disposal, Visual Impacts, and GEIS Tiering

The Council's Contention 5 is composed of five (5) claims based on: (a) cumulative impacts; (b) financial assurance; (c) 11e.(2) byproduct material disposal; (d) potential visual impacts; and (e) use of NUREG-1910 to tier an SEIS for the proposed Ross ISR project. These

allegations do not constitute an admissible contention, as they are not supported with adequate factual or legal basis. Each claim will be addressed in the order in which they are presented.

a. Cumulative Impacts

The first portion of the Council's Contention 5 claims that "Strata fails to include in its ER an analysis of the cumulative impacts that may result from the proposed action in conjunction with the many surface-disturbing industrial activities in the region that have previously occurred, are presently occurring, or are likely to occur in the future…." Council Brief at 28. While it mentions Dr. Sass, the Council's brief relies primarily on the affidavit of Dr. Moran who states that Strata fails to address the potential cumulative impacts from items such as historical exploration drilling and boreholes, the former NuBeth research and development project, alleged changes to groundwater quality and subsurface conditions. *Id.*; *see also* Moran Affidavit at ¶ 7. In addition, Dr. Moran states that Strata does not adequately address the full scope of Strata's entire Lance project, which includes several potential satellite facilities. *Id.*; *see also* Moran Affidavit at ¶ 8. This allegation does not constitute an admissible contention as it is not supported with an adequate factual or legal basis.

Strata's ER at Section 2.2 specifically discusses cumulative impacts, including an accounting of potential projects in the area of the proposed Ross ISR site, both uranium and other mineral recovery projects. Moreover, "NEPA does not prohibit approval of projects with negative cumulative effects; it only requires that the [agency] consider and disclose such effects." *See Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350-351 (1989). Part 51.45 does not impose any specific requirements detailing how a license applicant must address cumulative impacts in its license application. Cumulative impacts associated with any potential future Strata satellites will be addressed in the ER(s) associated with each such satellite. Since

Petitioners' Claims rest on a potential violation of Part 51.45, these Claims cannot support an admissible contention.

b. Financial Assurance

The second portion of Contention 5 consists of allegations that Strata financial assurance for the proposed Ross ISR project is insufficient to support the grant of its requested license. The Council bases its contention on two statements: (1) that Strata's preparation of its financial assurance cost estimates are inadequate because it is "an entity with a financial interest in the result of those calculations" and (2) that the financial assurance cost estimates are inadequate because they do not account for the "difficulty in restoring aquifers to pre-mining conditions and the actual restoration and reclamation costs incurred." Council Brief at 29-30. As a result, the Council argues that "it must still…evaluate in its ER the environmental impacts and negative effects that will result if the bond is insufficient." *Id.* at 30. This allegation does not constitute an admissible contention as it is not supported with an adequate factual or legal basis.

This allegation ignores the reality of the NRC regulatory process under the AEA wherein a license applicant or licensee is primarily responsible for the safe management of AEA materials and proposes actions for NRC approval---therefore, the financial assurance analysis *must* be proposed by the license applicant/licensee. It also assumes that NRC will not adequately fulfill its regulatory oversight of Strata's financial assurance, which without specific facts, is an unjustified conclusory assumption as it is recognized under the law (i.e., AEA, as amended) that NRC is the "expert" regulatory agency. Furthermore, it fails to address 10 CFR Part 40, Appendix A, Criterion 9's provision requiring *annual* financial assurance updates that reflect site-specific circumstances.

Finally, the Council does not support this portion of Contention 5 with any factual or legal basis. The Council does not point to any specific regulation that requires Strata to assess the potential for its financial assurance package being inadequate. If such a package is, in fact, inadequate, presumably NRC will require the license applicant to submit all necessary additional information. Moreover, nowhere in 10 CFR Part 51 it does not state that a license applicant must assess this factor in its financial assurance cost estimates. Further, a similar contention was levied in the recent *Powertech (USA)* case in which the Licensing Board, in denying the proffered contention, discussed the Commission's procedure for financial assurance under 10 CFR Part 40, Appendix A, Criterion 9:

> "the Tribe argues that Powertech's estimate should be higher than what it was, but does not account for the fact that these estimates are not final and will need to be updated before the license is issued. As the Commission has noted, '[s]urety arrangements are matters appropriately addressed after issuance of the license, and even after completion of a hearing. Criterion 9…makes clear that a surety arrangement is necessary as a prerequisite to *operating*, not as a prerequisite to *licensing.*"[23]

Based on the above, the Presiding Officer should reject this portion of Contention 5.

c. 11e.(2) Byproduct Material Disposal

The third portion of the Council's Contention 5 claims that Strata's ER does not address the potential for the unavailability of an 11e.(2) disposal site in the future. More specifically, the Council alleges that, "what it [Strata] must surely do is account for the environmental impacts that may result in the foreseeable event that no such disposal facility is available in the near future." Council Brief at 30-31. Based on this, the Council concludes that Strata's license application does not satisfy the ER requirements of 10 CFR Part 51.45. This allegation does not constitute an admissible contention as it is not supported with an adequate factual or legal basis.

[23] *Powertech (USA),* (Dewey-Burdock ISR Project), LBP-10-16, slip op. at 72 (August 5, 2010).

The Council does not support this portion of Contention 5 with any factual or legal basis. Nowhere in 10 CFR Part 51 does it state that a license applicant must assess the potential for no 11e.(2) byproduct material disposal sites at any point in a proposed ISR projects lifecycle. In addition, no factual basis is offered to support the possibility much less the probability that the currently available 11e.(2) byproduct material disposal sites will cease to exist during the proposed Ross ISR project's lifecycle. Further, Strata provides an exhaustive assessment of 11e.(2) byproduct material management, disposal and transportation in its ER, including an assessment of the current disposal capacities of various 11e.(2) byproduct material management facilities.[24] *See* Strata ER at 3.12, 4.13, & TR 6.1-A (Strata's Restoration Action Plan (RAP)). Thus, without more, the Presiding Officer should reject this portion of Council's Contention 5 as lacking an adequate factual or legal basis.

d. Visual Impacts

The fourth portion of the Council's Contention 5 alleges that "Strata also fails to properly Consider…the visual and aesthetic impacts that the project could have on Devils Tower National Monument." Council Brief at 30-31. This statement results in the Council's conclusion that, "Strata must also address these concerns fully and adequately in its ER pursuant to 10 CFR § 51.45. This allegation does not constitute an admissible contention as it is not supported with an adequate factual or legal basis and fails to identify a genuine issue of material fact.

The Council does not support this portion of Contention 5 with any factual or legal basis. The Council does not point to any specific NRC regulation that actually requires Strata to assess the potential for visual and aesthetic impacts on the Devil's Tower Monument. Nowhere in 10 CFR Part 51 does it state that a license applicant must assess the potential visual impacts to a

[24] Even in the unlikely event that 11e.(2) byproduct material disposal capacity somehow disappeared, under NRC's policy developed to implement 10 CFR Part 40, Appendix A, Criterion 2, an ISR licensee could apply to create on-site licensed 11e.(2) disposal capacity.

specific location as a result of a proposed project. In addition, Strata conducted a full visual and aesthetic impact analysis in its ER Sections 3.9, 4.9, & 5.9. Further, visual and aesthetic impacts were assessed on a programmatic level in NUREG-1910 and relied upon by Strata in its ER and such analysis is not contradicted by any of the experts offered by the Council in its brief. Finally, the Council's only basis for standing, Ms. Viviano, lives within the view-shed of Devil's Tower. Thus, as stated above, the Presiding Officer should reject this portion of the Council's Contention 5.

e. GEIS Tiering

Lastly, the fifth portion of the Council's Contention 5 alleges that Strata's use of NUREG-1910 entitled *Generic Environmental Impact Statement for In-Situ Leach Uranium Milling Facilities* (NUREG-1910) renders its ER deficient. Basing its contention on 10 CFR § 40.32(c) and 10 CFR § 51.45, the Council claims that both Strata's ER and, to the extent it relies on NUREG-1910, NRC Staff's future final SEIS will be insufficient to support a license for the proposed Ross ISR Project because public health and safety would not be adequately protected, and the grant of a license would be inimical to the common defense and security. *See* Council Brief at 31-32. This allegation does not constitute an admissible contention as it is not supported with an adequate factual basis and constitutes a collateral attack on 10 CFR Part 51 regulations regarding use of programmatic EISs when conducting environmental evaluations on proposed ISR projects.

First, NUREG-1910 is NRC's programmatic environmental evaluation using past experience from already licensed and/or operating ISR facilities. Given that the document is based on past experience and not on hypothetical operational circumstances, it constitutes the best available generic facts and analyses for such facilities. However, NUREG-1910 states that

each license application must address site-specific circumstances to the extent not subsumed in the generic data and analyses. With that said, the Council's brief cites numerous sections of Strata's ER but does not offer any factual or analytical basis for claiming that the data, analyses, and conclusions offered by Strata using NUREG-1910 are erroneous or inadequate for the grant of its requested license. Under NRC's contention requirements, the Council must do more than simply raise a "question" in order to have this contention admitted—they must identify a genuine dispute with Strata's license application on a material issue and must support such a dispute with adequate facts and analysis. Without more, the Presiding Officer should reject this portion of Contention 5 based on 10 CFR § 2.309(f)(1)(v) and (vi).

Second, the Council on Environmental Quality's (CEQ) and NRC's 10 CFR Part 51 regulations and guidance specifically permit the use of programmatic environmental evaluations to facilitate tiering of site-specific environmental analyses. *See* 40 CFR §§ 1502.20 & 1508.28; *see also* 10 CFR Part 51, Appendix A; NUREG-1748 at § 1.6.2. As such, NUREG-1910 is a programmatic document specifically tailored to ISR facilities and serves as a tool for tiering site-specific Part 51 environmental analyses--in this case an SEIS. The Commission offered members of the public, including the Council, an opportunity to participate in public comment process on NUREG-1910 and the Council participated by filing comments. There are no legal or regulatory bases for the Council to question the use of NUREG-1910 to tier SEISs since, as noted above, such tiering is expressly provided for in CEQ and NRC regulations. Thus, since the Council's contention continues to question the viability of NRC's tiering process, it constitutes an impermissible attack on the Commission's regulations and should be rejected as CEQ regulations for tiering are incorporated by reference. *See* 10 CFR § 2.335(a).

VI. CONCLUSION

For the reasons discussed above, Strata respectfully requests that the Licensing Board determines that the Council does not have the requisite standing for a hearing pursuant to 10 CFR § 2.309(d). Further, even it is determined that standing exists, Strata respectfully requests that the Licensing Board determines that the Council has not offered an admissible contention pursuant to 10 CFR § 2.309(f)(1).

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE COMMISSION

In the Matter of:	Docket No.: 40-9091-MLA
STRATA ENERGY, INC.	Date: December 5, 2011
(Ross In Situ Uranium Recovery Facility)	

CERTIFICATE OF SERVICE

I hereby certify that copies of the foregoing "**APPLICANT STRATA ENERGY, INC'S RESPONSE TO NATURAL RESOURCE DEFENSE COUNCIL AND POWDER RIVER BASIN RESOURCE COUNCIL REQUEST FOR A HEARING AND PETITION TO INTERVENE**" in the above-captioned proceeding have been served via the Electronic Information Exchange (EIE) this 5th day of December, 2011, 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)/
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Dated: December 5, 2011